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Manassas, VA 20109

February 15, 2012

George Heitzman, P.E.
Division of Environmental Remediation
New York State Dept. of Environmental Conservation
625 Broadway, 11th Floor
Albany, NY 12233-7014

Re: TechCity Site (Former IBM Kingston)
Site Number: 356002
Supplemental Site Characterization Report: Surficial Soils

Dear Mr. Heitzman:

The purpose of this letter is to transmit the referenced Site Characterization Report pursuant to Exhibit C of the Order on Consent, Index # D3-10023-6-11, Paragraph III.D.1.

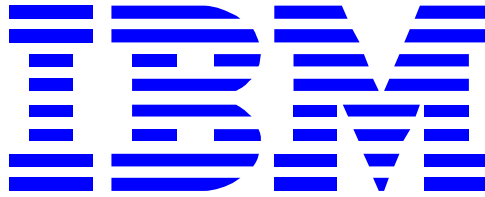
After reviewing the information provided in this transmittal, should you have any questions please call Dean Chartrand at (703) 257-2583.

Sincerely yours,

Mitchell E. Meyers
Manager, Environmental Remediation
Corporate Environmental Affairs

cc: w/ enclosure (1 hardcopy and 1 electronic copy)

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Former IBM Kingston Facility (TechCity)
Site Number: 356002
Order on Consent Index: D3-10023-6-11
Supplemental Site Characterization Report:
Surficial Soils Evaluation

Prepared for:

IBM Corporate Environmental Affairs
8976 Wellington Road
Manassas, VA 20109

February 15, 2012

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1.0 INTRODUCTION

This Supplemental Site Characterization Report (SC Report), prepared by Groundwater Sciences Corporation (GSC) on behalf of International Business Machines Corporation (IBM), presents the results of the characterization of surficial soils at six Operable Units (OUs) at TechCity (former IBM Kingston Facility) (the Site) located at 300 Enterprise Drive, Kingston, Ulster County, New York (see Figure 1). The characterization and approach was based on activities implemented under the approved Site Characterization Work Plan (SC Work Plan) and included the collection and analysis of surficial soil samples and comparing these results with the current or anticipated land use Soil Cleanup Objectives (SCO) as detailed in Exhibit C of the Order on Consent (Order), Index # D3-10023-6-11, for Site 356002.

1.1 Site Background

The Site is located north of the City of Kingston in the Town of Ulster, Ulster County, New York and is bounded by John M. Clarke Drive and Route 9W to the east, Old Neighborhood Road and Route 209 to the north, Esopus Creek to the west and Boices Lane to the south (see Figure 2). The approximately 258-acre property was first developed by IBM from farmland during the 1950s. The primary activities included the manufacturing of electric typewriters and the development, manufacture and testing of computer systems and related components and technologies. IBM ceased operations during the early-1990s and the property was subsequently subdivided into multiple parcels. In 1998, IBM sold the Site to AG Properties of Kingston, LLC and Ulster Business Complex, LLC. The Site is currently managed by TechCity Properties, Inc. (TechCity).

The portion of the Site located east of Enterprise Drive is referred to as the East Campus and includes the majority of the buildings at the Site. The portion located west of Enterprise Drive is referred to as the West Campus and includes Buildings 201 (B201), Building 202 (B202) and Building 203 (B203); a large parking area to the south and west of the buildings; and generally undeveloped land further to the southwest and north of the buildings.

The Site is listed as a Class 4 Site (Site # 356002) in the Registry of Inactive Hazardous Waste Disposal Sites (IHWD) in New York State and was managed in compliance with the October 4, 1996 Hazardous Waste Management Permit #3-5154-00067/00090 (6 NYCRR Part 373) (RCRA Permit) until the Order on Consent (Order) was signed with New York State Department of Environmental Conservation (NYSDEC) by IBM and TechCity on July 8, 2011.

The Order, which supersedes and replaces the former RCRA Permit, divides the Site into ten Operable Units (OUs). The locations of the OUs are depicted in Figure 2. Table 1-1 presents a list of the OUs, including the proposed land use and IWHD classification. Reference is made to Exhibit C of the Order for additional information.

Prior to the execution of the Order, IBM completed extensive RCRA Facility Investigations (RFIs) beginning in the 1990s through 2002 to delineate the occurrence and extent of volatile organic compounds (VOCs) in groundwater beneath the Site. Corrective Measures implemented by IBM include the operation and maintenance of a perimeter control system that intercepts the groundwater plume. The perimeter control system consists of two stormwater sewer systems, an unsaturated portion of the surficial sand unit that underlies the Site; a utility trench barrier wall and a groundwater collection system (see Figure 2). IBM currently performs groundwater quality monitoring to evaluate the effectiveness of the Corrective Measures.

Table 1-1 Listing of Operable Units, Proposed Use and Status		
Operable Unit	Proposed Use	Status
OU1	Commercial	
OU 2	Commercial	
OU 3	Commercial	Included as part of the Class 4 Inactive Hazardous Waste Disposal Site # 356002
OU 3a	Commercial	Included as part of the Class 4 Inactive Hazardous Waste Disposal Site # 356002
OU 4	Restricted Residential	
OU4a	Commercial	
OU5	Commercial	Included as part of the Class 4 Inactive Hazardous Waste Disposal Site # 356002
OU6	Commercial	
OU7	Commercial	
OU8	Commercial	

1.2 Purpose

Pursuant to the Order, additional activities are required to characterize the surficial soils at the Site. As such, an SC Work Plan was prepared and was designed to verify that applicable land use standards are met in areas not currently covered by buildings or pavement (impervious materials). This SC Report details the findings of the supplemental Site characterization activities identified in Exhibit C of the Order:

- **Operable Unit 2:** Characterize the top foot of soil at 8 locations for VOCs to verify that the SCOS for commercial use are met in areas not covered by buildings or pavement.
- **Operable Unit 3:** Characterize the top foot of soil at 4 locations for VOCs to verify that SCOs for commercial use are met in areas not covered by buildings or pavement.
- **Operable Unit 3a:** Characterize the top foot of soil at 5 locations for VOCs to verify that SCOs for commercial use are met in areas not covered by buildings or pavement.

- **Operable Unit 4:** Characterize the top two feet of soil at 9 locations for VOCs to verify that SCOs for restricted residential are met in areas not covered by buildings or pavement.
- **Operable Unit 6:** Characterize the top foot of soil at 5 locations for VOCs to verify that SCOs for commercial use are met in areas not covered by buildings or pavement.
- **Operable Unit 7:** Characterize the top foot of soil at 3 locations for VOCs to verify that SCOs for commercial use are met in areas not covered by buildings or pavement.

Section 2.0 includes a description of the Site geology and hydrogeology and a summary of the nature and extent of Site-wide groundwater impacts, in addition to known surficial soil conditions including those in the immediate vicinity of Solid Waste Management Units (SWMUs) associated with the Operable Units listed above. Section 3.0 presents a summary of findings and provides details on any field modifications to the implementation of the approved SC Work Plan. Section 4.0 includes a summary analysis of all available data. Section 5.0 includes a reference listing of historical documents used in the preparation of this SC Report.

2.0 CURRENT CONDITIONS

This section presents the current Conceptual Site Model (CSM) for the entire Site. The following description of geology and hydrogeology was originally based on information collected by GSC, on behalf of IBM, and has been refined by data collected at the Site by Golder, on behalf of IBM, since 2009. The nature and extent of the VOC groundwater plume is based upon the findings of work completed by GSC. The primary documents used to develop this CSM include:

- Sewer Systems Assessment Report, March 14, 1994.
- RCRA Facility Assessments, Four Recently Identified Solid Waste Management Units, January 16, 1995.
- RCRA Facility Assessments Newly Identified Solid Waste Management Units, March 14, 1997.
- RCRA Facility Investigation, Groundwater Plumes and Sources, March 14, 1997.
- Triangle Plume Area Investigation Report, September, 2009.
- 2010 Annual Groundwater Monitoring Report, March 30, 2011.
- SWMU G Investigation Report, March, 2011.

A complete listing of documents reviewed in the preparation of this SC Work Plan is provided in Section 5.0.

2.1 Generalized Geology

The Site is located within the Hudson-Mohawk Lowland Physiographic Province. The bedrock underlying the western portion of the Site consists of siltstone and shale of the Middle Devonian Age Lower Hamilton Group. The eastern portion of the Site is underlain by both the Lower Hamilton Group and the Lower Devonian Age Onondaga Limestone. The exact location and nature of the contact between these units is not known. The Lower Hamilton Group forms a north-northwest trending bedrock high approximately coincident with Enterprise Drive, and is described as a calcareous shale in boring logs completed during previous investigations.

Literature on regional geologic conditions indicate that a glacially-derived sand and gravel unit directly overlies the bedrock west of Enterprise Drive and a glacial till unit overlies the bedrock east of Enterprise Drive. These unconsolidated units are overlain by a varved silt and clay unit that is interpreted to be of lacustrine origin, with a thickness of zero feet in an area where it is absent proximate to the bedrock high, to over 180-feet in the central portion of East Campus as determined by previous borings. The clay portion of the varved silt and clay unit serves as an aquitard throughout most the Site, except in the localized area in the vicinity of the bedrock high where it is absent.

A well sorted, fine to coarse-grained sand of lacustrine origin, with intermittent, thin, silty-clay zones, overlies the varved silt and clay (or bedrock where the varved silt and clay is absent in the vicinity of the bedrock high). This surficial sand unit ranges in thickness across the Site from approximately 6-feet in the area of the bedrock ridge to greater than 30-feet in the central portion of the East Campus. A discontinuous transition zone of relatively fine-grained materials is present at the base of the surficial sand unit in some areas of the Site (GSC, 1997).

Generalized descriptions of the near-surface lithologic units encountered at the Site are as follows:

- **Surficial SAND Unit:** Consists of a light brown, fine to medium grained sand containing variable amounts of finer-grained silt and clay. This unit is typically saturated below a depth of approximately 6 to 7-feet below ground surface (ft bgs).
- **SILTY-SAND and CLAY Transition Unit:** Consists of variable amounts of reddish-brown to gray silt, sand, and clay. Typical appearance in a soil core is a silty-sand matrix containing thin lenses of silt and sandy clay. This unit, if present, is generally encountered between 15 to 20-ft bgs in the vicinity of Building 001 (B001).
- **Varved CLAY Unit:** Consists of red-brown and gray, plastic, cohesive, wet clay with intermittent silt zones. Typical appearance in a soil core is clay with laminae of silt and sometimes very fine-grained sand. This unit is typically encountered at approximately 20 to 25-ft bgs in the B001 area, with greater or lesser depths of first occurrence in localized areas.

The thickness of the sand unit increases and the thickness of the transition unit decreases coinciding with a shallowing of the depth to top-of-clay along the western edge of a clay unit “valley” identified in the *RCRA Facility Investigation on Groundwater Plumes* report (GSC, 1997b). This valley is deepest below B001 and Building 003 (B003) (i.e., approximately 30 ft bgs to the top of the clay unit) and extends southward to the east of Building 025 (B025) and then west towards Boices Lane.

2.2 Generalized Hydrogeology

The varved clay unit serves as an aquitard throughout most the Site. Therefore groundwater in the bedrock and in the deep sand and gravel and glacial till units that underlie the varved silt and clay is under confined conditions. Groundwater within the surficial sand unit that overlies the varved silt and clay unit is unconfined. The surficial sand unit is typically unsaturated in the area of the bedrock high along Enterprise Drive.

The estimated horizontal hydraulic conductivity of the surficial sand unit ranges from approximately 65 feet per day (ft/day) to 270 ft/day (i.e., 2.3×10^{-2} centimeters per second [cm/sec] to 9.5×10^{-2} cm/sec), with an average hydraulic conductivity of approximately 100 ft/day [2.3×10^{-2} cm/sec]. The horizontal hydraulic conductivity of the varved silt and clay unit has been estimated at approximately one (1) foot per day [3.5×10^{-4} cm/sec]. The vertical hydraulic conductivity of this unit is likely significantly lower than its horizontal hydraulic conductivity due to the horizontal bedding structure. The low vertical hydraulic conductivity and thickness of the unit support the designation of the varved silt and clay as an aquitard.

An east-west trending groundwater divide has been identified at the Site underlying B001, Building 002 (B002), B003, Building 004 (B004) and Building 005 (B005) (see Figure 3). Groundwater to the north of the divide flows west and northwest. Groundwater to the south of the divide flows west and southwest. The water table gradient in the eastern portion of the Site and in the vicinity of the Groundwater Collection System (GWCS) is reportedly higher than the water table gradient in the south and central portion of the Site, and estimated horizontal groundwater flow velocities range from approximately 0.8 ft/day to 2 ft/day (GSC, 1997b).

Groundwater flow is influenced by the presence of the perimeter control system (see Figure 3), which is composed of:

- A 42-inch diameter storm sewer pipe that extends from east to west along a line south of B001 through B005, and then passes under Enterprise Drive to the south of Building 201 (B201).
- An unsaturated portion of the surficial sand unit that intersects the 42-inch storm sewer south of B201, and extends east-northeast back across Enterprise Drive, and then continues toward the north portion of the Site.
- The GWCS, extends along the western and northern perimeter of the North Parking Lot Area. The GWCS is comprised of a set of groundwater cut-off trenches. Water collected in the trenches is treated via air stripping.
- A 60-inch diameter storm sewer pipe that intersects the GWCS and extends along the western portion of the North Parking Lot Area.
- A utility trench barrier wall, consisting of an approximately 250-foot long trench backfilled with clay with the base keyed into the Varved Clay Unit and the top of the barrier wall completed a minimum of two feet above the recorded high water table. This barrier wall was installed to mitigate the potential for groundwater migration along the underground utility pipes which ultimately terminate at the former IWTF.

The groundwater VOC plume is contained within the Site by this system.

2.3 Nature and Extent of Site Groundwater Contamination

IBM has been collecting groundwater quality samples at the Site since the late 1970s. The existing monitoring well network is shown on Figure 3. Identified compounds of concern in the surficial sand aquifer include the following chlorinated VOCs: 1,1,1-trichloroethane [TCA], trichloroethene [TCE] and tetrachloroethene [PCE], and related degradation products (i.e., 1,1-dichloroethene [1,1-DCE], 1,1-dichloroethane [1,1-DCA], 1,2-cis-dichloroethene [1,2-DCE] and 1,2-dichloroethane [1,2-DCA]). Other VOCs have been detected in groundwater, including carbon tetrachloride,

Freon[®] 113 and petroleum hydrocarbons; however, concentrations of these VOCs are generally lower and less extensive than the chlorinated compounds.

Four groundwater plumes have been identified at the Site, including:

- The North Parking Lot Area (NPLA) Plume (located to the north of B001 and B003) is primarily composed of TCE and TCA, and to a lesser degree PCE. Based on historic groundwater quality sampling and soil vapor screening investigations, the source areas for this plume are likely associated with historic manufacturing activities in B001, B002, B003, B004 and Building 005S (B005S). The primary source area appears to be the industrial waste sewer lines located beneath these buildings (as noted below) and north of B001 and B003. Concentrations of PCE, TCE and TCA in the NPLA Plume appear to originate in the central and western portions of the Site.
- The B005 Plume Area, located beneath B001, B002, B003, B004 and B005, is primarily composed of TCE and TCA. Based on historic groundwater quality sampling and soil vapor screening investigations, this plume is believed to have originated from activities in B001, B003, B004 and B005S.
- An isolated PCE plume, extending from the southern portion of B005 to the 42-inch sewer and originating from a release(s) at a PCE tank located in the southeastern corner of B005.
- The Industrial Waste Treatment Facility (IWTF) Plume, located in the vicinity of the former IWTF, near B036. The plume in this area is not likely to have originated from the IWTF, but is believed to have migrated from the eastern campus plume along the underground utility pipes prior to the installation of the utility trench barrier wall.

Figure 3 presents a generalized depiction of areas where groundwater is impacted by VOCs.

2.4 Surficial Soil Conditions

IBM has collected soil samples at different areas of the Site since the late 1970s. Soil samples have been collected, for the most part under the requirements of the RCRA Permit as part of RCRA Facility Assessments (RFAs) and RCRA Facility Investigations (RFIs). As noted previously, IBM completed extensive RFAs and RFIs beginning in the 1990s and continuing through 2002 to delineate the occurrence and extent of contaminants associated with identified SWMUs.

Table 2-1 presents a summary of the assessment and investigation documents for the SWMUs associated with each of the OUs that were the subject of the supplemental Site characterization and approved SC Work Plan. With the exception of a few locations, most of the soil sampling was conducted on samples collected from depths of two (2) feet below ground surface and greater.

Table 2-1: Operable Units Requiring Surficial Soils Characterization and associated RCRA SWMUs		
Operable Unit	SWMU	Investigation and Permit Reporting Status
OU 2	SWMU O: Salt Barn Parking Lot Sand Landfill	RCRA Facility Assessment, Four Recently Identified Solid Waste Management Units (GSC, January 16, 1995)
	SWMU AF: Inactive West Demolition Debris Area	RFA Letter Report to NYSDEC (IBM, February 9, 1998) RFI Letter Report to NYSDEC (IBM, August 8, 2000)
OU 3	SWMU D: Former Waste Acetone Storage Tank	Assessment completed. No investigation required.
	SWMU E: Former Waste IPA Storage Tank	Assessment completed. No investigation required.
	SWMU F: Former East Side Waste Tanks (East side of B005S)	Assessment completed. No investigation required.
	SWMU G: Former Waste PCE Storage Tank	RCRA Facility Investigation: Soil Gas Surveys and Sewer Systems Sampling (GSC, April 16, 1996) RCRA Facility Investigation: Groundwater Plumes & Sources (GSC, March 14, 1997) Deep Bedrock RCRA Facility Investigation (GSC, February 26, 2002) Formerly inaccessible. Additional investigation conducted, report pending.
	SWMU H: Former East SRP Tank	Assessment completed. No investigation required.
	SWMU I: Former West SRP Tank	Assessment completed. No investigation required.
	SWMU M: Industrial Waste Sewer Lines	RCRA Facility Investigation: Soil Gas Surveys and Sewer Systems Sampling (GSC, April 16, 1996). Portions inaccessible
	SWMU P: Former B035 Drywell	Assessment completed. RCRA Facility Assessment: Four Recently Identified SWMUs (GSC, January 16, 1995)

**Table 2-1: Operable Units Requiring Surficial Soils Characterization
and associated RCRA SWMUs**

Operable Unit	SWMU	Investigation and Permit Reporting Status
(continued) OU 3	SWMU R: Former B005S Waste TCA Tank	RCRA Facility Investigation: Soil Gas Surveys and Sewer Systems Sampling (GSC, April 16, 1996) RCRA Facility Investigation: Groundwater Plumes & Sources (GSC, March 14, 1997)
	SWMU S: Former B001 Waste TCA Tank	RCRA Facility Investigation: Soil Gas Surveys and Sewer Systems Sampling (GSC, April 16, 1996) RCRA Facility Investigation: Groundwater Plumes & Sources (GSC, March 14, 1997)
	SWMU T: Former Waste Oil Tank	RCRA Facility Assessments – Newly Identified Solid Waste Management Units (GSC, March 14, 1997)
	SWMU U: North Parking Lot Area Plume	RCRA Facility Investigation: Soil Gas Surveys and Sewer System Sampling (GSC, April 16, 1996) RCRA Facility Investigation: Groundwater Plumes & Sources (GSC, March 14, 1997)
	SWMU V: B005 Plume	RCRA Facility Investigation: Soil Gas Surveys and Sewer System Sampling (GSC, April 16, 1996) RCRA Facility Investigation: Groundwater Plumes & Sources (GSC, March 14, 1997)
	SWMU W: Former B004 Separator Tank	RCRA Facility Assessments – Newly Identified Solid Waste Management Units (GSC, March 14, 1997)
	SWMU Y: Former Fluoride Wastewater Ejector Tank	RCRA Facility Assessments – Newly Identified Solid waste Management Units (GSC, March 14, 1997)
	SWMU AA: Inactive Building 031 Septic System	RCRA Facility Assessments – Newly Identified Solid Waste Management Units (GSC, March 14, 1997)
	SWMU AB: Former Waste TCA Recovery Unit	Portion beneath building slab inaccessible. RFI initiated
	SWMU AC: Former B005S Solvent Recovery Process Unit	RCRA Facility Assessments – Newly Identified Solid Waste Management Units (GSC, March 14, 1997)
OU 3a	SWMU U: North Parking Lot Area Plume	RCRA Facility Investigation: Soil Gas Surveys and Sewer System Sampling (GSC, April 16, 1996) RCRA Facility Investigation: Groundwater Plumes & Sources (GSC, March 14, 1997)
OU4	SWMU Z: Inactive B033 Septic System	RCRA Facility Assessments – Newly Identified Solid Waste Management Units (GSC, March 14, 1997) Portions inaccessible

**Table 2-1: Operable Units Requiring Surficial Soils Characterization
and associated RCRA SWMUs**

Operable Unit	SWMU	Investigation and Permit Reporting Status
OU4 (continued)	SWMU C: Former B058 Area (Beneath B051)	Assessment completed
	SWMU Q: Former B031 Lagoon	RCRA Facility Assessment, Four Recently Identified Solid Waste Management Units (GSC, January 16, 1995)
	SWMU X: B031 Separator	RCRA Facility Assessments – Newly Identified Solid Waste Management Units (GSC, March 14, 1997)
OU 6	SWMU B: B036 Container Storage Area	RCRA Facility Investigation: Soil Gas Surveys and Sewer Systems Sampling (GSC, April 16, 1996)
	SWMU J: Wastewater Treatment Tanks (inside B036)	Assessment completed.
	SWMU K: Emergency Wastewater Holding Tanks (North of B036)	Assessment completed.
	SWMU N: Inactive B036 construction and Debris Landfill (Northwest of B036)	RCRA Facility Assessment, Four Recently Identified Solid Waste Management Units (GSC, January 16, 1995)
	SWMU AD: Fire Training Area (West of B036)	RCRA Facility Assessments – Newly Identified Solid waste Management Units (GSC, March 14, 1997) RCRA Facility Investigation: Soil Gas Surveys and Sewer Systems Sampling (GSC, April 16, 1996)

3.0 SUMMARY OF FINDINGS

As noted previously, with the exception of a few locations, historic soil analytical data were obtained from samples collected at depths of two (2) feet below ground surface and greater. Implementation of the approved SC Work Plan included the collection and analysis of surficial soils from the areas shown on Figure 4.

The main objectives of the SC Work Plan were to:

- Evaluate whether surficial soil conditions meet the VOC SCOs for the respective land use as detailed in Exhibit C of the Order in areas not covered by buildings or pavement.
- Better define the nature and extent of potential VOC-impacted surficial soils outside of the limits of the Class 4 Site.
- Identify modifications to the Interim Site Management Plan, as necessary, to implement restriction(s) or controls within the OUs.

To meet these objectives, IBM developed an investigation approach that included the collection and analysis of surficial soil samples from the areas shown on Figure 4. The investigation scope of work included the following tasks:

- Selection of the sample locations based on historical monitoring data and knowledge of historic Site activities, current Site conditions (areas not currently covered by buildings or pavement) and accessibility (utility, access constraints or limitations).
- A supplemental characterization of current Site conditions consisting of the collection and analysis of surficial soil samples at prescribed depths.
- Comparison of validated laboratory results with the appropriate SCOs for the current and proposed land use as detailed in 6NYCRR 375-6.8.

The following sections describe the results for each of these tasks.

3.1 Selection of Sample Locations

As discussed in the SC Work Plan, using information collected during historical investigations, historical activities and current conditions, IBM identified locations for collection and analysis of

soil samples. The selection of soil locations was based on professional judgment, area history and, as applicable, surface drainage patterns. Soil sample locations were targeted in areas downgradient of or otherwise biased to areas of greatest potential contamination from previously identified SWMUs. A reconnaissance visit was conducted to ascertain physical access to each of the proposed sampling locations prior to submittal of the SC Work Plan. Based on that reconnaissance visit, soil sample locations were selected and are shown on Figure 4 of the SC Work Plan. This Figure is included as Figure 4 in this SC Report for reference.

As a follow-up to the submittal of the SC Work Plan, a visit of the proposed sample locations was conducted with the NYSDEC and the NYSDOH (the Agencies) on September 27, 2011. During the course of that visit, it was discovered that portions of the grass area on the eastern side of B005(N) had been paved in prior months. This precluded sample collection at surficial soil sample point OU7:SS-C as proposed on the SC Work Plan, Figure 4. OU7:SS-C was removed from the sampling and analysis plan with concurrence by the Agencies.

Also during the course of this Site visit, the proposed location of OU4 surficial soil sampling location OU3:SS-D was moved from that which was presented on Figure 4 of the SC Work Plan. In addition, and also during the course of the visit by the Agencies, one additional location was selected for sampling within OU4, location OU4:SS-J which lies in the grassy area just to the south of Building 032 (B032).

The proposed location OU6:SS-B was modified to a location selected just upgradient of the known location of the surficial structure known as SWMU N, the Inactive B036 Construction and Debris Landfill (Northwest of B036). The final field selection of this location was based on consultation with the NYSDEC during oversight of sampling activities on November 8, 2011.

Lastly, access to the proposed sampling location OU6:SS-E was modified to a slightly upgradient position from that which had been originally proposed on Figure 4 of the SC Work Plan. This location modification was based on consultation and in consideration of recommendations by NYSDEC during oversight of sampling activities on November 8, 2011. In addition, multiple attempts were made to obtain the deeper target depth at this off-set location. Due to physical

obstructions encountered, the target depth for the second of the two discrete depth samples for this location achieved 8-inches, instead of the target 1 foot proposed in the approved SC Work Plan. This modification from the approved SC Work Plan was made in consultation with the NYSDEC during their oversight of sampling activities on this same date.

The remainder of the samples were collected as per the approved SC Work Plan at each boring location at depths consistent with DER-10, Section 3.5.1 subdivision (b). As per the approved SC Work Plan and DER-10, Section 3.2 subdivision (d), samples submitted for laboratory analysis were not composited.

The SC Work Plan specified samples to be collected from approximately 0.5 foot below ground surface, approximately one (1) foot below ground surface and in addition for OU4, approximately 2 feet below ground surface. During the first day of sampling at the first location (OU7:SS-A), the Agencies provided clarification on specific depth intervals to be sampled.

Based on clarification from the Agencies, for all other locations, samples were collected from just below the vegetative cover at a nominal depth of approximately 2 to 3 inches below ground surface; at a nominal depth of one (1) foot and as applicable for OU4 at a nominal depth of two (2) feet. Figures, tables and text will refer to these depths as “surface” or at the surface for those samples collected from just below the vegetative cover, “1 foot” for the nominal one foot depth and “2 foot” for the nominal two foot depth sample. The modified surficial soil sampling and analysis plan is detailed in Table 3-1 and is presented in Figure 5.

Table 3-1 Summary of Sample Data Collection and Evaluation Criteria				
Operable Unit	Media	Number of Locations	Sample Depths	Soil Cleanup Objectives
OU 2	Surficial Soils (0 to 1 foot)	Eight (8) locations	~ 2-3 inches bgs ~ 1 ft bgs	6 NYCRR Part 375-6.8(b), Table 6.8(b). Commercial
OU 3	Surficial Soils (0 to 1 foot)	Four (4) locations	~ 2-3 inches bgs ~ 1 ft bgs	6 NYCRR Part 375-6.8(b), Table 6.8(b). Commercial
OU 3a	Surficial Soils (0 to 1 foot)	Five (5) locations	~ 2-3 inches bgs ~ 1 ft bgs	6 NYCRR Part 375-6.8(b), Table 6.8(b). Commercial
OU 4	Surficial Soils (0 to 2 feet)	Ten (10) locations	~ 2-3 inches bgs ~ 1 ft bgs ~ 2 ft bgs	6 NYCRR Part 375-6.8(b), Table 6.8(b). Restricted Residential
OU 6	Surficial Soils (0 to 1 foot)	Five (5) locations	~ 2-3 inches bgs ~ 1 ft bgs	6 NYCRR Part 375-6.8(b), Table 6.8(b). Commercial
OU 7	Surficial Soils (0 to 1 foot)	Two (2) locations	~ 2-3 inches bgs 1 ft bgs	6 NYCRR Part 375-6.8(b), Table 6.8(b). Commercial
bgs = Below Ground Surface				

3.2 Sample Collection, Analysis and Reporting

As discussed in Section 3.1, the locations of several sampling points were modified from the locations presented in the SC Work Plan. Figure 5 presents the modified sampling plan and is based on hand-held GPS coordinates taken at each location.

Borings for the collection of soil samples were advanced at each of the locations using a hand auger. Multiple, discrete-depth soil samples were collected at each location using an Encore® sampler and submitted to Lancaster Laboratories under appropriate chain-of-custody for analysis of Target Compound List VOCs using EPA Method 8260B as described in Table 1 of the QAPP. Copies of the Chain of Custody Records together with the associated Chain of Custody Summary Tables are presented in Appendix A.

The laboratory provided data following NYSDEC Analytical Services Protocol (ASP) Category B data deliverables requirements. The laboratory data were evaluated as per the Data Evaluation Procedures detailed in the QAPP and these evaluations culminated in a Data Usability Summary Report (DUSR). A CD containing copies of the Data Evaluations is included Appendix B.

Field data were recorded on field data sampling sheets, and are summarized in Table 3-2 together with relevant laboratory analytical data information.

Decontamination of the sampling tools and management of investigation-derived waste (IDW) was in accordance with the SC Work Plan.

3.3 Sampling Results and Data Evaluations

Following is a discussion, by Operable Unit (OU) of the sampling results and data evaluations. Figures 6 through 11 present the results of this sampling, by OU. Appendix C contains tabular summaries, by OU, of sampling results.

3.3.1 Operable Unit 2 (OU2)

Supplemental Site characterization activities identified in Exhibit C of the Order for Operable Unit 2 included the requirement to characterize the top foot of soil at eight (8) locations for VOCs to verify that SCOs for commercial use are met in areas not covered by buildings or pavement.

Samples from OU2 were collected from eight (8) locations at two discrete sample depths as per the approved SC Work Plan for TCL VOCs by method 8260B. Samples were collected from just below surface and at a nominal 1 foot depth below surface. The results of this sampling are summarized in Appendix C and presented on Figure 6. As shown in the tabular summary and on Figure 6, no VOCs were detected from any of the samples collected from OU2.

The reporting levels for the sampling methods are well below the comparative applicable 6NYCRR Part 375-6.8(b) Commercial Soil Cleanup Objective values for protection of human health.

3.3.2 Operable Unit 3 (OU3)

Supplemental Site characterization activities identified in Exhibit C of the Order for Operable Unit 3 (OU3) included the requirement to characterize the top foot of soil at four (4) locations for VOCs to verify that the SCOs for commercial use are met in areas not covered by buildings or pavement.

As noted previously, samples from OU3 were collected from four (4) locations at two discrete sample depths as per the approved SC Work Plan for TCL VOCs by method 8260B. Samples were collected from just below surface and at a nominal one foot depth below surface. The results of this sampling are summarized in Appendix C and presented on Figure 7. As shown in the tabular summary and on Figure 7, several VOCs were detected at location OU3:SS-B in both the surficial sample and the one foot sample. As shown on Figure 7, 111-TCA and TCE were detected in the surficial sample at 6 ug/kg and 10 ug/kg, respectively. For the one foot depth sample, 111-TCA was detected at 24 ug/kg; TCE at 31 ug/kg and PCE at 3 J ug/kg.

No VOCs were detected in any of the other samples collected from OU3.

The reporting levels for the sampling methods are well below the comparative applicable 6NYCRR Part 375-6.8(b) Commercial Soil Cleanup Objective values.

The concentrations of the detected VOCs are several orders of magnitude below the respective Commercial Soil Cleanup Objective values for protection of human health.

3.3.3 Operable Unit 3a (OU3a)

Supplemental Site characterization activities identified in Exhibit C of the Order for Operable Unit 3a (OU3a) included the requirement to characterize the top foot of soil at five (5) locations for VOCs to verify that the SCOs for commercial use are met in areas not covered by buildings or pavement.

Samples from OU3a were collected from five (5) locations at two discrete sample depths as per the approved SC Work Plan for TCL VOCs by method 8260B. Samples were collected from just below

surface and at a nominal one foot depth below surface. The results of this sampling are summarized in Appendix C and presented on Figure 8.

The reporting levels for the sampling methods are well below the comparative applicable 6NYCRR Part 375-6.8(b) Commercial Soil Cleanup Objective values for protection of human health. As shown in the tabular summary and on Figure 8, no VOCs were detected from any of the samples collected from OU3a.

3.3.4 Operable Unit 4 (OU4)

Supplemental Site characterization activities identified in Exhibit C of the Order for Operable Unit 4 (OU4) included the requirement to characterize the top two (2) feet of soil at nine (9) locations for VOCs to verify that the SCOs for restricted residential use are met in areas not covered by buildings or pavement.

As noted previously, during the course of the visit by the Agencies, one additional location was selected for sampling within OU4, location OU4:SS-J which lies in the grassy area just to the south of Building 032 (B032). Therefore, samples were collected from ten (10) locations at three discrete sample depths as per the approved SC Work Plan for TCL VOCs by method 8260B. Samples were collected from just below surface, at a nominal one foot depth below surface and at a nominal two foot depth below ground surface. The results of this sampling are summarized in Appendix C and presented on Figure 9.

As shown in the tabular summary and on Figure 9, two VOCs were detected at location OU4:SS-H in both the one foot depth and two foot depth samples. As shown on Figure 9, Benzene was detected at a concentration of 0.6 J ug/kg at the one foot depth. Benzene and Toluene were detected in the two foot depth sample at 3 J ug/kg and 1 J ug/kg, respectively. No VOCs were detected at the surface sampling depth at this location.

No VOCs were detected at any of the other samples collected from OU4.

The reporting levels for the sampling methods are well below the comparative applicable 6NYCRR Part 375-6.8(b) Restricted Residential Soil Cleanup Objective values. The concentrations of the detected VOCs are several orders of magnitude below the respective Restricted Residential Soil Cleanup Objective values for protection of human health.

3.3.5 Operable Unit 6 (OU6)

Supplemental Site characterization activities identified in Exhibit C of the Order for Operable Unit 6 (OU6) included the requirement to characterize the top one (1) foot of soil at five (5) locations for VOCs to verify that the SCOs for commercial use are met in areas not covered by buildings or pavement.

Samples from OU6 were collected from five (5) locations at two discrete sample depths as per the approved SC Work Plan for TCL VOCs by method 8260B. Samples were collected from just below surface and at a nominal one foot depth below surface. The results of this sampling are summarized in Appendix C and presented on Figure 10.

As shown in the tabular summary and on Figure 10, Toluene was detected at location OU6:SS-B at the surface depth sample at a concentration of 2 J ug/kg. No VOCs were detected at the one foot sampling depth at this location.

No VOCs were detected at any of the other samples collected from OU6.

The reporting levels for the analytical method are well below the comparative applicable 6NYCRR Part 375-6.8(b) Commercial Soil Cleanup Objective values. The detected Toluene concentration is several orders of magnitude below the respective Commercial Soil Cleanup Objective values for protection of human health.

3.3.6 Operable Unit 7 (OU7)

Supplemental Site characterization activities identified in Exhibit C of the Order for Operable Unit 7 (OU7) included the requirement to characterize the top foot of soil at three (3) locations for

VOCs to verify that commercial use standards are met in areas not covered by buildings or pavement.

As noted previously, paving had recently occurred on the eastern side of B005(N) which precluded sample collection at surficial soil sample point OU7:SS-C as proposed on the SC Work Plan, Figure 4. Based on consultation with the Agencies during a visit, OU7-SSC was removed from the sampling and analysis plan. Therefore, samples were collected from two (2) locations within OU7.

As noted previously, at the direction of the Agencies, three discrete sample depths were collected from OU7-SSA:, two from within the upper 0.5 foot and; one from a depth of 16 inches. Two discrete sample depths were collected from OU7:SS-B. Samples were collected as per the approved SC Work Plan for TCL VOCs by method 8260B. The results of this sampling are summarized in Appendix C and presented on Figure 11.

No VOCs were detected from any of the samples collected from OU7. The reporting levels for the analytical methods are well below the comparative applicable 6NYCRR Part 375-6.8(b) Commercial Soil Cleanup Objective values for protection of human health.

4.0 SUMMARY AND CONCLUSIONS

This SC Report presents the results of the characterization of surficial soils at six Operable Units (OUs) at TechCity located at 300 Enterprise Drive, Kingston, Ulster County, New York (see Figure 1). Characterization was based on activities implemented under the approved Site Characterization Work Plan (SC Work Plan) and included the collection and analysis of surficial soil samples and comparing these results with the Soil Cleanup Objectives for current or anticipated land use as detailed in Exhibit C of the Order on Consent (Order), Index # D3-10023-6-11, for Site 356002.

Samples were collected at the surface (nominal 2-3 inch depth) and at a nominal one foot depth at OU2, OU3, OU3a, and OU6. In addition to the surface and one foot depth, samples were also collected at a nominal two foot depth at OU4. As noted previously, samples were collected at the surface, 5-inch and 16-inch depths at OU7:SS-A. Soil samples were analyzed for VOCs by method 8260B. The reporting levels for the analytical methods are well below the comparative applicable 6NYCRR Part 375-6.8(b) Soil Cleanup Objective values.

Soil samples from OU2 were collected at eight (8) locations. No VOCs were detected from any of the samples collected from OU2.

Soil samples were collected within OU3 from four (4) locations. Three VOCs were detected at location OU3:SS-B in both the surficial sample and the one foot sample. None of these detected concentrations exceed the Commercial SCOs and the concentrations are orders of magnitude lower than the SCOs. No VOCs were detected at any of the other samples collected from OU3.

Samples from OU3a were collected from five (5) locations. No VOCs were detected from any of the samples collected from OU3a.

Soil samples were collected at ten (10) locations within OU4. Two VOCs were detected at location OU4:SS-H in both the nominal one foot depth and two foot depth samples. Benzene was detected at a concentration of 0.6 J ug/kg at the one foot depth. Benzene and Toluene were detected in the two

foot depth sample at 3 J ug/kg and 1 J ug/kg, respectively. No VOCs were detected at the surface sampling depth at this location. None of the detected concentrations exceed the Restricted Residential SCOs. No VOCs were detected at any of the other samples collected from OU4.

Soil samples were collected from five (5) locations within OU6. One VOC was detected at location OU6:SS-B at the surface depth sample at a concentration of 2 J ug/kg. No VOCs were detected at the one foot depth at this location. The detected concentration did not exceed the Commercial SCO. No VOCs were detected at any of the other samples collected from OU6.

Soil samples were collected from two (2) locations within OU7. No VOCs were detected from any of the samples collected from OU7.

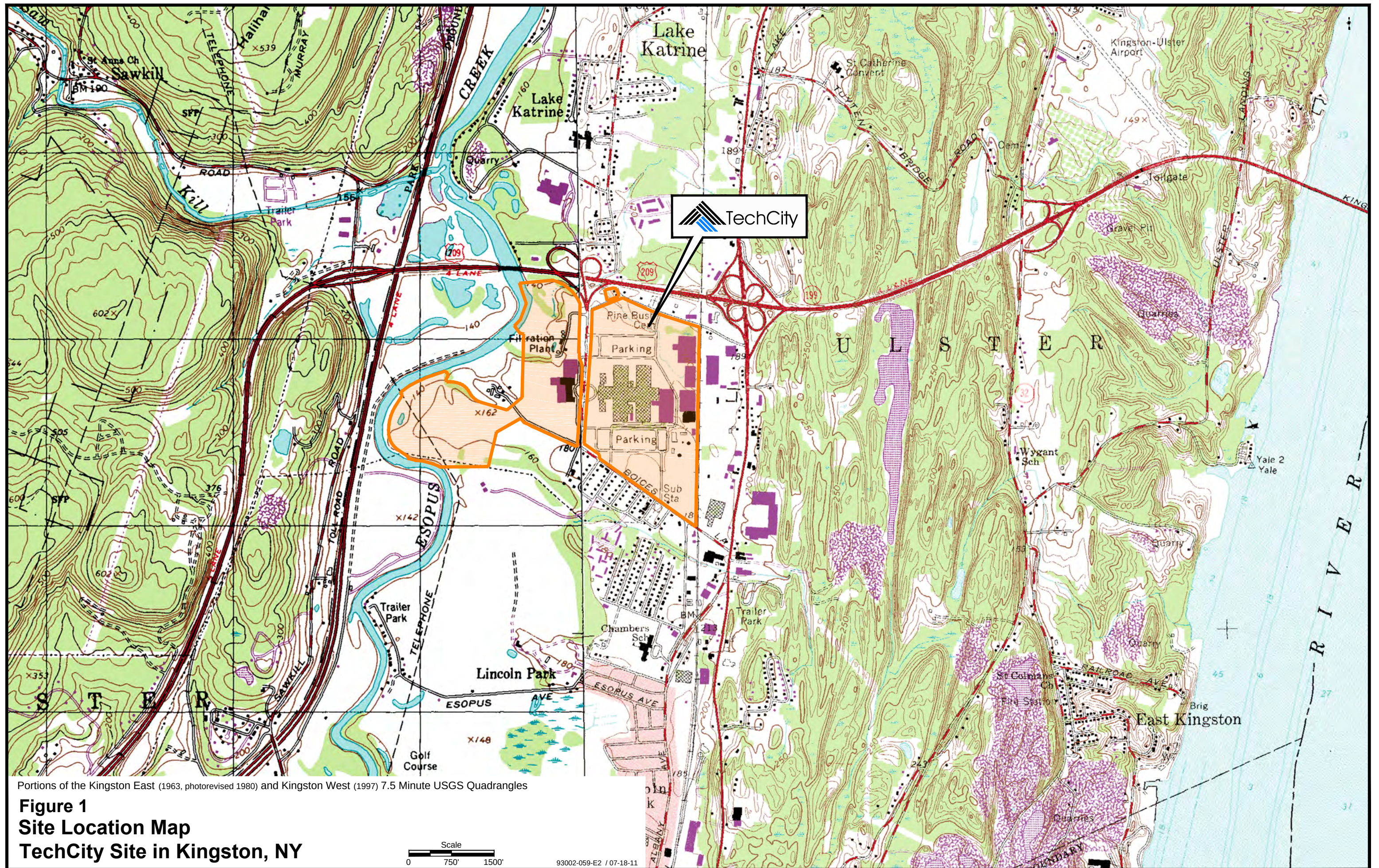
Based on the results of the characterization, there were only limited detections of VOCs in surficial soil and the detected concentrations are well below the applicable SCOs for the protection of human health.

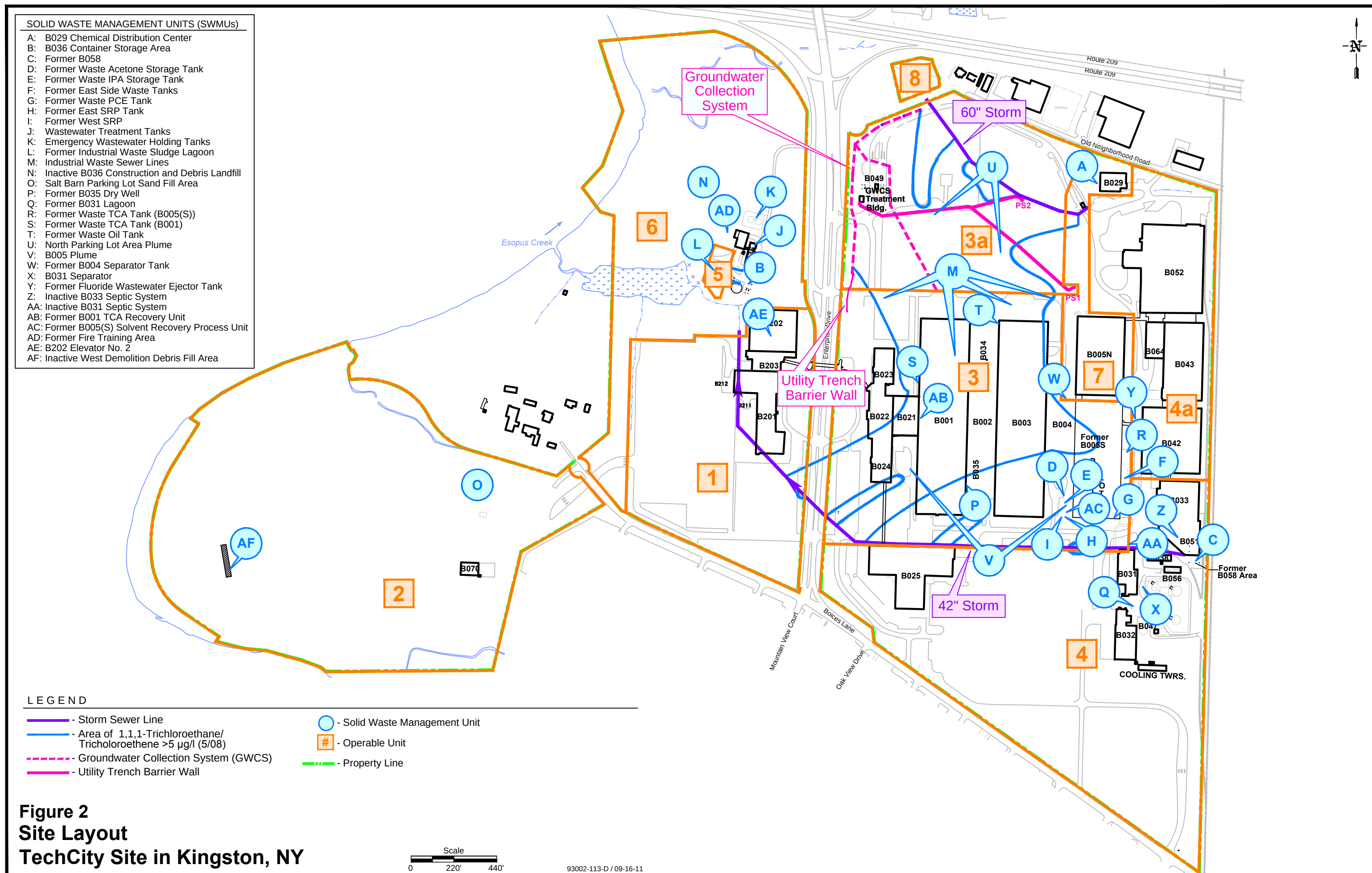
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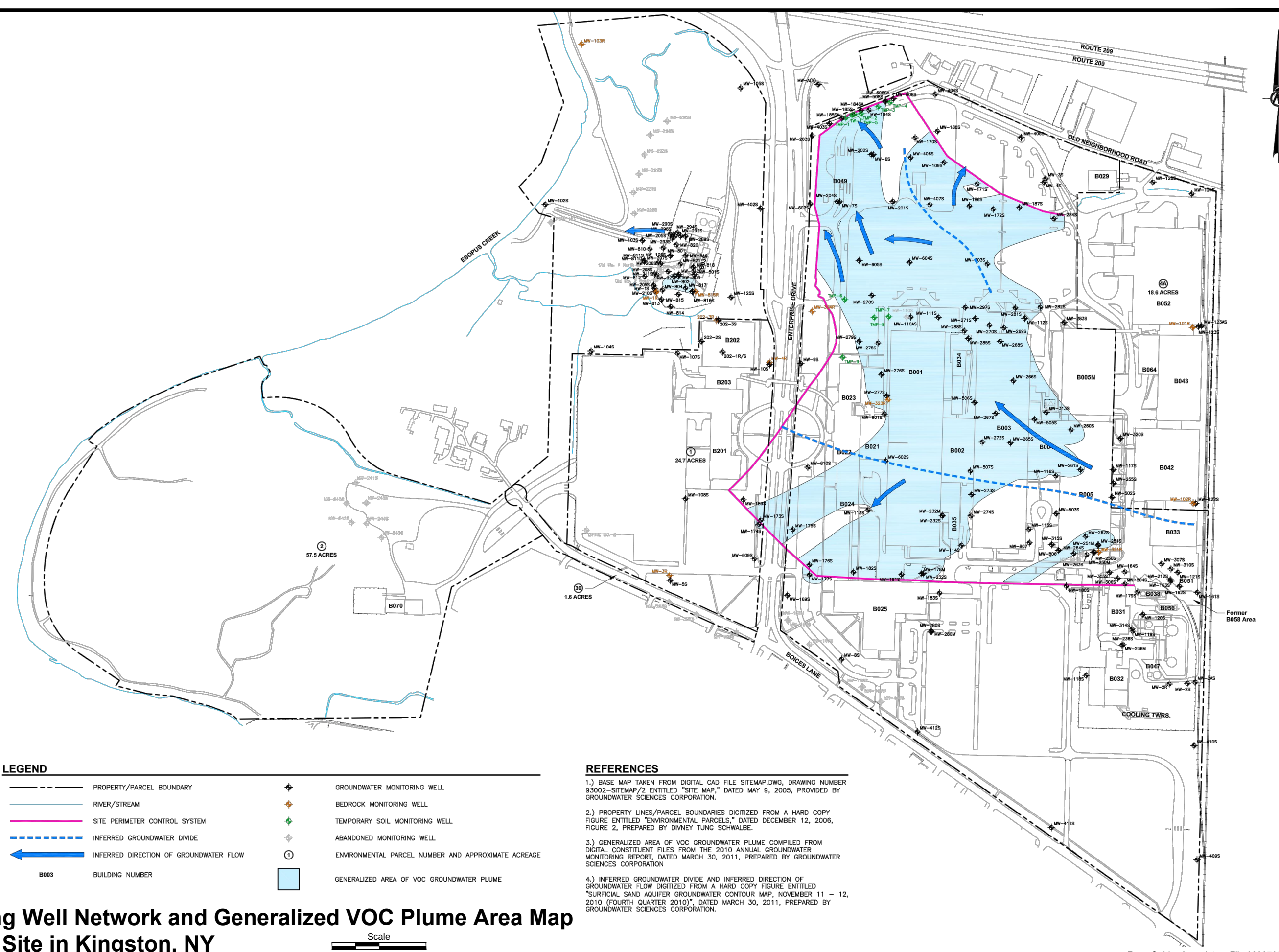
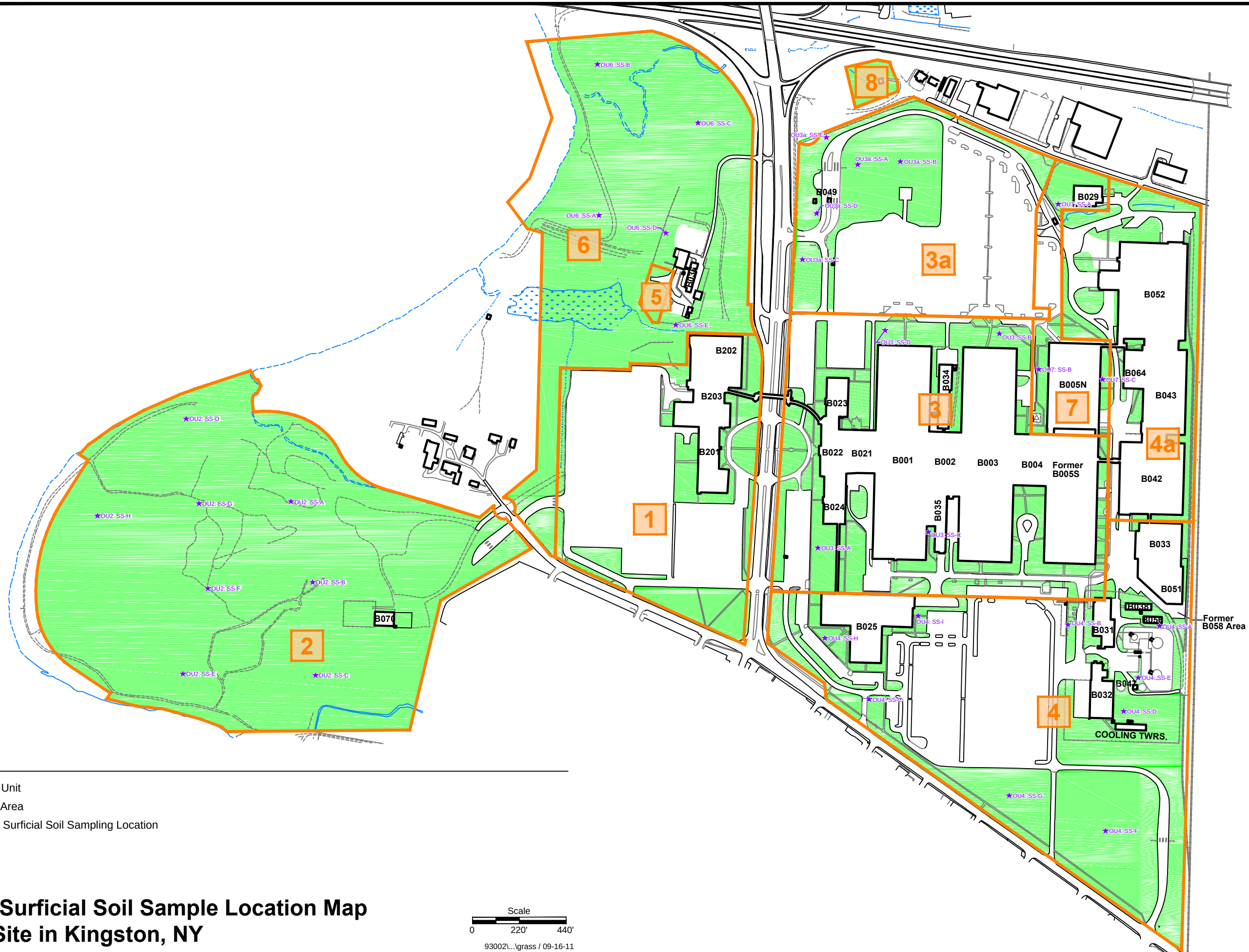


Figure 3
Monitoring Well Network and Generalized VOC Plume Area Map
TechCity Site in Kingston, NY



LEGEND

- # - Operable Unit
- - Unpaved Area
- ★ - Proposed Surficial Soil Sampling Location

Figure 4
Proposed Surficial Soil Sample Location Map
TechCity Site in Kingston, NY

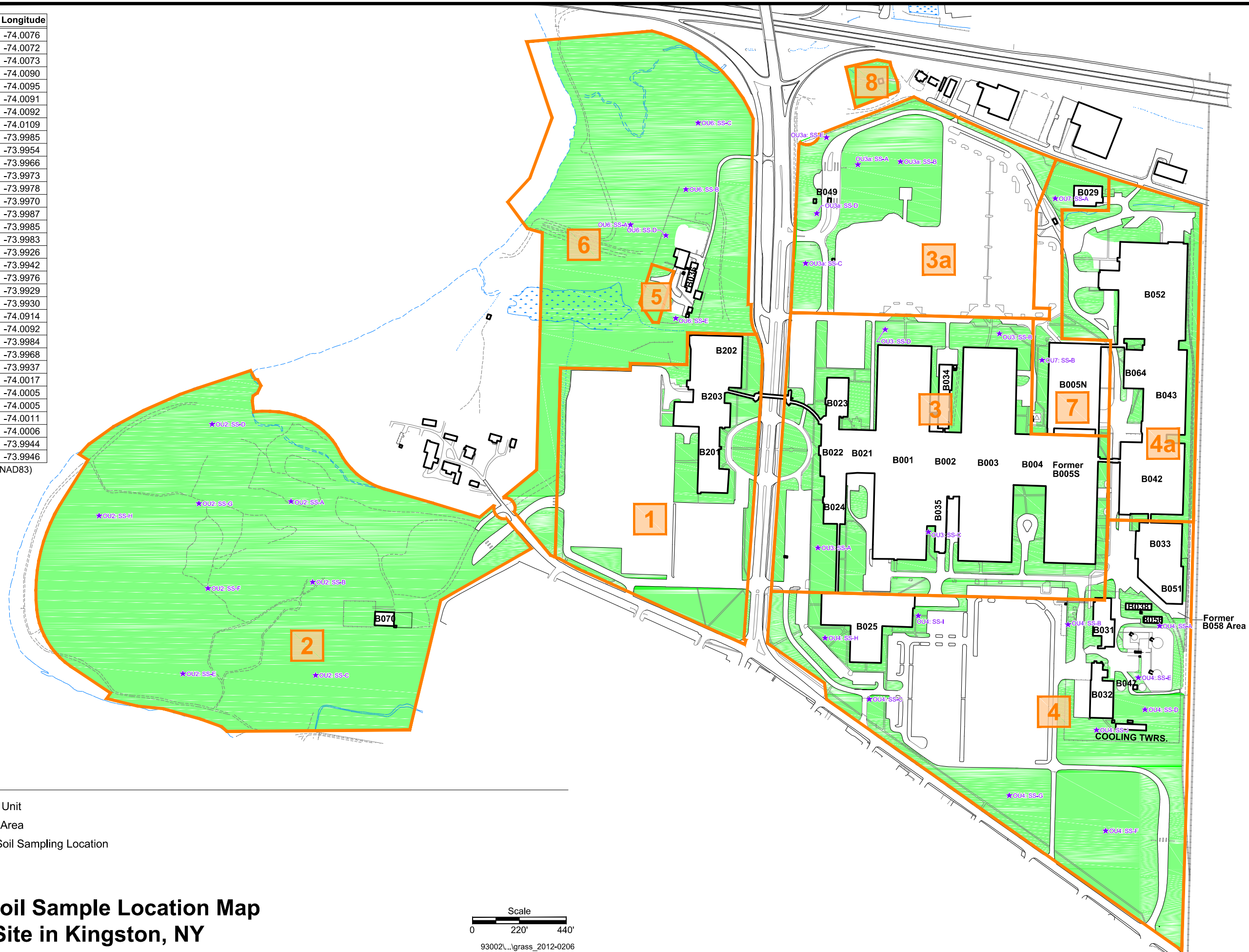
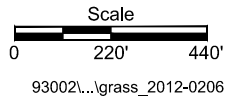
Scale
 0 220' 440'
 930021...lgrass / 09-16-11

Name	Latitude	Longitude
OU2: SS-A	41.9695	-74.0076
OU2: SS-B	41.9685	-74.0072
OU2: SS-C	41.9673	-74.0073
OU2: SS-D	41.9705	-74.0090
OU2: SS-E	41.9673	-74.0095
OU2: SS-F	41.9684	-74.0091
OU2: SS-G	41.9695	-74.0092
OU2: SS-H	41.9694	-74.0109
OU3: SS-A	41.9689	-73.9985
OU3: SS-B	41.9716	-73.9954
OU3: SS-C	41.9691	-73.9966
OU3: SS-D	41.9717	-73.9973
OU3a: SS-A	41.9738	-73.9978
OU3a: SS-B	41.9739	-73.9970
OU3a: SS-C	41.9726	-73.9987
OU3a: SS-D	41.9732	-73.9985
OU3a: SS-E	41.9742	-73.9983
OU4: SS-A	41.9679	-73.9926
OU4: SS-B	41.9679	-73.9942
OU4: SS-C	41.9669	-73.9976
OU4: SS-D	41.9668	-73.9929
OU4: SS-E	41.9672	-73.9930
OU4: SS-F	41.9685	-74.0914
OU4: SS-G	41.9694	-74.0092
OU4: SS-H	41.9677	-73.9984
OU4: SS-I	41.9680	-73.9968
OU4: SS-J	41.9665	-73.9937
OU6: SS-A	41.9731	-74.0017
OU6: SS-B	41.5842	-74.0005
OU6: SS-C	41.9744	-74.0005
OU6: SS-D	41.9729	-74.0011
OU6: SS-E	41.5831	-74.0006
OU7: SS-A	41.9734	-73.9944
OU7: SS-B	41.9713	-73.9946

Geographic Coordinates (NAD83)

- LEGEND
- # - Operable Unit
 - - Unpaved Area
 - ★ - Surficial Soil Sampling Location

Figure 5
Surficial Soil Sample Location Map
TechCity Site in Kingston, NY



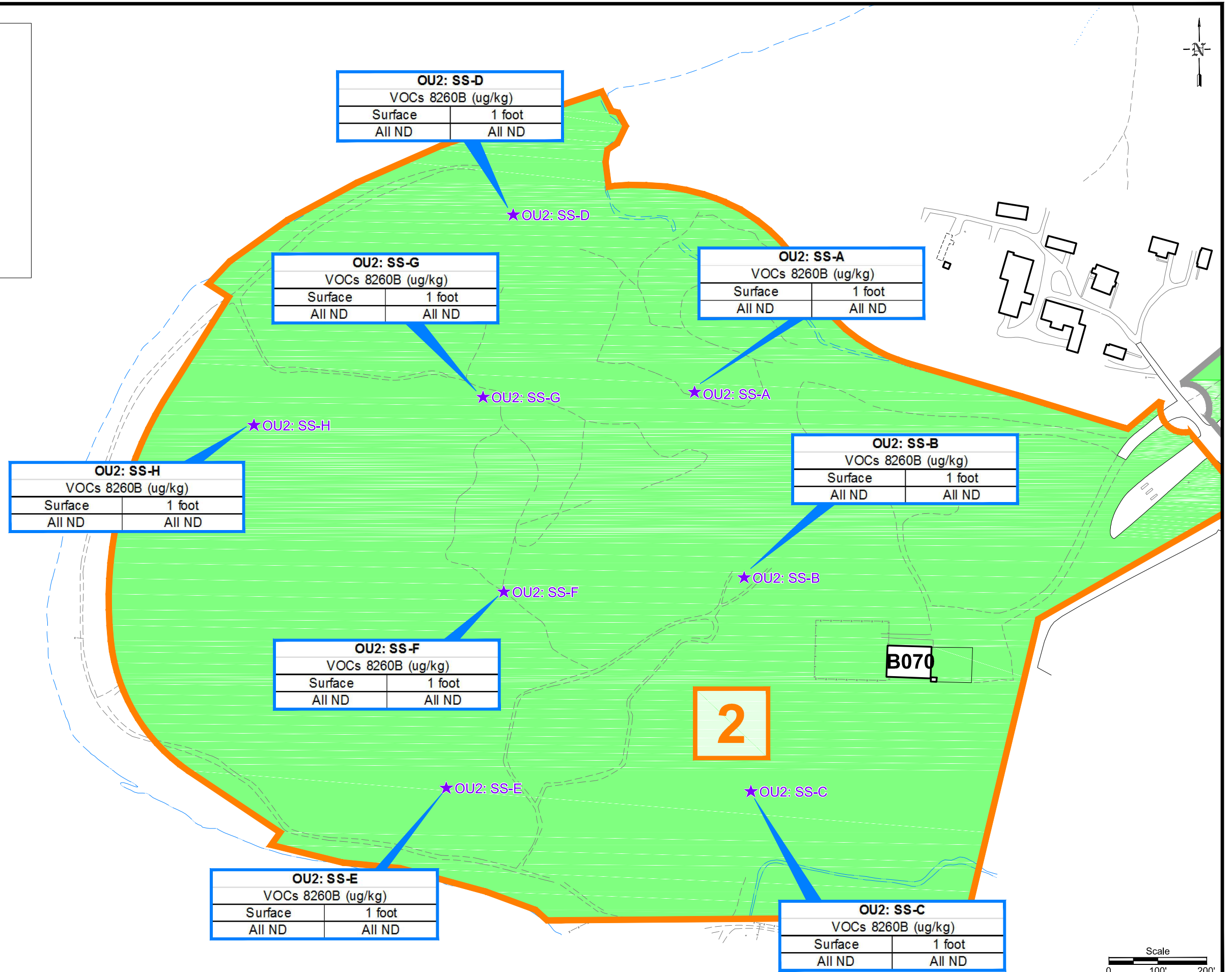
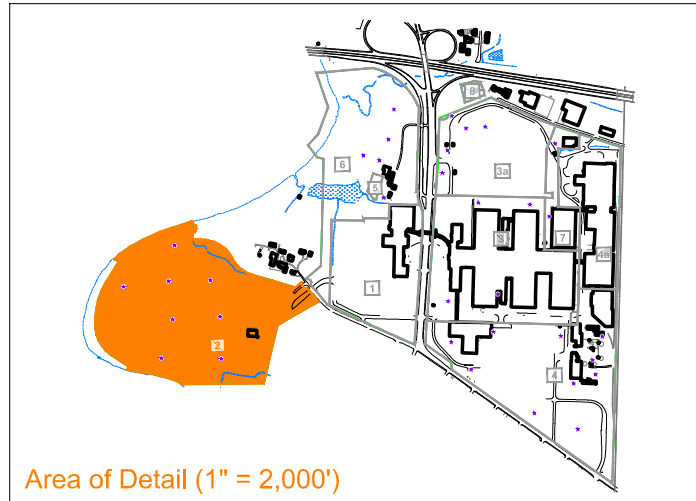
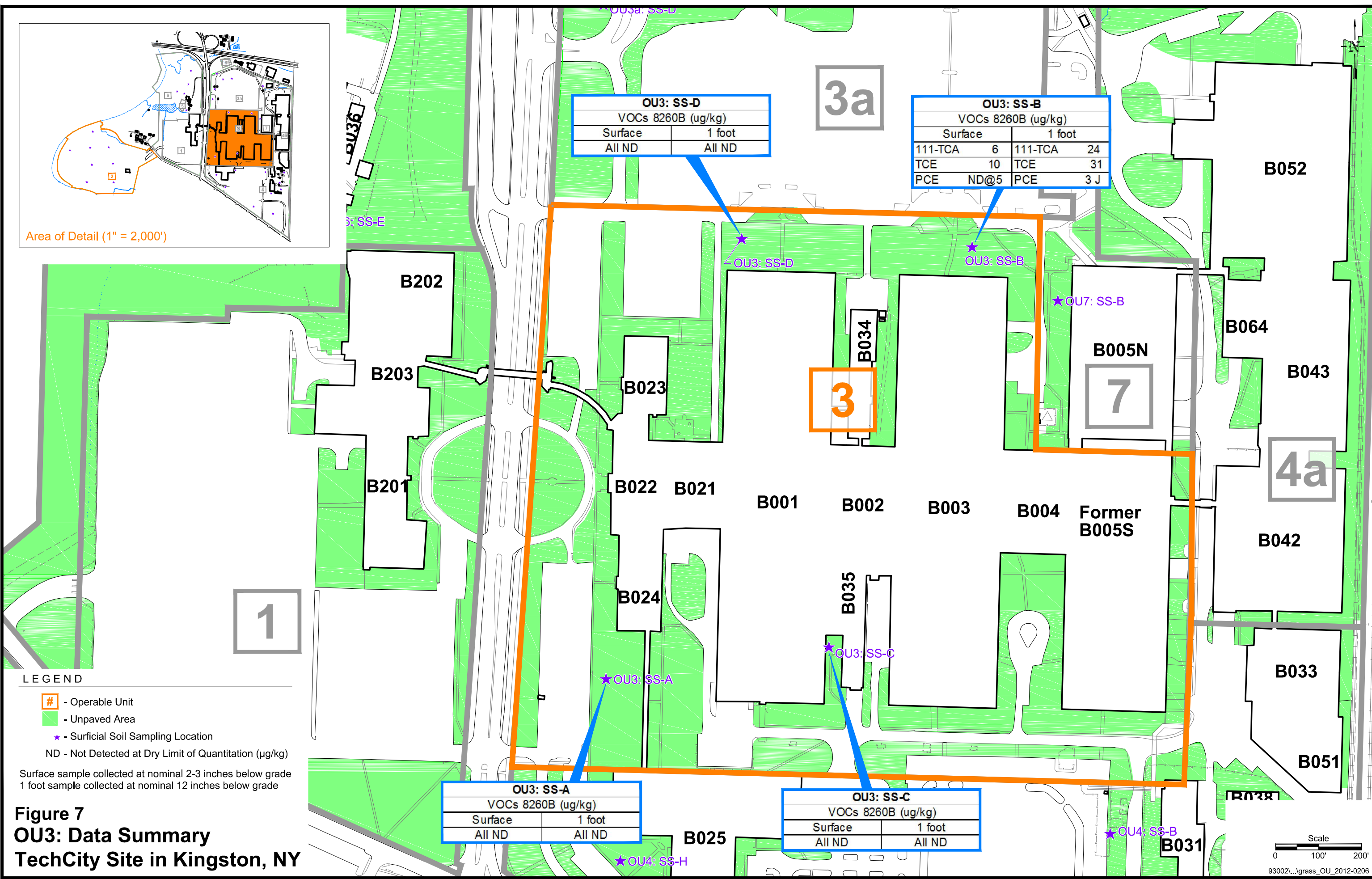
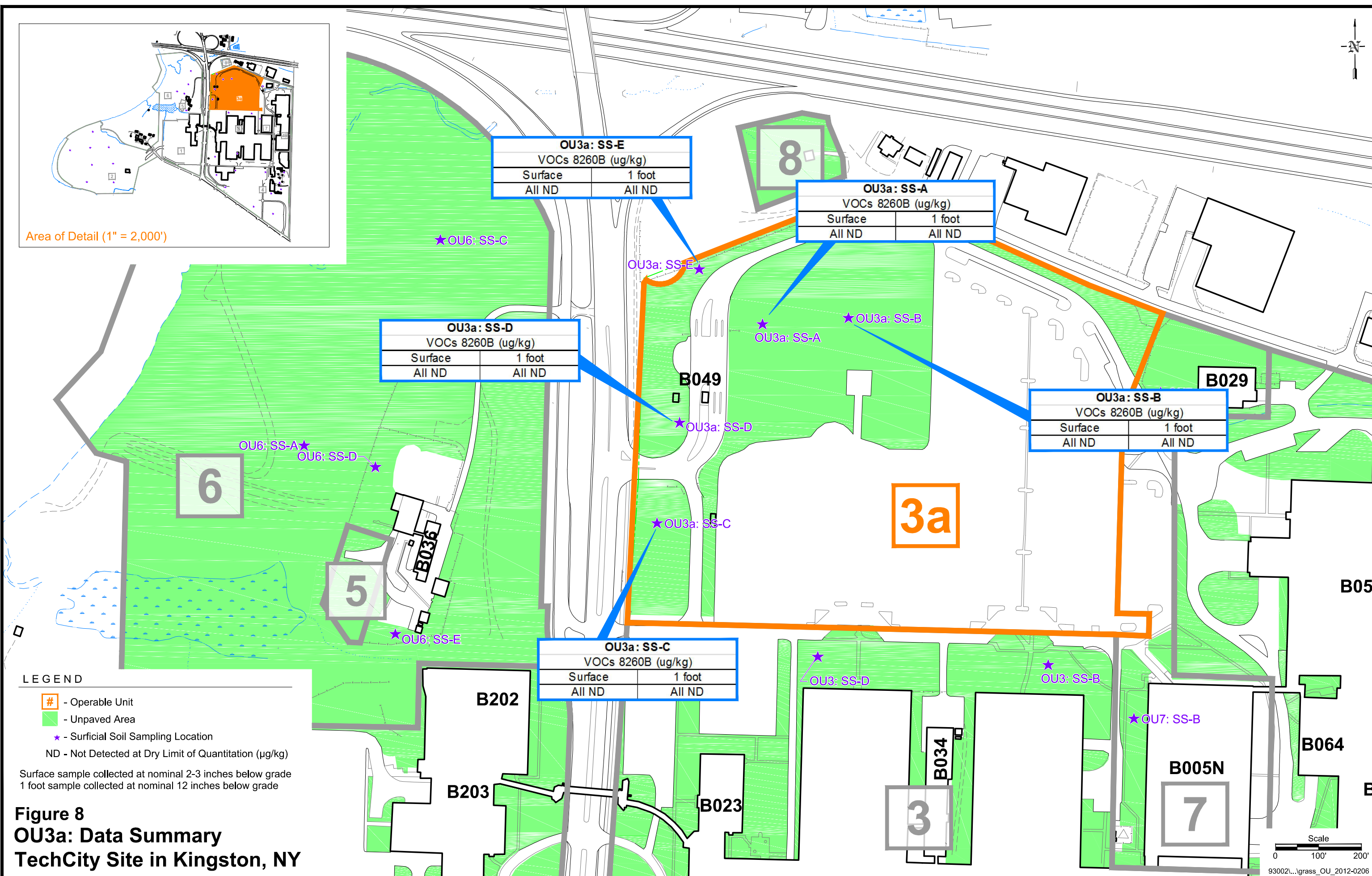
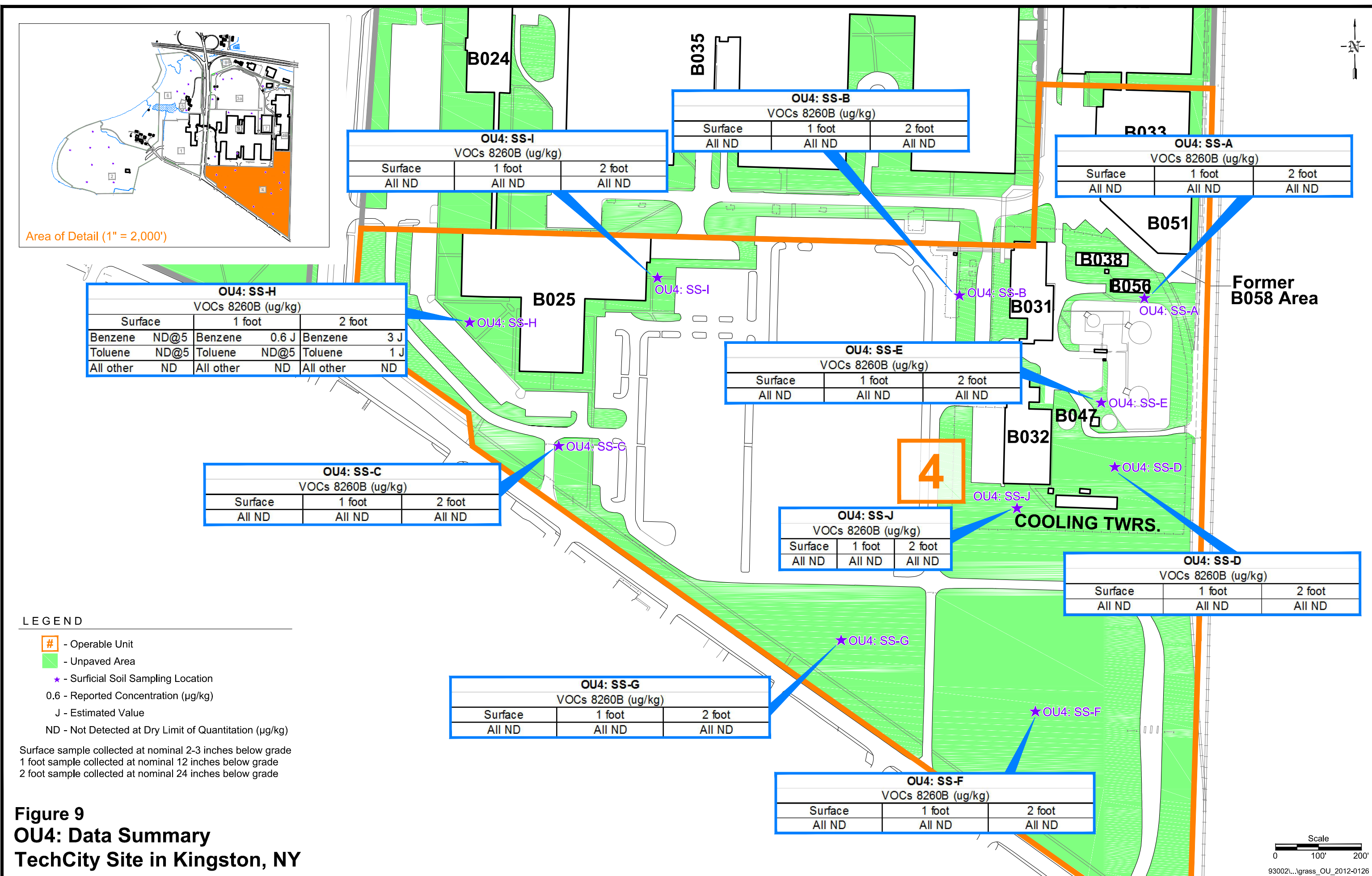
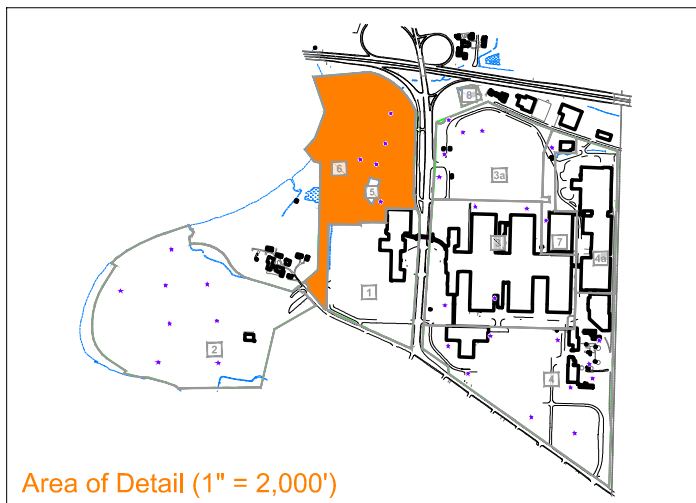


Figure 6
OU2: Data Summary
TechCity Site in Kingston, NY







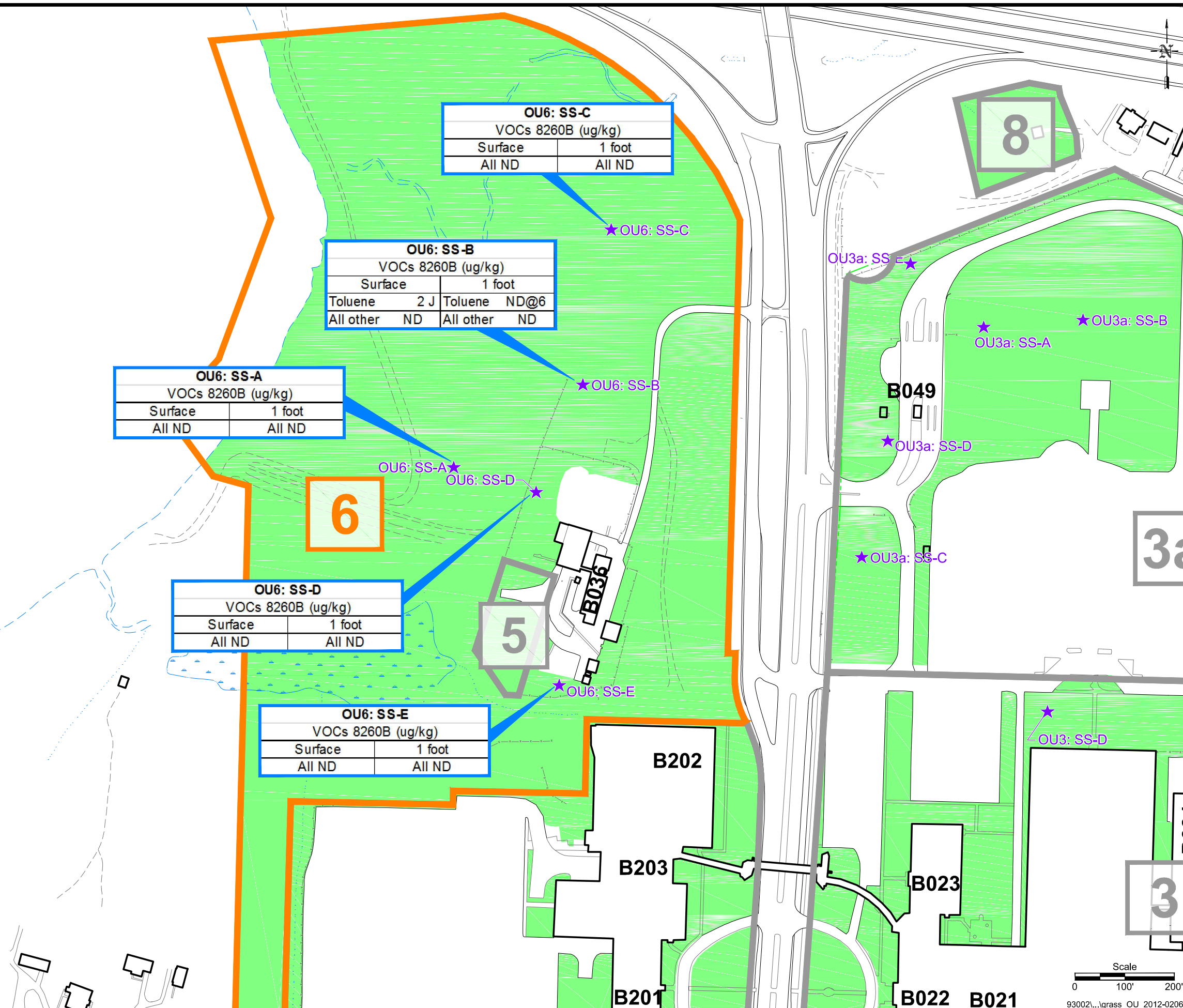


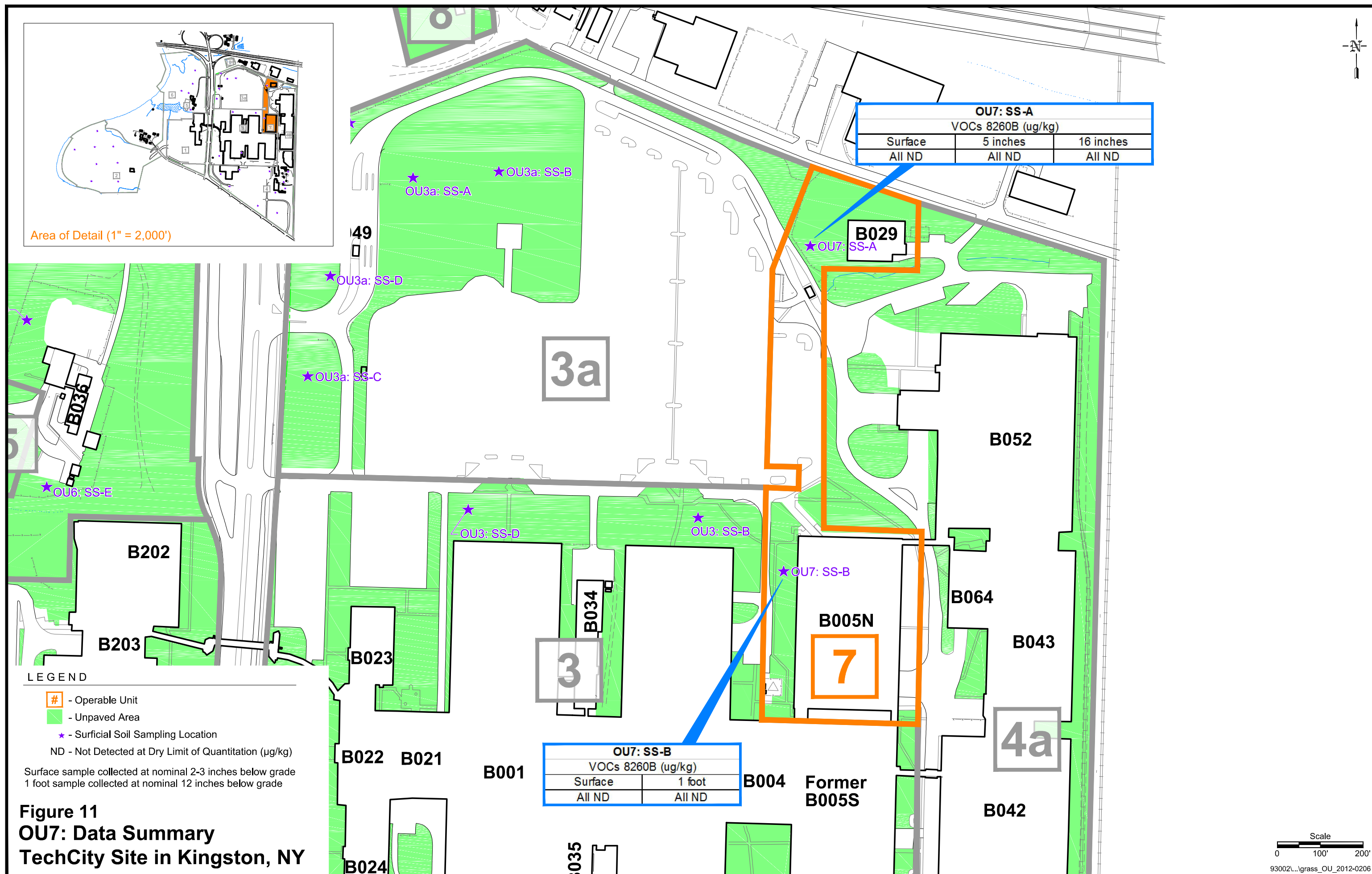
LEGEND

- # - Operable Unit
- Unpaved Area
- ★ - Surficial Soil Sampling Location
- 2 - Reported Concentration (ug/kg)
- J - Estimated Value
- ND - Not Detected at Dry Limit of Quantitation (ug/kg)

Surface sample collected at nominal 2-3 inches below grade
1 foot sample collected at nominal 12 inches below grade

Figure 10
OU6: Data Summary
TechCity Site in Kingston, NY





Appendix A

Chain of Custody Records and Summary Table

CHAIN-OF-CUSTODY SUMMARY TABLE
TechCity (Former IBM Kingston)
Kingston, New York

Client Sample ID	Laboratory	Laboratory SDG	Laboratory Sample ID	Collection Date	Matrix	Parameter(s) Analyzed
OU07A0511024	Lancaster Labs	GSK01	6448134	10/24/2011	Soil	V
OU07A1611024	Lancaster Labs	GSK01	6448135	10/24/2011	Soil	V
OU07A0211024	Lancaster Labs	GSK01	6448136	10/24/2011	Soil	V
OU07B0211024	Lancaster Labs	GSK01	6448137	10/24/2011	Soil	V
OU07B1311024	Lancaster Labs	GSK01	6448138	10/24/2011	Soil	V
KTB110241024 (Trip Blank)	Lancaster Labs	GSK01	6448139	10/24/2011	Water	V

Notes:

SDG - Sample Delivery Group

V - Volatile Organic Compounds by U.S. EPA Method 8260B

Acct. #: 6911 Group #: 1272968 Sample #: 6448134-39

COC # 01303

Please print. Instructions on reverse side correspond with circled numbers.

[illegible]

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 658-2300 Fax: (717) 658-6766
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

Issued by Dept. 40 Management 6167.01

CHAIN-OF-CUSTODY SUMMARY TABLE
TechCity (Former IBM Kingston)
Kingston, New York

Client Sample ID	Laboratory	Laboratory SDG	Laboratory Sample ID	Collection Date	Matrix	Parameter(s) Analyzed
OU04D0211025	Lancaster Labs	GSK02	6449976	10/25/2011	Soil	V
OU04D1311025	Lancaster Labs	GSK02	6449977	10/25/2011	Soil	V
OU04D2511025	Lancaster Labs	GSK02	6449978	10/25/2011	Soil	V
OU04J0211025	Lancaster Labs	GSK02	6449979	10/25/2011	Soil	V
OU04J1311025	Lancaster Labs	GSK02	6449980	10/25/2011	Soil	V
OU04J2511025	Lancaster Labs	GSK02	6449981	10/25/2011	Soil	V
OU04E0411025	Lancaster Labs	GSK02	6449982	10/25/2011	Soil	V
OU04E1311025	Lancaster Labs	GSK02	6449983	10/25/2011	Soil	V
OU04E2511025	Lancaster Labs	GSK02	6449984	10/25/2011	Soil	V
OU04A0411025	Lancaster Labs	GSK02	6449985	10/25/2011	Soil	V
OU04A1311025	Lancaster Labs	GSK02	6449986	10/25/2011	Soil	V
OU04A2511025	Lancaster Labs	GSK02	6449987	10/25/2011	Soil	V
OU04G0411025	Lancaster Labs	GSK02	6449988	10/25/2011	Soil	V
OU04G1311025	Lancaster Labs	GSK02	6449989	10/25/2011	Soil	V
OU04G2511025	Lancaster Labs	GSK02	6449990	10/25/2011	Soil	V
TEQ11025AUGR (Equipment Rinsate)	Lancaster Labs	GSK02	6449991	10/25/2011	Water	V
OU04I0411025	Lancaster Labs	GSK02	6449992	10/25/2011	Soil	V
OU04I1311025	Lancaster Labs	GSK02	6449993	10/25/2011	Soil	V
OU04I2511025	Lancaster Labs	GSK02	6449994	10/25/2011	Soil	V
TTBA10251026 (Trip Blank)	Lancaster Labs	GSK02	6449995	10/25/2011	Water	V

Notes:

SDG - Sample Delivery Group
V - Volatile Organic Compounds by U.S. EPA Method 8260B



IBM Chain of Custody

For Lancaster Laboratories use only

Acct #: 6911 Group #: 1273182 Sample #: 6449976-95

COC # 01300

PAGE 1 OF 2

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Groundwater Sciences Corp</u> Acct #: <u>0611</u> Project Name/#: <u>Technical Surface Soil</u> Project Name/#: (cont.) <u>Q3002.37</u> Sampler: <u>Donaghy/WW/Rudin/CST</u> Project State: <u>NY</u> P.O. #: <u>93002.37</u> IBM PM: <u>Dean Churman</u> Check one: ☐ Routine Lab GW ☐ Routine GTF O&M ☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs OU: _____ (Endicott Non-Routine only)				2 Matrix Soil ☐ Water ☐ Other ☐ Check if Applicable ☐ NPDES				3 Composite				4 Total # of Containers				5 Analyses Requested Preservation Codes H O D 8260B Stal Water 8260B Stal Soil Moisture				6 For Lab Use Only FSC: _____ SCR: _____ Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other 8260B Stal Soil @ 3 el core samples Remarks/SSOW Temperature of samples upon receipt (if requested)			
7 Sample Identification				Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	8260B Stal Water	8260B Stal Soil	Moisture									
OU 04 D 02 11 025				10/25/2011	0920	X		X			4	X	X										
OU 04 D 13 11 025				10/25/2011	0936	X		X			4	X	X										
OU 04 D 25 11 025				10/25/2011	0947	X		X			4	X	X										
OU 04 J 02 11 025				10/25/2011	1014	X		X			4	X	X										
OU 04 J 13 11 025				10/25/2011	1025	X		X			4	X	X										
OU 04 J 25 11 025				10/25/2011	1038	X		X			4	X	X										
OU 04 E 04 11 025				10/25/2011	1105	X		X			4	X	X										
OU 04 E 13 11 025				10/25/2011	1118	X		X			4	X	X										
OU 04 E 25 11 025				10/25/2011	1130	X		X			4	X	X										
OU 04 A 04 11 025				10/25/2011	1152	X		X			4	X	X										
7 Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please check): ☐ Phone ☐ E-mail Phone #: _____ E-mail: _____				Relinquished by: <u>Donaghy/WW/Rudin/CST</u> Date <u>10/25/2011</u> Time <u>1630</u> Received by: _____ Date _____ Time _____				Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____				Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____				Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____							
8 Data Package Options (please check if required) ☐ Type I (Validation/NJ Reg) ☐ TX TRRP-13 ☐ Type II (Reduced NJ) ☐ MA MCP ☐ Type III (Raw Data Only) ☐ CT RCP ☐ NY ASP A ☐ NY ASP B Site-specific QC (MS/MSD/Dup)? ☐ Yes ☐ No (If yes, indicate QC sample and submit triplicate volume.)				SDG Complete? ☒ Yes ☐ No COC 01300 and COC 01301				Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____				Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____				Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____							

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IBM Chain of Custody



For Lancaster Laboratories use only

Acct. #: 6911 Group #: 1273182 Sample #: 6449976-95

COC # 01301

PAGE 20-2

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Groundwater Sciences Corp</u> Acct. #: <u>06911</u> Project Name/#: <u>Teck City Surface Soil</u> Project Name/#: (cont.) <u>93002, 37</u> Sampler: <u>DeBergmann/MRuckin/ESTMER</u> Project State: <u>NY</u> P.O.#: <u>93002, 37</u> IBM PM: <u>Deann Churtrand</u> Check one: ☐ Routine Lab GW ☐ Routine GTF O&M ☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs OU: _____ (Endicott Non-Routine only)				4 Matrix ☐ Potable ☐ Check & Associate ☐ NPDES ☐ Other				5 Analyses Requested Preservation Codes H=HCl O=Other N=HNO ₃ B=NaOH S=H ₂ SO ₄ T=Thiosulfate 0260B STD Soil @ 3 enclose samplers								6 Temperature of samples upon receipt (if requested)					
2 Sample Identification				Date Collected		Time Collected		3 Grab Composite		Soil Water Other		Total # of Containers		Remarks/SSOW							
0U04A1311025				10/25/2011		1207		X		X		4		X X							
0U04A2511025				10/25/2011		1220		X		X		4		X X							
0U04G0411025				10/25/2011		1347		X		X		4		X X							
0U04G1311025				10/25/2011		1400		X		X		4		X X							
0U04G2511025				10/25/2011		1411		X		X		4		X X							
TEG11025 AUGR				10/25/2011		1435		X		X		3		X							
0U04I0411025				10/25/2011		1448		X		X		4		X X							
0U04I1311025				10/25/2011		1500		X		X		4		X X							
0U04I2511025				10/25/2011		1516		X		X		4		X X							
TTBA10251026				10/25/11		---		X		X		3		X							
7 Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please check): ☐ Phone ☐ E-mail Phone #: _____ E-mail: _____				Relinquished by: <u>DANIEL MARE</u> <u>GC</u> Date: <u>10/25/2011</u> Time: <u>1630</u>				Received by: _____ Date: _____ Time: _____				9									
8 Data Package Options (please check if required) ☐ Type I (Validation/NJ Reg) ☐ TX TRRP-13 ☐ Type II (Reduced NJ) ☐ MA MCP ☐ Type III (Raw Data Only) ☐ CT RCP ☐ NY ASP A ☒ NY ASP B				SDG Complete? ☒ Yes ☐ No <u>COC 01301 and</u> <u>COC 01302</u>				Relinquished by: _____ Date: _____ Time: _____				Received by: _____ Date: _____ Time: _____									
Site-specific QC (MS/MSD/Dup)? ☐ Yes ☐ No (If yes, indicate QC sample and submit triplicate volume.)				Relinquished by: _____ Date: _____ Time: _____				Received by: <u>Brianly Bandy</u> Date: <u>10/26/2011</u> Time: <u>900</u>				Received by: _____ Date: _____ Time: _____									

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CHAIN-OF-CUSTODY SUMMARY TABLE
TechCity (Former IBM Kingston)
Kingston, New York

Client Sample ID	Laboratory	Laboratory SDG	Laboratory Sample ID	Collection Date	Matrix	Parameter(s) Analyzed
OU3AB0411026	Lancaster Labs	GSK03	6451483	10/26/2011	Soil	V
OU3AB1311026	Lancaster Labs	GSK03	6451484	10/26/2011	Soil	V
OU3AA0411026	Lancaster Labs	GSK03	6451485	10/26/2011	Soil	V
OU3AA1311026	Lancaster Labs	GSK03	6451486	10/26/2011	Soil	V
OU3AE0411026	Lancaster Labs	GSK03	6451487	10/26/2011	Soil	V
OU3AE1311026	Lancaster Labs	GSK03	6451488	10/26/2011	Soil	V
OU3AD0411026	Lancaster Labs	GSK03	6451489	10/26/2011	Soil	V
OU3AD1311026	Lancaster Labs	GSK03	6451490	10/26/2011	Soil	V
OU3AC0411026	Lancaster Labs	GSK03	6451491	10/26/2011	Soil	V
OU3AC1311026	Lancaster Labs	GSK03	6451492	10/26/2011	Soil	V
TEQ11026SHVL (Equipment Rinsate)	Lancaster Labs	GSK03	6451493	10/26/2011	Water	V
OU04F0411026	Lancaster Labs	GSK03	6451494	10/26/2011	Soil	V
OU04F1311026	Lancaster Labs	GSK03	6451495	10/26/2011	Soil	V
OU04F2511026	Lancaster Labs	GSK03	6451496	10/26/2011	Soil	V
OU04B0411026	Lancaster Labs	GSK03	6451497	10/26/2011	Soil	V
OU04B1311026	Lancaster Labs	GSK03	6451498	10/26/2011	Soil	V
OU04B2511026	Lancaster Labs	GSK03	6451499	10/26/2011	Soil	V
OU03A0411026	Lancaster Labs	GSK03	6451500	10/26/2011	Soil	V
OU03A1311026	Lancaster Labs	GSK03	6451501	10/26/2011	Soil	V
TTBA10261026 (Trip Blank)	Lancaster Labs	GSK03	6451502	10/26/2011	Water	V

Notes:

- SDG - Sample Delivery Group
V - Volatile Organic Compounds by U.S. EPA Method 8260B



For Lancaster Laboratories use only
 Acct. #: 6911 Group #: 1273428 Sample #: 6451483-502

COC # 01296

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Groundwater Sciences Corp</u> Acct. #: <u>06911</u> Project Name/ID: <u>TECH CITY SURFICIAL SOILS</u> Project Name/ID (cont.): <u>93002.37</u> Sampler: <u>DABERGSMANN/MURKIN/CESTRO</u> Project State: <u>NY</u> P.O.#: <u>93002.37</u> IBM PM: <u>DEAN CHARTARD</u> Check one: ☐ Routine Lab GW ☐ Routine GTF O&M ☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs OU: _____ (Endicott Non-Routine only)				5 Analyses Requested Preservation Codes I O O B260B STD WATER B260B STD SOIL moisture		For Lab Use Only FSC: _____ SCR #: _____ Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other B260B STD SOIL @ 3 in core samplers			
2 Sample Identification				3 Composite		4 Matrix Check if Applicable ☐ Potable ☐ NPDES ☐ Other		6 Temperature of samples upon receipt (if requested)	
Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	Remarks/SSOW	
10/26/2011	0925	X	X				4		
10/26/2011	0937	X	X				4		
10/26/2011	1007	X	X				4		
10/26/2011	1021	X	X				4		
10/26/2011	1043	X	X				4		
10/26/2011	1107	X	X				4		
10/26/2011	1131	X	X				4		
10/26/2011	1147	X	X				4		
10/26/2011	1204	X	X				4		
10/26/2011	1221	X	X				4		
7 Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please check): ☐ Phone ☐ E-mail Phone #: _____ E-mail: _____				Relinquished by: <u>DABERGSMANN/GSC</u> Relinquished by: _____ Relinquished by: _____		Date 10/26/2011 Time 1645		Received by: _____ Received by: _____ Received by: _____	
8 Data Package Options (please check if required) ☐ Type I (Validation/NJ Reg) ☐ TX TRRP-13 ☐ Type II (Reduced NJ) ☐ MA MCP ☐ Type VI (Raw Data Only) ☐ CT RCP ☐ NY ASP A ☒ NY ASP B Site-specific QC (MSMSD/Dup)? ☐ Yes ☐ No (If yes, indicate QC sample and submit triplicate volume.)				SDG Complete? ☒ Yes ☐ No COC #1296 and COC #1297		Date 10/27/11 Time 0925		Received by: <u>[Signature]</u>	



For Lancaster Laboratories use only
 Acct. #: 6911 Group #: 1273428 Sample #: 6451483-502

COC # 01297

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Groundwater Sciences Corp</u> Acct. #: <u>06911</u> Project Name/#: <u>TECH CITY SURFICIAL SOILS</u> Project Name/#: (cont.) <u>93002.37</u> Sampler: <u>Dobson/Man/Weirich/CESTER</u> Project State: <u>NY</u> P.O.#: <u>93002.37</u> IBM PM: <u>Deen Chartrand</u> Check one: ☐ Routine Lab GW ☐ Routine GTF O&M ☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs OU: _____ (Endicott Non-Routine only)				5 Analytes Requested Preservation Codes H HCl Q Q T Thiocyanate N HNO ₃ S H ₂ SO ₄ O Other B260B STD SOIL @ 3 ensure samples				6 Temperature of samples upon receipt (if requested)																			
2 Sample Identification				3 Composite				4 Matrix Check # Potable NFEES ☐ Potable ☐ NFEES				5 Total # of Containers				6 Remarks/SSOW											
Date Collected				Time Collected				Grab				Composite				Soil				Water				Other			
TEQ11026SHVL				10/26/2011				1351				X				X				3				X			
OU04F0411026				10/26/2011				1404				X				X				4				X X			
OU04F1311026				10/26/2011				1421				X				X				4				X X			
OU04F2511026				10/26/2011				1431				X				X				4				X X			
OU04B0411026				10/26/2011				1457				X				X				4				X X			
OU04B1311026				10/26/2011				1510				X				X				4				X X			
OU04B2511026				10/26/2011				1524				X				X				4				X X			
OU03A0411026				10/26/2011				1555				X				X				4				X X			
OU03A1311026				10/26/2011				1611				X				X				4				X X			
TT0A10261026				10/26/2011				—				—				X				2				X			
7 Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please check): ☐ Phone ☐ E-mail Phone #: _____ E-mail: _____				Relinquished by: <u>Dobson/Man/Weirich/CESTER</u> Date: <u>10/26/2011</u> Time: <u>1645</u>				Relinquished by: _____ Date: _____ Time: _____				Relinquished by: _____ Date: _____ Time: _____				Relinquished by: _____ Date: _____ Time: _____											
8 Data Package Options (please check if required) ☐ Type I (Validation/NJ Reg) ☐ TX TRRP-13 ☐ Type III (Reduced NJ) ☐ MA MCP ☐ Type VI (Raw Data Only) ☐ CT RCP ☐ NY ASP A ☐ NY ASP B				SDG Complete? ☒ Yes ☐ No <u>COC # 1296 and</u> <u>COC # 1297</u> Site-specific QC (MS/MSD/Dup)? ☐ Yes ☐ No (If yes, indicate QC sample and submit triplicate volume.)				Relinquished by: _____ Date: _____ Time: _____				Relinquished by: _____ Date: _____ Time: _____				Relinquished by: _____ Date: _____ Time: _____											

CHAIN-OF-CUSTODY SUMMARY TABLE
TechCity (Former IBM Kingston)
Kingston, New York

Client Sample ID	Laboratory	Laboratory SDG	Laboratory Sample ID	Collection Date	Matrix	Parameter(s) Analyzed
OU03B0411028	Lancaster Labs	GSK04	6454507	10/28/2011	Soil	V
OU03B1311028	Lancaster Labs	GSK04	6454508	10/28/2011	Soil	V
OU03D0411028	Lancaster Labs	GSK04	6454509	10/28/2011	Soil	V
OU03D1311028	Lancaster Labs	GSK04	6454510	10/28/2011	Soil	V
OU03C0411028	Lancaster Labs	GSK04	6454511	10/28/2011	Soil	V
OU03C1311028	Lancaster Labs	GSK04	6454512	10/28/2011	Soil	V
OU04C0411028	Lancaster Labs	GSK04	6454513	10/28/2011	Soil	V
OU04C1311028	Lancaster Labs	GSK04	6454514	10/28/2011	Soil	V
OU04C2511028	Lancaster Labs	GSK04	6454515	10/28/2011	Soil	V
TEQ11028SHVL (Equipment Rinsate)	Lancaster Labs	GSK04	6454516	10/28/2011	Water	V
TTBA10281028 (Trip Blank)	Lancaster Labs	GSK04	6454517	10/28/2011	Water	V
OU04H0411028	Lancaster Labs	GSK04	6454518	10/28/2011	Soil	V
OU04H1311028	Lancaster Labs	GSK04	6454519	10/28/2011	Soil	V
OU04H2511028	Lancaster Labs	GSK04	6454520	10/28/2011	Soil	V
OU06C0411028	Lancaster Labs	GSK04	6454521	10/28/2011	Soil	V
OU06C1311028	Lancaster Labs	GSK04	6454522	10/28/2011	Soil	V

Notes:

SDG - Sample Delivery Group
V - Volatile Organic Compounds by U.S. EPA Method 8260B

**Lancaster
Laboratories**

Acct. #: 6911 Group #: 1273869 Sample #: 6454507-22 **COC #** 01298

For Lab Use Only

Client: Groundwater Sciences Corp **Acct. #:** 06911

Project Name/ID: TechCity Surface Soils

Project Name/ID (cont.): 93002.37

Sampler: D. Bergmann/C. Stiner **Project State:** NY

P.O. #: 93002.37 **IBM PM:** Dean Chartrand

Check one: ☐ Routine Lab GW ☐ Routine GTF O&M

☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs

OU: _____ **(Endicott Non-Routine only)**

Analyses Requested

Matrix		Preservation Codes									
Check if Applicable	NPDES	H	O	O							
☐ Potable	☐										
☐ Wastewater	☐										

Remarks/SSOW

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	Analysis 1	Analysis 2	Analysis 3	Analysis 4	Analysis 5	Analysis 6	Analysis 7	Analysis 8	Analysis 9	Analysis 10	Remarks/SSOW
OU03B0411020	10/20/2011	1045	X		X			4	X	X									
OU03B1311020	10/20/2011	1102	X		X			4	X	X									
OU03D0411020	10/20/2011	1110	X		X			4	X	X									
OU03D1311020	10/20/2011	1132	X		X			4	X	X									
OU03C0411020	10/20/2011	1205	X		X			4	X	X									
OU03C1311020	10/20/2011	1215	X		X			4	X	X									
OU04C0411020	10/20/2011	1240	X		X			4	X	X									
OU04C1311020	10/20/2011	1300	X		X			4	X	X									
OU04C2511020	10/20/2011	1319	X		X			4	X	X									
TEQ11020SHVL	10/20/2011	1340	X			X		3	X										

Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush
 (Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Date results are needed: _____

Rush results requested by (please check): ☐ Phone ☐ E-mail

Phone #: _____ **E-mail:** _____

Data Package Options (please check if required)

☒ Type I (Validation/NJ Reg) ☐ TX TRRP-13

☐ Type II (Reduced NJ) ☐ MA MCP

☐ Type III (Raw Data Only) ☐ CT RCP

☒ NY ASP A ☐ Site-specific QC (MS/MSD/Dup)? ☐ Yes ☒ No

☒ NY ASP B ☐ (If yes, indicate QC sample and submit triplicate volume.)

Relinquished by: D. Bergmann **Date:** 10/20/2011 **Time:** 1630

Relinquished by: _____ **Date:** _____ **Time:** _____

Relinquished by: _____ **Date:** _____ **Time:** _____

Relinquished by: _____ **Date:** _____ **Time:** _____

SDG Complete? ☒ Yes ☐ No

SDC #1298 and

SDC #1299

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Issued by Dept. 40 Management 0107.01

Accl. #: 6911 Group #: 1273869 Sample #: 6454507-22

Please print. Instructions on reverse side correspond with circled numbers.

[illegible]

CHAIN-OF-CUSTODY SUMMARY TABLE
TechCity (Former IBM Kingston)
Kingston, New York

Client Sample ID	Laboratory	Laboratory SDG	Laboratory Sample ID	Collection Date	Matrix	Parameter(s) Analyzed
TTBA11081108 (Trip Blank)	Lancaster Labs	GSK05	6463885	11/08/2011	Water	V
OU06B0411108	Lancaster Labs	GSK05	6463886	11/08/2011	Soil	V
OU06B1311108	Lancaster Labs	GSK05	6463887	11/08/2011	Soil	V
OU06D0411108	Lancaster Labs	GSK05	6463888	11/08/2011	Soil	V
OU06D1311108	Lancaster Labs	GSK05	6463889	11/08/2011	Soil	V
OU06A0411108	Lancaster Labs	GSK05	6463890	11/08/2011	Soil	V
OU06A1311108	Lancaster Labs	GSK05	6463891	11/08/2011	Soil	V
OU06E0411108	Lancaster Labs	GSK05	6463892	11/08/2011	Soil	V
OU06E0811108	Lancaster Labs	GSK05	6463893	11/08/2011	Soil	V
TEQ11108SHVL (Equipment Rinsate)	Lancaster Labs	GSK05	6463894	11/08/2011	Water	V

Notes:

SDG - Sample Delivery Group

V - Volatile Organic Compounds by U.S. EPA Method 8260B

IBM Chain of Custody



For Lancaster Laboratories use only
Acct. #: 6911 Group #: 1275473 Sample #: 6463885-94

COC # 01367

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Groundwater Sciences Corp</u> Acct. #: <u>06911</u> Project Name/ #: <u>Tech City Surface Soil</u> Project Name/ # (cont.): <u>93002.37</u> Sampler: <u>DABERMAN/MBuchin/Estimer</u> Project State: <u>NY</u> P.O. #: <u>93002.37</u> IBM PM: <u>Deauchard</u> Check one: ☐ Routine Lab GW ☐ Routine GTF O&M ☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs OU: _____ (Endicott Non-Routine only)				5 Analyses Requested Preservation Codes Matrix: <u>B260B SH water</u> <u>B260B STA Soil</u> <u>moisture</u> Check if Applicable: ☐ NPDES ☐ Other				For Lab Use Only FSC: _____ SCR #: _____ Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other B260B STA soil @ 3 encircled samplers Temperature of samples upon receipt (if requested)																																																																																																		
2 Sample Identification <table border="1"> <thead> <tr> <th>Sample Identification</th> <th>Date Collected</th> <th>Time Collected</th> <th>Grab</th> <th>Composite</th> <th>Soil</th> <th>Water</th> <th>Other</th> <th>Total # of Containers</th> </tr> </thead> <tbody> <tr> <td>TTBA11081108</td> <td>11/8/2011</td> <td>—</td> <td>—</td> <td>—</td> <td>X</td> <td></td> <td></td> <td>2 X</td> </tr> <tr> <td>OU06B0411108</td> <td>11/8/2011</td> <td>1014</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>4 X X</td> </tr> <tr> <td>OU06B1311108</td> <td>11/8/2011</td> <td>1041</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>4 X X</td> </tr> <tr> <td>OU06D0411108</td> <td>11/8/2011</td> <td>1113</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>4 X X</td> </tr> <tr> <td>OU06D1311108</td> <td>11/8/2011</td> <td>1130</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>4 X X</td> </tr> <tr> <td>OU06A0411108</td> <td>11/8/2011</td> <td>1155</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>4 X X</td> </tr> <tr> <td>OU06A1311108</td> <td>11/8/2011</td> <td>1214</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>4 X X</td> </tr> <tr> <td>OU06E0411108</td> <td>11/8/2011</td> <td>1400</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>4 X X</td> </tr> <tr> <td>OU06E0811108</td> <td>11/8/2011</td> <td>1425</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>4 X X</td> </tr> <tr> <td>TEQ11108SHVL</td> <td>11/8/2011</td> <td>1530</td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>3 X</td> </tr> </tbody> </table>				Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	TTBA11081108	11/8/2011	—	—	—	X			2 X	OU06B0411108	11/8/2011	1014	X		X			4 X X	OU06B1311108	11/8/2011	1041	X		X			4 X X	OU06D0411108	11/8/2011	1113	X		X			4 X X	OU06D1311108	11/8/2011	1130	X		X			4 X X	OU06A0411108	11/8/2011	1155	X		X			4 X X	OU06A1311108	11/8/2011	1214	X		X			4 X X	OU06E0411108	11/8/2011	1400	X		X			4 X X	OU06E0811108	11/8/2011	1425	X		X			4 X X	TEQ11108SHVL	11/8/2011	1530	X		X			3 X	6 Remarks/SSOW			
Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers																																																																																																		
TTBA11081108	11/8/2011	—	—	—	X			2 X																																																																																																		
OU06B0411108	11/8/2011	1014	X		X			4 X X																																																																																																		
OU06B1311108	11/8/2011	1041	X		X			4 X X																																																																																																		
OU06D0411108	11/8/2011	1113	X		X			4 X X																																																																																																		
OU06D1311108	11/8/2011	1130	X		X			4 X X																																																																																																		
OU06A0411108	11/8/2011	1155	X		X			4 X X																																																																																																		
OU06A1311108	11/8/2011	1214	X		X			4 X X																																																																																																		
OU06E0411108	11/8/2011	1400	X		X			4 X X																																																																																																		
OU06E0811108	11/8/2011	1425	X		X			4 X X																																																																																																		
TEQ11108SHVL	11/8/2011	1530	X		X			3 X																																																																																																		
7 Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please check): ☐ Phone ☐ E-mail Phone #: _____ E-mail: _____				Relinquished by: <u>DABERMAN</u> Date: <u>11/8/2011</u> Time: <u>1600</u> Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____				Received by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____ Received by: <u>Suzette Schmar</u> Date: <u>11/11/11</u> Time: <u>0935</u>																																																																																																		
8 Data Package Options (please check if required) ☐ Type I Validation/NJ Reg ☐ TX TRRP-13 ☐ Type II (Reduced NJ) ☐ MA MCP ☐ Type III (Raw Data Only) ☐ CT RCP ☐ NY ASP A ☐ Site-specific QC (MS/MSD/Dup)? ☐ Yes ☐ No ☒ NY ASP B (If yes, indicate QC sample and submit triplicate volume.)				SDG Complete? ☒ Yes ☐ No																																																																																																						

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CHAIN-OF-CUSTODY SUMMARY TABLE
TechCity (Former IBM Kingston)
Kingston, New York

Client Sample ID	Laboratory	Laboratory SDG	Laboratory Sample ID	Collection Date	Matrix	Parameter(s) Analyzed
TTBA11091109 (Trip Blank)	Lancaster Labs	GSK06	6465505	11/09/2011	Water	V
TEQ11109SHVL (Equipment Rinsate)	Lancaster Labs	GSK06	6465506	11/09/2011	Water	V
OU02C0411109	Lancaster Labs	GSK06	6465507	11/09/2011	Soil	V
OU02C1311109	Lancaster Labs	GSK06	6465508	11/09/2011	Soil	V
OU02E0411109	Lancaster Labs	GSK06	6465509	11/09/2011	Soil	V
OU02E1311109	Lancaster Labs	GSK06	6465510	11/09/2011	Soil	V
OU02H0411109	Lancaster Labs	GSK06	6465511	11/09/2011	Soil	V
OU02H1311109	Lancaster Labs	GSK06	6465512	11/09/2011	Soil	V
OU02D0411109	Lancaster Labs	GSK06	6465513	11/09/2011	Soil	V
OU02D1311109	Lancaster Labs	GSK06	6465514	11/09/2011	Soil	V
OU02A0411109	Lancaster Labs	GSK06	6465515	11/09/2011	Soil	V
OU02A1311109	Lancaster Labs	GSK06	6465516	11/09/2011	Soil	V
OU02G0411109	Lancaster Labs	GSK06	6465517	11/09/2011	Soil	V
OU02G1311109	Lancaster Labs	GSK06	6465518	11/09/2011	Soil	V
OU02F0411109	Lancaster Labs	GSK06	6465519	11/09/2011	Soil	V
OU02F1311109	Lancaster Labs	GSK06	6465520	11/09/2011	Soil	V
OU02B0411109	Lancaster Labs	GSK06	6465521	11/09/2011	Soil	V
OU02B1311109	Lancaster Labs	GSK06	6465522	11/09/2011	Soil	V

Notes:

SDG - Sample Delivery Group

V - Volatile Organic Compounds by U.S. EPA Method 8260B



For Lancaster Laboratories use only
Acct. #: 6911 Group #: 1275716 Sample #: 6465505-22

IBM Chain of Custody

COC # 01368

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Groundwater Sciences Corp</u> Acct. #: <u>016911</u> Project Name/ID: <u>Tech City Surface Soil</u> Project Name/ID (cont.): <u>93002.37</u> Sampler: <u>D. Bergmann/M. Kuchin/C. Sturmer</u> Project State: <u>NY</u> P.O. #: <u>93002.37</u> IBM PM: <u>Deancha hand</u> Check one: ☐ Routine Lab GW ☐ Routine GTF O&M ☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs OU: _____ (Endicott Non-Routine only)				4 Matrix Soil ☐ Water ☐ Other ☐ Check if Applicable ☐ Potable ☐ NPDES				5 Analyses Requested Preservation Codes 4 0 0 02600B Std Water 02600B Std Soil Moisture				6 For Lab Use Only FSC: _____ SCR #: _____ Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other 02600B Std Soil @ 3 enclosure samplers				
2 Sample Identification				Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	Remarks/SSOW				6 Temperature of samples upon receipt (if requested)
TTBA11091109				11/9/2011	—	—	—	X			2	X				
TEQ11109SHVL				11/9/2011	0851	X		X			3	X				
OU02C0411109				11/9/2011	0956	X		X			4	X	X			
OU02C1311109				11/9/2011	1013	X		X			4	X	X			
OU02E0411109				11/9/2011	1039	X		X			4	X	X			
OU02E1311109				11/9/2011	1057	X		X			4	X	X			
OU02H0411109				11/9/2011	1121	X		X			4	X	X			
OU02H1311109				11/9/2011	1137	X		X			4	X	X			
OU02D0411109				11/9/2011	1159	X		X			4	X	X			
OU02D1311109				11/9/2011	1217	X		X			4	X	X			
7 Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please check): ☐ Phone ☐ E-mail Phone #: _____ E-mail: _____				Relinquished by: <u>D. Bergmann / GSC</u> Date: <u>11/9/2011</u> Time: <u>1645</u> Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____				Received by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____ Received by: <u>S. Jettette</u> Date: <u>11/10/2011</u> Time: <u>0900</u>								
8 Data Package Options (please check if required) ☐ Type 1 (Validation/NJ Reg) ☐ TX TRRP-13 ☐ Type 2 (Reduced NJ) ☐ MA MCP ☐ Type 3 (Raw Data Only) ☐ CT RCP ☐ NY ASP A ☒ NY ASP B				SDG Complete? ☒ Yes ☐ No COC 01368 Date 01/31/09 Site-specific QC (MS/MSD/Dup)? ☐ Yes ☐ No (If yes, indicate QC sample and submit triplicate volume.)												

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Acct. #: 60911 Group #: 1275716 Sample #: 6465505-22 **COC # 01369**

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Groundwater Sciences Corp</u> Acct. #: <u>60911</u> Project Name: <u>Lehigh City Surface Soil</u> Project Name/ID (cont.): <u>93002.37</u> Sampler: <u>DAVID MANN / MWLACHIN / CESTO</u> Project State: <u>NY</u> P.O. #: <u>93002.37</u> IBM PM: <u>Deanchartand</u> Check one: ☐ Routine Lab GW ☐ Routine GTF O&M ☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs OU: _____ (Endicott Non-Routine only)				5 Analyses Requested Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other Remarks/SSOW <u>B2600 BSTD soil @ 320 line samples</u>											
2 Sample Identification				3 Composite				4 Matrix				6 Temperature of samples upon receipt (if requested)			
Date Collected				Time Collected				Grab				Composite			
Soil				Water				Other				Total # of Containers			
OU02A0411109				11/9/2011				1247				X			
OU02A1311109				11/9/2011				1301				X			
OU02G0411109				11/9/2011				1337				X			
OU02G1311109				11/9/2011				1351				X			
OU02F0411109				11/9/2011				1416				X			
OU02F1311109				11/9/2011				1431				X			
OU02B0411109				11/9/2011				1504				X			
OU02B1311109				11/9/2011				1521				X			
7 Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please check): ☐ Phone ☐ E-mail Phone #: _____ E-mail: _____				Relinquished by: <u>DAVID MANN / GSC</u> Date: <u>11/9/2011</u> Time: <u>1645</u> Received by: _____ Date: _____ Time: _____				Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____				Relinquished by: _____ Date: _____ Time: _____ Received by: <u>Suzette Lehman</u> Date: <u>11/11/11</u> Time: <u>0900</u>			
8 Data Package Options (please check if required) ☐ Type I (Validation/NJ Reg) ☐ TX TRRP-13 ☐ Type II (Reduced NJ) ☐ MA MCP ☐ Type III (Raw Data Only) ☐ CT RCP ☐ NY ASP A ☐ NY ASP B				SDG Complete? ☒ Yes ☐ No <u>COC 01369</u> <u>and 01368</u> Site-specific QC (MS/MSD/Dup)? ☐ Yes ☐ No (If yes, indicate QC sample and submit split volume)											

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Appendix B

Data Usability Summary Reports



"Truth through Science"

Veridian
Environmental, Inc

DATA VALIDATION REPORT

TECHCITY (FORMER IBM KINGSTON) GROUNDWATER CONTAMINATION SUPERFUND SITE

Lancaster Laboratories
SDG: **GSK01**

January 20, 2012

Prepared for:

GROUNDWATER SCIENCES CORPORATION
2601 Market Place Street, Suite 310
Harrisburg, Pennsylvania 17110

Prepared by:

VERIDIAN ENVIRONMENTAL, INC.
1111 Kennedy Place
Suite 2
Davis, California 95616

DATA VALIDATION REPORT

TECHCITY (FORMER IBM KINGSTON) GROUNDWATER CONTAMINATION SUPERFUND SITE

January 20, 2012

Name	Position	Signature/Date
Veridian Environmental, Inc.		
Prepared by:		
Tracy A. Young	Senior Quality Assurance Chemist	<i>Tracy A. Young</i> 01/20/2012
Ann Lack	Senior Quality Assurance Chemist	<i>Ann Lack</i> 01/20/2012
Reviewed and Approved by:		
Charlotte R. Symms	President	<i>Charlotte R. Symms</i> 1/20/2012

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ATTACHMENT E	PROJECT CORRESPONDENCE

ACRONYMS

<u>Acronym</u>	<u>Definition</u>
%D	Percent Difference
%REC	Percent Recovery
%RI	Percent Relative Intensity
%RPD	Percent Relative Percent Difference
%RSD	Percent Relative Standard Deviation
%S	Percent Solids
ARRF	Average Relative Response Factor
CCC	Calibration Check Compounds
CCV	Continuing Calibration Verification
CD	Correctable Deficiency
CF	Calibration Factor
CLP	Contract Laboratory Program
COC	Chain-of-Custody
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
DER	Division of Environmental Remediation
DF	Dilution Factor
DL	Dilution Limit
DO	Diluted Out
DOC	Date of Collection
DQO	Data Quality Objective
DVR	Data Validation Report
EDD	Electronic Data Deliverable
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
GSC	Groundwater Sciences Corporation
ICAL	Initial Calibration
ICV	Initial Calibration Verification
IS	Internal Standard
kg	Kilogram
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
l	Liter
LL	Lower Limit
LLI	Lancaster Laboratories, Inc.
MDL	Method Detection Limit
ml	Milliliter
MRL	Method Reporting Limit
MS	Matrix Spike

<u>Acronym</u>	<u>Definition</u>
MSD	Matrix Spike Duplicate
µg	Microgram
ND	Non-detect
NFG	National Functional Guidelines
NIST	National Institute of Standards and Technology
NQW	No Qualification Warranted
NTC	Non Target Compound
NYSDEC	New York State Department of Environmental Conservation
OERR	Office of Emergency and Remedial Response
OSWER	Office of Solid Waste and Emergency Response
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
RRF	Relative Response Factor
RRT	Relative Retention Time
RSD	Relative Standard Deviation
RT	Retention Time
SDG	Sample Delivery Group
SM	Standard Method
SOP	Standard Operating Procedure
SOW	Statement of Work
SPCC	System Performance Check Compounds
Surr	Surrogate
TAL	Target Analyte List
TCL	Target Compound List
TIC	Tentatively Identified Compound
UL	Upper Limit
U.S. EPA	United States Environmental Protection Agency
VEI	Veridian Environmental, Inc.
VOC	Volatile Organic Compound

1.0 INTRODUCTION

This Data Validation Report (DVR) details the assessment and the Level IV data validation performed on the sample analyses from SDG GSK01 as summarized in Attachment A. These samples were collected on October 24, 2011, as part of the TechCity (Former IBM Kingston) Facility Superfund Site in Kingston, New York. The samples were shipped to and analyzed by Lancaster Laboratories, Inc., (LLI) in Lancaster, Pennsylvania.

Data validation of all sample results was performed by Tracy A. Young, Ann Lack, and Charlotte R. Symms of Veridian Environmental, Inc. (VEI). A review (Level III) of 100% of the data, which allows for complete independent data review without reconstruction of analytical data, was conducted. In addition, approximately 10% of the project data underwent a comprehensive or extensive review (Level IV) which allowed for the complete reconstruction of the chemical analyses. The comprehensive review included the recalculation of calibration curves and sample results. None of the samples from this report were selected for the comprehensive Level IV review. The data were validated in accordance with the analytical methods and the documents entitled: *RFI Management Plans, Former IBM Kingston Facility* (Golder Associates, 2009); *U.S. EPA Region 2 RCRA and CERCLA Data Validation Standard Operating Procedures* (U.S. EPA Region 2, 2006); and with guidance from *DER-10 / Technical Guidance for Site Investigation and Remediation* (NYSDEC DEC Program Policy, 2010), *Data Quality Assessment: A Reviewer's Guide* (U.S. EPA QA/G-9R 2006); *Data Quality Assessment: Statistical Tools for Practitioners* (U.S. EPA QA-G-9S, 2006); and *U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (U.S. EPA, 2008).

The data were examined to determine the usability of the analytical results and the compliance relative to requirements specified in the analytical methods and guidelines provided. Qualifier codes have been placed next to the results on the laboratory analytical result forms so the data user can quickly assess the qualitative and/or quantitative reliability of any result. The data qualifications allow the data end-user to best understand the usability of the analytical results. It should be understood that data that have not been qualified in this report should be considered valid based on the quality control (QC) criteria that have been reviewed. This report was prepared to provide a critical review of the laboratory analyses and the reported analytical results. Quality assurance (QA) reviews of laboratory-generated data routinely identify various problems associated with analytical measurements, even from the most experienced and capable laboratories.

The findings of this QA review are presented in Section 2.0 of this report, a summary is presented in Section 3.0, and the references are provided in Section 4.0. Attachment A summarizes the client sample identification, the analytical laboratory, laboratory sample identification, sample date, sample time, and the analyses requested for each sample in this SDG. Copies of the laboratory case narrative, the sample chain-of-custody (COC) record, and the sample receipt documentation log report forms for samples discussed in this DVR are included in Attachment B. The qualified analytical result forms for the samples are provided in Attachment C. The samples were analyzed for Volatile Organic Compounds (EPA Method 8260B) and Moisture (Standard Method 2540G). The data validation checklist and copies of all relevant documentation needed to support the findings of the quality assurance review are presented in Attachment D. Project Correspondence is presented as Attachment E.

Several data validation flags are utilized in the validation process. The definitions of these qualifier flags are as follows:

- U The analyte was analyzed for, but was not detected at or above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected at or above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample result and/or analysis have been rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

All necessary flags have been incorporated into the data presented in this report (Attachment C). As per project-specific reporting requirements, all results reported at concentrations less than the sample-specific practical quantitation limits (adjusted for dilution factors, sample size, and percent solids) should be considered estimated (J).

2.0 FINDINGS

Copies of all relevant documentation needed to support the findings of the quality assurance review are presented in Attachment D of this report. Data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis do not require any corrective action by the laboratory. Accordingly, the following data usability issues should not necessarily be construed as an indication of laboratory performance. Data that warranted qualification are summarized in Section 3.0 of this report.

2.1 VOLATILE ORGANIC COMPOUNDS DATA VALIDATION

The samples analyzed for Volatile Organic Compounds (VOCs) by U.S. EPA Method 8260B were evaluated for the following data requirements.

	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable	Not Applicable
Sample Condition Upon Receipt		✓			
Analytical Holding Times	✓				
Blank Analyses	✓				
GC/MS Tuning and Mass Calibrations	✓				
Initial Calibrations	✓				
Initial Calibration Verifications	✓				

	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable	Not Applicable
Continuing Calibrations	✓				
Surrogate Spike Recoveries	✓				
LCS Analyses	✓				
MS/MSD Analyses					✓
Internal Standards			✓		
Verification of Sample Results					✓
Field Duplicate Results					✓
Verification of the Client EDD	✓				
Moisture Content	✓				
Additional Findings		✓			

A comprehensive Level IV review was performed on ten percent (10%) of the project data. None of the samples from SDG GSK01 were selected for the comprehensive Level IV review. Details of the data findings are presented following the summary of the data requirements.

2.1.1 Sample Condition Upon Receipt

All samples were received intact, with the proper preservation ($\text{pH} \leq 2$) by LLI. The temperature of the cooler was 1.2°C upon receipt by the laboratory. Since the samples were not frozen, qualification of the data is not warranted.

2.1.2 Analytical Holding Times

All samples were prepared and analyzed within the project-specified holding time of 14 days from sample collection.

2.1.3 Blank Analyses

All associated field and laboratory blanks were free of target compound contamination.

2.1.4 Gas Chromatograph/Mass Spectrometer Tuning and Mass Calibrations

All gas chromatograph/mass spectrometer (GC/MS) tuning and mass calibrations met project criteria (m/z ratios). All project samples were analyzed within the 12-hour tune windows.

2.1.5 Initial Calibrations

For the initial calibrations, all SPCC (min. RRFs) and CCC compounds ($\% \text{RSD} \leq 30\%$) met project criteria. In addition, all target compounds displayed acceptable calibrations (average RRF > 0.050 and $\% \text{RSD} \leq 20\%$).

2.1.6 Initial Calibration Verifications

All target compounds demonstrated acceptable percent differences in the Initial Calibration Verification (ICV).

2.1.7 Continuing Calibrations

For the continuing calibrations, all SPCC (min. RRFs) and CCC analytes (%D $\leq$ 20%) met project criteria. In addition, the percent differences and RRFs for all other target compounds were $\leq$ 20% and > 0.050 , respectively.

2.1.8 Surrogate Spike Recoveries

For all project analyses, the surrogate recoveries were within project criteria.

2.1.9 Laboratory Control Sample Analyses

For all LCS analyses, the recoveries for all target compounds met project criteria.

2.1.10 Matrix Spike/Matrix Spike Duplicate Analyses

The laboratory did not prepare and analyze a Matrix Spike/Matrix Spike Duplicate (MS/MSD) for this analysis on any sample from SDG GSK01. Consequently, an assessment of matrix effects cannot be made for these samples.

2.1.11 Internal Standards

For all project sample analyses, the internal standards met project criteria (RT within ± 30 seconds of ICAL mid-point standard and internal standard area within -50% to + 100% of ICAL mid-point standard) except for the internal standard areas noted in the following table.

Low internal standard areas were reported in the samples (and their re-analyses) as listed below. All results quantitated with this internal standard are non-detect and considered estimated (UJ) in the associated samples. As the reanalyzed samples were also outside the limits, the original samples were reported.

<u>Date of Analysis</u>	<u>Sample</u>	<u>Internal Standard</u>	<u>IS Area</u>	<u>12 Hour Standard</u>
10/27/2011	OU07B0211024	1,4-Dichlorobenzene-d ₄	233288	538873
10/27/2011	OU07B1311024	1,4-Dichlorobenzene-d ₄	264118	538873
10/27/2011	OU07B0211024 RE	1,4-Dichlorobenzene-d ₄	205516	538873
10/27/2011	OU07B1311024 RE	1,4-Dichlorobenzene-d ₄	243696	538873

2.1.12 Verification of Sample Results

None of the samples from SDG GSK01 were selected for a comprehensive Level IV review.

2.1.13 Field Duplicate Results

Field duplicates were not submitted for this analysis; consequently, an assessment of precision cannot be made.

2.1.14 Verification of the Client Electronic Data Deliverable

The database files provided in the laboratory's enhanced general format matched the data reported by the laboratory.

2.1.15 Moisture Content

The moisture content of the soil samples was analyzed by Standard Method 2540G. For all project samples, the moisture content was within project criteria.

2.1.16 Additional Findings

As noted in the Case Narrative, sample **OU07A1611024** was outside the weight requirements. Qualification of the data is not warranted on this basis.

2.2 FIELD DUPLICATES

Field duplicates were not submitted with SDG GSK01; consequently an assessment of precision cannot be made.

2.3 REPRESENTATIVENESS EVALUATION

Representativeness is a qualitative evaluation of whether the data represent actual environmental conditions. Representativeness was evaluated using holding time criteria, which reflect the length of time after sample collection that a sample or extract remains representative of environmental conditions. Depending on the analysis, either one or two holding times were evaluated. For those analyses that do not include a sample extraction, only one holding time was evaluated: the length of time between sample collection and analysis. For analyses that require sample extraction prior to analysis, two holding times were evaluated: the length of time from sampling until extraction and the length of time from extraction to analysis. Holding times were compared to standard method-specific holding times accepted by the U.S. EPA. All holding times that are within acceptance criteria are considered representative. Those holding times outside of U.S. EPA acceptance criteria are qualitatively evaluated to determine their effect on sample representativeness. Representativeness was also evaluated by analysis of laboratory method blanks, trip blanks, and equipment blanks that were used to identify sources of contamination not associated with environmental conditions. As summarized in the following sections, the samples appear to be representative of the environmental conditions on site.

2.3.1 Sample Condition Upon Receipt

All samples arrived at the laboratory intact, appropriately preserved and documented except as previously noted. The cooler was received by LLI < 2.0°C. Since the samples were not frozen, qualification of the data is not warranted.

2.3.2 Analytical Holding Times

As previously noted, all holding times were met.

2.3.3 Blank Analyses

As previously discussed, all field and laboratory blanks were free of all target analytes.

2.4 USABILITY AND COMPARABILITY

Usability of data was evaluated by assuring that all the analytical requests were met, the samples were received in the proper condition, and all analyses were performed within the appropriate holding times with the exception of those noted in this report.

3.0 SUMMARY

This QA review has identified aspects of the analytical data that required qualification due to low internal standard recoveries. None of the VOC data was rejected. To confidently use any of the analytical data within this sample set, the data user should understand the qualifications and limitations of the results. SDG GSK01 met the project completeness goal of 90%. The percent completeness is summarized in the following table.

Fraction	Number of Results	Number of Rejected Results	Percent Completeness
VOCs	246	0	100%
Overall	246	0	100%

4.0 REFERENCES

Data Quality Assessment: A Reviewer's Guide, U.S. Environmental Protection Agency, EPA QA/G-9R, February, 2006.

Data Quality Assessment: Statistical Tools for Practitioners, U.S. Environmental Protection Agency, EPA QA/G-9S, February, 2006.

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RFI Management Plans, Former IBM Kingston Facility, Golder Associates, September 2005.

Standard Methods for the Examination of Water and Wastewater, 20th Edition, American Public Health Association, 1998.

Method 2540G Moisture Content

SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods Third Edition, U.S. Environmental Protection Agency, Office of Solid Waste, December 1994.

Method 8260B: Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry

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U.S EPA Region 2 RCRA and CERCLA Field and Data Validation Standard Operating Procedures

<u>SOP No.</u>	<u>Title</u>	<u>Date</u>
SOP HW-24 Revision 2	Validating Volatile Organic Compounds by SW-846 Method 8260B	October 2006

ATTACHMENT A

CHAIN-OF-CUSTODY SUMMARY TABLE

ATTACHMENT A
CHAIN-OF-CUSTODY SUMMARY TABLE
TechCity (Former IBM Kingston)
Kingston, New York

Client Sample ID	Laboratory	Laboratory SDG	Laboratory Sample ID	Collection Date	Matrix	Parameter(s) Analyzed
OU07A0511024	Lancaster Labs	GSK01	6448134	10/24/2011	Soil	V
OU07A1611024	Lancaster Labs	GSK01	6448135	10/24/2011	Soil	V
OU07A0211024	Lancaster Labs	GSK01	6448136	10/24/2011	Soil	V
OU07B0211024	Lancaster Labs	GSK01	6448137	10/24/2011	Soil	V
OU07B1311024	Lancaster Labs	GSK01	6448138	10/24/2011	Soil	V
KTB110241024 (Trip Blank)	Lancaster Labs	GSK01	6448139	10/24/2011	Water	V

Notes:

- SDG - Sample Delivery Group
- V - Volatile Organic Compounds by U.S. EPA Method 8260B

ATTACHMENT B

CASE NARRATIVE AND CHAIN-OF-CUSTODY RECORDS



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

NYSDEC ASP Category B Data Package

Prepared for:

Groundwater Science Co
560 Route 53
Suite 202
Beacon NY 12508

Project: TechCity Surficial Soil
Soil and Water Samples
Collected on 10/24/11

SDG# GSK01

GROUP	SAMPLE NUMBERS
1272968	6448134-6448139

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:

Date: 11/08/2011

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Nicole Maljovec at Ext. 1537.

Total Number of Pages 593



CLIENT: Groundwater Science Co
SDG: GSK01

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Volatiles in Soil

Volatiles by 8260B

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
6448134	OU07A0511024		X	0.99	
6448135	OU07A1611024		X	0.87	
6448136	OU07A0211024		X	1.02	
6448137	OU07B0211024		X	0.93	
6448138	OU07B1311024		X	0.93	
6448139	KTB110241024	X		1	Trip Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE PREPARATION:

The following sample is outside the weight requirement: 6448135.

ANALYSIS:

No problems were encountered with the analysis of the samples.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Site specific matrix QC samples were not submitted for this SDG. The batch matrix QC was performed on samples from another project. Therefore the matrix effects would not be relevant and matrix QC is not provided in the data package. Laboratory spike data (LCS) are provided.

GSK01 0823



CLIENT: Groundwater Science Co
SDG: GSK01

GC/MS Volatiles

Fraction: Volatiles by GC/MS

DATA INTERPRETATION:

No further interpretation is necessary for the data submitted.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E = out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Narrative Reviewed and Approved 11/14/11 by
(Date)

Kathy J. Fair
Kathy J. Fair
Specialist

GSK01: 0824



Environmental Sample Administration Receipt Documentation Log

Client/Project: Groundwater Sciences

Shipping Container Sealed: YES NO

Date of Receipt: 10-25-11

Custody Seal Present * : YES NO

Time of Receipt: 930

* Custody seal was intact unless otherwise noted in the discrepancy section

Source Code: 50-1

Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	2783	1.2	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody. 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#:

Burachy Burachy 2299

Date/Time:

10-25-11 10:42

Issued by Dept. 6042 Management

2174.06

ATTACHMENT C

QUALIFIED LABORATORY TEST RESULT FORMS



ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Groundwater Science Co
560 Route 53
Suite 202
Beacon NY 12508

October 31, 2011

Project: TechCity Surficial Soil

Submittal Date: 10/25/2011

Group Number: 1272968

SDG: GSK01

PO Number: DAB93002.37

State of Sample Origin: NY

Client Sample Description

OU07A0511024 Grab Soil
OU07A1611024 Grab Soil
OU07A0211024 Grab Soil
OU07B0211024 Grab Soil
OU07B1311024 Grab Soil
KTB110241024 Water

Lancaster Labs (LLI)

6448134
6448135
6448136
6448137
6448138
6448139

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO
1 COPY TO

Groundwater Science Co
Data Package Group

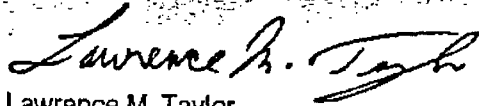
Attn: Dorothy Bergmann

62581. 0006.



Questions? Contact your Client Services Representative
Nicole L. Maljovec at (717) 656-2300 Ext. 1537

Respectfully Submitted,


Lawrence M. Taylor
Senior Specialist

63X81 8887

Analysis Report



Page 1 of 2

Sample Description: 0007A0511024 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6448134
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011 13:50 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/25/2011 09:30

Suite 202

Reported: 10/31/2011 12:34

Beacon NY 12508

7A511 SDG#: GSK01-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 B260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.6	6	0.99
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.99
10949	Bromobenzene	108-86-1	N.D.	1	6	0.99
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.99
10949	Bromoform	75-25-2	N.D.	1	6	0.99
10949	Bromomethane	74-83-9	N.D.	2	6	0.99
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.99
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.99
10949	Chloroethane	75-00-3	N.D.	2	6	0.99
10949	Chloroform	67-66-3	N.D.	1	6	0.99
10949	Chloromethane	74-87-3	N.D.	2	6	0.99
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.99
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.99
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.99
10949	Dibromomethane	74-95-3	N.D.	1	6	0.99
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.99
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.99
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.99
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.99
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.99
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.99
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.99
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.99
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.99
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.99
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.99
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.99
10949	Freon 113	76-13-1	N.D.	2	11	0.99
10949	Freon 123a	354-23-4	N.D.	2	6	0.99
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.99
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.99
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.99
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.99
10949	Toluene	108-88-3	N.D.	1	6	0.99
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.99
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.99
10949	Trichloroethene	79-01-6	N.D.	1	6	0.99
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.99
10949	1,2,3-Trichloropropene	96-18-4	N.D.	1	6	0.99
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.99
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.99

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	13.2	0.50	0.50	1
-------	----------	------	------	------	------	---

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis

GC#51 2669

Analysis Report



Page 2 of 2

Sample Description: OU07A0511024 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6448134
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011 13:50 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/25/2011 09:30

Suite 202

Reported: 10/31/2011 12:34

Beacon NY 12508

7A511 SDG#: GSK01-01

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113001AA	10/27/2011 08:28	Kathrine K Muramatsu	0.99
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129825957	10/25/2011 14:17	Larry E Bevins	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129825957	10/25/2011 14:17	Larry E Bevins	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129825957	10/25/2011 14:16	Larry E Bevins	n.a.
00111	Moisture	SM20 2540 G	1	11301820001A	10/28/2011 22:01	Lisa J Cooke	1

GSK01 0613

Analysis Report



Page 1 of 2

Sample Description: OU07A1611024 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6448135
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011 14:06 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/25/2011 09:30

Suite 202

Reported: 10/31/2011 12:34

Beacon NY 12508

7A611 SDG#: GSK01-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.87
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.87
10949	Bromobenzene	108-86-1	N.D.	1	5	0.87
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.87
10949	Bromoform	75-25-2	N.D.	1	5	0.87
10949	Bromomethane	74-83-9	N.D.	2	5	0.87
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.87
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.87
10949	Chloroethane	75-00-3	N.D.	2	5	0.87
10949	Chloroform	67-66-3	N.D.	1	5	0.87
10949	Chloromethane	74-87-3	N.D.	2	5	0.87
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.87
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.87
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.87
10949	Dibromomethane	74-95-3	N.D.	1	5	0.87
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.87
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.87
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.87
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.87
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.87
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.87
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.87
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.87
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.87
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.87
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.87
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.87
10949	Freon 113	76-13-1	N.D.	2	10	0.87
10949	Freon 123a	354-23-4	N.D.	2	5	0.87
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.87
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.87
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.87
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.87
10949	Toluene	108-88-3	N.D.	1	5	0.87
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.87
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.87
10949	Trichloroethene	79-01-6	N.D.	1	5	0.87
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.87
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.87
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.87
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.87

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture n.a. 11.7 0.50 0.50 1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6590120811

Analysis Report



Page 2 of 2

Sample Description: OU07A1611024 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6448135
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011 14:06 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/25/2011 09:30

Suite 202

Reported: 10/31/2011 12:34

Beacon NY 12508

7A611 SDG#: GSK01-02

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113001AA	10/27/2011 08:51	Kathrine K Muramatsu	0.67
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129825957	10/25/2011 14:18	Larry E Bevins	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129825957	10/25/2011 14:19	Larry E Bevins	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129825957	10/25/2011 14:18	Larry E Bevins	n.a.
00111	Moisture	SM20 2540 G	1	11301820001A	10/28/2011 22:01	Lisa J Cooke	1

GSK01 0612

Analysis Report



Page 1 of 2

Sample Description: 0007A0211024 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6448136
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011 14:22 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/25/2011 09:30

Suite 202

Reported: 10/31/2011 12:34

Beacon NY 12508

7A211 SDG#: GSK01-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.7	7	1.02
10949	Benzyl Chloride	100-44-7	N.D.	1	5	1.02
10949	Bromobenzene	108-86-1	N.D.	1	7	1.02
10949	Bromodichloromethane	75-27-4	N.D.	1	7	1.02
10949	Bromoform	75-25-2	N.D.	1	7	1.02
10949	Bromomethane	74-83-9	N.D.	3	7	1.02
10949	Carbon Tetrachloride	56-23-5	N.D.	1	7	1.02
10949	Chlorobenzene	108-90-7	N.D.	1	7	1.02
10949	Chloroethane	75-00-3	N.D.	3	7	1.02
10949	Chloroform	67-66-3	N.D.	1	7	1.02
10949	Chloromethane	74-87-3	N.D.	3	7	1.02
10949	2-Chlorotoluene	95-49-8	N.D.	1	7	1.02
10949	4-Chlorotoluene	106-43-4	N.D.	1	7	1.02
10949	Dibromochloromethane	124-48-1	N.D.	1	7	1.02
10949	Dibromomethane	74-95-3	N.D.	1	7	1.02
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	7	1.02
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	7	1.02
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	7	1.02
10949	Dichlorodifluoromethane	75-71-8	N.D.	3	7	1.02
10949	1,1-Dichloroethane	75-34-3	N.D.	1	7	1.02
10949	1,2-Dichloroethane	107-06-2	N.D.	1	7	1.02
10949	1,1-Dichloroethene	75-35-4	N.D.	1	7	1.02
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	2	7	1.02
10949	1,2-Dichloropropane	78-87-5	N.D.	1	7	1.02
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	7	1.02
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	7	1.02
10949	Ethylbenzene	100-41-4	N.D.	1	7	1.02
10949	Freon 113	76-13-1	N.D.	3	13	1.02
10949	Freon 123a	354-23-4	N.D.	2	7	1.02
10949	Methylene Chloride	75-09-2	N.D.	3	7	1.02
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	7	1.02
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	7	1.02
10949	Tetrachloroethene	127-18-4	N.D.	1	7	1.02
10949	Toluene	108-88-3	N.D.	1	7	1.02
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	7	1.02
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	7	1.02
10949	Trichloroethene	79-01-6	N.D.	1	7	1.02
10949	Trichlorofluoromethane	75-69-4	N.D.	3	7	1.02
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	7	1.02
10949	Vinyl Chloride	75-01-4	N.D.	1	7	1.02
10949	Xylene (Total)	1330-20-7	N.D.	1	7	1.02

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

21.3

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK01 0913

Analysis Report



Page 2 of 2

Sample Description: OU07A0211024 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6448136
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011 14:22 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/25/2011 09:30

Suite 202

Reported: 10/31/2011 12:34

Beacon NY 12508

7A211 SDG#: GSK01-03

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113001AA	10/27/2011 09:14	Kathrine K Muramatsu	1.02
06389	GC/MS - LL Encore Prep	SW-846 5035	1	201129825957	10/25/2011 14:20	Larry E Bevins	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129825957	10/25/2011 14:21	Larry E Bevins	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129825957	10/25/2011 14:20	Larry E Bevins	n.a.
00111	Moisture	SM20 2540 G	1	11301820001A	10/28/2011 22:01	Lisa J Cooke	1

GSK01. 0614

Analysis Report



Page 1 of 2

Sample Description: OU07B0211024 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6448137
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011 15:23 by DAB

Groundwater Science Co

Submitted: 10/25/2011 09:30

560 Route 53

Suite 202

Reported: 10/31/2011 12:34

Beacon NY 12508

7B211 SDG#: GSK01-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		DVQ
10949	Benzene	71-43-2	N.D.	0.6	6	0.93	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.93	
10949	Bromobenzene	108-86-1	N.D.	1	6	0.93	UT
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.93	UT
10949	Bromoform	75-25-2	N.D.	1	6	0.93	
10949	Bromomethane	74-83-9	N.D.	2	6	0.93	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.93	
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.93	
10949	Chloroethane	75-00-3	N.D.	2	6	0.93	
10949	Chloroform	67-66-3	N.D.	1	6	0.93	
10949	Chloromethane	74-87-3	N.D.	2	6	0.93	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.93	UT
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.93	UT
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.93	
10949	Dibromomethane	74-95-3	N.D.	1	6	0.93	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.93	UT
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.93	UT
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.93	UT
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.93	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.93	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.93	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.93	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.93	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.93	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.93	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.93	
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.93	
10949	Freon 113	76-13-1	N.D.	2	11	0.93	
10949	Freon 123a	354-23-4	N.D.	2	6	0.93	
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.93	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.93	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.93	UT
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.93	
10949	Toluene	108-88-3	N.D.	1	6	0.93	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.93	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.93	
10949	Trichloroethene	78-01-6	N.D.	1	6	0.93	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.93	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.93	UT
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.93	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.93	

Wet Chemistry

SM20 2540 G

00121	Moisture	n.a.	15.9	0.50	0.50	1
-------	----------	------	------	------	------	---

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK01 0815

Analysis Report



Page 2 of 2

Sample Description: OU07B0211024 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6448137
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011 15:23 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/25/2011 09:30

Suite 202

Reported: 10/31/2011 12:34

Beacon NY 12508

7B211 SDG#: GSK01-04

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113001AA	10/27/2011 09:37	Kathrine K Muramatsu	0.93
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129825957	10/25/2011 14:22	Larry E Bevins	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129825957	10/25/2011 14:23	Larry E Bevins	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129825957	10/25/2011 14:22	Larry E Bevins	n.a.
00111	Moisture	SM20 2540 G	1	11301820001A	10/26/2011 22:01	Lisa J Cooke	1

GSK01 0816

Analysis Report



Page 1 of 2

Sample Description: OU07B1311024 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6448138
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011 15:35 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/25/2011 09:30

Suite 202

Reported: 10/31/2011 12:34

Beacon NY 12508

7B131 SDG#: GSK01-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.93
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.93
10949	Bromobenzene	108-86-1	N.D.	1	5	0.93
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.93
10949	Bromoform	75-25-2	N.D.	1	5	0.93
10949	Bromomethane	74-83-9	N.D.	2	5	0.93
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.93
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.93
10949	Chloroethane	75-00-3	N.D.	2	5	0.93
10949	Chloroform	67-66-3	N.D.	1	5	0.93
10949	Chloromethane	74-87-3	N.D.	2	5	0.93
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.93
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.93
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.93
10949	Dibromomethane	74-95-3	N.D.	1	5	0.93
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.93
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.93
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.93
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.93
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.93
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.93
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.93
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.93
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.93
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.93
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.93
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.93
10949	Freon 113	76-13-1	N.D.	2	10	0.93
10949	Freon 123a	354-23-4	N.D.	2	5	0.93
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.93
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.93
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.93
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.93
10949	Toluene	108-88-3	N.D.	1	5	0.93
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.93
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.93
10949	Trichloroethene	79-01-6	N.D.	1	5	0.93
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.93
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.93
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.93
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.93

Wet Chemistry

SM20 2540 G

%

%

%

00111

Moisture

n.a.

9.7

0.50

0.50

1

*Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

2011/10/31 12:34

Analysis Report



Page 2 of 2

Sample Description: OU07B1311024 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6448138
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011 15:35 by DAB

Groundwater Science Co

Submitted: 10/25/2011 09:30

560 Route 53

Suite 202

Reported: 10/31/2011 12:34

Beacon NY 12508

7B131 SDG#: GSK01-05

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113001AA	10/27/2011 10:00	Kathrine K Muramatsu	0.93
06389	GC/MS - LL Encore Prep	SW-846 5035	1	201129825957	10/25/2011 14:26	Larry E Bevins	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129825957	10/25/2011 14:26	Larry E Bevins	n.a.
07378	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129825957	10/25/2011 14:25	Larry E Bevins	n.a.
00111	Moisture	SM20 2540 G	1	11301820001A	10/28/2011 22:01	Lisa J Cooke	1

GSK01-0513

Analysis Report



Page 1 of 2

Sample Description: KTB110241024 Water
TechCity Surficial Soil

LLI Sample # WW 6448139
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011

Groundwater Science Co

560 Route 53

Submitted: 10/25/2011 09:30

Suite 202

Reported: 10/31/2011 12:34

Beacon NY 12508

KTH24 SDG#: GSK01-06TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.5	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK01 0019

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*= This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: KTB110241024 Water
TechCity Surficial Soil

LLI Sample # WW 6448139
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011

Groundwater Science Co

560 Route 53

Submitted: 10/25/2011 09:30

Suite 202

Reported: 10/31/2011 12:34

Beacon NY 12508

KTH24 SDG#: GSK01-06TB*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113011AA	10/28/2011 18:32	Nicholas R Rossi	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113011AA	10/28/2011 18:32	Nicholas R Rossi	1

GSK01-06TB*

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
ug	microgram(s)	mg	milligram(s)
ml	milliliter(s)	l	liter(s)
m3	cubic meter(s)	ul	microliter(s)
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value -- The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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ATTACHMENT D

DATA VALIDATION CHECKLIST AND SUPPORT DOCUMENTATION

SOP # HW-24
Revision # 2
August 2008

USEPA
Hazardous Waste Support Branch
Validating Volatile Organic Compounds
By Gas Chromatography/Mass Spectrometry
SW-846 Method 8260B

Prepared by: George Karas Date: 8/22/08
George Karas, Chemist
Hazardous Waste Support Section

Prepared by: Russell Arnone Date: 8/23/08
Russell Arnone, Chemist
Hazardous Waste Support Section

Concurred by: Linda Mauel Date: 8/24/08
Linda Mauel, Chief
Hazardous Waste Support Section

Approved by: Robert Ranyon Date: 8/24/08
Robert Ranyon, Chief
Hazardous Waste Support Branch

Annual Review

Reviewed by: Russell Arnone Date: 8/24/08
Name

Reviewed by: _____ Date: _____
Name

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the USEPA SW-846, Method 8260B December 1996. The validation methods and actions discussed in this document are based on the requirements set forth in USEPA SW-846, Method 8260B and Method 8000C, Rev 3, March 2003; and "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," January, 2005. This document covers technical as well as method specific problems; however situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are defined on page 4.

The reviewer must prepare a detailed data assessment to be submitted along with the complete SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data, and contract non-compliance.

DEFINITIONS

Acronyms

BNA - base neutral acid(another name for Semi Volatiles)
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
CF - calibration factor
%D - percent difference
DCB -decachlorobiphenyl
DDD - dichlorodiphenyldichloroethane
DDE - dichlorodiphenylethane
DDT - dichlorodiphenyltrichloroethane
DoC - Date of Collection
GC - gas chromatography
GC/ECD - gas chromatography/electron capture detector
GC/MS - gas chromatography/mass spectrometer
GPC - gel permeation chromatography
IS - internal standard
kg - kilogram
µg - microgram
MS - matrix spike
MSD - matrix spike duplicate
l - liter
mℓ - milliliter
PCB - Polychlorinated biphenyl
PE - performance evaluation
PEM - Performance Evaluation Mixture
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SMC - system monitoring compound
SOP - standard operating procedure
SOW - Statement of Work
SVOA - semivolatile organic acid
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TCX -tetrachloro-m-xylene
TIC - tentatively identified compound

TOPO - Task Order Project Officer
TPO - Technical Project Officer
VOA - Volatile organic
VTSR - Validated Time of Sample Receipt

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

LAB QUALIFIERS:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

USEPA Region II
SW846 Method 8260B VOA

Date: August 2008
SOP: HW-24, Rev. 2

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

YES NO N/A

I. PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: SDG GSKØ1 LAB: Lancaster Laboratories
Lancaster, PA

SITE NAME: TechCity Surficial Soil

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable
format or CLP Forms Equivalent? ☒

ACTION: If not, note the effect on review of the data in
the Data Assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative, and/or cover letter
signed release present? ☒

2.2 Are case number and SDG number(s) contained
in the narrative or cover letter? ☒

ACTION: If not, note the effect on review of the data in
the Data Assessment narrative.

II. VOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Reports, and/or Chain of Custodies
from the field samplers present for all samples
sign release present? ☒

ACTION: If no, contact the laboratory/sampling team for replacement
of missing or illegible copies.

1.2 Is a sampling trip report present (if required)? ☐ ☒

1.3 Sample Conditions/Problems

YES NO N/A

- 1.3.1 Do the Traffic Reports, Chain of Custodies, or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? 14

ACTION: If all the VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, flag all positive results "J" and all non-detects "R".

ACTION: If samples were not iced or if the ice was melted upon receipt at the laboratory and the temperature of the cooler was elevated ($>10^{\circ}\text{C}$), flag all positive results "J" and all non-detects non"UJ".

2.0 Holding Times

- 2.1 Have any volatile holding times, determined from date of collection to date of analysis, been exceeded? 14

The maximum holding time for aqueous samples is 14 days.

The maximum holding time for soils non aqueous samples is 14 days.

NOTE: If unpreserved, aqueous samples maintained at 4°C for aromatic hydrocarbons analysis must be analyzed within 7 days. If preserved with HCL acid to a $\text{pH}<2$ and stored at 4°C , then aqueous samples must be analyzed within 14 days from time of collection. For non-aqueous samples for volatile components that are frozen (less than 7°C) or are properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and perserved with NaHSO_4 , the maximum holding time is 14 days from sample collection. If

YES NO N/A

uncertain about preservation, contact the laboratory /sampling team to determine whether or not samples were preserved.

ACTION: Qualify sample results according to Table 1:

Table 1. Holding Time Actions for Trace Volatile Analysis

Matrix	Preserved	Criteria	Action	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 days	No qualifications	
	No	> 7 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes	> 14 days	J	R
Non Aqueous	No	≤ 14 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes/No	> 14 days	J	R

3.0 Surrogate Recovery (CLP Form II Equivalent)

3.1 Have the volatile surrogate recoveries been listed on Surrogate Recovery forms for each of the following matrices:

a. Water ☒ ☐ ☐

b. Soil ☒ ☐ ☐

3.2 If so, are all the samples listed on the appropriate Surrogate Recovery forms for each matrix:

a. Water ☒ ☐ ☐

b. Soil ☒ ☐ ☐

ACTION: If large errors exist, deliverables are unavailable or information is missing, document the effect(s) in Data

YES NO N/A

Assessments and contact the laboratory/project officer/appropriate official for an explanation /resubmittal, make any necessary corrections and document effect in the Data Assessment.

- 3.3 Were the surrogate recovery limits followed per Table 2. If Table 2 criteria were not followed, the laboratory may use in-house performance criteria (per SW-846, Method 8000C, section 9.7). Other compounds may be used as surrogates, depending upon the analysis requirements. 1 1 ✓ —

In-house limits

Table 2. Surrogate Spike Recovery Limits for Water and Soil/Sediments

DMC	Recovery Limits (%)Water	Recovery Limits Soil/Sediment
4-Bromofluorobenzene	80-120	70-130
Dibromofluoromethane	80-120	70-130
Toluene-d ₈	80-120	70-130
Dichloroethane-d ₄	80-120	70-130

Note: Use above table if laboratory did not provide in house recovery criteria.

Note: Other compounds may be used as surrogated depending upon the analysis requirements.

- 3.4 Were outliers marked correctly with an asterisk?

1 1 — ✓

ACTION: Circle all outliers with a red pencil.

- 3.5 Were one or more volatile surrogate recoveries out of specification for any sample or method blank. Table 2.

1 1 ✓ —

If yes, were samples reanalyzed?

1 1 — ✓

Were method blanks reanalyzed?

1 1 — ✓

YES NO N/A

ACTION: If all surrogate recoveries are > 10% but 1 or more compounds do not meet method specifications:

1. Flag all positive results as estimated ("J").
2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.
3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects, but qualify positive results as estimated "J".

If any surrogate has a recovery of < 10%:

1. Positive results are qualified with ("J").
2. Non-detects for that should be qualified as unusable ("R").

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. The basic concern is whether the blank problems represent an isolated problem with the blank alone or whether there is a fundamental problem with the analytical process. If one or more samples in the batch show acceptable surrogate recoveries, the reviewer may choose the blank problem to be an isolated occurrence.

3.6 Are there any transcription/calculation errors between raw data and reported data?

level IV not performed on this SDG

11 — ✓

ACTION: If large errors exist, take action as specified in section 3.2 above.

4.0 Laboratory Control Sample (Form III/Equivalent)

4.1 Is the LCS prepared, extracted, analyzed, and reported once for every 20 field samples of a similar matrix, per SDG.

✓1 — —

YES NO N/A

Note: LCS consists of an aliquot of a clean (control) matrix similar to the sample matrix and of the same weight or volume.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation /resubmittals. Make note in the data assessment.

4.2 Were the Laboratory Control Samples analyzed at the required frequency for each of the following matrices:

A. Water	☒	☐	☐
B. Soil	☒	☐	☐
C. Med Soil	☐	☐	☒

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

4.3 Have in house LCS recovery limits been developed (Method 8000C, Sect 9.7). ☒ ☐ ☐

4.4 If in house limits are not developed, are LCS acceptance recovery limits between 70 - 130% (Method 8000c Sect 9.5)? ☐ ☐ ☒

4.5 Were one or more of the volatile LCS recoveries outside the in house laboratory recovery criteria for spiked analytes? If in house limits are not present use 70 - 130% recovery limits. ☐ ☒ ☐

YES NO N/A

Table 3. LCS Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit $\leq$ %R	No Qualifications	

5.0 Matrix Spikes (Form III or equivalent)

5.1 Are all data for matrix spike and matrix duplicate or matrix spike duplicate (MS/MD or MS/MSD) present and complete for each matrix? 11 — ✓

MS/MSD not performed on this SDG

NOTE: The laboratory should use one matrix spike and a duplicate analysis of an unspiked field sample if target analytes are expected in the sample. If the sample is not expected to contain target analytes, a MS/MSD should be analyzed (SW-846, Method 8260B, Sect 8.4.2).

5.2 Have MS/MD or MS/MSD results been summarized on modified CLP Form III? 11 — ✓

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency for each of the following matrices? (One MS/MD, MS/MSD or laboratory replicate must be performed for every 20 samples)

YES NO N/A

of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month [page 8000C, section 9.5.]

- | | | | | |
|----|--|-------------------------------------|--------------------------|-------------------------------------|
| a. | Water (Not in this SDG) | ☒ | ☐ | ☐ |
| b. | Waste | ☐ | ☐ | ☒ |
| c. | Soil/Solid (Not in this SDG) | ☒ | ☐ | ☐ |

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene. The concentration of the LCS should be determined as described SW-Method 8000C Section 9.5.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

5.4 Have in house MS recovery limits been developed (Method 8000C, Sect 9.7) for each matrix. ☐ ☐ ☒

5.5 Were one or more of the volatile MS/MSD recoveries outside of the in-house laboratory recovery criteria for spiked analytes? If none are present, then use 70-130% recovery as per SW-846, 8000C, Sect. 9.5.4. ☐ ☐ ☒

ACTION: Circle all outliers with a red pencil.

NOTE: If any individual % recovery in the MS (or MSD) falls outside the designated range for recovery the reviewer should determine if there is a matrix effect. A matrix effect is indicated if the LCS data are within limits but the MS data exceeds the limits.

YES NO N/A

NOTE: No qualification of data is necessary on MS and MSD data alone. However, using informed professional judgement, the data reviewer may use MS and MSD results in conjunction with other QC criteria to determine the need for some qualification.

Note: The data reviewer should first try to determine to what extent the results of the MS and MSD affect the associated data. This determination should be made with regard to the MS and MSD sample itself, as well as specific analytes for all samples associated with the MS and MSD.

Note: In those instances where it can be determined that the results of the MS and MSD affect only the sample spiked, limit qualification to this sample only. However, it may be determined through the MS and MSD results that a laboratory is having a systematic problem in the analysis of one or more analytes that affect all associated samples, and the reviewer must use professional judgement to qualify the data from all associated samples.

Note: The reviewer must use professional judgement to determine the need for qualification of non-spiked compounds.

ACTION: Follow criteria in Table 4 when professional judgement deems qualification of sample.

Table 4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit ≤ %R	No Qualifications	

YES NO N/A

6.0 Blank (CLP Form IV Equivalent)

6.1 Is the Method Blank Summary form present? ☒ ☐ ☐

6.2 Frequency of Analysis: Has a method blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch? ☒ ☐ ☐

6.3 Has a method blank been analyzed for each GC/MS system used ? ☒ ☐ ☐

ACTION: If any blank data are missing, take action as specified above (section 3.2). If blank data is not available, reject @ all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

6.4 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for volatile organic compounds? ☒ ☐ ☐

7.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

7.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary. ☐ ☒ ☐

YES NO N/A

7.2 Do any field/rinse blanks have positive
volatile organic compound results?

(Trip Blank)

— ☒ —

ACTION: Prepare a list of the samples associated with each
of the contaminated blanks. (Attach a separate
sheet.)

NOTE: All field blank results associated to a particular
group of samples (may exceed one per case or one
per day) may be used to qualify data. Blanks may
not be qualified because of contamination in
another blank. Field blanks must be qualified for
surrogate, or calibration QC problems.

ACTION: Follow the directions in Table 5 below to qualify
sample results due to contamination. Use the
largest value from all the associated blanks.

Table 5. Volatile Organic Analysis Blank Contamination Criteria

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Storage, Field, Trip, Instrument**	Detects	Not detected	No qualification
	< CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	> CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report the concentration for the sample with a U, or qualify the data as unusable R
		≥ CRQL and ≥ blank contamination	Use professional judgement
	= CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	Gross contamination	Detects	Qualify results as unusable R

* 2x the CRQL for methylene chloride, 2-butanone, and acetone

** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: If gross blank contamination exists(e.g., saturated peaks, "hump-o-grams," "junk" peaks), all affected positive compounds in the associated samples should be qualified as unusable "R", due to interference. Non-detected volatile organic target compounds do not require qualification unless the contamination is so high that it interferes with the analyses of non-detected compounds.

YES NO N/A

- 7.3 Are there field/rinse/equipment blanks associated with every sample?

(Trip Blank)

☒ — —

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

8.0 GC/MS Apparatus and Materials

- 8.1 Did the lab use the proper gas chromatographic column(s) for analysis of volatiles by Method 8260B? Check raw data, instrument logs or contact the lab to determine what type of column(s) was (were) used.

☒ — —

NOTE: For the analysis of volatiles, the method requires the use of 60 m. x 0.75 mm capillary column, coated with VOCOL(Supelco) or equivalent column. (see SW-846, page 8260B-7, section 4.9.2)

ACTION: If the specified column, or equivalent, was not used, document the effects in the Data Assessment. Use professional judgement to determine the acceptability of the data.

9.0 GC/MS Instrument Performance Check (CLP Form V Equivalent)

- 9.1 Are the GC/MS Instrument Performance Check forms present for Bromofluorobenzene (BFB), and do these forms list the associated samples with date/time analyzed?

☒ — —

- 9.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?

☒ — —

- 9.3 Has an instrument performance check solution (BFB)

YES NO N/A

been analyzed for every twelve hours of sample analysis per instrument?(see Table 4, SW-846, page 8260B-36)

☒ ☐ ☐

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS GC/MS tuning data are available.

ACTION: If the laboratory/project officer cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable, "R".

9.4 Have the ion abundances been normalized to m/z 95?

☒ ☐ ☐

9.5 Have the ion abundance criteria been met for each instrument used?

☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, take action as specified in section 3.2.

9.6 Are there any transcription/calculation errors between mass lists and reported values? (Check at least two values but if errors are found, check more.)

☐ ☐ ☒

level II not performed on this SDG

9.7 Have the appropriate number of significant figures (two) been reported?

☒ ☐ ☐

ACTION: If large errors exist, take action as specified in section 3.2.

9.8 Are the spectra of the mass calibration compounds acceptable.

☒ ☐ ☐

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

YES NO N/A

10.0 Target Analytes (CLP Form I Equivalent)

10.1 Are the Organic Analysis reporting forms present with required header information on each page, for each of the following:

- | | | | | |
|----|---|-------------------------------------|-----|-------------------------------------|
| a. | Samples and/or fractions as appropriate | ☒ | ___ | ___ |
| b. | Matrix spikes and matrix spike duplicates | ☐ | ___ | ☒ |
| c. | Blanks | ☒ | ___ | ___ |
| d. | Laboratory Control Samples | ☒ | ___ | ___ |

10.2 Are the reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

- | | | | | |
|----|--|-------------------------------------|-----|-------------------------------------|
| a. | Samples and/or fractions as appropriate | ☒ | ___ | ___ |
| b. | Matrix spikes and matrix spike duplicates
(Mass spectra not required) | ☐ | ___ | ☒ |
| c. | Blanks | ☒ | ___ | ___ |
| d. | Laboratory Control Samples | ☒ | ___ | ___ |

ACTION: If any data are missing, take action specified in 3.2 above.

10.3 Is chromatographic performance acceptable with respect to:

Baseline stability? ☒ ___ ___

YES NO N/A

Resolution? ☒ ☐ ☐

Peak shape? ☒ ☐ ☐

Full-scale graph (attenuation)? ☒ ☐ ☐

Other: _____

ACTION: Use professional judgement to determine the acceptability of the data.

10.4 Are the lab-generated standard mass spectra of identified volatile compounds present for each sample? ☐ ☐ ☒
ALL ND

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the Data Assessment. If spectra are missing, contact the lab for missing spectra.

10.5 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration? ☐ ☐ ☒

10.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? ☒ ☐ ☐

10.7 Do the relative intensities of the characteristic ions in the sample agree within $\pm 30\%$ of the corresponding relative intensities in the reference spectrum? ☒ ☐ ☐

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected ("R"), flagged ("N") - Presumptive evidence of the presence of the compound) or changed to non detected ("U") at the calculated detection limit. In order to be

YES NO N/A

positively identified, the data must comply with the criteria listed in 9.6, 9.7, and 9.8.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

11.0 Tentatively Identified Compounds (TIC) (CLP Form I/TIC Equivalent)

11.1 If Tentatively Identified Compound were required for this project, are all Tentatively Identified Compound reporting forms present; and do listed TICs include scan number or retention time, estimated concentration and a qualifier? ☐ ☐ ☒

NOTE: Add "N" qualifier to all TICs which have CAS number, if missing.

NOTE: Have the project officer/appropriate official check the project plan to determine if lab was required to identify non-target analytes (SW-846, page 8260B-23, Sect. 7.6.2).

11.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:

a. Samples and/or fractions as appropriate ☐ ☐ ☒

b. Blanks ☐ ☐ ☒

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by a CAS#.

NOTE: If TICs are present in the associated blanks take action as specified in section 3.2 above.

YES NO N/A

11.3 Are any priority pollutants listed as TIC compounds (i.e., an BNA compound listed as a VOA TIC)? ☐ ☐ ☒

ACTION: 1. Flag with "R" any target compound listed as a TIC.
2. Make sure all rejected compounds are properly reported if they are target compounds.

11.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? ☐ ☐ ☒

11.5 Do TIC and "best match" standard relative ion intensities agree within $\pm 20\%$? ☐ ☐ ☒

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate. Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R". (Common lab contaminants: CO₂ (M/E 44), Siloxanes (M/E 73), Hexane, Aldol Condensation Products, Solvent Preservatives, and related byproducts).

12.0 Compound Quantitation and Reported Detection Limits

12.1 Are there any transcription/calculation errors in organic analysis reporting form results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and average initial RRF/CF were used to calculate organic analysis reporting form result. Were any errors found? ☐ ☐ ☒

Level IV not performed on this SDG

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks $> 25\%$) should be

YES NO N/A

reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

12.2 Are the method CRQL's adjusted to reflect sample dilutions and, for soils, sample moisture?

☒ ☐ ☐

ACTION: If errors are large, take action as specified in section 3.2 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC accedence dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original reporting form (if present) and substituting the data from the analysis of the diluted sample. Specify which organic analysis reporting form is to be used, then draw a red "X" across the entire page of all reporting forms that should not be used, including any in the summary package.

13.0 Standards Data (GC/MS)

13.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant Reports) present for initial and continuing calibration?

☒ ☐ ☐

ACTION: If any calibration standard data are missing, take action specified in section 3.2 above.

14.0 GC/MS Initial Calibration (CLP Form VI Equivalent)

YES NO N/A

14.1 Are the Initial Calibration reporting forms present and complete for the volatile fraction? ☒ ☐ ☐

ACTION: If any calibration forms or standard raw data are missing, take action specified in section 3.2 above.

ACTION: If the percent relative standard deviation (% RSD) is > 20%, (8000C-39) qualify positive results for that analyte "J". When % RSD > 90%,. Qualify all positive results for that analyte "J" and all non-detects results for that analyte "R".

14.2 Are all average RRFs > 0.050? ☒ ☐ ☐

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be $\geq$ the values in the following list. If individual RRF values reported are below the listed values document in the Data Assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with red pencil.

ACTION: For any target analyte with average RRF < 0.05, or for the requirements for the 5 compounds in 14.2 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

14.3 Are response factors stable over the concentration range of the calibration. ☒ ☐ ☐

NOTE: (Method Requirement) For the following CCC compounds, the %RSD values must be $\leq$ 30.0%. If %RSD values reported are > 30.0% document in the Data Assessment.

YES NO N/A

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

ACTION: Circle all outliers with a red pencil.

ACTION: If the % RSD is > 20.0%, or > 30% for the 6 compounds in 14.3 above, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

14.4 Was the % RSD determined using RRF or CF?

☒ ☐ ☐

If no, what method was used to determine the linearity of the initial calibration? Document any effects to the case in the Data Assessment.

14.5 Are there any transcription/calculation errors in the reporting of RRF or % RSD? (Check at least two values but if errors are found, check more.)

☐ ☐ ☒

Level IV not performed on this SDG

ACTION: Circle errors with a red pencil.

ACTION: If errors are large, take action as specified in section 3.2 above.

15.0 GC/MS Calibration Verification (CLP Form VII Equivalent)

YES NO N/A

15.1 Are the Calibration Verification reporting forms present and complete for all compounds of interest? ☒ ☐ ☐

15.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument? ☒ ☐ ☐

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

ACTION: If any forms are missing or no calibration verification standard has been analyzed twelve hours prior to sample analysis, take action as specified in section 3.2 above. If calibration verification data are not available, flag all associated sample data as unusable ("R").

15.3 Was the % D determined from the calibration verification determined using RRF or CF? ☒ ☐ ☐

If no, what method was used to determine the calibration verification? Document any effects to the case in the Data Assessment.

15.4 Do any volatile compounds have a % D (difference or drift) between the initial and continuing RRF or CF which exceeds 20% (SW-846, page 8260B-19, section 7.4.5.2). ☐ ☒ ☐

NOTE: (Method Requirement) For the following CCC compounds, the %D values must be $\leq 20.0\%$. If %D values reported are $> 20.0\%$ document in the Data Assessment.

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

YES NO N/A

ACTION: Circle all outliers with a red pencil.

ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated, "J". When %D is above 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

15.5 Do any volatile compounds have a RRF < 0.05? ☐ ☒ ☐

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be $\geq$ the values in the following list for each calibration verification. If average RRF values reported are below the listed values document in the data assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with a red pencil.

ACTION: If RRF < 0.05, or < the requirements for the 5 compounds in section 15.5 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

16.0 Internal Standards (CLP Form VIII Equivalent)

16.1 Are the internal standard (IS) areas on the internal standard reporting forms of every sample and blank within the upper and lower limits (-50% to + 100%) for each initial mid-point calibration (SW-846, 8260B-20, Sect. 7.4.7)? ☐ ☒ ☐

YES NO N/A

ACTION: If errors are large or information is missing, take action as specified in section 3.2 above.

ACTION: List each outlying internal standard below.

Sample ID	IS #	Area Lower Limit	Area Upper Limit
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Attach additional sheets if necessary.)

- ACTION:
1. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results quantitated with this internal standard.
 2. Do not qualify non-detects when the associated IS are counts area > + 100%.
 3. If the IS area is below the lower limit (< - 50%), qualify all associated non-detects (U-values) "J".
 4. If extremely low area counts are reported (< - 25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable "R" and positive results as estimated "J".

16.2 Are the retention times of all internal standards within 30 seconds of the associated initial mid-point calibration standard (SW-846, 8260B-20, Sect. 7.4.6)?

11 — —

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

YES NO N/A

17.0 Field Duplicates

17.1 Were any field duplicates submitted for
volatile analysis?

☐ ☒ ☐

ACTION: Compare the reported results for field duplicates and
calculate the relative percent difference.

ACTION: Any gross variation between field duplicate
results must be addressed in the Data Assessment.
However, if large differences exist, take action
specified in section 3.2 above.



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**Sample Reference List for SDG Number GSK01
with a Data Package Type of NYSDEC B
06911 - Groundwater Science Co
Project: TechCity Surficial Soil**

Lab Sample Number	Lab Sample Code	<u>Client Sample Description</u>
6448134	7A511	OU07A0511024 Grab Soil
6448135	7A611	OU07A1611024 Grab Soil
6448136	7A211	OU07A0211024 Grab Soil
6448137	7B211	OU07B0211024 Grab Soil
6448138	7B131	OU07B1311024 Grab Soil
6448139	KTH24	KTB110241024 Water

GSK01 06911

01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030B, December 1996.

10904 8260 Ext. Water Master

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

10949 8260 Ext. Soil Master

The soil sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

00111 Moisture

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2540 G

08389 GC/MS - LL Encore Prep

Two EnCore samples are collected per sample. The vials used for preparation are pre-preserved and pre-weighed. Two aliquots are extruded into a sodium bisulfate solution. The vials are re-weighed and the weight of the sample should be 5-g +/- .5 g. The prepared samples are then delivered to the lab for analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5035, November 2004.

07578 GC/MS-HL Encore Prep-NC

The sample is collected in an EnCore sampler and is submitted to the laboratory. A vial containing 5-ml methanol is prepared for each sample and weighed prior to adding the sample. After the sample is added to the vial, the vial is reweighed and the weight of sample is determined by difference. The weight of the sample should be 5-g +/- .5 g. The sample vial is then delivered to the lab for analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5035, November 2004.

GC/MS VOLATILES CALCULATIONS:

1. Relative response factor (RRF)

$$RRF = \frac{A_x}{A_{is}} \times \frac{C_{is}}{C_x}$$

Where :

A_x = Area of the characteristic ion for the compound to be measured.

A_{is} = Area of the characteristic ion for the specific internal standard to be measured.

C_{is} = Concentration of the internal standard.

C_x = Concentration of the compound to be measured.

2. % Relative Standard Deviation (%RSD)

$$\%RSD = \frac{\text{Standard deviation}}{\text{mean}} \times 100$$

3. % Difference (%D)

$$\%D = \frac{RRF_c - RRF_i}{RRF_i} \times 100$$

Where:

RRF_c = Relative response factor from continuing calibration standard.

RRF_i = Mean relative response factor from the initial calibration.

4. Concentration

$$\text{Concentration (ug/l)} = \frac{(A_x) (I_s) (D_f)}{(A_{is}) (RRF)}$$

Where:

A_x, A_{is}, RRF are as given in 1. above.

I_s = Concentration of internal standard added in parts per billion (ug/l)

D_f = Dilution factor

5. % Recovery (%Rec)

$$\%Rec = \frac{SSR - SR}{SA} \times 100$$

Where:

SSR = Spiked sample result

SR = Sample result

SA = Spike added

6. Relative Percent Difference (RPD)

$$RPD = \frac{|MSR - MSDR|}{(1/2) (MSR + MSDR)} \times 100$$

Where:

MSR = Matrix spike recovery

MSDR = Matrix spike duplicate recovery

GSK01 0025



Quality Control Reference List
GC/MS Volatiles

CLIENT: Groundwater Science Co
SDG: GSK01

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
Volatiles by 8260B	Y113011AA	VBLKY68	10/28/2011 13:08:00
		LCSY68	10/28/2011 13:52:00
		LCDY68	10/28/2011 14:13:00
		6448139	10/28/2011 18:32:00
Volatiles in Soil	X113001AA	VBLKX50	10/27/2011 03:02:00
		LCSX50	10/27/2011 03:26:00
		6448134	10/27/2011 08:28:00
		6448135	10/27/2011 08:51:00
		6448136	10/27/2011 09:14:00
		6448137	10/27/2011 09:37:00
		6448137RE	10/27/2011 11:55:00
		6448138	10/27/2011 10:00:00
		6448138RE	10/27/2011 12:17:00

GSK01 0027



Quality Control Summary
Surrogates
GC/MS Volatiles
SDG: GSK01
Matrix: SOLID

Fraction: Volatiles by GC/MS

X113001AA Sample	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKX50	101	71 - 114	96	70 - 109	94	70 - 123	95	70 - 111
LCSX50	100	71 - 114	100	70 - 109	103	70 - 123	100	70 - 111
6448134	104	71 - 114	99	70 - 109	93	70 - 123	91	70 - 111
6448135	106	71 - 114	98	70 - 109	94	70 - 123	89	70 - 111
6448136	107	71 - 114	101	70 - 109	96	70 - 123	97	70 - 111
6448137	106	71 - 114	99	70 - 109	101	70 - 123	79	70 - 111
6448138	108	71 - 114	103	70 - 109	103	70 - 123	79	70 - 111

GSK01 5832



Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: GSK01
Matrix: SOLID

Fraction: Volatiles by GC/MS

X113001AA / VBLKX50 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	10/27/11	N.D.	ug/kg	2	5
Chloromethane	10/27/11	N.D.	ug/kg	2	5
Vinyl Chloride	10/27/11	N.D.	ug/kg	1	5
Bromomethane	10/27/11	N.D.	ug/kg	2	5
Chloroethane	10/27/11	N.D.	ug/kg	2	5
Trichlorofluoromethane	10/27/11	N.D.	ug/kg	2	5
1,1-Dichloroethene	10/27/11	N.D.	ug/kg	1	5
Freon 113	10/27/11	N.D.	ug/kg	2	10
Benzene	10/27/11	N.D.	ug/kg	0.5	5
Bromodichloromethane	10/27/11	N.D.	ug/kg	1	5
Carbon Tetrachloride	10/27/11	N.D.	ug/kg	1	5
Chloroform	10/27/11	N.D.	ug/kg	1	5
Dibromomethane	10/27/11	N.D.	ug/kg	1	5
1,1-Dichloroethane	10/27/11	N.D.	ug/kg	1	5
1,2-Dichloroethane	10/27/11	N.D.	ug/kg	1	5
1,2-Dichloroethene (Total)	10/27/11	N.D.	ug/kg	1	5
1,2-Dichloropropane	10/27/11	N.D.	ug/kg	1	5
cis-1,3-Dichloropropene	10/27/11	N.D.	ug/kg	1	5
Freon 123a	10/27/11	N.D.	ug/kg	2	5
Methylene Chloride	10/27/11	N.D.	ug/kg	2	5
Toluene	10/27/11	N.D.	ug/kg	1	5
1,1,1-Trichloroethane	10/27/11	N.D.	ug/kg	1	5
Trichloroethene	10/27/11	N.D.	ug/kg	1	5
Benzyl Chloride	10/27/11	N.D.	ug/kg	1	4
Bromobenzene	10/27/11	N.D.	ug/kg	1	5
Bromoform	10/27/11	N.D.	ug/kg	1	5
Chlorobenzene	10/27/11	N.D.	ug/kg	1	5
2-Chlorotoluene	10/27/11	N.D.	ug/kg	1	5
4-Chlorotoluene	10/27/11	N.D.	ug/kg	1	5
Dibromochloromethane	10/27/11	N.D.	ug/kg	1	5
1,2-Dichlorobenzene	10/27/11	N.D.	ug/kg	1	5
1,3-Dichlorobenzene	10/27/11	N.D.	ug/kg	1	5
1,4-Dichlorobenzene	10/27/11	N.D.	ug/kg	1	5
trans-1,3-Dichloropropene	10/27/11	N.D.	ug/kg	1	5
Ethylbenzene	10/27/11	N.D.	ug/kg	1	5
1,1,1,2-Tetrachloroethane	10/27/11	N.D.	ug/kg	1	5
1,1,2,2-Tetrachloroethane	10/27/11	N.D.	ug/kg	1	5
Tetrachloroethene	10/27/11	N.D.	ug/kg	1	5
1,1,2-Trichloroethane	10/27/11	N.D.	ug/kg	1	5
1,2,3-Trichloropropane	10/27/11	N.D.	ug/kg	1	5
Xylene (Total)	10/27/11	N.D.	ug/kg	1	5

GSK01 0028



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK01
Matrix: SOLID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSX50		Batch: X113001AA (Sample number(s): 6448134-6448138)						
Analyte	Spike Added ug/kg	LCS Conc ug/kg	LCSD Conc ug/kg	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	19.89		99		20-120		
Chloromethane	20	21.73		109		54-132		
Vinyl Chloride	20	21.07		105		53-120		
Bromomethane	20	20.67		103		32-162		
Chloroethane	20	21.2		106		37-154		
Trichlorofluoromethane	20	22.25		111		58-133		
1,1-Dichloroethene	20	23.08		115		73-123		
Freon 113	20	23.08		115		61-126		
1,1,1-Trichloroethane	20	21.85		109		71-125		
1,1-Dichloroethane	20	22.7		113		80-120		
1,2-Dichloroethane	20	21.51		108		71-129		
1,2-Dichloroethene (Total)	40	44.38		111		80-120		
1,2-Dichloropropane	20	21.01		105		80-120		
Benzene	20	22.16		111		80-120		
Bromodichloromethane	20	20.78		104		78-120		
Carbon Tetrachloride	20	22.4		112		69-122		
Chloroform	20	22.01		110		80-120		
cis-1,3-Dichloropropene	20	20.29		101		80-120		
Dibromomethane	20	19.83		99		80-120		
Freon 123a	20	24.45		122		61-127		
Methylene Chloride	20	21.64		108		76-124		
Toluene	20	22.35		112		80-120		
Trichloroethene	20	21.63		108		80-120		
1,1,1,2-Tetrachloroethane	20	22.07		110		80-120		
1,1,1,2,2-Tetrachloroethane	20	20.01		100		71-123		
1,1,2-Trichloroethane	20	20.63		103		80-120		
1,2,3-Trichloropropane	20	20.65		103		71-123		
1,2-Dichlorobenzene	20	21.54		108		79-120		
1,3-Dichlorobenzene	20	21.61		108		78-120		
1,4-Dichlorobenzene	20	21.65		108		79-120		
2-Chlorotoluene	20	22.26		111		78-120		
4-Chlorotoluene	20	21.63		108		79-120		
Benzyl Chloride	20	17.83		89		66-120		
Bromobenzene	20	22		110		79-120		
Bromoform	20	19.37		97		70-120		
Chlorobenzene	20	21.88		109		80-120		
Dibromochloromethane	20	20.94		105		77-120		
Ethylbenzene	20	22.49		112		80-120		
Tetrachloroethene	20	22.47		112		77-120		
trans-1,3-Dichloropropene	20	19.67		98		77-120		
Xylene (Total)	60	67.52		113		80-120		

CSK01-0038

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK01____
 Lab File ID: xs13t01.d BFB Injection Date: 09/13/11
 Instrument ID: HP09193 BFB Injection Time: 16:00
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.15
75	30.0 - 60.0% of mass 95	45.78
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.69
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	90.22
175	5.0 - 9.0% of mass 174	6.67 (7.40)1
176	Greater than 95.0%, but less than 101.0% of mass 174	88.12 (97.67)1
177	5.0 - 9.0% of mass 176	5.76 (6.53)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	xs13i01.d	09/13/11	16:35
02	VSTD100	xs13i02.d	09/13/11	17:25
03	VSTD50	xs13i03.d	09/13/11	18:01
04	VSTD20	xs13i04.d	09/13/11	18:44
05	VSTD10	xs13i05.d	09/13/11	19:24
06	VSTD4	xs13i06.d	09/13/11	20:13
07	1PPBMDL - VSTD001	xs13m01.d	09/13/11	20:36
08	LGICV	xs13v02.d	09/13/11	23:22

GSK01-00034

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09193 Calibration Date(s): 09/13/11 09/13/11
Heated Purge: (Y/N) Y Calibration Times: 16:35 20:13
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = xs13106.d RRF 10= xs13105.d RRF 20= xs13104.d
RRF 50= xs13103.d RRF100= xs13102.d RRF300= xs13101.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.3956	0.3724	0.3576	0.3668	0.3547	0.3417		0.3648	5	AVG
Chloromethane	#0.4253	0.4275	0.4164	0.4063	0.3831	0.3451		0.4006	8	AVG
Vinyl Chloride	*0.3925	0.3818	0.3669	0.3630	0.3495	0.3212		0.3625	7	AVG
Bromomethane	0.2447	0.2529	0.2391	0.2341	0.2244	0.1908		0.2310	9	AVG
Chloroethane	0.2294	0.2235	0.2109	0.2080	0.1988	0.1689		0.2066	10	AVG
Trichlorofluoromethane	0.4144	0.3923	0.3703	0.3758	0.3677	0.3448		0.3776	6	AVG
Ethanol	0.1261	0.1171	0.1142	0.1116	0.1137	0.1169		0.1166	4	AVG
Freon 123a	0.2072	0.1977	0.1954	0.2159	0.2026	0.2110		0.2050	4	AVG
Acrolein	1.5677	1.4937	1.5739	1.4591	1.5681	1.5560		1.5364	3	AVG
1,1-Dichloroethene	*0.2316	0.2306	0.2293	0.2215	0.2369	0.2437		0.2323	3	AVG
Dichlorofluoromethane	0.4249	0.4264	0.4136	0.4346	0.4136	0.4027		0.4193	3	AVG
Freon 113	0.2495	0.2379	0.2429	0.2289	0.2537	0.2624		0.2459	5	AVG
Acetone	0.0333	0.0391	0.0318	0.0349	0.0336	0.0291		0.0336	10	AVG
Methyl Iodide	0.4386	0.4572	0.4449	0.4305	0.4581	0.4685		0.4496	3	AVG
2-Propanol	0.6103	0.6886	0.7564	0.6515	0.8241	0.8174		0.7247	12	AVG
Carbon Disulfide	0.8103	0.8016	0.8086	0.7721	0.8341	0.8705		0.8162	4	AVG
Allyl Chloride	0.3878	0.3960	0.4165	0.4545	0.4291	0.4361		0.4200	6	AVG
Methyl Acetate	0.1995	0.2253	0.1963	0.2406	0.2299	0.2113		0.2172	8	AVG
Methylene Chloride	0.3380	0.3156	0.3012	0.2786	0.2869	0.2853		0.3009	7	AVG
t-Butyl Alcohol	1.2553	1.2961	1.2659	1.2042	1.3333	1.3116		1.2777	4	AVG
Acrylonitrile	0.0673	0.1137	0.0952	0.1154	0.1121	0.1094		0.1022	18	1STDEG
trans-1,2-Dichloroethene	0.2502	0.2653	0.2624	0.2558	0.2718	0.2806		0.2643	4	AVG
Methyl Tertiary Butyl Ether	0.8388	0.9129	0.8651	0.8447	0.8880	0.8339		0.8639	4	AVG
n-Hexane	0.4061	0.4081	0.3947	0.3917	0.4594	0.4601		0.4200	7	AVG
1,1-Dichloroethane	#0.5089	0.5295	0.5176	0.4995	0.5102	0.5165		0.5137	2	AVG
2-Chloro-1,3-Butadiene	0.3797	0.4079	0.4164	0.4112	0.4392	0.4621		0.4194	7	AVG
di-Isopropyl Ether	1.0007	1.0742	1.0473	1.0054	1.0670	1.0275		1.0370	3	AVG
Ethyl t-Butyl Ether	0.8739	0.9187	0.9034	0.8794	0.9361	0.9023		0.9023	3	AVG
cis-1,2-Dichloroethane	0.2770	0.2961	0.2935	0.2826	0.3022	0.3044		0.2926	4	AVG
1,2-Dichloroethene (total)	0.2636	0.2807	0.2779	0.2692	0.2870	0.2925		0.2785	4	AVG
2,2-Dichloropropane	0.3672	0.3884	0.3935	0.3752	0.4077	0.4198		0.3920	5	AVG
2-Butanone	0.1321	0.1851	0.1468	0.1750	0.1601	0.1558		0.1592	12	AVG
Propionitrile	1.1953	1.1658	1.2818	1.1315	1.3926	1.4480		1.2692	10	AVG
Methacrylonitrile	0.1216	0.1427	0.1312	0.1363	0.1433	0.1339		0.1348	6	AVG
Bromochloromethane	0.1234	0.1345	0.1367	0.1438	0.1401	0.1423		0.1368	5	AVG
Tetrahydrofuran	1.0718	1.1800	1.1983	1.1961	1.2653	1.2771		1.1981	6	AVG
Chloroform	*0.4584	0.4718	0.4664	0.4432	0.4749	0.4813		0.4660	3	AVG
1,1,1-Trichloroethane	0.4881	0.4433	0.4431	0.3895	0.4201	0.4434		0.4379	7	AVG
Cyclohexane	0.5006	0.4864	0.4931	0.4742	0.5418	0.5585		0.5091	7	AVG
Cyclohexane(mz69)	0.1438	0.1409	0.1413	0.1365	0.1575	0.1646		0.1474	7	AVG
Cyclohexane(mz84)	0.3996	0.3916	0.3930	0.3857	0.4378	0.4569		0.4108	7	AVG
1,1-Dichloropropene	0.3562	0.3585	0.3656	0.3483	0.3832	0.4034		0.3692	6	AVG
Carbon Tetrachloride	0.3050	0.3097	0.3152	0.3026	0.3368	0.3614		0.3218	7	AVG
Benzene	1.1146	1.1369	1.1332	1.0685	1.1370	1.1429		1.1222	2	AVG
Isobutyl Alcohol	0.4172	0.4248	0.4357	0.3988	0.4635	0.4736		0.4356	7	AVG
1,2-Dichloroethane	0.3697	0.3924	0.3729	0.3617	0.3847	0.3794		0.3768	3	AVG
1,2-Dichloroethane(mz98)	0.0312	0.0357	0.0356	0.0351	0.0375	0.0375		0.0352	6	AVG
t-Amyl Methyl Ether	0.7647	0.8448	0.8215	0.8003	0.8538	0.8195		0.8174	4	AVG
n-Heptane	0.5135	0.4891	0.4520	0.4570	0.5456	0.5268		0.4973	8	AVG
n-Butanol	0.2678	0.3019	0.3269	0.3131	0.3773	0.4052		0.3320	15	AVG
Trichloroethene	0.2707	0.2871	0.2831	0.2611	0.2882	0.3000		0.2817	5	AVG
Methylcyclohexane	0.4240	0.4143	0.4575	0.4695	0.4821	0.5053		0.4588	8	AVG

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

CSRS 1 0041

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HPO9193 Calibration Date(s): 09/13/11 09/13/11
Heated Purge: (Y/N) Y Calibration Times: 16:35 20:13
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = xs13i06.d RRF 10= xs13i05.d RRF 20= xs13i04.d
RRF 50= xs13i03.d RRF100= xs13i02.d RRF300= xs13i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,2-Dichloropropane	0.3060	0.3319	0.3229	0.3105	0.3286	0.3280		0.3213	3	AVG
Dibromomethane	0.1634	0.1747	0.1653	0.1644	0.1791	0.1808		0.1713	5	AVG
1,4-Dioxane	0.0933	0.1107	0.1163	0.1042	0.1190	0.1275		0.1118	11	AVG
Methyl Methacrylate	0.1676	0.2203	0.2099	0.2408	0.2584	0.2555		0.2254	15	AVG
Bromodichloromethane	0.3138	0.3465	0.3444	0.3423	0.3719	0.3850		0.3506	7	AVG
2-Nitropropane	0.0800	0.0974	0.0826	0.0990	0.0943	0.0920		0.0909	9	AVG
cis-1,3-Dichloropropene	0.3537	0.4067	0.4325	0.4261	0.4816	0.4990		0.4333	12	AVG
4-Methyl-2-Pentanone	0.2942	0.4113	0.3526	0.4311	0.4866	0.3770		0.3788	13	AVG
Toluene	0.9327	1.0507	1.0508	0.9637	1.0152	1.0105		1.0039	5	AVG
trans-1,3-Dichloropropene	0.4175	0.5495	0.5579	0.5620	0.6344	0.6365		0.5597	14	AVG
Ethyl Methacrylate	0.4234	0.5687	0.5837	0.5909	0.6494	0.6166		0.5721	14	AVG
1,1,2-Trichloroethane	0.3725	0.3874	0.4005	0.3639	0.3839	0.3638		0.3787	4	AVG
Tetrachloroethene	0.4188	0.4623	0.4603	0.4199	0.4526	0.4649		0.4464	5	AVG
1,3-Dichloropropane	0.6217	0.7160	0.6842	0.6516	0.6761	0.6366		0.6644	5	AVG
2-Hexanone	0.3012	0.4139	0.3672	0.4329	0.4072	0.3690		0.3819	12	AVG
Dibromochloromethane	0.3246	0.3995	0.4017	0.3932	0.4212	0.4195		0.3933	9	AVG
1,2-Dibromethane	0.3204	0.4006	0.3813	0.3783	0.3924	0.3788		0.3753	8	AVG
Chlorobenzene	#1.1032	1.1870	1.1785	1.0882	1.1548	1.1342		1.1410	4	AVG
1,1,1,2-Tetrachloroethane	0.3435	0.4078	0.4028	0.3820	0.4054	0.4092		0.3918	7	AVG
Ethylbenzene	*1.5259	1.8011	1.8361	1.7560	1.8905	1.8099		1.7699	7	AVG
m+p-Xylene	0.6928	0.7821	0.7816	0.7194	0.7615	0.7303		0.7446	5	AVG
Xylene (Total)	0.7091	0.7985	0.7895	0.7267	0.7663	0.7348		0.7541	5	AVG
o-Xylene	0.7417	0.8315	0.8053	0.7411	0.7757	0.7437		0.7732	5	AVG
Styrene	0.8690	1.0906	1.0957	1.1282	1.2409	1.2238		1.1080	12	AVG
Bromoform	#0.2197	0.2876	0.2837	0.2939	0.3222	0.3234		0.2884	13	AVG
Isopropylbenzene	1.7393	1.9307	1.9286	1.8010	1.9161	1.8131		1.8548	4	AVG
Cyclohexanone	0.3991	0.4476	0.4340	0.4077	0.4371	0.4552		0.4301	5	AVG
Bromobenzene	0.8566	0.8756	0.8540	0.8157	0.8650	0.8582		0.8542	2	AVG
1,1,2,2-Tetrachloroethane	#0.9547	1.0722	0.9629	0.9754	0.9809	0.8897		0.9726	6	AVG
1,2,3-Trichloropropane	0.2984	0.3177	0.2746	0.2743	0.2789	0.2494		0.2822	8	AVG
trans-1,4-Dichloro-2-Butene	0.2268	0.2804	0.2565	0.2533	0.2718	0.2589		0.2579	7	AVG
n-Propylbenzene	3.4414	3.5651	3.5978	3.4799	3.7397	3.3228		3.5245	4	AVG
2-Chlorotoluene	0.7467	0.7730	0.7596	0.7361	0.7950	0.7934		0.7673	3	AVG
1,3,5-Trimethylbenzene	2.5801	2.6438	2.6307	2.5326	2.6895	2.5143		2.5985	3	AVG
4-Chlorotoluene	0.9179	0.8928	0.8600	0.8190	0.8567	0.8384		0.8641	4	AVG
tert-Butylbenzene	0.6128	0.6555	0.6584	0.6327	0.6764	0.6627		0.6497	4	AVG
Pentachloroethane	0.5340	0.5578	0.5861	0.6092	0.5849	0.5884		0.5767	5	AVG
1,2,4-Trimethylbenzene	2.6373	2.7538	2.7137	2.6514	2.8450	2.6557		2.7095	3	AVG
sec-Butylbenzene	3.4223	3.5634	3.5000	3.3628	3.6233	3.1870		3.4431	5	AVG
1,3-Dichlorobenzene	1.4236	1.4528	1.4583	1.4429	1.5415	1.5408		1.4766	3	AVG
p-Isopropyltoluene	2.7940	3.0439	3.0057	2.9413	3.2002	2.8851		2.9784	5	AVG
1,4-Dichlorobenzene	2.0469	1.9082	1.8040	1.7046	1.7908	1.6951		1.8249	7	AVG
1,2,3-Trimethylbenzene	2.9577	2.9493	3.0571	3.1601	2.9463	2.7283		2.9665	5	AVG
Benzyl Chloride	1.2447	1.5857	1.5650	1.8012	1.9692	1.8861		1.6753	16	1STD EG
1,2-Dichlorobenzene	1.8897	1.8093	1.7368	1.6379	1.7095	1.5943		1.7296	6	AVG
n-Butylbenzene	1.3870	1.5139	1.4887	1.4797	1.6195	1.5471		1.5060	5	AVG
1,3-Diethylbenzene	1.7223	1.7493	1.8747	1.9628	1.8765	1.8419		1.8379	5	AVG
1,4-Diethylbenzene	1.9155	1.9277	2.0190	2.0814	2.0013	1.9297		1.9791	3	AVG
1,2-Diethylbenzene	1.9180	1.8659	1.8511	1.8719	1.7206	1.6468		1.8124	6	AVG
1,2-Dibromo-3-Chloropropane	0.1895	0.2272	0.1916	0.2034	0.2085	0.1932		0.2022	7	AVG
1,3,5-Trichlorobenzene	1.3961	1.4391	1.3811	1.3429	1.4378	1.3809		1.3963	3	AVG
1,2,4-Trichlorobenzene	1.3213	1.3677	1.3015	1.2985	1.3860	1.3158		1.3318	3	AVG

Minimum RRF for SPEC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

GSK01 8842

6A
VOLATILE ORGANICS (INITIAL CALIBRATION DATA)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09193 Calibration Date(s): 09/13/11 09/13/11
Heated Purge: (Y/N) Y Calibration Times: 16:35 20:13
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = xs13106.d RRF 10 = xs13105.d RRF 20 = xs13104.d
RRF 50 = xs13103.d RRF100 = xs13102.d RRF300 = xs13101.d RRF =

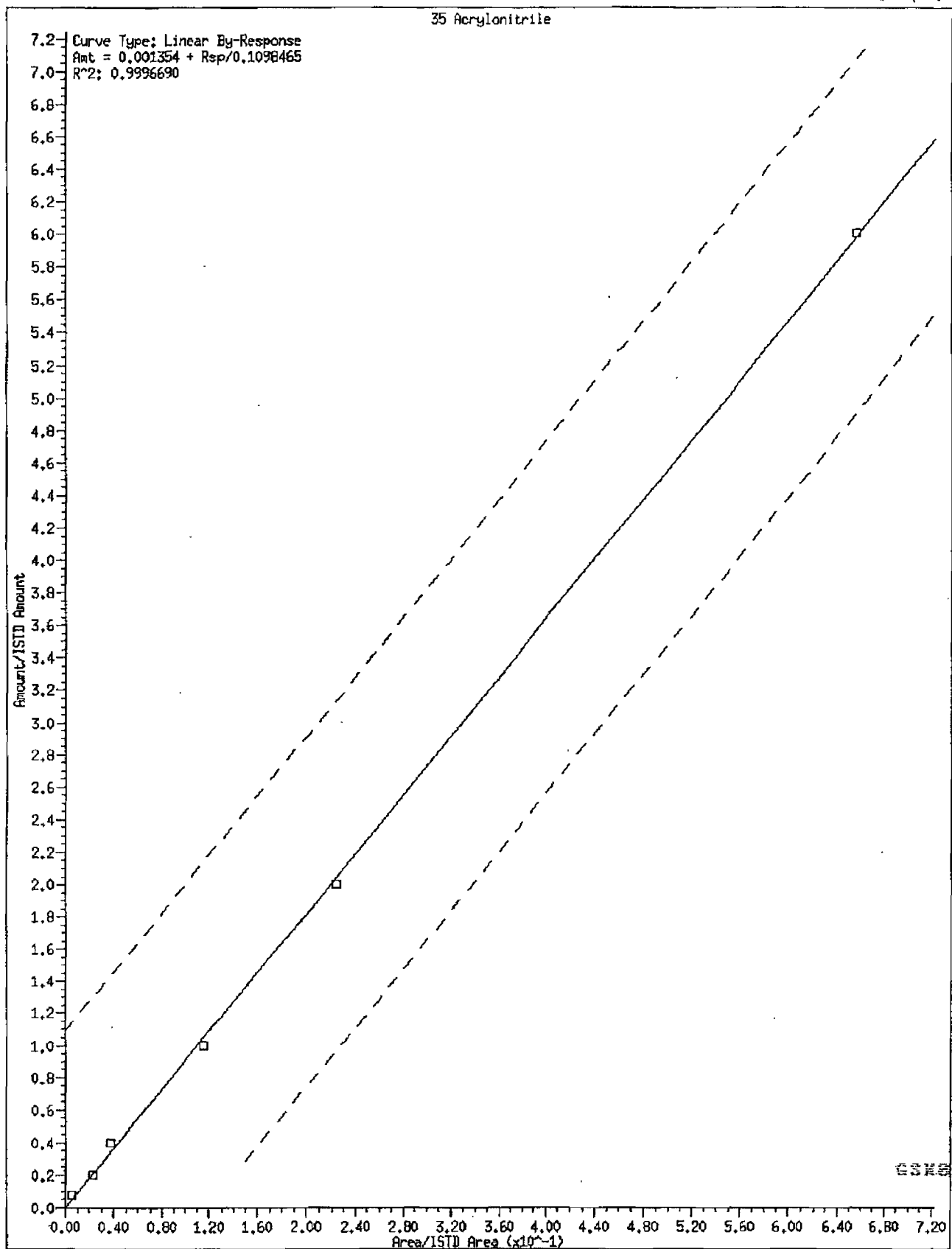
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Hexachlorobutadiene	0.6563	0.6979	0.6398	0.6447	0.7195	0.7072		0.6776	5	AVG
Naphthalene	3.2399	3.6574	3.3284	3.5227	3.5648	3.0290		3.3904	7	AVG
1,2,3-Trichlorobenzene	1.4000	1.3856	1.2470	1.2572	1.2802	1.2028		1.2955	6	AVG
2-Methylnaphthalene	2.0380	2.4113	2.3097	2.6975	2.4886	2.1677		2.3521	10	AVG
Dibromofluoromethane	0.2379	0.2337	0.2323	0.2322	0.2296	0.2318		0.2329	1	AVG
Dibromofluoromethane(mz114)	0.2393	0.2389	0.2367	0.2365	0.2365	0.2353		0.2372	1	AVG
1,2-Dichloroethane-d4	0.0586	0.0609	0.0599	0.0635	0.0565	0.0559		0.0592	5	AVG
1,2-Dichloroethane-d4(mz104)	0.0375	0.0386	0.0373	0.0380	0.0375	0.0370		0.0376	1	AVG
1,2-Dichloroethane-d4(mz65)	0.2706	0.2847	0.2758	0.2653	0.2581	0.2584		0.2688	4	AVG
Toluene-d8	1.3006	1.4081	1.4270	1.3972	1.3596	1.3375		1.3717	3	AVG
Toluene-d8(mz100)	0.8685	0.9386	0.9520	0.9493	0.9277	0.9272		0.9272	3	AVG
4-Bromofluorobenzene	0.4445	0.4767	0.4836	0.4858	0.4862	0.4980		0.4791	4	AVG
4-Bromofluorobenzene(mz174)	0.4418	0.4797	0.4767	0.4632	0.4598	0.4697		0.4651	3	AVG

Average %RSD 6

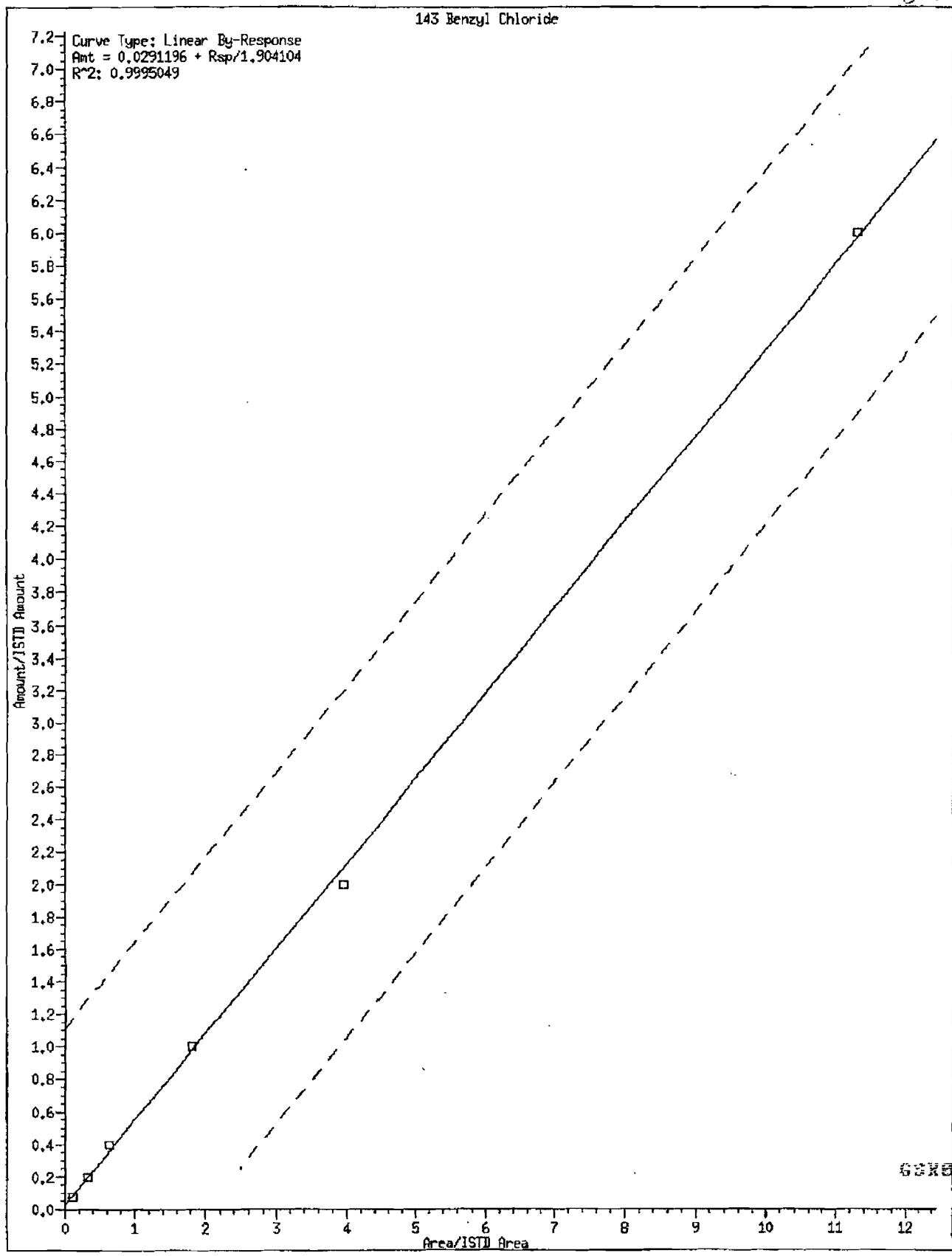
Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

ESK01. 0843

2861
9/13/11



2801
9/15/11



68081 8845

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

```

/chem2/HP09193.i/11sep13a.b/xs13i01.d VSTD300
/chem2/HP09193.i/11sep13a.b/xs13i02.d VSTD100
/chem2/HP09193.i/11sep13a.b/xs13i03.d VSTD050
/chem2/HP09193.i/11sep13a.b/xs13i04.d VSTD020
/chem2/HP09193.i/11sep13a.b/xs13i05.d VSTD010
/chem2/HP09193.i/11sep13a.b/xs13i06.d VSTD004
  
```

Area Summary

File ID:

Internal Standard Name	xs13i01.d	xs13i02.d	xs13i03.d	xs13i04.d	xs13i05.d	xs13i06.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	225047	243838	277020	226197	278304	212077	243747	12	Yes
Fluorobenzene	1428794	1414817	1389406	1363981	1336044	1303373	1372736	3	Yes
Chlorobenzene-d5	1060585	1020364	977131	931326	921019	954828	977542	6	Yes
1,4-Dichlorobenzene-d4	651996	617048	587521	580807	572758	546833	592827	6	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	xs13i01.d	xs13i02.d	xs13i03.d	xs13i04.d	xs13i05.d	xs13i06.d	Avg. RT
t-Butyl Alcohol-d10	3.678	3.684	3.684	3.671	3.672	3.678	3.678
Fluorobenzene	7.145	7.146	7.152	7.139	7.139	7.145	7.144
Chlorobenzene-d5	10.765	10.765	10.765	10.765	10.765	10.765	10.765
1,4-Dichlorobenzene-d4	12.681	12.682	12.682	12.681	12.681	12.681	12.681

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 09/13/2011 at 22:54.

CSK01 0846

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP09193 ICV Date: 09/13/11 Time: 23:22

Lab File ID: xs13v02.d Init. Calib. Date(s): 09/13/11 09/13/11

Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.3648	0.3235	17.73	20	-11
# Chloromethane	0.4006	0.3873	19.34	20	-3 #
* Vinyl Chloride	0.3625	0.3476	19.18	20	-4 *
Bromomethane	0.2310	0.1917	16.60	20	-17
Chloroethane	0.2066	0.1786	17.29	20	-14
Trichlorofluoromethane	0.3776	0.3595	19.04	20	-5
Ethanol	0.1166	0.1190	1021.09	1000	2
Freon 123a	0.2050	0.2427	23.69	20	18
Acrolein	1.5364	1.5267	149.05	150	-1
* 1,1-Dichloroethene	0.2323	0.2147	18.49	20	-8 *
Dichlorofluoromethane	0.4193	0.4728	22.55	20	13
Freon 113	0.2459	0.2249	18.29	20	-9
Acetone	0.0336	0.0313	139.35	150	-7
Methyl Iodide	0.4496	0.3927	17.47	20	-13
2-Propanol	0.7247	0.7483	154.87	150	3
Carbon Disulfide	0.8162	0.6564	16.09	20	-20
Allyl Chloride	0.4200	0.5093	24.26	20	21 NTC
Methyl Acetate	0.2172	0.2440	22.47	20	12
Methylene Chloride	0.3009	0.2808	18.66	20	-7
t-Butyl Alcohol	1.2777	1.3199	206.59	200	3
Acrylonitrile	0.1022	0.1048	95.50	100	-4
trans-1,2-Dichloroethene	0.2643	0.2522	19.08	20	-5
Methyl Tertiary Butyl Ether	0.8639	0.8114	18.78	20	-6
n-Hexane	0.4200	0.3824	18.21	20	-9
# 1,1-Dichloroethane	0.5137	0.5016	19.53	20	-2 #
2-Chloro-1,3-Butadiene	0.4194	0.3951	18.84	20	-6
di-Isopropyl Ether	1.0370	0.9965	19.22	20	-4
Ethyl t-Butyl Ether	0.9023	0.8807	19.52	20	-2
cis-1,2-Dichloroethene	0.2926	0.2890	19.75	20	-1
1,2-Dichloroethene (total)	0.2785	0.2706	38.84	40	-3
2,2-Dichloropropane	0.3920	0.3696	18.86	20	-6
2-Butanone	0.1592	0.1585	149.38	150	0
Propionitrile	1.2692	1.2682	149.88	150	0
Methacrylonitrile	0.1348	0.1300	144.66	150	-4
Bromochloromethane	0.1368	0.1538	22.49	20	12
Tetrahydrofuran	1.1981	1.1955	99.78	100	0

Minimum RRF for SPCC(*)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

CSK#1 8847

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: RP09193 ICV Date: 09/13/11 Time: 23:22

Lab File ID: xsl3v02.d Init. Calib. Date(s): 09/13/11 09/13/11

Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.4660	0.4569	19.61	20	-2 *
1,1,1-Trichloroethane	0.4379	0.4252	19.42	20	-3
Cyclohexane	0.5091	0.4834	18.99	20	-5
1,1-Dichloropropene	0.3692	0.3608	19.54	20	-2
Carbon Tetrachloride	0.3218	0.3079	19.13	20	-4
Benzene	1.1222	1.0935	19.49	20	-3
Isobutyl Alcohol	0.4356	0.4597	527.66	500	6
1,2-Dichloroethane	0.3768	0.3626	19.25	20	-4
t-Amyl Methyl Ether	0.8174	0.8046	19.69	20	-2
n-Heptane	0.4973	0.4586	18.44	20	-8
n-Butanol	0.3320	0.3509	1105.43	1000	11
Trichloroethene	0.2817	0.2770	19.67	20	-2
Methylcyclohexane	0.4588	0.5735	25.00	20	(25) NTC
* 1,2-Dichloropropane	0.3213	0.3198	19.91	20	0 *
Dibromomethane	0.1713	0.1647	19.23	20	-4
1,4-Dioxane	0.1118	0.1116	498.96	500	0
Methyl Methacrylate	0.2254	0.2065	18.32	20	-8
Bromodichloromethane	0.3506	0.3429	19.56	20	-2
2-Nitropropane	0.0909	0.0819	18.03	20	-10
cis-1,3-Dichloropropene	0.4333	0.4246	19.60	20	-2
4-Methyl-2-Pentanone	0.3788	0.3987	105.24	100	5
* Toluene	1.0039	1.0222	20.37	20	2 *
trans-1,3-Dichloropropene	0.5597	0.5196	18.57	20	-7
Ethyl Methacrylate	0.5721	0.5762	20.14	20	1
1,1,2-Trichloroethane	0.3787	0.3759	19.85	20	-1
Tetrachloroethene	0.4464	0.4552	20.39	20	2
1,3-Dichloropropane	0.6644	0.6811	20.50	20	3
2-Hexanone	0.3819	0.3984	104.32	100	4
Dibromochloromethane	0.3933	0.3983	20.26	20	1
1,2-Dibromoethane	0.3753	0.3849	20.51	20	3
# Chlorobenzene	1.1410	1.2104	21.22	20	6 #
1,1,1,2-Tetrachloroethane	0.3918	0.4169	21.28	20	6
* Ethylbenzene	1.7699	1.9098	21.58	20	8 *
m+p-Xylene	0.7446	0.8014	43.05	40	8
Xylene (Total)	0.7541	0.5686	64.38	60	7
o-Xylene	0.7732	0.8246	21.33	20	7

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

CSK51 8848

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP09193 ICV Date: 09/13/11 Time: 23:22

Lab File ID: xs13v02.d Init. Calib. Date(s): 09/13/11 09/13/11

Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Styrene	1.1080	1.1938	21.55	20	8
# Bromoform	0.2884	0.2873	19.92	20	0 #
Isopropylbenzene	1.8548	2.0726	22.35	20	12
Cyclohexanone	0.4301	0.4090	475.43	500	-5
Bromobenzene	0.8542	0.9069	21.28	20	6
# 1,1,2,2-Tetrachloroethane	0.9726	1.0612	21.82	20	9 #
1,2,3-Trichloropropane	0.2822	0.2973	21.07	20	5
trans-1,4-Dichloro-2-Butene	0.2579	0.2941	114.02	100	14
n-Propylbenzene	3.5245	3.9260	22.28	20	11
2-Chlorotoluene	0.7673	0.8386	21.86	20	9
1,3,5-Trimethylbenzene	2.5985	2.9089	22.39	20	12
4-Chlorotoluene	0.8641	0.9569	22.15	20	11
tert-Butylbenzene	0.6497	0.7296	22.46	20	12
Pentachloroethane	0.5767	0.5578	19.34	20	-3
1,2,4-Trimethylbenzene	2.7095	2.9622	21.87	20	9
sec-Butylbenzene	3.4431	3.9476	22.93	20	15
1,3-Dichlorobenzene	1.4766	1.6161	21.89	20	9
p-Isopropyltoluene	2.9784	3.3719	22.64	20	13
1,4-Dichlorobenzene	1.8249	1.9939	21.85	20	9
1,2,3-Trimethylbenzene	2.9665	3.1299	21.10	20	6
Benzyl Chloride	1.6753	1.7450	19.78	20	-1
1,2-Dichlorobenzene	1.7296	1.9227	22.23	20	11
n-Butylbenzene	1.5060	1.6853	22.38	20	12
1,3-Diethylbenzene	1.8379	1.9345	21.05	20	5
1,4-Diethylbenzene	1.9791	2.0516	20.73	20	4
1,2-Diethylbenzene	1.8124	1.8483	20.40	20	2
1,2-Dibromo-3-Chloropropane	0.2022	0.2243	22.18	20	11
1,3,5-Trichlorobenzene	1.3963	1.5930	22.82	20	14
1,2,4-Trichlorobenzene	1.3318	1.4999	22.52	20	13
Hexachlorobutadiene	0.6776	0.7895	23.31	20	17
Naphthalene	3.3904	3.9042	23.03	20	15
1,2,3-Trichlorobenzene	1.2955	1.5264	23.56	20	18
2-Methylnaphthalene	2.3521	2.0883	17.76	20	-11

Average %Drift 7

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

CS#01 0343

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK01____
 Lab File ID: xc27t01.d BFB Injection Date: 10/27/11
 Instrument ID: HP09193 BFB Injection Time: 01:23
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.81
75	30.0 - 60.0% of mass 95	46.44
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.49
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	87.95
175	5.0 - 9.0% of mass 174	6.42 (7.30)1
176	Greater than 95.0%, but less than 101.0% of mass 174	87.18 (99.12)1
177	5.0 - 9.0% of mass 176	5.75 (6.60)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	xc27c02.d	10/27/11	02:17
02	VSTD50	xc27c03.d	10/27/11	02:40
03	VBLKX50	xc27b01.d	10/27/11	03:02
04	LCSX50	xc27l01.d	10/27/11	03:26
05	LCS1X150	xc27l03.d	10/27/11	04:12
06	LCD1X150	xc27l04.d	10/27/11	04:35
07	6446116	xc27s01.d	10/27/11	05:25
08	6446117MS	xc27s02.d	10/27/11	05:48
09	6446118MSD	xc27s03.d	10/27/11	06:10
10	6446113	xc27s04.d	10/27/11	06:33
11	6446114	xc27s05.d	10/27/11	06:56
12	6446115	xc27s06.d	10/27/11	07:19
13	6446867RE	xc27s07.d	10/27/11	07:42
14	6446872	xc27s08.d	10/27/11	08:05
15	6448134	xc27s09.d	10/27/11	08:28
16	6448135	xc27s10.d	10/27/11	08:51
17	6448136	xc27s11.d	10/27/11	09:14
18	6448137	xc27s12.d	10/27/11	09:37
19	6448138	xc27s13.d	10/27/11	10:00
20	6448265	xc27s14.d	10/27/11	10:23
21	6448266	xc27s15.d	10/27/11	10:46
22	6442947	xc27s16.d	10/27/11	11:09

GSK01 0035

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK01____
 Lab File ID: xc27t01.d BFB Injection Date: 10/27/11
 Instrument ID: HP09193 BFB Injection Time: 01:23
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.81
75	30.0 - 60.0% of mass 95	46.44
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.49
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	87.95
175	5.0 - 9.0% of mass 174	6.42 (7.30)1
176	Greater than 95.0%, but less than 101.0% of mass 174	87.18 (99.12)1
177	5.0 - 9.0% of mass 176	5.75 (6.60)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6449010	xc27s17.d	10/27/11	11:32
24	6448137RE	xc27s19.d	10/27/11	11:55
25	6448138RE	xc27s20.d	10/27/11	12:17
26	6442947RE	xc27s21.d	10/27/11	12:40
27	6447792	xc27s18.d	10/27/11	13:03

GSK01 0036

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date: 10/27/11 Time: 02:40
 Lab File ID: xc27c03.d Init. Calib. Date(s): 09/13/11 09/13/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.3648	0.3382	46.35	50	-7
# Chloromethane	0.4006	0.3828	47.78	50	-4 #
* Vinyl Chloride	0.3625	0.3578	49.34	50	-1 *
Bromomethane	0.2310	0.2305	49.90	50	0
Chloroethane	0.2066	0.2091	50.60	50	1
Trichlorofluoromethane	0.3776	0.4135	54.76	50	10
Ethanol	0.1166	0.1270	2722.36	2500	9
Freon 123a	0.2050	0.2337	57.00	50	14
Acrolein	1.5364	1.8518	602.64	500	21 NTC
* 1,1-Dichloroethene	0.2323	0.2567	55.26	50	11 *
Dichlorofluoromethane	0.4193	0.4996	59.57	50	19
Freon 113	0.2459	0.2771	56.35	50	13
Acetone	0.0336	0.0296	88.09	100	-12 NTC
Methyl Iodide	0.4496	0.4759	52.92	50	6
2-Propanol	0.7247	0.8185	282.36	250	13
Carbon Disulfide	0.8162	0.8778	53.78	50	8
Allyl Chloride	0.4200	0.5218	62.12	50	24 NTC
Methyl Acetate	0.2172	0.2333	53.72	50	7
Methylene Chloride	0.3009	0.3088	51.31	50	3
t-Butyl Alcohol	1.2777	1.3369	261.58	250	5
Acrylonitrile	0.1022	0.1044	47.61	50	-5
trans-1,2-Dichloroethene	0.2643	0.2850	53.90	50	8
Methyl Tertiary Butyl Ether	0.8639	0.9141	52.91	50	6
n-Hexane	0.4200	0.4607	54.84	50	10
# 1,1-Dichloroethane	0.5137	0.5720	55.67	50	11 #
2-Chloro-1,3-Butadiene	0.4194	0.4754	56.67	50	13
di-Isopropyl Ether	1.0370	1.1297	54.47	50	9
Ethyl t-Butyl Ether	0.9023	1.0125	56.11	50	12
cis-1,2-Dichloroethene	0.2926	0.3142	53.69	50	7
1,2-Dichloroethene (total)	0.2785	0.2996	107.60	100	8
2,2-Dichloropropane	0.3920	0.4331	55.24	50	10
2-Butanone	0.1592	0.1343	84.36	100	-16
Propionitrile	1.2692	1.4982	295.11	250	18
Methacrylonitrile	0.1348	0.1245	115.42	125	-8
Bromochloromethane	0.1368	0.1597	58.35	50	17
Tetrahydrofuran	1.1981	1.4075	117.47	100	17

Minimum RRF for SPCC(=)0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

CSK01 B888

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date: 10/27/11 Time: 02:40
 Lab File ID: xc27c03.d Init. Calib. Date(s): 09/13/11 09/13/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.4660	0.5151	55.27	50	11 *
1,1,1-Trichloroethane	0.4379	0.4497	51.35	50	3
Cyclohexane	0.5091	0.5749	56.46	50	13
Cyclohexane(mz69)	0.1474	0.1670	56.64	50	13
Cyclohexane(mz84)	0.4108	0.4645	56.55	50	13
1,1-Dichloropropene	0.3692	0.3999	54.16	50	8
Carbon Tetrachloride	0.3218	0.3693	57.38	50	15
Benzene	1.1222	1.2238	54.53	50	9
Isobutyl Alcohol	0.4356	0.4760	682.98	625	9
1,2-Dichloroethane	0.3768	0.4107	54.50	50	9
1,2-Dichloroethane(mz98)	0.0354	0.0375	52.94	50	6 NTC
t-Amyl Methyl Ether	0.8174	0.9104	55.69	50	11
n-Heptane	0.4973	0.5150	51.77	50	4
n-Butanol	0.3320	0.3455	1300.65	1250	4
Trichloroethene	0.2817	0.2945	52.27	50	5
Methylcyclohexane	0.4588	0.5725	62.39	50	25 NTC
* 1,2-Dichloropropane	0.3213	0.3477	54.11	50	8 *
Dibromomethane	0.1713	0.1779	51.93	50	4
1,4-Dioxane	0.1118	0.1214	678.46	625	9
Methyl Methacrylate	0.2254	0.2205	48.90	50	-2
Bromodichloromethane	0.3506	0.3949	56.32	50	13
2-Nitropropane	0.0909	0.0826	90.92	100	-9
cis-1,3-Dichloropropene	0.4333	0.4845	55.91	50	12
4-Methyl-2-Pentanone	0.3788	0.3355	88.57	100	-11
* Toluene	1.0039	1.0936	54.47	50	9 *
trans-1,3-Dichloropropene	0.5597	0.6158	55.02	50	10
Ethyl Methacrylate	0.5721	0.5712	49.92	50	0
1,1,2-Trichloroethane	0.3787	0.3911	51.64	50	3
Tetrachloroethene	0.4464	0.4913	55.02	50	10
1,3-Dichloropropane	0.6644	0.7158	53.87	50	8
2-Hexanone	0.3819	0.3346	87.62	100	-12
Dibromochloromethane	0.3933	0.4390	55.82	50	12
1,2-Dibromoethane	0.3753	0.4064	54.15	50	8
# Chlorobenzene	1.1410	1.2406	54.37	50	9 #
1,1,1,2-Tetrachloroethane	0.3918	0.4500	57.43	50	15
* Ethylbenzene	1.7699	2.0374	57.56	50	15 *

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

G3K61. 8881

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date: 10/27/11 Time: 02:40
 Lab File ID: xc27c03.d Init. Calib. Date(s): 09/13/11 09/13/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====
m+p-Xylene	0.7446	0.8399	112.80	100	13
Xylene (Total)	0.7541	0.8479	168.67	150	12
o-Xylene	0.7732	0.8639	55.87	50	12
Styrene	1.1080	1.2780	57.67	50	15
# Bromoform	0.2884	0.3109	53.90	50	8 #
Isopropylbenzene	1.8548	2.1420	57.74	50	15
Cyclohexanone	0.4301	0.4202	610.57	625	-2
Bromobenzene	0.8542	0.9196	53.83	50	8
# 1,1,2,2-Tetrachloroethane	0.9726	0.9430	48.48	50	-3 #
1,2,3-Trichloropropane	0.2822	0.2692	47.70	50	-5
trans-1,4-Dichloro-2-Butene	0.2579	0.2736	132.57	125	6
n-Propylbenzene	3.5245	3.9573	56.14	50	12
2-Chlorotoluene	0.7673	0.8352	54.42	50	9
1,3,5-Trimethylbenzene	2.5985	2.9280	56.34	50	13
4-Chlorotoluene	0.8641	0.9263	53.59	50	7
tert-Butylbenzene	0.6497	0.7199	55.40	50	11
Pentachloroethane	0.5767	0.6027	52.25	50	5
1,2,4-Trimethylbenzene	2.7095	2.9785	54.96	50	10
sec-Butylbenzene	3.4431	3.8431	55.81	50	12
1,3-Dichlorobenzene	1.4766	1.5878	53.76	50	8
p-Isopropyltoluene	2.9784	3.3246	55.81	50	12
1,4-Dichlorobenzene	1.8249	1.9206	52.62	50	5
1,2,3-Trimethylbenzene	2.9665	3.1996	53.93	50	8
Benzyl Chloride	1.6753	1.7107	46.38	50	-7
1,2-Dichlorobenzene	1.7296	1.8284	52.86	50	6
n-Butylbenzene	1.5060	1.6334	54.23	50	8
1,3-Diethylbenzene	1.8379	1.9352	52.65	50	5
1,4-Diethylbenzene	1.9791	2.0624	52.10	50	4
1,2-Diethylbenzene	1.8124	1.8119	49.99	50	0
1,2-Dibromo-3-Chloropropane	0.2022	0.1861	46.00	50	-8
1,3,5-Trichlorobenzene	1.3963	1.4866	53.23	50	6
1,2,4-Trichlorobenzene	1.3318	1.3616	51.12	50	2
Hexachlorobutadiene	0.6776	0.7050	52.02	50	4
Naphthalene	3.3904	3.4068	50.24	50	0
1,2,3-Trichlorobenzene	1.2955	1.3705	52.90	50	6
2-Methylnaphthalene	2.3521	2.1806	46.35	50	-7

Minimum RRF for SECC(=)0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

65851 0062

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date: 10/27/11 Time: 02:40
 Lab File ID: xc27c03.d Init. Calib. Date(s): 09/13/11 09/13/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dibromofluoromethane	0.2329	0.2351	50.48	50	1
Dibromofluoromethane (mz111)	0.2372	0.2408	50.75	50	2
1,2-Dichloroethane-d4	0.0592	0.0558	47.15	50	-6
1,2-Dichloroethane-d4 (mz104)	0.0376	0.0359	47.70	50	-5
1,2-Dichloroethane-d4 (mz65)	0.2688	0.2649	49.27	50	-1
Toluene-d8	1.3717	1.4133	51.52	50	3
Toluene-d8 (mz100)	0.9272	0.9480	51.12	50	2
4-Bromofluorobenzene	0.4791	0.4846	50.57	50	1
4-Bromofluorobenzene (mz174)	0.4651	0.4655	50.04	50	0

Average %Drift 9

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

CSK81 8863

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP09193.i/11sep13a.b/xs13i06.d
/chem2/HP09193.i/11sep13a.b/xs13i05.d
/chem2/HP09193.i/11sep13a.b/xs13i04.d
/chem2/HP09193.i/11sep13a.b/xs13i03.d
/chem2/HP09193.i/11sep13a.b/xs13i02.d
/chem2/HP09193.i/11sep13a.b/xs13i01.d

File /chem2/HP09193.i/11sep13a.b/xs13i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09193.i/11oct27a.b/xc27c03.d

RT Summary

File ID:

=====

Internal Standard Name	xc27c03.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	3.690	3.684	Yes
Fluorobenzene	7.145	7.152	Yes
Chlorobenzene-d5	10.765	10.765	Yes
1,4-Dichlorobenzene-d4	12.681	12.682	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	xc27c03.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	170791	277020	138510	554040	Yes
Fluorobenzene	1258094	1389406	694703	2778812	Yes
Chlorobenzene-d5	872883	977131	488566	1954262	Yes
1,4-Dichlorobenzene-d4	538873	587521	293760	1175042	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

GSK01 8864

Comments: _____

report generated on 10/27/2011 at 03:23

CSK01 0005.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK01
 Lab File ID (Standard): xc27c03.d Date Analyzed: 10/27/11
 Instrument ID: HP09193 Time Analyzed: 02:40
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

		IS1(FBZ)		IS2(CBZ)		IS3(DCB)		IS4(TBA)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====		=====	=====	=====	=====	=====	=====	=====	=====
	12 HOUR STD	1258094	7.145	872883	10.765	538873	12.681	170791	3.690
	UPPER LIMIT	2516188	7.645	1745766	11.265	1077746	13.181	341582	4.190
	LOWER LIMIT	629047	6.645	436442	10.265	269436	12.181	85396	3.190
=====		=====	=====	=====	=====	=====	=====	=====	=====
	LAB SAMPLE ID								
=====		=====	=====	=====	=====	=====	=====	=====	=====
01	VBLKX50	1192666	7.145	872349	10.765	488404	12.681	166981	3.684
02	LCSX50	1288254	7.139	878026	10.765	527936	12.682	201209	3.690
03	LCS1X150	1251434	7.139	928219	10.765	501848	12.682	159988	3.678
04	LCD1X150	1191939	7.146	865406	10.765	465853	12.682	162005	3.678
05	6446116	1183844	7.145	866836	10.765	468436	12.682	184030	3.684
06	6446117MS	1249696	7.139	843453	10.765	502858	12.682	211917	3.678
07	6446118MSD	1244014	7.146	838304	10.765	498638	12.682	270237	3.678
08	6446113	1197477	7.145	854023	10.765	432778	12.681	227860	3.678
09	6446114	1140713	7.145	803489	10.765	356412	12.688	216892	3.684
10	6446115	1102416	7.145	758920	10.765	287403	12.688	186278	3.678
11	6446867RE	1101862	7.145	657413	10.771	215755 *	12.687	190790	3.672
12	6446872	1093200	7.151	724641	10.771	290148	12.687	191081	3.684
13	6448134	1121327	7.146	827285	10.765	404698	12.682	200081	3.672
14	6448135	1113549	7.139	803211	10.765	375972	12.682	196177	3.672
15	6448136	1110552	7.145	799397	10.765	409597	12.682	213198	3.684
16	6448137	1079573	7.145	692393	10.765	233288 *	12.688	190902	3.678
17	6448138	1082142	7.145	701351	10.765	264118 *	12.688	216729	3.672
18	6448265	1038631	7.145	781299	10.765	421367	12.681	158055	3.666
19	6448266	1084884	7.145	777074	10.771	425960	12.682	161896	3.672
20	6442947	828735	7.139	555916	10.771	201675 *	12.688	144959	3.660
21	6449010	1019014	7.152	697847	10.771	279795	12.688	178472	3.684
22	6448137RE	1028154	7.145	643433	10.771	205516 *	12.688	148940	3.684

not in SDG

Not in SDG

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

GSK01 8872

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK01
 Lab File ID (Standard): xc27c03.d Date Analyzed: 10/27/11
 Instrument ID: HP09193 Time Analyzed: 02:40
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(FBZ)		IS2(CBZ)		IS3(DCB)		IS4(TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1258094	7.145	872883	10.765	538873	12.681	170791	3.690
UPPER LIMIT	2516188	7.645	1745766	11.265	1077746	13.181	341582	4.190
LOWER LIMIT	629047	6.645	436442	10.265	269436	12.181	85396	3.190
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
23 6448138RE	1030454	7.145	694217	10.771	243696 *	12.688	172982	3.690
24 6442947RE	795183	7.145	561243	10.771	193031 *	12.688	127121	3.666
25 6447792	1141428	7.145	892101	10.765	519832	12.681		

Not in
SDG

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.



Quality Control Summary
 Surrogates
 GC/MS Volatiles
 SDG: GSK01
 Matrix: LIQUID

Fraction: Volatiles by GC/MS

Y113011AA Sample	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKY68	105	80 - 116	101	77 - 113	99	80 - 113	97	78 - 113
LCSY68	103	80 - 116	101	77 - 113	100	80 - 113	103	78 - 113
LCDY68	103	80 - 116	104	77 - 113	100	80 - 113	104	78 - 113
6448139	109	80 - 116	103	77 - 113	97	80 - 113	96	78 - 113

GSK01.0003



Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: GSK01
Matrix: LIQUID

Fraction: Volatiles by GC/MS

Y113011AA / VBLKY68 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	10/28/11	N.D.	ug/l	2	5
Chloromethane	10/28/11	N.D.	ug/l	1	5
Vinyl Chloride	10/28/11	N.D.	ug/l	1	5
Bromomethane	10/28/11	N.D.	ug/l	1	5
Chloroethane	10/28/11	N.D.	ug/l	1	5
Freon 123a	10/28/11	N.D.	ug/l	2	5
Freon 113	10/28/11	N.D.	ug/l	2	10
Trichlorofluoromethane	10/28/11	N.D.	ug/l	2	5
1,1-Dichloroethene	10/28/11	N.D.	ug/l	0.8	5
Ethylbenzene	10/28/11	N.D.	ug/l	0.8	5
1,1,1,2-Tetrachloroethane	10/28/11	N.D.	ug/l	1	5
Methylene Chloride	10/28/11	N.D.	ug/l	2	5
Bromoform	10/28/11	N.D.	ug/l	1	5
1,1-Dichloroethane	10/28/11	N.D.	ug/l	1	5
1,1,2,2-Tetrachloroethane	10/28/11	N.D.	ug/l	1	5
Bromobenzene	10/28/11	N.D.	ug/l	1	5
1,2-Dichloroethene (Total)	10/28/11	N.D.	ug/l	0.8	5
1,2,3-Trichloropropane	10/28/11	N.D.	ug/l	1	5
Chloroform	10/28/11	N.D.	ug/l	0.8	5
2-Chlorotoluene	10/28/11	N.D.	ug/l	1	5
1,1,1-Trichloroethane	10/28/11	N.D.	ug/l	0.8	5
4-Chlorotoluene	10/28/11	N.D.	ug/l	1	5
Benzene	10/28/11	N.D.	ug/l	0.5	5
Carbon Tetrachloride	10/28/11	N.D.	ug/l	1	5
1,2-Dichloroethane	10/28/11	N.D.	ug/l	1	5
Trichloroethene	10/28/11	N.D.	ug/l	1	5
1,2-Dichloropropane	10/28/11	N.D.	ug/l	1	5
Dibromomethane	10/28/11	N.D.	ug/l	1	5
Bromodichloromethane	10/28/11	N.D.	ug/l	1	5
1,3-Dichlorobenzene	10/28/11	N.D.	ug/l	1	5
cis-1,3-Dichloropropene	10/28/11	N.D.	ug/l	1	5
1,4-Dichlorobenzene	10/28/11	N.D.	ug/l	1	5
Toluene	10/28/11	N.D.	ug/l	0.7	5
trans-1,3-Dichloropropene	10/28/11	N.D.	ug/l	1	5
Benzyl Chloride	10/28/11	N.D.	ug/l	1	5
1,2-Dichlorobenzene	10/28/11	N.D.	ug/l	1	5
1,1,2-Trichloroethane	10/28/11	N.D.	ug/l	0.8	5
Tetrachloroethene	10/28/11	N.D.	ug/l	0.8	5
Dibromochloromethane	10/28/11	N.D.	ug/l	1	5
Chlorobenzene	10/28/11	N.D.	ug/l	0.8	5
Xylene (Total)	10/28/11	N.D.	ug/l	0.8	5

GSK01 0029



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK01
Matrix: LIQUID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSY68 LCSD: LCDY68 Analyte	Batch: Y113011AA (Sample number(s): 6448139)							
	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	18.17	17.36	91	87	47-120	5	30
Chloromethane	20	18.5	18.14	93	91	60-129	2	30
Vinyl Chloride	20	18.55	18.04	93	90	65-125	3	30
Bromomethane	20	16.24	15.71	81	79	44-120	3	30
Chloroethane	20	14.92	14.24	75	71	49-129	5	30
Freon 123a	20	18.99	17.76	95	89	63-125	7	30
Freon 113	20	20.7	19.79	104	99	69-128	5	30
Trichlorofluoromethane	20	21.52	20.22	108	101	64-129	6	30
1,1-Dichloroethene	20	19.07	18.41	95	92	74-123	4	30
1,1,1,2-Tetrachloroethane	20	19.67	19.26	98	96	80-120	2	30
Ethylbenzene	20	19.29	18.84	96	94	79-120	2	30
Methylene Chloride	20	19.38	18.94	97	95	80-120	2	30
1,1-Dichloroethane	20	19.52	19.02	98	95	79-120	3	30
Bromoform	20	20.13	19.86	101	99	61-120	1	30
1,1,2,2-Tetrachloroethane	20	20.43	20.23	102	101	71-120	1	30
Bromobenzene	20	18.98	18.44	95	92	80-120	3	30
1,2-Dichloroethene (Total)	40	36.6	36.15	91	90	80-120	1	30
1,2,3-Trichloropropane	20	22.46	22.64	112	113	80-120	1	30
2-Chlorotoluene	20	19.12	18.92	96	95	80-120	1	30
Chloroform	20	20.13	19.83	101	99	77-122	1	30
1,1,1-Trichloroethane	20	20.4	20.12	102	101	75-127	1	30
4-Chlorotoluene	20	19.29	18.66	96	93	80-120	3	30
1,2-Dichloroethane	20	22.26	21.78	111	109	70-130	2	30
Benzene	20	18.89	18.35	94	92	79-120	3	30
Carbon Tetrachloride	20	21.4	20.51	107	103	75-123	4	30
Trichloroethene	20	19.45	19.18	97	96	80-120	1	30
1,2-Dichloropropane	20	19	18.52	95	93	78-120	3	30
Dibromomethane	20	20.2	19.95	101	100	80-120	1	30
1,3-Dichlorobenzene	20	19.24	18.64	96	93	80-120	3	30
Bromodichloromethane	20	20.02	19.65	100	98	80-120	2	30
cis-1,3-Dichloropropene	20	18.93	18.85	95	94	80-120	0	30
1,4-Dichlorobenzene	20	19.23	18.9	96	95	80-120	2	30
Toluene	20	18.7	18.12	94	91	79-120	3	30
trans-1,3-Dichloropropene	20	19.66	19.44	98	97	79-120	1	30
1,1,2-Trichloroethane	20	19.3	19.33	96	97	80-120	0	30
1,2-Dichlorobenzene	20	19.55	18.93	98	95	80-120	3	30
Benzyl Chloride	20	20.89	20.94	104	105	69-120	0	30
Tetrachloroethene	20	19.68	19.35	98	97	80-121	2	30
Dibromochloromethane	20	19.58	19.03	98	95	80-120	3	30
Chlorobenzene	20	19.25	18.74	96	94	80-120	3	30
Xylene (Total)	60	56.66	55.42	94	92	80-120	2	30

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK01____
Lab File ID: ys27t05.d BFB Injection Date: 09/27/11
Instrument ID: HP09355 BFB Injection Time: 15:00
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.86
75	30.0 - 60.0% of mass 95	46.48
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.73
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.77
175	5.0 - 9.0% of mass 174	6.28 (7.50)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.42 (97.20)1
177	5.0 - 9.0% of mass 176	5.29 (6.50)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	ys27i01.d	09/27/11	15:19
02	VSTD100	ys27i02.d	09/27/11	15:40
03	VSTD50	ys27i03.d	09/27/11	16:01
04	VSTD20	ys27i04.d	09/27/11	16:21
05	VSTD10	ys27i05.d	09/27/11	16:42
06	VSTD4	ys27i06.d	09/27/11	17:13
07	MDL001 - MDL001	ys27m01.d	09/27/11	17:33
08	VBLKY22	ys27b01.d	09/27/11	17:54
09	LCSY22	ys27l01.d	09/27/11	18:23
10	6416425	ys27s01.d	09/27/11	19:06
11	6416425MS	ys27s02.d	09/27/11	19:27
12	6416425MSD	ys27s03.d	09/27/11	19:48
13	6416426	ys27s04.d	09/27/11	20:08
14	6416427	ys27s05.d	09/27/11	20:29
15	6416427DL2	ys27s25.d	09/27/11	21:10
16	6416427DL	ys27s28.d	09/27/11	21:52
17	6416429	ys27s27.d	09/27/11	22:33
18	6416430	ys27s07.d	09/27/11	22:53
19	6416433	ys27s08.d	09/27/11	23:14
20	6416433DL	ys27s09.d	09/27/11	23:34
21	6416432DL	ys27s10.d	09/27/11	23:55
22	6416428	ys27s12.d	09/28/11	00:36

GSK01 0837

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK01____
Lab File ID: ys27t05.d BFB Injection Date: 09/27/11
Instrument ID: HP09355 BFB Injection Time: 15:00
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.86
75	30.0 - 60.0% of mass 95	46.48
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.73
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.77
175	5.0 - 9.0% of mass 174	6.28 (7.50)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.42 (97.20)1
177	5.0 - 9.0% of mass 176	5.29 (6.50)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6416428DL	ys27s13.d	09/28/11	00:57
24	6416431	ys27s14.d	09/28/11	01:18
25	6416431DL	ys27s15.d	09/28/11	01:38
26	6415940	ys27s16.d	09/28/11	01:59
27	6415937	ys27s17.d	09/28/11	02:20
28	6415937DL	ys27s18.d	09/28/11	02:41

GSK01 0838

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09355 Calibration Date(s): 09/27/11 09/27/11
Heated Purge: (Y/N) Y Calibration Times: 15:19 17:13
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID:	RRF 4 = ys27i06.d	RRF 10= ys27i05.d	RRF 20= ys27i04.d	RRF 50= ys27i03.d	RRF100= ys27i02.d	RRF300= ys27i01.d	RRF =	RRF	% RSD	CAL. METHOD
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.4848	0.4759	0.4492	0.4372	0.4315	0.3886		0.4445	8	AVG
Chloromethane	#0.5003	0.4566	0.4450	0.4480	0.4351	0.3695		0.4424	10	AVG
Vinyl Chloride	*0.4715	0.4400	0.4325	0.4337	0.4212	0.3655		0.4274	8	AVG
1,3-Butadiene	0.3671	0.2985	0.2813	0.2727	0.2686			0.2976	14	AVG
Bromomethane	0.3046	0.2860	0.2776	0.2742	0.2551	0.2249		0.2704	10	AVG
Chloroethane	0.2595	0.2411	0.2365	0.2290	0.2107	0.1741		0.2251	13	AVG
Dichlorofluoromethane	0.6078	0.5624	0.5544	0.5640	0.5234	0.4706		0.5471	8	AVG
Trichlorofluoromethane	0.5070	0.4784	0.4671	0.4558	0.4445	0.4175		0.4617	7	AVG
Ethyl Ether	0.2933	0.2848	0.2733	0.2745	0.2542	0.2300		0.2684	9	AVG
Freon 123a	0.3759	0.3468	0.3491	0.3522	0.3298	0.2846		0.3397	9	AVG
Acrolein	1.5699	2.1961	2.0952	1.9939	2.0923	2.0666		2.0023	11	AVG
1,1-Dichloroethene	*0.2615	0.2555	0.2586	0.2621	0.2537	0.2366		0.2547	4	AVG
Freon 113	0.2652	0.2546	0.2606	0.2615	0.2652	0.2535		0.2601	2	AVG
Acetone	0.0501	0.0465	0.0415	0.0388	0.0372	0.0350		0.0415	14	AVG
Methyl Iodide	0.4774	0.4721	0.4759	0.4795	0.4647	0.4474		0.4695	3	AVG
2-Propanol	0.4759	0.6344	0.6280	0.6920	0.6067	0.6632		0.6167	12	AVG
Carbon Disulfide	0.7851	0.7733	0.8138	0.8397	0.8158	0.7686		0.7994	4	AVG
Allyl Chloride	0.4929	0.4197	0.4144	0.4405	0.4169	0.3641		0.4247	10	AVG
Methyl Acetate	0.3706	0.3389	0.3120	0.3095	0.3212	0.2655		0.3196	11	AVG
Methylene Chloride	0.3406	0.3256	0.3196	0.3227	0.3101	0.2758		0.3157	7	AVG
t-Butyl Alcohol	0.7730	1.0684	1.0413	1.0790	0.9245	1.0438		0.9883	12	AVG
Acrylonitrile	0.2017	0.1996	0.1896	0.1845	0.1739	0.1739		0.1872	6	AVG
trans-1,2-Dichloroethene	0.3103	0.3075	0.3068	0.3128	0.2987	0.2896		0.3043	3	AVG
Methyl Tertiary Butyl Ether	1.0398	1.0171	1.0023	1.0135	0.9765	0.9429		0.9987	3	AVG
n-Hexane	0.5097	0.4736	0.5055	0.4810	0.4965	0.4836		0.4916	3	AVG
1,2-Dichloroethene (total)	0.3255	0.3224	0.3219	0.3258	0.3133	0.3052		0.3190	3	AVG
1,1-Dichloroethane	#0.5818	0.5711	0.5812	0.5854	0.5614	0.5449		0.5710	3	AVG
di-Isopropyl Ether	1.1454	1.1145	1.1111	1.1087	1.0639	1.0149		1.0931	4	AVG
2-Chloro-1,3-Butadiene	0.4749	0.4638	0.4840	0.5010	0.4803	0.4677		0.4786	3	AVG
Ethyl t-Butyl Ether	1.0905	1.0745	1.0626	1.0751	1.0322	0.9899		1.0541	4	AVG
cis-1,2-Dichloroethene	0.3406	0.3372	0.3369	0.3389	0.3279	0.3208		0.3337	2	AVG
2-Butanone	0.2414	0.2440	0.2247	0.2227	0.2149	0.2190		0.2278	5	AVG
2,2-Dichloropropane	0.3959	0.3973	0.4147	0.4266	0.4173	0.4121		0.4106	3	AVG
Propionitrile	1.4227	1.8339	1.8154	1.8144	1.8587	2.0471		1.7987	11	AVG
Methacrylonitrile	0.1936	0.1836	0.1826	0.1835	0.1783	0.1814		0.1838	3	AVG
Bromochloromethane	0.1620	0.1665	0.1650	0.1669	0.1603	0.1571		0.1630	2	AVG
Tetrahydrofuran	1.1799	1.6312	1.5676	1.5500	1.6105	1.8188		1.5597	13	AVG
Chloroform	*0.5181	0.5071	0.5108	0.5175	0.5006	0.4965		0.5084	2	AVG
1,1,1-Trichloroethane	0.5493	0.4801	0.4906	0.4694	0.4608	0.4636		0.4856	7	AVG
Cyclohexane	0.6039	0.5743	0.5864	0.5812	0.5953	0.5801		0.5869	2	AVG
Cyclohexane(mz 84)	0.4862	0.4626	0.4803	0.4725	0.4788	0.4724		0.4755	2	AVG
Cyclohexane(mz 69)	0.1761	0.1695	0.1787	0.1744	0.1792	0.1756		0.1756	2	AVG
1,1-Dichloropropene	0.4269	0.4227	0.4280	0.4398	0.4308	0.4253		0.4289	1	AVG
Carbon Tetrachloride	0.3106	0.3216	0.3365	0.3553	0.3562	0.3658		0.3410	6	AVG
Isobutyl Alcohol	0.3088	0.3952	0.3834	0.3991	0.3775	0.4252		0.3815	10	AVG
Benzene	1.3194	1.2929	1.3119	1.3250	1.2845	1.2618		1.2993	2	AVG
1,2-Dichloroethane	0.4187	0.4246	0.4158	0.4233	0.4143	0.4202		0.4195	1	AVG
1,2-Dichloroethane(mz 98)	0.0379	0.0390	0.0402	0.0399	0.0399	0.0409		0.0397	3	AVG
t-Amyl Methyl Ether	0.9808	0.9696	0.9694	0.9875	0.9808	0.9560		0.9740	1	AVG
n-Heptane	0.5888	0.5168	0.5528	0.5103	0.5503	0.5345		0.5422	5	AVG
n-Butanol	0.2544	0.3422	0.3455	0.3789	0.3663	0.4014		0.3481	15	AVG
Trichloroethene	0.3127	0.3104	0.3175	0.3212	0.3145	0.3180		0.3157	1	AVG

Minimum RRF for SPEC(#)= 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum XRS for CCC(*) = 30%

ESK01 0050

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LAMCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date(s): 09/27/11 09/27/11
 Heated Purge: (Y/N) Y Calibration Times: 15:19 17:13
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .1B

LAB FILE ID: RRF 4 = ys27i06.d RRF 10 = ys27i05.d RRF 20 = ys27i04.d
 RRF 50 = ys27i03.d RRF100 = ys27i02.d RRF300 = ys27i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,2-Dichloropropane	0.3418	0.3409	0.3506	0.3560	0.3499	0.3464		0.3476	2	AVG
Methylcyclohexane(mz98)	0.2748	0.2658	0.2608	0.2624	0.2620	0.2601		0.2643	2	AVG
Methylcyclohexane	0.6364	0.6088	0.6022	0.5966	0.5955	0.5812		0.6035	3	AVG
Methyl Methacrylate	0.2721	0.2767	0.2787	0.2949	0.2944	0.3131		0.2883	5	AVG
Dibromomethane	0.1961	0.1960	0.1957	0.2015	0.1986	0.2059		0.1990	2	AVG
1,4-Dioxane	0.0929	0.1259	0.1214	0.1314	0.1293	0.1427		0.1239	14	AVG
Bromodichloromethane	0.3284	0.3338	0.3493	0.3724	0.3812	0.4013		0.3611	8	AVG
2-Nitropropane	0.0918	0.0972	0.0978	0.1019	0.1054	0.1118		0.1010	7	AVG
2-Chloroethyl Vinyl Ether	0.1885	0.1939	0.1992	0.2096	0.2014	0.2030		0.1993	4	AVG
cis-1,3-Dichloropropene	0.4261	0.4626	0.4844	0.5164	0.5161	0.5357		0.4902	8	AVG
4-Methyl-2-Pentanone	0.4603	0.4847	0.4717	0.4847	0.4944	0.4731		0.4781	3	AVG
Toluene	*1.1736	1.1173	1.1533	1.1751	1.1344	1.1255		1.1465	2	AVG
trans-1,3-Dichloropropene	0.5366	0.5791	0.6147	0.6603	0.6667	0.6964		0.6256	10	AVG
Ethyl Methacrylate	0.6174	0.6497	0.6706	0.7171	0.7127	0.7267		0.6824	6	AVG
1,1,2-Trichloroethane	0.4133	0.4137	0.4087	0.4205	0.4116	0.4182		0.4143	1	AVG
Tetrachloroethene	0.4700	0.4600	0.4791	0.4833	0.4781	0.4864		0.4762	2	AVG
1,3-Dichloropropene	0.7285	0.7221	0.7305	0.7414	0.7308	0.7418		0.7325	1	AVG
2-Hexanone	0.4663	0.4925	0.4808	0.5023	0.5215	0.4822		0.4909	4	AVG
Dibromochloromethane	0.3207	0.3447	0.3711	0.4085	0.4202	0.4491		0.3857	13	AVG
1,2-Dibromoethane	0.4179	0.4181	0.4147	0.4341	0.4282	0.4434		0.4261	3	AVG
Chlorobenzene	#1.2591	1.2386	1.2703	1.2801	1.2508	1.2482		1.2579	1	AVG
1,1,1,2-Tetrachloroethane	0.3644	0.3772	0.3936	0.4226	0.4183	0.4262		0.4004	6	AVG
Ethylbenzene	*2.1223	2.1078	2.1890	2.2335	2.1877	2.0776		2.1530	3	AVG
m,p-Xylene	0.8403	0.8364	0.8686	0.8829	0.8736	0.8384		0.8567	2	AVG
Xylene (Total)	0.8400	0.8402	0.8675	0.8856	0.8745	0.8419		0.8583	2	AVG
o-Xylene	0.8394	0.8479	0.8653	0.8909	0.8765	0.8490		0.8615	2	AVG
Styrene	1.2497	1.2970	1.3854	1.4475	1.4281	1.4011		1.3681	6	AVG
Bromoform	#0.2042	0.2222	0.2448	0.2837	0.2994			0.2509	16	1STDEG
Isopropylbenzene	2.1793	2.1669	2.2385	2.2707	2.2471	2.0128		2.1859	4	AVG
Cyclohexanone	0.3052	0.4398	0.4305	0.4549	0.4700	0.5263		0.4378	17	1STDEG
1,1,2,2-Tetrachloroethane	#1.1182	1.1304	1.1278	1.1531	1.0995	1.0884		1.1195	2	AVG
trans-1,4-Dichloro-2-Butene	0.3194	0.3149	0.3313	0.3386	0.3330	0.3377		0.3292	3	AVG
Bromobenzene	0.8970	0.8930	0.9241	0.9130	0.8896	0.8978		0.9024	1	AVG
1,2,3-Trichloropropane	0.3292	0.3241	0.3195	0.3240	0.3114	0.3136		0.3203	2	AVG
n-Propylbenzene	4.3719	4.3645	4.6155	4.5041	4.3404			4.4393	3	AVG
2-Chlorotoluene	0.8834	0.8894	0.8996	0.9113	0.8903	0.8718		0.8910	2	AVG
1,3,5-Trimethylbenzene	3.0708	3.0894	3.3042	3.2994	3.2204	2.8182		3.1337	6	AVG
4-Chlorotoluene	0.9303	0.9003	0.9442	0.9497	0.9222	0.8988		0.9243	2	AVG
tert-Butylbenzene	0.6772	0.6876	0.7297	0.7467	0.7401	0.7097		0.7152	4	AVG
Pentachloroethane	0.4531	0.4995	0.5348	0.5814	0.5622	0.5732		0.5340	9	AVG
1,2,4-Trimethylbenzene	3.1978	3.2498	3.3944	3.3976	3.3001	2.8949		3.2391	6	AVG
sec-Butylbenzene	3.9281	3.9485	4.2368	4.1431	4.1210	3.2970		3.9457	9	AVG
p-Isopropyltoluene	3.4371	3.4918	3.6873	3.6721	3.6279	3.0466		3.4938	7	AVG
1,3-Dichlorobenzene	1.8059	1.8061	1.8384	1.8409	1.7935	1.7361		1.8035	2	AVG
1,4-Dichlorobenzene	1.8823	1.8823	1.9026	1.9066	1.8576	1.7919		1.8706	2	AVG
1,2,3-Trimethylbenzene	3.3907	3.4800	3.5317	3.5606	3.3143	2.8021		3.3466	8	AVG
Benzyl Chloride	1.6603	1.8718	2.0304	2.2836	2.2946	2.2441		2.0642	13	AVG
1,3-Diethylbenzene	2.1021	2.1416	2.1906	2.2052	2.0955	1.8890		2.1040	5	AVG
1,4-Diethylbenzene	2.2690	2.2806	2.3160	2.3519	2.2441	1.9549		2.2360	6	AVG
n-Butylbenzene	1.8229	1.8073	1.9127	1.8593	1.8546	1.6208		1.8129	6	AVG
1,2-Dichlorobenzene	1.7991	1.8082	1.8265	1.8583	1.8327	1.6731		1.7997	4	AVG
1,2-Diethylbenzene	1.8742	1.8531	1.8874	1.9056	1.8139	1.6352		1.8282	5	AVG

Minimum RRF for SPCC(%) = 0.10
 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %RSD for CCC(%) = 30%

GSX01 0051

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09355 Calibration Date(s): 09/27/11 09/27/11
Heated Purge: (Y/N) Y Calibration Times: 15:19 17:13
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID: RRF 4 = ys27i06.d RRF 10= ys27i05.d RRF 20= ys27i04.d
RRF 50= ys27i03.d RRF100= ys27i02.d RRF300= ys27i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,2-Dibromo-3-Chloropropane	0.2130	0.2184	0.2278	0.2471	0.2451	0.2465		0.2330	7	AVG
1,3,5-Trichlorobenzene	1.4749	1.4627	1.4776	1.4595	1.4526	1.3363		1.4439	4	AVG
1,2,4-Trichlorobenzene	1.3648	1.3727	1.3986	1.3799	1.3605	1.2228		1.3499	5	AVG
Hexachlorobutadiene	0.6315	0.6252	0.6592	0.6349	0.6611	0.5824		0.6324	5	AVG
Naphthalene	4.1788	4.2600	4.2757	4.3813	4.1892			4.2570	2	AVG
1,2,3-Trichlorobenzene	1.3813	1.3637	1.3649	1.3759	1.3425	1.1810		1.3349	6	AVG
2-Methylnaphthalene	2.4112	2.6066	2.6365	2.7599	2.5297	1.9710		2.4858	11	AVG
Dibromofluoromethane	0.2240	0.2235	0.2232	0.2224	0.2201	0.2210		0.2224	1	AVG
Dibromofluoromethane(mz111)	0.2263	0.2282	0.2283	0.2265	0.2267	0.2261		0.2270	0	AVG
1,2-Dichloroethane-d4	0.0602	0.0615	0.0603	0.0616	0.0616	0.0592		0.0607	2	AVG
1,2-Dichloroethane-d4(mz104)	0.0386	0.0392	0.0379	0.0386	0.0380	0.0380		0.0384	1	AVG
Toluene-d8(mz100)	0.9109	0.9119	0.9093	0.9163	0.9331	0.9605		0.9237	2	AVG
1,2-Dichloroethane-d4(mz65)	0.2802	0.2821	0.2799	0.2879	0.2920	0.2816		0.2839	2	AVG
4-Bromofluorobenzene(mz174)	0.4200	0.4191	0.4138	0.4152	0.4148	0.4126		0.4159	1	AVG
Toluene-d8	1.4000	1.3984	1.4031	1.4017	1.3957	1.3864		1.3975	0	AVG
4-Bromofluorobenzene	0.5083	0.5104	0.5039	0.5006	0.5016	0.4997		0.5041	1	AVG

Average %RSD 5

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

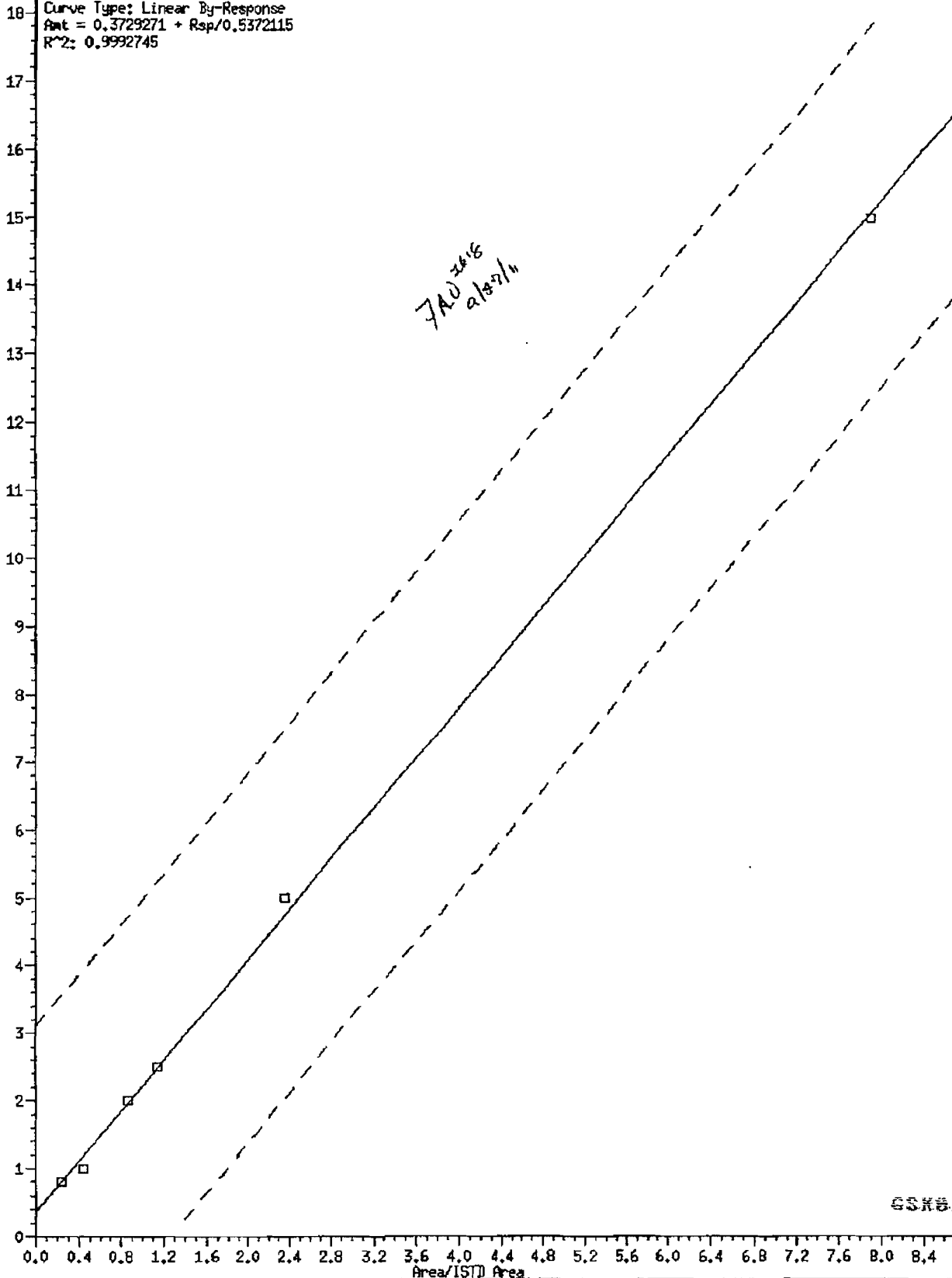
GSX81 8852

118 Cyclohexanone

Curve Type: Linear By-Response
 $\text{Amt} = 0.3729271 + \text{Rsp}/0.5372115$
 $R^2: 0.9992745$

*7AD 3418
2/18/14*

Amount/ISTD Amount

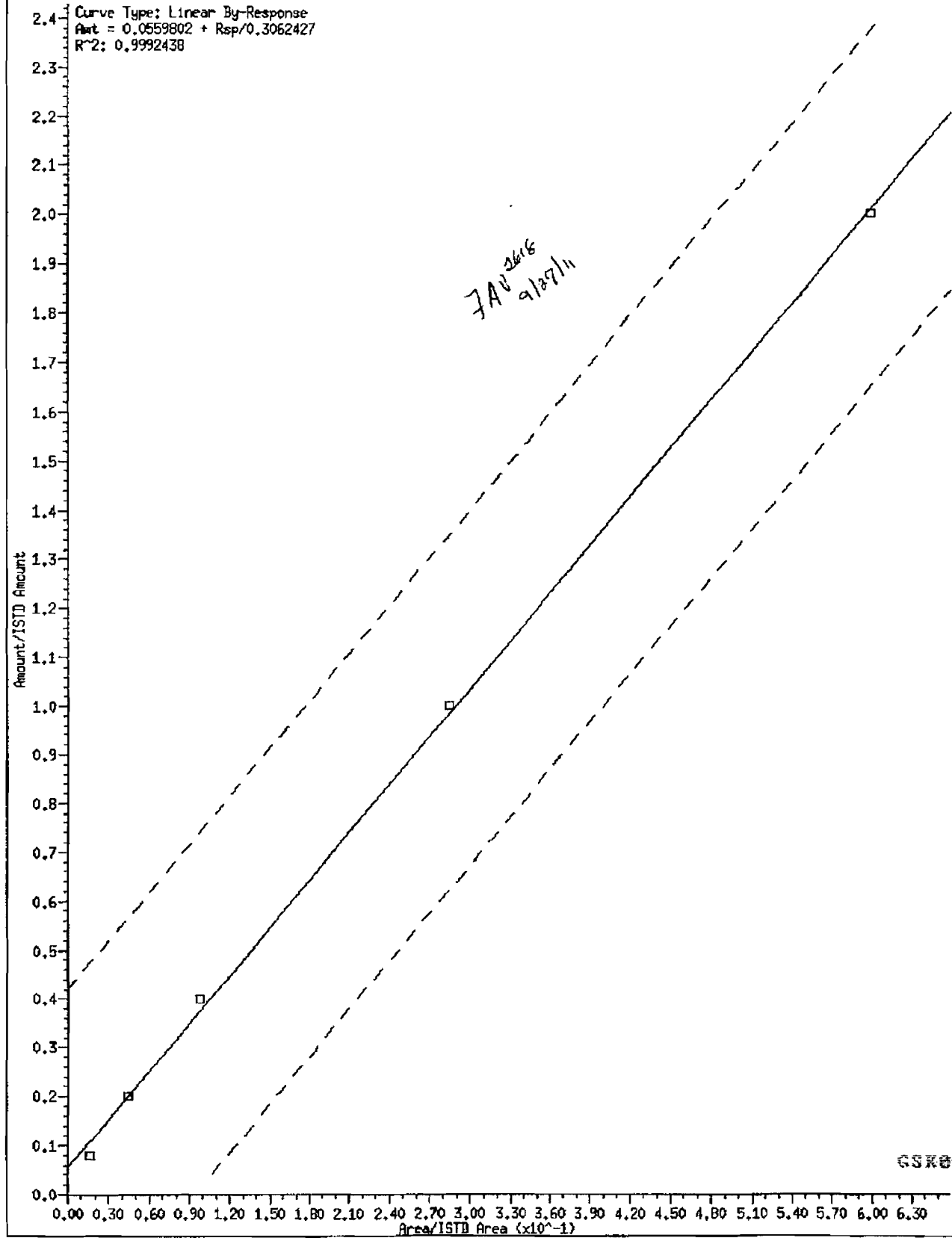


GSK01 0053

115 Bromoform

Curve Type: Linear By-Response
Amt = 0.0559802 + Rsp/0.3062427
R²: 0.9992438

7A03616
9/29/11



CSK01 0054

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP09355.i/11sep27c.b/ys27i01.d VSTD300
/chem2/HP09355.i/11sep27c.b/ys27i02.d VSTD100
/chem2/HP09355.i/11sep27c.b/ys27i03.d VSTD050
/chem2/HP09355.i/11sep27c.b/ys27i04.d VSTD020
/chem2/HP09355.i/11sep27c.b/ys27i05.d VSTD010
/chem2/HP09355.i/11sep27c.b/ys27i06.d VSTD004

Area Summary

File ID:

=====

Internal Standard Name	ys27i01.d	ys27i02.d	ys27i03.d	ys27i04.d	ys27i05.d	ys27i06.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	199673	219419	229779	233386	228536	300813	235268	15	Yes
Fluorobenzene	1206126	1215150	1185917	1214781	1174727	1132044	1188124	3	Yes
Chlorobenzene-d5	871442	860134	834610	853105	822003	787075	838062	4	Yes
1,4-Dichlorobenzene-d4	534501	520367	496993	498246	483668	472258	501006	5	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

=====

Internal Standard Name	ys27i01.d	ys27i02.d	ys27i03.d	ys27i04.d	ys27i05.d	ys27i06.d	Avg. RT
t-Butyl Alcohol-d10	2.133	2.139	2.145	2.127	2.151	2.145	2.140
Fluorobenzene	4.268	4.269	4.269	4.262	4.262	4.262	4.265
Chlorobenzene-d5	7.450	7.450	7.444	7.444	7.444	7.444	7.446
1,4-Dichlorobenzene-d4	9.445	9.440	9.440	9.439	9.440	9.440	9.441

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 09/27/2011 at 17:44.

GSX01 0055

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 09/27/11 Time: 18:23
 Lab File ID: ys27101.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4445	0.3825	17.21	20	-14
# Chloromethane	0.4424	0.4250	19.21	20	-4 #
* Vinyl Chloride	0.4274	0.4180	19.56	20	-2 *
1,3-Butadiene	0.2976	0.2712	18.22	20	-9
Bromomethane	0.2704	0.2553	18.88	20	-6
Chloroethane	0.2251	0.2088	18.55	20	-7
Dichlorofluoromethane	0.5471	0.5016	18.34	20	-8
Trichlorofluoromethane	0.4617	0.4599	19.92	20	0
Ethyl Ether	0.2684	0.2222	16.56	20	-17
Freon 123a	0.3397	0.3277	19.29	20	-4
Acrolein	2.0023	2.0445	153.16	150	2
* 1,1-Dichloroethene	0.2547	0.2736	21.48	20	7 *
Freon 113	0.2601	0.2837	21.82	20	9
Acetone	0.0415	0.0369	133.41	150	-11
Methyl Iodide	0.4695	0.4919	20.95	20	5
2-Propanol	0.6167	0.6333	154.05	150	3
Carbon Disulfide	0.7994	0.8061	20.17	20	1
Allyl Chloride	0.4247	0.4190	19.73	20	-1
Methyl Acetate	0.3196	0.3498	21.89	20	9
Methylene Chloride	0.3157	0.3400	21.54	20	8
t-Butyl Alcohol	0.9883	1.0934	221.27	200	11
Acrylonitrile	0.1872	0.1752	93.61	100	-6
trans-1,2-Dichloroethene	0.3043	0.3234	21.26	20	6
Methyl Tertiary Butyl Ether	0.9987	1.0510	21.05	20	5
n-Hexane	0.4916	0.5137	20.90	20	4
1,2-Dichloroethene (total)	0.3190	0.3365	42.20	40	6
# 1,1-Dichloroethane	0.5710	0.5957	20.87	20	4 #
di-Isopropyl Ether	1.0931	1.1359	20.78	20	4
2-Chloro-1,3-Butadiene	0.4786	0.5186	21.67	20	8
Ethyl t-Butyl Ether	1.0541	1.1018	20.90	20	5
cis-1,2-Dichloroethene	0.3337	0.3495	20.95	20	5
2-Butanone	0.2278	0.2212	145.67	150	-3
2,2-Dichloropropane	0.4106	0.4220	20.55	20	3
Propionitrile	1.7987	1.9764	164.82	150	10
Methacrylonitrile	0.1838	0.1887	153.94	150	3
Bromochloromethane	0.1630	0.1677	20.58	20	3

Minimum RRF for SPCC(=)0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GS 881. 8856

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP09355 ICV Date: 09/27/11 Time: 18:23

Lab File ID: ys27101.d Init. Calib. Date(s): 09/27/11 09/27/11

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Tetrahydrofuran	1.5597	1.7285	110.82	100	11
* Chloroform	0.5084	0.5274	20.75	20	4 *
1,1,1-Trichloroethane	0.4856	0.5021	20.68	20	3
Cyclohexane	0.5869	0.6311	21.51	20	8
1,1-Dichloropropene	0.4289	0.4518	21.07	20	5
Carbon Tetrachloride	0.3410	0.3510	20.59	20	3
Isobutyl Alcohol	0.3815	0.3996	523.69	500	5
Benzene	1.2993	1.3768	21.19	20	6
1,2-Dichloroethane	0.4195	0.4278	20.40	20	2
t-Amyl Methyl Ether	0.9740	1.0062	20.66	20	3
n-Heptane	0.5422	0.5368	19.80	20	-1
n-Butanol	0.3481	0.3624	1041.06	1000	4
Trichloroethene	0.3157	0.3258	20.64	20	3
* 1,2-Dichloropropane	0.3476	0.3546	20.41	20	2 *
Methylcyclohexane	0.6035	0.6273	20.79	20	4
Methyl Methacrylate	0.2883	0.3001	20.82	20	4
Dibromomethane	0.1990	0.2038	20.49	20	2
1,4-Dioxane	0.1239	0.1333	537.74	500	8
Bromodichloromethane	0.3611	0.3564	19.74	20	-1
2-Nitropropane	0.1010	0.0897	17.77	20	-11
2-Chloroethyl Vinyl Ether	0.1993	0.1934	19.41	20	-3
cis-1,3-Dichloropropene	0.4902	0.4836	19.73	20	-1
4-Methyl-2-Pentanone	0.4781	0.4776	99.89	100	0
* Toluene	1.1465	1.1955	20.85	20	4 *
trans-1,3-Dichloropropene	0.6256	0.6136	19.62	20	-2
Ethyl Methacrylate	0.6824	0.7564	22.17	20	11
1,1,2-Trichloroethane	0.4143	0.4284	20.68	20	3
Tetrachloroethene	0.4762	0.4992	20.97	20	5
1,3-Dichloropropane	0.7325	0.7526	20.55	20	3
2-Hexanone	0.4909	0.5001	101.87	100	2
Dibromochloromethane	0.3857	0.3708	19.23	20	-4
1,2-Dibromoethane	0.4261	0.4374	20.53	20	3
# Chlorobenzene	1.2579	1.3057	20.76	20	4 #
1,1,1,2-Tetrachloroethane	0.4004	0.4079	20.37	20	2
* Ethylbenzene	2.1530	2.2453	20.86	20	4 *
m+p-Xylene	0.8567	0.8953	41.80	40	5

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK81 8857

Maximum %Drift for CCC(*)=20%

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP09355 ICV Date: 09/27/11 Time: 18:23

Lab File ID: ys27101.d Init. Calib. Date(s): 09/27/11 09/27/11

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Xylene (Total)	0.8583	0.6274	62.66	60	4
o-Xylene	0.8615	0.8985	20.86	20	4
Styrene	1.3681	1.4263	20.85	20	4
# Bromoform	0.2509	0.2453	18.82	20	-6 #
Isopropylbenzene	2.1859	2.3150	21.18	20	6
Cyclohexanone	0.4378	0.4269	490.55	500	-2
# 1,1,2,2-Tetrachloroethane	1.1195	1.1184	19.98	20	0 #
trans-1,4-Dichloro-2-Butene	0.3292	0.3425	104.05	100	4
Bromobenzene	0.9024	0.9395	20.82	20	4
1,2,3-Trichloropropane	0.3203	0.3295	20.57	20	3
n-Propylbenzene	4.4393	4.6060	20.75	20	4
2-Chlorotoluene	0.8910	0.9089	20.40	20	2
1,3,5-Trimethylbenzene	3.1337	3.3407	21.32	20	7
4-Chlorotoluene	0.9243	0.9515	20.59	20	3
tert-Butylbenzene	0.7152	0.7404	20.70	20	4
Pentachloroethane	0.5340	0.5281	19.78	20	-1
1,2,4-Trimethylbenzene	3.2391	3.4399	21.24	20	6
sec-Butylbenzene	3.9457	4.2276	21.43	20	7
p-Isopropyltoluene	3.4938	3.7198	21.29	20	6
1,3-Dichlorobenzene	1.8035	1.8402	20.41	20	2
1,4-Dichlorobenzene	1.8706	1.9185	20.51	20	3
1,2,3-Trimethylbenzene	3.3466	3.5682	21.32	20	7
Benzyl Chloride	2.0642	2.3055	22.34	20	12
1,3-Diethylbenzene	2.1040	2.1824	20.75	20	4
1,4-Diethylbenzene	2.2360	2.2872	20.46	20	2
n-Butylbenzene	1.8129	1.8643	20.57	20	3
1,2-Dichlorobenzene	1.7997	1.8436	20.49	20	2
1,2-Diethylbenzene	1.8282	1.8700	20.46	20	2
1,2-Dibromo-3-Chloropropane	0.2330	0.2202	18.90	20	-5
1,3,5-Trichlorobenzene	1.4439	1.4460	20.03	20	0
1,2,4-Trichlorobenzene	1.3499	1.3237	19.61	20	-2
Hexachlorobutadiene	0.6324	0.5856	18.52	20	-7
Naphthalene	4.2570	4.0961	19.24	20	-4
1,2,3-Trichlorobenzene	1.3349	1.2883	19.30	20	-3
2-Methylnaphthalene	2.4858	2.3290	18.74	20	-6

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK01 8858

Maximum %Drift for CCC(*)=20%

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 09/27/11 Time: 18:23
 Lab File ID: ys27101.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====

Average %Drift 5

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK#1 8859
 Maximum %Drift for CCC(*)=20%

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK01____
Lab File ID: yc28t02.d BFB Injection Date: 10/28/11
Instrument ID: HP09355 BFB Injection Time: 12:20
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.08
75	30.0 - 60.0% of mass 95	49.58
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.15 (0.18)1
174	Greater than 50.0% of mass 95	81.05
175	5.0 - 9.0% of mass 174	5.88 (7.26)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.99 (98.70)1
177	5.0 - 9.0% of mass 176	5.43 (6.78)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	yc28c05.d	10/28/11	12:27
02	VSTD50	yc28c06.d	10/28/11	12:48
03	VBLKY68	yc28b02.d	10/28/11	13:08
04	LCSY68	yc28l02.d	10/28/11	13:52
05	LCDY68	yc28l03.d	10/28/11	14:13
06	LCS1Y68	yc28l04.d	10/28/11	14:33
07	LCD1Y68	yc28l05.d	10/28/11	14:54
08	6444157	yc28s01.d	10/28/11	15:46
09	6444158	yc28s02.d	10/28/11	16:07
10	6444159	yc28s03.d	10/28/11	16:28
11	6444160	yc28s04.d	10/28/11	16:49
12	6447189	yc28s05.d	10/28/11	17:09
13	6447191	yc28s07.d	10/28/11	17:51
14	6447192	yc28s08.d	10/28/11	18:11
15	6448139	yc28s09.d	10/28/11	18:32
16	6449991	yc28s10.d	10/28/11	18:52
17	6449995	yc28s11.d	10/28/11	19:13
18	6451493	yc28s12.d	10/28/11	19:34
19	6451502	yc28s13.d	10/28/11	19:55
20	6446120	yc28s14.d	10/28/11	20:16
21	6450590	yc28s15.d	10/28/11	20:36
22	6450591	yc28s16.d	10/28/11	20:57

GSK01 0039

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK01
 Lab File ID: yc28t02.d BFB Injection Date: 10/28/11
 Instrument ID: HP09355 BFB Injection Time: 12:20
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.08
75	30.0 - 60.0% of mass 95	49.58
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.15 (0.18)1
174	Greater than 50.0% of mass 95	81.05
175	5.0 - 9.0% of mass 174	5.88 (7.26)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.99 (98.70)1
177	5.0 - 9.0% of mass 176	5.43 (6.78)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6450807	yc28s17.d	10/28/11	21:17
24	6450808	yc28s18.d	10/28/11	21:38
25	6450809	yc28s19.d	10/28/11	21:59
26	6452158	yc28s20.d	10/28/11	22:19

GSK01 0040

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 10/28/11 Time: 12:27
 Lab File ID: yc28c05.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4445	0.4840	54.44	50	9
# Chloromethane	0.4424	0.4621	52.22	50	4 #
* Vinyl Chloride	0.4274	0.4278	50.05	50	0 *
Bromomethane	0.2704	0.2697	49.87	50	0
Chloroethane	0.2251	0.2250	49.97	50	0
Dichlorofluoromethane	0.5471	0.5290	48.34	50	-3
Trichlorofluoromethane	0.4617	0.5143	55.69	50	11
Ethyl Ether	0.2684	0.2548	47.48	50	-5
Freon 123a	0.3397	0.3141	46.22	50	-8
Acrolein	2.0023	1.2125	302.78	500	(-39) NTC
* 1,1-Dichloroethene	0.2547	0.2413	47.38	50	-5 *
Freon 113	0.2601	0.2700	51.90	50	4
Acetone	0.0415	0.0642	154.71	100	(55) NR
Methyl Iodide	0.4695	0.4552	48.48	50	-3
2-Propanol	0.6167	0.6796	275.49	250	10
Carbon Disulfide	0.7994	0.7839	49.03	50	-2
Allyl Chloride	0.4247	0.4901	57.70	50	15
Methyl Acetate	0.3196	0.4693	73.41	50	(47) NTC
Methylene Chloride	0.3157	0.2913	46.14	50	-8
t-Butyl Alcohol	0.9883	1.0943	276.81	250	11
Acrylonitrile	0.1872	0.2265	60.51	50	21
trans-1,2-Dichloroethene	0.3043	0.2763	45.40	50	-9
Methyl Tertiary Butyl Ether	0.9987	0.9853	49.33	50	-1
n-Hexane	0.4916	0.4417	44.93	50	-10
1,2-Dichloroethene (total)	0.3190	0.2914	91.31	100	-9
# 1,1-Dichloroethane	0.5710	0.5494	48.11	50	-4 #
di-Isopropyl Ether	1.0931	1.0124	46.31	50	-7
2-Chloro-1,3-Butadiene	0.4786	0.4764	49.77	50	0
Ethyl t-Butyl Ether	1.0541	0.9751	46.25	50	-8
cis-1,2-Dichloroethene	0.3337	0.3064	45.91	50	-8
2-Butanone	0.2278	0.3182	139.69	100	(40) NTC
2,2-Dichloropropane	0.4106	0.4378	53.31	50	7
Propionitrile	1.7987	1.2468	173.30	250	(-31) NTC
Methacrylonitrile	0.1838	0.2107	143.25	125	15
Bromochloromethane	0.1630	0.1592	48.83	50	-2
Tetrahydrofuran	1.5597	1.0694	68.56	100	-31

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

63881 0856

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 10/28/11 Time: 12:27
 Lab File ID: yc28c05.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.5084	0.5127	50.42	50	1 *
1,1,1-Trichloroethane	0.4856	0.4740	48.80	50	-2
Cyclohexane	0.5869	0.5361	45.67	50	-9
Cyclohexane(mz 84)	0.4755	0.4374	45.99	50	-8
Cyclohexane(mz 69)	0.1756	0.1597	45.47	50	-9
1,1-Dichloropropene	0.4289	0.4170	48.61	50	-3
Carbon Tetrachloride	0.3410	0.3784	55.48	50	11
Isobutyl Alcohol	0.3815	0.3762	616.24	625	-1
Benzene	1.2993	1.2002	46.19	50	-8
1,2-Dichloroethane	0.4195	0.4651	55.44	50	11
1,2-Dichloroethane(mz 98)	0.0397	0.0375	47.25	50	-5 NTC
t-Amyl Methyl Ether	0.9740	0.9048	46.45	50	-7
n-Heptane	0.5422	0.4852	44.74	50	-11
n-Butanol	0.3481	0.3202	1149.72	1250	-8
Trichloroethene	0.3157	0.3091	48.95	50	-2
* 1,2-Dichloropropane	0.3476	0.3302	47.50	50	-5 *
Methylcyclohexane(mz98)	0.2643	0.2478	46.87	50	-6
Methylcyclohexane	0.6035	0.5614	46.52	50	-7
Methyl Methacrylate	0.2883	0.3288	57.02	50	14
Dibromomethane	0.1990	0.2052	51.56	50	3
1,4-Dioxane	0.1239	0.0957	482.61	625	(-23) NTC
Bromodichloromethane	0.3611	0.3860	53.46	50	7
2-Nitropropane	0.1010	0.1453	143.87	100	44
2-Chloroethyl Vinyl Ether	0.1993	0.2433	61.03	50	22
cis-1,3-Dichloropropene	0.4902	0.4951	50.49	50	1
4-Methyl-2-Pentanone	0.4781	0.5960	124.66	100	25
* Toluene	1.1465	1.0495	45.77	50	-8 *
trans-1,3-Dichloropropene	0.6256	0.6619	52.90	50	6
Ethyl Methacrylate	0.6824	0.6706	49.14	50	-2
1,1,2-Trichloroethane	0.4143	0.4016	48.46	50	-3
Tetrachloroethene	0.4762	0.4623	48.54	50	-3
1,3-Dichloropropane	0.7325	0.7278	49.68	50	-1
2-Hexanone	0.4909	0.6441	131.20	100	31
Dibromochloromethane	0.3857	0.4153	53.83	50	8
1,2-Dibromoethane	0.4261	0.4302	50.48	50	1
# Chlorobenzene	1.2579	1.1947	47.49	50	-5 #

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK01 8857

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 10/28/11 Time: 12:27
 Lab File ID: yc28c05.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,1,1,2-Tetrachloroethane	0.4004	0.4124	51.49	50	3
* Ethylbenzene	2.1530	2.0919	48.58	50	-3 *
m+p-Xylene	0.8567	0.8177	95.44	100	-5
Xylene (Total)	0.8583	0.8169	142.76	150	-5
o-Xylene	0.8615	0.8153	47.32	50	-5
Styrene	1.3681	1.3302	48.61	50	-3
# Bromoform	0.2509	0.3119	53.72	50	7 #
Isopropylbenzene	2.1859	2.1520	49.22	50	-2
Cyclohexanone	0.4378	0.3625	514.95	625	-18
# 1,1,2,2-Tetrachloroethane	1.1195	1.1296	50.45	50	1 #
trans-1,4-Dichloro-2-Butene	0.3292	0.4123	156.56	125	(25) NT
Bromobenzene	0.9024	0.8384	46.45	50	-7
1,2,3-Trichloropropane	0.3203	0.3573	55.77	50	12
n-Propylbenzene	4.4393	4.1299	46.51	50	-7
2-Chlorotoluene	0.8910	0.8271	46.42	50	-7
1,3,5-Trimethylbenzene	3.1337	3.0717	49.01	50	-2
4-Chlorotoluene	0.9243	0.8799	47.60	50	-5
tert-Butylbenzene	0.7152	0.6735	47.09	50	-6
Pentachloroethane	0.5340	0.5244	49.10	50	-2
1,2,4-Trimethylbenzene	3.2391	3.1853	49.17	50	-2
sec-Butylbenzene	3.9457	3.8735	49.08	50	-2
p-Isopropyltoluene	3.4938	3.4758	49.74	50	-1
1,3-Dichlorobenzene	1.8035	1.7063	47.31	50	-5
1,4-Dichlorobenzene	1.8706	1.7709	47.34	50	-5
1,2,3-Trimethylbenzene	3.3466	3.2936	49.21	50	-2
Benzyl Chloride	2.0642	2.3651	57.29	50	15
1,3-Diethylbenzene	2.1040	2.0463	48.63	50	-3
1,4-Diethylbenzene	2.2360	2.1841	48.84	50	-2
n-Butylbenzene	1.8129	1.7761	48.98	50	-2
1,2-Dichlorobenzene	1.7997	1.7491	48.59	50	-3
1,2-Diethylbenzene	1.8282	1.7679	48.35	50	-3
1,2-Dibromo-3-Chloropropane	0.2330	0.3371	72.33	50	(45) NT
1,3,5-Trichlorobenzene	1.4439	1.3992	48.45	50	-3
1,2,4-Trichlorobenzene	1.3499	1.2992	48.12	50	-4
Hexachlorobutadiene	0.6324	0.5774	45.66	50	-9
Naphthalene	4.2570	4.5500	53.44	50	7

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(=)=20%

GSK01 5868

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 10/28/11 Time: 12:27
 Lab File ID: yc28c05.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,2,3-Trichlorobenzene	1.3349	1.2871	48.21	50	-4
2-Methylnaphthalene	2.4858	2.6762	53.83	50	8
Dibromofluoromethane	0.2224	0.2324	52.27	50	5
Dibromofluoromethane(mz111)	0.2270	0.2394	52.74	50	5
1,2-Dichloroethane-d4	0.0607	0.0647	53.25	50	6
1,2-Dichloroethane-d4(mz104)	0.0384	0.0385	50.09	50	0
1,2-Dichloroethane-d4(mz65)	0.2839	0.3300	58.11	50	16
Toluene-d8(mz100)	0.9237	0.8931	48.35	50	-3
4-Bromofluorobenzene(mz174)	0.4159	0.4237	50.94	50	2
Toluene-d8	1.3975	1.3844	49.53	50	-1
4-Bromofluorobenzene	0.5041	0.5146	51.04	50	2

Average %Drift 9

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

CSK01 8869

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

```

/chem2/HP09355.i/11sep27c.b/ys27i06.d
/chem2/HP09355.i/11sep27c.b/ys27i05.d
/chem2/HP09355.i/11sep27c.b/ys27i04.d
/chem2/HP09355.i/11sep27c.b/ys27i03.d
/chem2/HP09355.i/11sep27c.b/ys27i02.d
/chem2/HP09355.i/11sep27c.b/ys27i01.d

```

File /chem2/HP09355.i/11sep27c.b/ys27i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

```

/chem2/HP09355.i/11oct28b.b/yc28c05.d

```

RT Summary

File ID:

=====

Internal Standard Name	yc28c05.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	2.127	2.145	Yes
Fluorobenzene	4.262	4.269	Yes
Chlorobenzene-d5	7.438	7.444	Yes
1,4-Dichlorobenzene-d4	9.434	9.440	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	yc28c05.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	445809	229779	114890	459558	Yes
Fluorobenzene	1150787	1185917	592958	2371834	Yes
Chlorobenzene-d5	828579	834610	417305	1669220	Yes
1,4-Dichlorobenzene-d4	513699	496993	248496	993986	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

63X81 047A

Comments:

report generated on 10/28/2011 at 14:55

SSH01 0071

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK01____
 Lab File ID (Standard): yc28c05.d Date Analyzed: 10/28/11
 Instrument ID: HP09355 Time Analyzed: 12:27
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (FBZ)	RT #	IS2 (CBZ)	RT #	IS3 (DCB)	RT #	IS4 (TBA)	RT #
	AREA #		AREA #		AREA #		AREA #	
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1150787	4.262	828579	7.438	513699	9.434	445809	2.127
UPPER LIMIT	2301574	4.762	1657158	7.938	1027398	9.934	891618	2.627
LOWER LIMIT	575394	3.762	414290	6.938	256850	8.934	222904	1.627
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE								
ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
01 VBLKY68	1101294	4.256	774893	7.438	442255	9.440	382145	2.127
02 LCSY68	1072758	4.256	762296	7.438	461414	9.433	419812	2.133
03 LCDY68	1115772	4.256	794695	7.438	477286	9.434	447272	2.133
04 LCS1Y68	1109520	4.256	781321	7.438	444815	9.440	439613	2.127
05 LCD1Y68	1086173	4.262	766814	7.444	436293	9.439	414045	2.139
06 6444157	1061697	4.262	758753	7.444	441661	9.440	430051	2.133
07 6444158	1066756	4.256	756369	7.438	436650	9.440	406514	2.127
08 6444159	1037692	4.250	748523	7.438	431332	9.434	390415	2.127
09 6444160	1008377	4.256	722373	7.438	413470	9.434	387180	2.115
10 6447189	1008130	4.256	714397	7.444	414798	9.440	376856	2.121
11 6447191	951751	4.250	685384	7.438	402218	9.434	358268	2.115
12 6447192	933128	4.262	665027	7.438	387427	9.440	337916	2.133
13 6448139	959295	4.256	687740	7.438	400852	9.440	363206	2.121
14 6449991	925201	4.256	662266	7.444	387640	9.440	330906	2.127
15 6449995	900193	4.256	650337	7.444	379475	9.440	342827	2.127
16 6451493	909289	4.262	657225	7.444	386579	9.439	335671	2.127
17 6451502	891849	4.256	644644	7.438	373905	9.439	329366	2.127
18 6446120	872203	4.250	632177	7.438	368747	9.440	325632	2.121
19 6450590	887659	4.262	640345	7.444	376384	9.439		
20 6450591	881447	4.256	637201	7.438	376118	9.439		
21 6450807	846314	4.256	609650	7.444	357617	9.440		
22 6450808	846149	4.256	610536	7.438	356200	9.440		

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

GSK01 0074

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK01____
 Lab File ID (Standard): yc28c05.d Date Analyzed: 10/28/11
 Instrument ID: HP09355 Time Analyzed: 12:27
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1150787	4.262	828579	7.438	513699	9.434	445809	2.127
UPPER LIMIT	2301574	4.762	1657158	7.938	1027398	9.934	891618	2.627
LOWER LIMIT	575394	3.762	414290	6.938	256850	8.934	222904	1.627
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE								
ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
23 6450809	851427	4.262	614339	7.444	361760	9.439		
24 6452158	839343	4.262	605276	7.444	358467	9.439		

IS1 (FBZ)=Fluorobenzene UPPER LIMIT = + 100%
 IS2 (CBZ)=Chlorobenzene-d5 of internal standard area.
 IS3 (DCB)=1,4-Dichlorobenzene-d4 LOWER LIMIT = - 50%
 IS4 (TBA)=t-Butyl Alcohol-d10 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.
 page 2 of 2

FORM VIII VOA

GSK01 0075.

VOA Prep Summary by SDG: GSK01

21 - GC/MS Volatiles

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	% Moisture	Moisture vol (mL)	Final Extraction Vol (mL)	Problem Codes
6448134	169A	07578	11376058	N	10/24/11 13:50	10/25/11 14:16	28.89 g	33.85 g	4.96 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6448134	193A	08389	11375575	N	10/24/11 13:50	10/25/11 14:17	32.42 g	37.55 g	5.13 g	4.50 g - 5.50 g	Y	1128701	NaHSO4 (5 mL)	NA	NA	5.000	
6448134	193B	08389	11375569	Y	10/24/11 13:50	10/25/11 14:17	32.47 g	37.53 g	5.06 g	4.50 g - 5.50 g	Y	1128701	NaHSO4 (5 mL)	NA	NA	5.000	
6448135	169A	07578	11376051	N	10/24/11 14:06	10/25/11 14:18	28.90 g	34.40 g	5.50 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6448135	193A	08389	11375576	Y	10/24/11 14:06	10/25/11 14:18	32.72 g	38.44 g	5.72 g	4.50 g - 5.50 g	N	1128701	NaHSO4 (5 mL)	NA	NA	5.000	A
6448135	193B	08389	11375570	N	10/24/11 14:06	10/25/11 14:19	32.68 g	38.53 g	5.85 g	4.50 g - 5.50 g	N	1128701	NaHSO4 (5 mL)	NA	NA	5.000	A
6448136	169A	07578	11376059	N	10/24/11 14:22	10/25/11 14:20	28.98 g	33.92 g	4.94 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6448136	193A	08389	11375577	Y	10/24/11 14:22	10/25/11 14:20	32.52 g	37.40 g	4.88 g	4.50 g - 5.50 g	Y	1128701	NaHSO4 (5 mL)	NA	NA	5.000	
6448136	193B	08389	11375571	N	10/24/11 14:22	10/25/11 14:21	32.61 g	37.33 g	4.72 g	4.50 g - 5.50 g	Y	1128701	NaHSO4 (5 mL)	NA	NA	5.000	
6448137	169A	07578	11376039	N	10/24/11 15:23	10/25/11 14:22	28.87 g	34.28 g	5.41 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6448137	193A	08389	11375580	N	10/24/11 15:23	10/25/11 14:22	32.50 g	37.96 g	5.46 g	4.50 g - 5.50 g	Y	1128701	NaHSO4 (5 mL)	NA	NA	5.000	
6448137	193B	08389	11375581	Y	10/24/11 15:23	10/25/11 14:23	32.70 g	38.07 g	5.37 g	4.50 g - 5.50 g	Y	1128701	NaHSO4 (5 mL)	NA	NA	5.000	
6448138	169A	07578	11376038	N	10/24/11 15:35	10/25/11 14:25	28.94 g	34.40 g	5.46 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6448138	193A	08389	11375582	Y	10/24/11 15:35	10/25/11 14:26	32.61 g	38.01 g	5.40 g	4.50 g - 5.50 g	Y	1128701	NaHSO4 (5 mL)	NA	NA	5.000	
6448138	193B	08389	11375583	N	10/24/11 15:35	10/25/11 14:26	32.63 g	38.26 g	5.63 g	4.50 g - 5.50 g	N	1128701	NaHSO4 (5 mL)	NA	NA	5.000	A
6446116	169A	07578	11367289	N	10/19/11 16:00	10/21/11 10:53	29.07 g	34.67 g	5.60 g	4.50 g - 5.50 g	N	112352	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6446116	193A	08389	11375545	N	10/19/11 16:00	10/21/11 10:53	32.65 g	38.10 g	5.45 g	4.50 g - 5.50 g	Y	1128701	NaHSO4 (5 mL)	NA	NA	5.000	
6446116	193B	08389	11375551	Y	10/19/11 16:00	10/21/11 10:54	32.58 g	38.36 g	5.78 g	4.50 g - 5.50 g	N	1128701	NaHSO4 (5 mL)	NA	NA	5.000	A
6446117	169A	07578	11367290	N	10/19/11 16:00	10/21/11 10:55	29.32 g	34.97 g	5.65 g	4.50 g - 5.50 g	N	112352	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6446117	193A	08389	11375555	Y	10/19/11 16:00	10/21/11 10:55	32.37 g	38.18 g	5.81 g	4.50 g - 5.50 g	N	1128701	NaHSO4 (5 mL)	NA	NA	5.000	A
6446117	193B	08389	11375561	N	10/19/11 16:00	10/21/11 10:55	32.42 g	38.11 g	5.69 g	4.50 g - 5.50 g	N	1128701	NaHSO4 (5 mL)	NA	NA	5.000	A
6446118	169A	07578	11367291	N	10/19/11 16:00	10/21/11 10:57	29.30 g	35.02 g	5.72 g	4.50 g - 5.50 g	N	112352	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6446118	193A	08389	11375562	N	10/19/11 16:00	10/21/11 10:57	32.53 g	38.14 g	5.61 g	4.50 g - 5.50 g	N	1128701	NaHSO4 (5 mL)	NA	NA	5.000	A
6446118	193B	08389	11375556	Y	10/19/11 16:00	10/21/11 10:57	32.62 g	38.28 g	5.66 g	4.50 g - 5.50 g	N	1128701	NaHSO4 (5 mL)	NA	NA	5.000	A

Moisture Vol (mL) = $\frac{\text{Weight (g)} \times (\% \text{ moisture}/100)}{1000}$

Final Extraction Vol (mL) = Preservative Vol + Moisture Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements

B = vial leaked

C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)

D = sampler not full

E = effervescence observed

F = pH >= 2

G = headspace in container

Moisture Data



MOISTURE

CLIENT: Groundwater Science Co
SDG: GSK01

SAMPLE NUMBERS:

<u>Sample #</u>	<u>Sample Code</u>
6448134	7A511
6448135	7A611
6448136	7A211
6448137	7B211
6448138	7B131

COMMENTS:

Due to limitations of the data package software, Form I's are unavailable for wet chemistry data. Please refer to analysis reports for this information.

The moisture value calculation is:

$$\% \text{ moisture} = \frac{A - B}{C} \times 100$$

Where: A = weight of sample and container before drying
B = weight of sample and container after drying
C = weight of sample before drying

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>LCS</u> <u>%REC</u>	<u>LCSD</u> <u>%REC</u>	<u>LCS/LCSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 11301820001A					
Moisture	100		99-101		

Sample Matrix Quality Control

<u>Analysis Name</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 11301820001A				
Moisture	11.7	12.6	7	15

* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.

GSK01 0522



MOISTURE

CLIENT: Groundwater Science Co
SDG: GSK01

Moisture Data Report

Batch #: 11301820001

<u>Sample ID</u>	<u>Batch ID</u>	<u>Analysis#</u>	<u>Tare Wt</u>	<u>Sample Wt</u>	<u>Dry Wt</u>	<u>%Moisture</u>	<u>Analysis Date (Emp#)</u>	<u>Verified Date (Emp#)</u>
LCS 89.5% Std.			1.0975	5.0316	1.6434	89.15	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6448134	A	00111	1.0860	8.5228	8.4811	13.23	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6448135BKG	A	00111	1.0810	7.6550	7.8385	11.72	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6448135DUP	A	00111	1.1354	7.9032	8.0432	12.59	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6448136	A	00111	1.1154	5.9921	5.8309	21.30	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6448137	A	00111	1.0976	7.6435	7.5291	15.86	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6448138	A	00111	1.0819	6.8834	7.2971	9.71	10/28/11 (0943/LJC)	10/31/11 (0236/CW)

GSK01 8533

Analysis Report



Page 1 of 2

Sample Description: KTB110241024 Water
TechCity Surficial Soil

LLI Sample # WW 6448139
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011

Groundwater Science Co

Submitted: 10/25/2011 09:30

560 Route 53

Reported: 10/31/2011 12:34

Suite 202

Beacon NY 12508

KTH24 SDG#: GSK01-06TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.5	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CSH01 0819

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: KTB110241024 Water
TechCity Surficial Soil

LLI Sample # WW 6448139
LLI Group # 1272968
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/24/2011

Groundwater Science Co

Submitted: 10/25/2011 09:30

560 Route 53

Reported: 10/31/2011 12:34

Suite 202

Beacon NY 12508

KTH24 SDG#: GSK01-06TB*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113011AA	10/28/2011 18:32	Nicholas R Rossi	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113011AA	10/28/2011 18:32	Nicholas R Rossi	1

GSK01-06TB*

ATTACHMENT E
PROJECT CORRESPONDENCE

No Project Correspondence associated with this SDG



"Truth through Science"

Veridian
Environmental, Inc

DATA VALIDATION REPORT

TECHCITY (FORMER IBM KINGSTON) GROUNDWATER CONTAMINATION SUPERFUND SITE

Lancaster Laboratories
SDG: **GSK02**

January 20, 2012

Prepared for:

GROUNDWATER SCIENCES CORPORATION
2601 Market Place Street, Suite 310
Harrisburg, Pennsylvania 17110

Prepared by:

VERIDIAN ENVIRONMENTAL, INC.
1111 Kennedy Place
Suite 2
Davis, California 95616

DATA VALIDATION REPORT

TECHCITY (FORMER IBM KINGSTON)
GROUNDWATER CONTAMINATION
SUPERFUND SITE

January 20, 2012

Name	Position	Signature/Date
Veridian Environmental, Inc.		
Prepared by:		
Tracy A. Young	Senior Quality Assurance Chemist	<i>Tracy A. Young</i> 01/20/2012
Ann Lack	Senior Quality Assurance Chemist	<i>Ann Lack</i> 01/20/2012
Reviewed and Approved by:		
Charlotte R. Symms	President	<i>Charlotte R. Symms</i> 1/20/2012

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ACRONYMS

<u>Acronym</u>	<u>Definition</u>
%D	Percent Difference
%REC	Percent Recovery
%RI	Percent Relative Intensity
%RPD	Percent Relative Percent Difference
%RSD	Percent Relative Standard Deviation
%S	Percent Solids
ARRF	Average Relative Response Factor
CCC	Calibration Check Analytes
CCV	Continuing Calibration Verification
CD	Correctable Deficiency
CF	Calibration Factor
CLP	Contract Laboratory Program
COC	Chain-of-Custody
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
DER	Division of Environmental Remediation
DF	Dilution Factor
DL	Dilution Limit
DO	Diluted Out
DOC	Date of Collection
DQO	Data Quality Objective
DVR	Data Validation Report
EDD	Electronic Data Deliverable
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
GSC	Groundwater Sciences Corporation
ICAL	Initial Calibration
ICV	Initial Calibration Verification
IS	Internal Standard
kg	Kilogram
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
l	Liter
LL	Lower Limit
LLI	Lancaster Laboratories, Inc.
MDL	Method Detection Limit
ml	Milliliter
MRL	Method Reporting Limit
MS	Matrix Spike

<u>Acronym</u>	<u>Definition</u>
MSD	Matrix Spike Duplicate
µg	Microgram
ND	Non-detect
NFG	National Functional Guidelines
NIST	National Institute of Standards and Technology
NQW	No Qualification Warranted
NTC	Non Target Compound
NYSDEC	New York State Department of Environmental Conservation
OERR	Office of Emergency and Remedial Response
OSWER	Office of Solid Waste and Emergency Response
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
RRF	Relative Response Factor
RRT	Relative Retention Time
RSD	Relative Standard Deviation
RT	Retention Time
SDG	Sample Delivery Group
SM	Standard Method
SOP	Standard Operating Procedure
SOW	Statement of Work
SPCC	System Performance Check Analytes
Surr	Surrogate
TAL	Target Analyte List
TCL	Target Analyte List
TIC	Tentatively Identified Analyte
UL	Upper Limit
U.S. EPA	United States Environmental Protection Agency
VEI	Veridian Environmental, Inc.
VOC	Volatile Organic Analyte

1.0 INTRODUCTION

This Data Validation Report (DVR) details the assessment and the Level IV data validation performed on the sample analyses from SDG GSK02 as summarized in Attachment A. These samples were collected on October 25, 2011, as part of the TechCity (Former IBM Kingston) Facility Superfund Site in Kingston, New York. The samples were shipped to and analyzed by Lancaster Laboratories, Inc., (LLI) in Lancaster, Pennsylvania.

Data validation of all sample results was performed by Tracy A. Young, Ann Lack, and Charlotte R. Symms of Veridian Environmental, Inc. (VEI). A review (Level III) of 100% of the data, which allows for complete independent data review without reconstruction of analytical data, was conducted. In addition, approximately 10% of the project data underwent a comprehensive or extensive review (Level IV) which allowed for the complete reconstruction of the chemical analyses. The comprehensive review included the recalculation of calibration curves and sample results. None of the samples from this report were selected for the comprehensive Level IV review. The data were validated in accordance with the analytical methods and the documents entitled: *RFI Management Plans, Former IBM Kingston Facility* (Golder Associates, 2009); *U.S. EPA Region 2 RCRA and CERCLA Data Validation Standard Operating Procedures* (U.S. EPA Region 2, 2006); and with guidance from *DER-10 / Technical Guidance for Site Investigation and Remediation* (NYSDEC DEC Program Policy, 2010), *Data Quality Assessment: A Reviewer's Guide* (U.S. EPA QA/G-9R 2006); *Data Quality Assessment: Statistical Tools for Practitioners* (U.S. EPA QA-G-9S, 2006); and *U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (U.S. EPA, 2008).

The data were examined to determine the usability of the analytical results and the compliance relative to requirements specified in the analytical methods and guidelines provided. Qualifier codes have been placed next to the results on the laboratory analytical result forms so the data user can quickly assess the qualitative and/or quantitative reliability of any result. The data qualifications allow the data end-user to best understand the usability of the analytical results. It should be understood that data that have not been qualified in this report should be considered valid based on the quality control (QC) criteria that have been reviewed. This report was prepared to provide a critical review of the laboratory analyses and the reported analytical results. Quality assurance (QA) reviews of laboratory-generated data routinely identify various problems associated with analytical measurements, even from the most experienced and capable laboratories.

The findings of this QA review are presented in Section 2.0 of this report, a summary is presented in Section 3.0, and the references are provided in Section 4.0. Attachment A summarizes the client sample identification, the analytical laboratory, laboratory sample identification, sample date, sample time, and the analyses requested for each sample in this SDG. Copies of the laboratory case narrative, the sample chain-of-custody (COC) record, and the sample receipt documentation log report forms for samples discussed in this DVR are included in Attachment B. The qualified analytical result forms for the samples are provided in Attachment C. The samples were analyzed for Volatile Organic Analytes (EPA Method 8260B) and Moisture (Standard Method 2540G). The data validation checklist and copies of all relevant documentation needed to support the findings of the quality assurance review are presented in Attachment D. Project Correspondence is presented as Attachment E.

Several data validation flags are utilized in the validation process. The definitions of these qualifier flags are as follows:

- U The analyte was analyzed for, but was not detected at or above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected at or above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample result and/or analysis have been rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

All necessary flags have been incorporated into the data presented in this report (Attachment C). As per project-specific reporting requirements, all results reported at concentrations less than the sample-specific practical quantitation limits (adjusted for dilution factors, sample size, and percent solids) should be considered estimated (J).

2.0 FINDINGS

Copies of all relevant documentation needed to support the findings of the quality assurance review are presented in Attachment D of this report. Data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis do not require any corrective action by the laboratory. Accordingly, the following data usability issues should not necessarily be construed as an indication of laboratory performance. Data that warranted qualification are summarized in Section 3.0 of this report.

2.1 VOLATILE ORGANIC ANALYTES DATA VALIDATION

The samples analyzed for Volatile Organic Analytes (VOCs) by U.S. EPA Method 8260B were evaluated for the following data requirements.

	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable	Not Applicable
Sample Condition Upon Receipt		✓			
Analytical Holding Times	✓				
Blank Analyses	✓				
GC/MS Tuning and Mass Calibrations	✓				
Initial Calibrations	✓				
Initial Calibration Verifications	✓				

	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable	Not Applicable
Continuing Calibrations			✓		
Surrogate Spike Recoveries	✓				
LCS Analyses		✓			
MS/MSD Analyses					✓
Internal Standards	✓				
Verification of Sample Results					✓
Field Duplicate Results					✓
Verification of the Client EDD	✓				
Moisture Content	✓				
Additional Findings					✓

A comprehensive Level IV review was performed on ten percent (10%) of the project data. None of the samples from SDG GSK02 were selected for the comprehensive Level IV review. Details of the data findings are presented following the summary of the data requirements.

2.1.1 Sample Condition Upon Receipt

All samples were received intact and with the proper preservation ($\text{pH} \leq 2$) by LLI. The temperature of the cooler was 0.9°C upon receipt by the laboratory. Since the samples were not frozen, qualification of the data is not warranted.

Although the COC notes three containers were collected for sample **TTBA10251026**, only two containers were received by the laboratory as noted on the Environmental Sample Administration Receipt Documentation Log.

2.1.2 Analytical Holding Times

All samples were prepared and analyzed within the project-specified holding time of 14 days from sample collection.

2.1.3 Blank Analyses

All associated field and laboratory blanks were free of target analyte contamination.

2.1.4 Gas Chromatograph/Mass Spectrometer Tuning and Mass Calibrations

All gas chromatograph/mass spectrometer (GC/MS) tuning and mass calibrations met project criteria (m/z ratios). All project samples were analyzed within the 12-hour tune windows.

2.1.5 Initial Calibrations

For the initial calibrations, all SPCC (min. RRFs) and CCC analytes ($\% \text{RSD} \leq 30\%$) met project criteria. In addition, all target analytes displayed acceptable calibrations (average RRF > 0.050 and $\% \text{RSD} \leq 20\%$).

2.1.6 Initial Calibration Verifications

All target analytes demonstrated acceptable percent differences in the Initial Calibration Verification (ICV).

2.1.7 Continuing Calibrations

For the continuing calibrations, all SPCC (min. RRFs) and CCC analytes (%D $\leq$ 20%) met project criteria. In addition, the percent differences and RRFs for all other target analytes were $\leq$ 20% and > 0.050 , respectively, except for the analyte listed in the following table.

A high percent difference was noted for Freon 123a in the following continuing calibration. The associated non-detect results are estimated (UJ) in accordance with the project criteria.

<u>SDG</u>	<u>Instrument ID Date (Time)</u>	<u>Analyte(s)</u>	<u>Percent Difference</u>	<u>Associated Qualified Sample(s)</u>
GSK02	HP09685 10/29/2011 (12:50)	Freon 123a	52%	OU04D0211025 OU04D1311025 OU04D2511025 OU04J0211025 OU04J1311025 OU04J2511025 OU04E0411025 OU04E1311025 OU04E2511025 OU04A0411025 OU04A1311025 OU04A2511025 OU04G0411025 OU04G1311025 OU04G2511025 OU04I0411025 OU04I1311025 OU04I2511025

2.1.8 Surrogate Spike Recoveries

For all project analyses, the surrogate recoveries were within project criteria.

2.1.9 Laboratory Control Sample Analyses

For all LCS analyses, the recoveries for all target analytes met project criteria with the exception of Freon 123a in the following table. High percent recoveries were noted for Freon 123a as listed below. Since Freon 123a was not detected in the associated samples, qualification of the data is not warranted.

<u>Lab Sample ID, Date (Time)</u>	<u>Analyte(s)</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Associated Sample(s)</u>
LCSA34, 10/29/2011 (14:00)	Freon 123a	148%	61-127%	OU04D0211025
LCDA34, 10/29/2011 (14:24)		149%		OU04D1311025
				OU04D2511025
				OU04J0211025
				OU04J1311025
				OU04J2511025
				OU04E0411025
				OU04E1311025
				OU04E2511025
				OU04A0411025
				OU04A1311025
				OU04A2511025
				OU04G0411025
				OU04G1311025
				OU04G2511025
				OU04I0411025
				OU04I1311025
				OU04I2511025

2.1.10 Matrix Spike/Matrix Spike Duplicate Analyses

The laboratory did not prepare and analyze a Matrix Spike/Matrix Spike Duplicate (MS/MSD) for this analysis on any sample from SDG GSK02. Consequently, an assessment of matrix effects cannot be made for these samples.

2.1.11 Internal Standards

For all project sample analyses, the internal standards met project criteria (RT within ± 30 seconds of ICAL mid-point standard and internal standard area within -50% to +100% of ICAL mid-point standard).

2.1.12 Verification of Sample Results

None of the samples from SDG GSK02 were selected for a comprehensive Level IV review.

2.1.13 Field Duplicate Results

Field duplicates were not submitted for this analysis; consequently, an assessment of precision cannot be made.

2.1.14 Verification of the Client Electronic Data Deliverable

The database files provided in the laboratory's enhanced general format matched the data reported by the laboratory.

2.1.15 Moisture Content

The moisture content of the soil samples was analyzed by Standard Method 2540G. For all project samples, the moisture content was within project criteria.

2.1.16 Additional Findings

No additional findings were discovered in this section of SDG GSK02.

2.2 FIELD DUPLICATES

Field duplicates were not submitted with SDG GSK02; consequently an assessment of precision cannot be made.

2.3 REPRESENTATIVENESS EVALUATION

Representativeness is a qualitative evaluation of whether the data represent actual environmental conditions. Representativeness was evaluated using holding time criteria, which reflect the length of time after sample collection that a sample or extract remains representative of environmental conditions. Depending on the analysis, either one or two holding times were evaluated. For those analyses that do not include a sample extraction, only one holding time was evaluated: the length of time between sample collection and analysis. For analyses that require sample extraction prior to analysis, two holding times were evaluated: the length of time from sampling until extraction and the length of time from extraction to analysis. Holding times were compared to standard method-specific holding times accepted by the U.S. EPA. All holding times that are within acceptance criteria are considered representative. Those holding times outside of U.S. EPA acceptance criteria are qualitatively evaluated to determine their effect on sample representativeness. Representativeness was also evaluated by analysis of laboratory method blanks, trip blanks, and equipment blanks that were used to identify sources of contamination not associated with environmental conditions. As summarized in the following sections, the samples appear to be representative of the environmental conditions on site.

2.3.1 Sample Condition Upon Receipt

All samples arrived at the laboratory intact, appropriately preserved and documented, except as previously noted. The cooler was received by LLI < 2.0°C. Since the samples were not frozen, qualification of the data is not warranted. Additionally, only two containers were received by the laboratory for sample **TTBA10251026**.

2.3.2 Analytical Holding Times

As previously noted, all holding times were met.

2.3.3 Blank Analyses

As previously discussed, all field and laboratory blanks were free of all target analytes.

2.4 USABILITY AND COMPARABILITY

Usability of data was evaluated by assuring that all the analytical requests were met, the samples were received in the proper condition, and all analyses were performed within the appropriate holding times with the exception of those noted in this report.

3.0 SUMMARY

This QA review has identified aspects of the analytical data that required qualification due to continuing calibrations. None of the VOC data was rejected. To confidently use any of the analytical data within this sample set, the data user should understand the qualifications and limitations of the results. SDG GSK02 met the project completeness goal of 90%. The percent completeness is summarized in the following table.

Fraction	Number of Results	Number of Rejected Results	Percent Completeness
VOCs	820	0	100%
Overall	820	0	100%

4.0 REFERENCES

Data Quality Assessment: A Reviewer's Guide, U.S. Environmental Protection Agency, EPA *Data Quality Assessment: A Reviewer's Guide*, U.S. Environmental Protection Agency, EPA QA/G-9R, February, 2006.

Data Quality Assessment: Statistical Tools for Practitioners, U.S. Environmental Protection Agency, EPA QA/G-9S, February, 2006.

DER-10 / Technical Guidance for Site Investigation and Remediation, Office of Remediation and Materials Management, DEC Program Policy, May 3, 2010.

RFI Management Plans, Former IBM Kingston Facility, Golder Associates, September 2005.

Standard Methods for the Examination of Water and Wastewater, 20th Edition, American Public Health Association, 1998.

Method 2540G Moisture Content

SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods Third Edition, U.S. Environmental Protection Agency, Office of Solid Waste, December 1994.

Method 8260B: Volatile Organic Analytes by Gas Chromatography/Mass Spectrometry

U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, EPA 540-R-08-01, June 2008.

U.S EPA Region 2 RCRA and CERCLA Field and Data Validation Standard Operating Procedures

<u>SOP No.</u>	<u>Title</u>	<u>Date</u>
SOP HW-24 Revision 2	Validating Volatile Organic Analytes by SW-846 Method 8260B	October 2006

ATTACHMENT A

CHAIN-OF-CUSTODY SUMMARY TABLE

ATTACHMENT A
CHAIN-OF-CUSTODY SUMMARY TABLE
TechCity (Former IBM Kingston)
Kingston, New York

Client Sample ID	Laboratory	Laboratory SDG	Laboratory Sample ID	Collection Date	Matrix	Parameter(s) Analyzed
OU04D0211025	Lancaster Labs	GSK02	6449976	10/25/2011	Soil	V
OU04D1311025	Lancaster Labs	GSK02	6449977	10/25/2011	Soil	V
OU04D2511025	Lancaster Labs	GSK02	6449978	10/25/2011	Soil	V
OU04J0211025	Lancaster Labs	GSK02	6449979	10/25/2011	Soil	V
OU04J1311025	Lancaster Labs	GSK02	6449980	10/25/2011	Soil	V
OU04J2511025	Lancaster Labs	GSK02	6449981	10/25/2011	Soil	V
OU04E0411025	Lancaster Labs	GSK02	6449982	10/25/2011	Soil	V
OU04E1311025	Lancaster Labs	GSK02	6449983	10/25/2011	Soil	V
OU04E2511025	Lancaster Labs	GSK02	6449984	10/25/2011	Soil	V
OU04A0411025	Lancaster Labs	GSK02	6449985	10/25/2011	Soil	V
OU04A1311025	Lancaster Labs	GSK02	6449986	10/25/2011	Soil	V
OU04A2511025	Lancaster Labs	GSK02	6449987	10/25/2011	Soil	V
OU04G0411025	Lancaster Labs	GSK02	6449988	10/25/2011	Soil	V
OU04G1311025	Lancaster Labs	GSK02	6449989	10/25/2011	Soil	V
OU04G2511025	Lancaster Labs	GSK02	6449990	10/25/2011	Soil	V
TEQ11025AUGR (Equipment Rinsate)	Lancaster Labs	GSK02	6449991	10/25/2011	Water	V
OU04I0411025	Lancaster Labs	GSK02	6449992	10/25/2011	Soil	V
OU04I1311025	Lancaster Labs	GSK02	6449993	10/25/2011	Soil	V
OU04I2511025	Lancaster Labs	GSK02	6449994	10/25/2011	Soil	V
TTBA10251026 (Trip Blank)	Lancaster Labs	GSK02	6449995	10/25/2011	Water	V

Notes:

- SDG - Sample Delivery Group
V - Volatile Organic Compounds by U.S. EPA Method 8260B

ATTACHMENT B

CASE NARRATIVE AND CHAIN-OF-CUSTODY RECORDS



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax 717-656-2681 • www.lancasterlabs.com

NYSDEC ASP Category B Data Package

Prepared for:

Groundwater Science Co
560 Route 53
Suite 202
Beacon NY 12508

Project: TechCity Surficial Soil
Soil and Water Samples
Collected on 10/25/11

SDG# GSK02

GROUP	SAMPLE NUMBERS
1273182	6449976-6449995

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:

Date: 11/09/2011

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Nicole Maljovec at Ext. 1537.

Total Number of Pages 672



CLIENT: Groundwater Science Co
SDG: GSK02

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Volatiles in Soil

Volatiles by 8260B

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
6449976	OU04D0211025		X	1.05	
6449977	OU04D1311025		X	1.03	
6449978	OU04D2511025		X	1.01	
6449979	OU04J0211025		X	1	
6449980	OU04J1311025		X	1	
6449981	OU04J2511025		X	1.1	
6449982	OU04E0411025		X	0.94	
6449983	OU04E1311025		X	0.99	
6449984	OU04E2511025		X	1.08	
6449985	OU04A0411025		X	1.01	
6449986	OU04A1311025		X	0.96	
6449987	OU04A2511025		X	0.99	
6449988	OU04G0411025		X	0.99	
6449989	OU04G1311025		X	0.93	
6449990	OU04G2511025		X	1	
6449991	TEQ11025AUGR	X		1	Equipment Blank
6449992	OU04I0411025		X	0.98	
6449993	OU04I1311025		X	0.99	
6449994	OU04I2511025		X	1.01	
6449995	TTBA10251026	X		1	Trip Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE PREPARATION:

No problems were encountered with the preparation of the samples.

ANALYSIS:

No problems were encountered with the analysis of the samples.

GSK02 8852



CLIENT: Groundwater Science Co
SDG: GSK02

GC/MS Volatiles

Fraction: Volatiles by GC/MS

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

The recovery for target analyte(s) in the Laboratory Control Spike(s) are outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the analyte(s) are not detected in the sample, the data is reported. The high recovery indicates a possible high bias and, therefore, has no impact on the sample result(s).

Site specific matrix QC samples were not submitted for this SDG. The batch matrix QC was performed on samples from another project. Therefore the matrix effects would not be relevant and matrix QC is not provided in the data package. Laboratory spike data (LCS) are provided.

DATA INTERPRETATION :

No further interpretation is necessary for the data submitted.

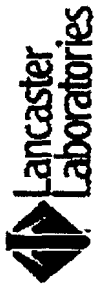
Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E = out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Narrative Reviewed and Approved 11/9/11 by
(Date)


Kathy J. Fair
Specialist

GSK02 0053



IBM Chain of Custody

For Lancaster Laboratories use only

Acct #: 6911 Group #: 1273182 Sample #: 6449976-95

COC # 01300

PAGE 1 of 2

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: Groundwater Services Corp Acct #: 0611
Project Name: Technical Services
Project Name# (cont.): 93002.37
Sampler: DEAN/Markward Project State: NY
P.O.#: 93002.37 IBM PM: DEAN/Markward
Check one: ☐ Routine Lab QW ☐ Routine GTF O&M
☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs
OU: _____ (Endicott Non-Routine only)

2 Matrix (4) (5) Analyses Requested
Preservation Codes
H O D

3 Composite
Soil ☐ Water ☐ Other ☐
Total # of Containers
B260B STA water
B260B STA soil
Moisture
Preservation Codes
H=HCl Y=Thiosulfate
N=HNO₃ B=NaOH
S=H₂SO₄ O=Other
B260B STA soil @ 3
-11 core samples
Remarks/SSOW
Temperature of samples (if requested)

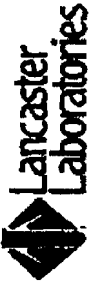
Sample Identification	Date Collected	Time Collected	Grab	Composite
OU 04 D 02-11025	10/25/2011	0920	X	X
OU 04 D 13-11025	10/25/2011	0936	X	X
OU 04 D 25-11025	10/25/2011	0947	X	X
OU 04 J 02-11025	10/25/2011	1014	X	X
OU 04 J 13-11025	10/25/2011	1025	X	X
OU 04 J 25-11025	10/25/2011	1035	X	X
OU 04 E 04-11025	10/25/2011	1105	X	X
OU 04 E 13-11025	10/25/2011	1116	X	X
OU 04 E 25-11025	10/25/2011	1130	X	X
OU 04 A 04-11025	10/25/2011	1152	X	X

7 Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed: _____
Rush results requested by (please check): ☐ Phone ☐ E-mail
Phone #: _____ E-mail: _____

8 Data Package Options (please check if required)
☐ Type Validation/NU Reg ☐ TX TRRP-13
☐ Type II (Reduced NU) ☐ MA MCP
☐ Type III (Raw Data Only) ☐ CT RCP
☐ NY ASP A
☐ NY ASP B
SDG Complete? ☒ Yes ☐ No
COC 0130024
COC 01301
Site-specific QC (MS/MSD/Dup)? ☐ Yes ☐ No
(If yes, indicate QC sample and submit triplicate volume.)

9 Relinquished by: Dr. Eugene Lase Date: 10/25/2011 Time: 1630
Received by: _____ Date: _____ Time: _____
Relinquished by: _____ Date: _____ Time: _____
Received by: _____ Date: _____ Time: _____
Relinquished by: _____ Date: _____ Time: _____
Received by: Barney Buech Date: 10-26-11 Time: 900

IBM Chain of Custody



For Lancaster Laboratories use only

Lancaster Laboratories

Client: Groundwater Services Corp Acct. #: 06911
 Project Name: Technical Surface Soil
 Project Name/ID (cont.): 93002.37
 Sampler: Decontamination/Remediation/Investigation Project State: NY
 P.O. #: 93002.37 IBM PM: Decontamination
 Check one: ☐ Routine Lab GW ☐ Routine GTF O&M
☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs
 OU: _____ (Endicott Non-Routine only)

Acct. #: 6911 Group #: 1273182 Sample #: 6449976-95
 Please print. Instructions on reverse side correspond with circled numbers.

COC # 01301
 PAGE 205-2

1 Client Information		2 Sample Identification		3 Date/Time		4 Matrix		5 Analyses Requested		6 Preservation Codes		7 Turnaround Time Requested (TAT)		8 Data Package Options	
Sample ID	OU04A1311025	Collected	10/25/2011	Time	1207	Soil	Water	Other	Total # of Containers	H	Q	Q	Received by:	Date	Time
Sample ID	OU04A2511025	Collected	10/25/2011	Time	1220	Soil	Water	Other	4	X	X	X	Received by:	Date	Time
Sample ID	OU04G0411025	Collected	10/25/2011	Time	1347	Soil	Water	Other	4	X	X	X	Received by:	Date	Time
Sample ID	OU04G1311025	Collected	10/25/2011	Time	1400	Soil	Water	Other	4	X	X	X	Received by:	Date	Time
Sample ID	OU04G2511025	Collected	10/25/2011	Time	1411	Soil	Water	Other	4	X	X	X	Received by:	Date	Time
Sample ID	TE011025AUGR	Collected	10/25/2011	Time	1435	Soil	Water	Other	3	X	X	X	Received by:	Date	Time
Sample ID	OU04I0411025	Collected	10/25/2011	Time	1440	Soil	Water	Other	4	X	X	X	Received by:	Date	Time
Sample ID	OU04I1311025	Collected	10/25/2011	Time	1500	Soil	Water	Other	4	X	X	X	Received by:	Date	Time
Sample ID	OU04I2511025	Collected	10/25/2011	Time	1510	Soil	Water	Other	4	X	X	X	Received by:	Date	Time
Sample ID	TT0A10251026	Collected	10/25/11	Time	---	Soil	Water	Other	3	X	X	X	Received by:	Date	Time

Preservation Codes: H=HCl, T=Thiosulfate, N=HNO₃, B=NaOH, S=H₂SO₄, O=Other
 0260B STD soil @ 3 ensure samples

Remarks: SSOW

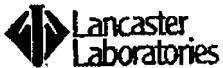
Temperature of samples upon receipt (if requested)

Relinquished by: DAVID REAGAN Date: 10/25/2011 Time: 1630
 Relinquished by: _____ Date: _____ Time: _____
 Relinquished by: _____ Date: _____ Time: _____
 Relinquished by: Bruce Bandy Date: 10/26/2011 Time: 900

Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush
 (Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
 Date results are needed: _____
 Rush results requested by (please check): ☐ Phone ☐ E-mail
 Phone #: _____ E-mail: _____

Data Package Options (please check if required):
☐ Type 1 (Validation/NJ Reg) ☐ TX TRRP-13 ☒ SDG Complete?
☐ Type 2 (Reduced NJ) ☐ OMA MCP ☒ Yes ☐ No
☐ Type 3 (Raw Data Only) ☐ CI RCP ☒ 01301 and
☐ NY ASP A ☒ 00C 01302
☒ NY ASP B
 (If yes, indicate QC sample and submit typical volume.)

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766
 Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.
 Issued by Dept. 40 Management 8187.01



Environmental Sample Administration Receipt Documentation Log

Client/Project: Groundwater Science Shipping Container Sealed: YES NO

Date of Receipt: 10-26-11 Custody Seal Present *: YES NO

Time of Receipt: 900 * Custody seal was intact unless otherwise noted in the discrepancy section

Source Code: 50-1 Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	2783	0.9	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody. 0

Paperwork Discrepancy/Unpacking Problems

only Rec 2 Trip Blanks

Unpacker Signature/Emp#: Buandy Buely 2299 Date/Time: 10-26-11 9:56

Issued by Dept. 6042 Management

ATTACHMENT C

QUALIFIED LABORATORY TEST RESULT FORMS

Analysis Report



ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Groundwater Science Co
560 Route 53
Suite 202
Beacon NY 12508

October 31, 2011

Project: TechCity Surficial Soil

Submittal Date: 10/26/2011

Group Number: 1273182

SDG: GSK02

PO Number: DB93002.37

State of Sample Origin: NY

Client Sample Description

OU04D0211025 Grab Soil
OU04D1311025 Grab Soil
OU04D2511025 Grab Soil
OU04J0211025 Grab Soil
OU04J1311025 Grab Soil
OU04J2511025 Grab Soil
OU04E0411025 Grab Soil
OU04E1311025 Grab Soil
OU04E2511025 Grab Soil
OU04A0411025 Grab Soil
OU04A1311025 Grab Soil
OU04A2511025 Grab Soil
OU04G0411025 Grab Soil
OU04G1311025 Grab Soil
OU04G2511025 Grab Soil
TEQ11025AUGR Grab Water
OU04I0411025 Grab Soil
OU04I1311025 Grab Soil
OU04I2511025 Grab Soil
TTBA10251026 Water

Lancaster Labs (LLI)

6449976
6449977
6449978
6449979
6449980
6449981
6449982
6449983
6449984
6449985
6449986
6449987
6449988
6449989
6449990
6449991
6449992
6449993
6449994
6449995

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Groundwater Science Co
COPY TO
1 COPY TO Data Package Group

Attn: Dorothy Bergmann

GSK02 0007

Analysis Report



Questions? Contact your Client Services Representative
Nicole L. Maljovec at (717) 656-2300 Ext. 1537

Respectfully Submitted,



Robin C. Funkle
Senior Specialist

65882 8888

Analysis Report



Page 1 of 2

Sample Description: OU04D0211025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449976
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 09:20 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4D02- SDG#: GSK02-01

DVG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.6	6	1.05
10949	Benzyl Chloride	100-44-7	N.D.	1	5	1.05
10949	Bromobenzene	108-86-1	N.D.	1	6	1.05
10949	Bromodichloromethane	75-27-4	N.D.	1	6	1.05
10949	Bromoform	75-25-2	N.D.	1	6	1.05
10949	Bromomethane	74-83-9	N.D.	2	6	1.05
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	1.05
10949	Chlorobenzene	108-90-7	N.D.	1	6	1.05
10949	Chloroethane	75-00-3	N.D.	2	6	1.05
10949	Chloroform	67-66-3	N.D.	1	6	1.05
10949	Chloromethane	74-87-3	N.D.	2	6	1.05
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	1.05
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	1.05
10949	Dibromochloromethane	124-48-1	N.D.	1	6	1.05
10949	Dibromomethane	74-95-3	N.D.	1	6	1.05
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	1.05
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	1.05
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	1.05
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	1.05
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	1.05
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	1.05
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	1.05
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	1.05
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	1.05
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	1.05
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	1.05
10949	Ethylbenzene	100-41-4	N.D.	1	6	1.05
10949	Freon 113	76-13-1	N.D.	2	12	1.05
10949	Freon 123a	354-23-4	N.D.	2	5	1.05
10949	Methylene Chloride	75-09-2	N.D.	2	6	1.05
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	1.05
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	1.05
10949	Tetrachloroethene	127-18-4	N.D.	1	6	1.05
10949	Toluene	108-88-3	N.D.	1	6	1.05
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	1.05
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	1.05
10949	Trichloroethane	79-01-6	N.D.	1	6	1.05
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	1.05
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	1.05
10949	Vinyl Chloride	75-01-4	N.D.	1	6	1.05
10949	Xylene (Total)	1330-20-7	N.D.	1	6	1.05

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	5.5	0.50	0.50	1
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02. 6618

Analysis Report



Page 2 of 2

Sample Description: OU04D0211025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449976
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 09:20 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4D02- SDG#: GSK02-01

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260E	1	A113021AA	10/29/2011 15:23	Chelsea B Eastep	1.05
06389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 21:48	Lois E Hiltz	n.a.
06389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 21:49	Lois E Hiltz	n.a.
07578	GC/MS-RL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 21:47	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820003A	10/28/2011 19:40	Lisa J Cooke	1

GSK02 8811

Analysis Report



Page 1 of 2

Sample Description: OU04D1311025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449977
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 09:36 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4D13- SDG#: GSK02-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	D/G
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	1.03	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	1.03	
10949	Bromobenzene	108-86-1	N.D.	1	5	1.03	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	1.03	
10949	Bromoform	75-25-2	N.D.	1	5	1.03	
10949	Bromomethane	74-83-9	N.D.	2	5	1.03	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	1.03	
10949	Chlorobenzene	108-90-7	N.D.	1	5	1.03	
10949	Chloroethane	75-00-3	N.D.	2	5	1.03	
10949	Chloroform	67-66-3	N.D.	1	5	1.03	
10949	Chloromethane	74-87-3	N.D.	2	5	1.03	
10949	2-Chlorotoluene	95-49-6	N.D.	1	5	1.03	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	1.03	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	1.03	
10949	Dibromomethane	74-95-3	N.D.	1	5	1.03	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1.03	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1.03	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1.03	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1.03	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	1.03	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	1.03	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	1.03	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	1.03	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	1.03	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1.03	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1.03	
10949	Ethylbenzene	100-41-4	N.D.	1	5	1.03	
10949	Freon 113	76-13-1	N.D.	2	11	1.03	
10949	Freon 123a	354-23-4	N.D.	2	5	1.03	UJ
10949	Methylene Chloride	75-09-2	N.D.	2	5	1.03	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1.03	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1.03	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	1.03	
10949	Toluene	108-88-3	N.D.	1	5	1.03	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	1.03	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	1.03	
10949	Trichloroethene	79-01-6	N.D.	1	5	1.03	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	1.03	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1.03	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	1.03	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	1.03	

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

5.1

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02. 0012

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU04D1311025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449977
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 09:36 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4D13- SDG#: GSK02-02

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 15:46	Chelsea B Eastep	1.03
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 21:51	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 21:51	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 21:50	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820003A	10/28/2011 19:40	Lisa J Cooke	1

GSK02 0813

Analysis Report



Page 1 of 2

Sample Description: OU04D2511025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449978
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 09:47 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4D25- SDG#: GSK02-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	1.01	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	1.01	
10949	Bromobenzene	108-86-1	N.D.	1	5	1.01	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	1.01	
10949	Bromoform	75-25-2	N.D.	1	5	1.01	
10949	Bromomethane	74-83-9	N.D.	2	5	1.01	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	1.01	
10949	Chlorobenzene	108-90-7	N.D.	1	5	1.01	
10949	Chloroethane	75-00-3	N.D.	2	5	1.01	
10949	Chloroform	67-66-3	N.D.	1	5	1.01	
10949	Chloromethane	74-87-3	N.D.	2	5	1.01	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	1.01	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	1.01	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	1.01	
10949	Dibromomethane	74-95-3	N.D.	1	5	1.01	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1.01	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1.01	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1.01	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1.01	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	1.01	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	1.01	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	1.01	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	1.01	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	1.01	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1.01	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1.01	
10949	Ethylbenzene	100-41-4	N.D.	1	5	1.01	
10949	Freon 113	76-13-1	N.D.	2	11	1.01	
10949	Freon 123a	354-23-4	N.D.	2	5	1.01	
10949	Methylene Chloride	75-09-2	N.D.	2	5	1.01	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1.01	
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1.01	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	1.01	
10949	Toluene	108-88-3	N.D.	1	5	1.01	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	1.01	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	1.01	
10949	Trichloroethene	79-01-6	N.D.	1	5	1.01	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	1.01	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1.01	
10949	Vinyl Chloride	73-01-4	N.D.	1	5	1.01	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	1.01	

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	6.6	0.50	0.50	1
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

CSX82 8814

Analysis Report



Page 2 of 2

Sample Description: OU04D2511025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449978
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 09:47 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/26/2011 09:00

Suite 202

Reported: 10/31/2011 16:01

Beacon NY 12508

4D25- SDG#: GSK02-03

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 16:09	Chelsea B Eastep	1.01
08369	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 21:53	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 21:54	Lois E Hiltz	n.a.
07576	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 21:52	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820003A	10/28/2011 19:40	Lisa J Cooke	1

GSK02 0015

Analysis Report



Page 1 of 2

Sample Description: OU04J0211025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449979
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 10:14 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4J02- SDG#: GSK02-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.6	6	1	
10949	Benzyl Chloride	100-44-7	N.D.	1	5	1	
10949	Bromobenzene	108-86-1	N.D.	1	6	1	
10949	Bromodichloromethane	75-27-4	N.D.	1	6	1	
10949	Bromoform	75-25-2	N.D.	1	6	1	
10949	Bromomethane	74-83-9	N.D.	2	6	1	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	1	
10949	Chlorobenzene	108-90-7	N.D.	1	6	1	
10949	Chloroethane	75-00-3	N.D.	2	6	1	
10949	Chloroform	67-66-3	N.D.	1	6	1	
10949	Chloromethane	74-87-3	N.D.	2	6	1	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	1	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	1	
10949	Dibromochloromethane	124-46-1	N.D.	1	6	1	
10949	Dibromomethane	74-95-3	N.D.	1	6	1	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	1	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	1	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	1	
10949	Dichlorodifluoromethane	75-71-6	N.D.	2	6	1	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	1	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	1	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	1	
10949	1,2-Dichloroethene (Total)	340-59-0	N.D.	1	6	1	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	1	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	1	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	1	
10949	Ethylbenzene	100-41-4	N.D.	1	6	1	
10949	Freon 113	76-13-1	N.D.	2	11	1	
10949	Freon 123a	354-23-4	N.D.	2	6	1	
10949	Methylene Chloride	75-09-2	N.D.	2	6	1	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	1	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	1	
10949	Tetrachloroethene	127-18-4	N.D.	1	6	1	
10949	Toluene	108-88-3	N.D.	1	6	1	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	1	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	1	
10949	Trichloroethene	79-01-6	N.D.	1	6	1	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	1	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	1	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	1	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	1	

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	11.3	0.50	0.50	1
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02 8816

Analysis Report



Page 2 of 2

Sample Description: OU04J0211025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449979
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 10:14 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4J02- SDG#: GSK02-04

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 9260B	1	A113021AA	10/29/2011 16:32	Chelsea B Eastep	1
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 21:56	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 21:56	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 21:55	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301620003A	10/28/2011 19:40	Lisa J Cooke	1

GSK02 8817

Analysis Report



Page 1 of 2

Sample Description: OU04J1311025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449980
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 10:25 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4J13- SDG#: GSK02-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	DVQ
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	1	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	1	
10949	Bromobenzene	108-86-1	N.D.	1	5	1	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	1	
10949	Bromoforn	75-25-2	N.D.	1	5	1	
10949	Bromomethane	74-83-9	N.D.	2	5	1	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	1	
10949	Chlorobenzene	108-90-7	N.D.	1	5	1	
10949	Chloroethane	75-00-3	N.D.	2	5	1	
10949	Chloroform	67-66-3	N.D.	1	5	1	
10949	Chloromethane	74-87-3	N.D.	2	5	1	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	1	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	1	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	1	
10949	Dibromomethane	74-95-3	N.D.	1	5	1	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	1	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	1	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	1	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	1	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	1	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1	
10949	Ethylbenzene	100-41-4	N.D.	1	5	1	
10949	Freon 113	76-13-1	N.D.	2	11	1	
10949	Freon 123a	354-23-4	N.D.	2	5	1	
10949	Methylene Chloride	75-09-2	N.D.	2	5	1	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	1	
10949	Toluene	108-88-3	N.D.	1	5	1	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	1	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	1	
10949	Trichloroethene	78-01-6	N.D.	1	5	1	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	1	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	1	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	1	

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

5.0

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02 0018

Analysis Report



Page 2 of 2

Sample Description: OU04J1311025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449980
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 10:25 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4J13- SDG#: GSK02-05

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 6260B	1	A113021AA	10/29/2011 16:54	Chelsea B Eastep	1
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:00	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:01	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/25/2011 21:59	Lois E Hiltz	n.a.
00111	Moisture	SM20 2546 G	1	11301820003A	10/28/2011 19:40	Lisa J Cooke	1

GSK02 0019

Analysis Report



Page 1 of 2

Sample Description: OU04J2511025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449981
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 10:38 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/26/2011 09:00

Suite 202

Reported: 10/31/2011 16:01

Beacon NY 12508

4J25- SDG#: GSK02-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		DW
10949	Benzene	71-43-2	N.D.	0.6	6	1.1	
10949	Benzyl Chloride	100-44-7	N.D.	1	5	1.1	
10949	Bromobenzene	108-86-1	N.D.	1	6	1.1	
10949	Bromodichloromethane	75-27-4	N.D.	1	6	1.1	
10949	Bromoform	75-25-2	N.D.	1	6	1.1	
10949	Bromomethane	74-83-9	N.D.	2	6	1.1	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	1.1	
10949	Chlorobenzene	108-90-7	N.D.	1	6	1.1	
10949	Chloroethane	75-00-3	N.D.	2	6	1.1	
10949	Chloroform	67-66-3	N.D.	1	6	1.1	
10949	Chloromethane	74-87-3	N.D.	2	6	1.1	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	1.1	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	1.1	
10949	Dibromochloromethane	124-48-1	N.D.	1	6	1.1	
10949	Dibromomethane	74-95-3	N.D.	1	6	1.1	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	1.1	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	1.1	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	1.1	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	1.1	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	1.1	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	1.1	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	1.1	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	1.1	
10949	1,2-Dichloropropane	78-67-5	N.D.	1	6	1.1	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	1.1	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	1.1	
10949	Ethylbenzene	100-41-4	N.D.	1	6	1.1	
10949	Freon 113	76-13-1	N.D.	2	12	1.1	
10949	Freon 123a	354-23-4	N.D.	2	6	1.1	
10949	Methylene Chloride	75-09-2	N.D.	2	6	1.1	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	1.1	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	1.1	
10949	Tetrachloroethene	127-18-4	N.D.	1	6	1.1	
10949	Toluene	108-88-3	N.D.	1	6	1.1	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	1.1	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	1.1	
10949	Trichloroethene	79-01-6	N.D.	1	6	1.1	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	1.1	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	1.1	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	1.1	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	1.1	

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	5.0	0.50	0.50	1
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02 8828

Analysis Report



Page 2 of 2

Sample Description: OU04J2511025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449981
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 10:38 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4J25- SDG#: GSK02-06

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 17:17	Chelsea B Eastep	1.2
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:03	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:03	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:02	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820003A	10/28/2011 19:40	Lisa J Cooke	1

GSK02 0021

Analysis Report



Page 1 of 2

Sample Description: OU04E0411025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449982
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 11:05 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4E04- SDG#: GSK02-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.94
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.94
10949	Bromobenzene	108-86-1	N.D.	1	5	0.94
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.94
10949	Bromoform	75-25-2	N.D.	1	5	0.94
10949	Bromomethane	74-83-9	N.D.	2	5	0.94
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.94
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.94
10949	Chloroethane	75-00-3	N.D.	2	5	0.94
10949	Chloroform	67-66-3	N.D.	1	5	0.94
10949	Chloromethane	74-87-3	N.D.	2	5	0.94
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.94
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.94
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.94
10949	Dibromomethane	74-95-3	N.D.	1	5	0.94
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.94
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.94
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.94
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.94
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.94
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.94
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.94
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.94
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.94
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.94
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.94
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.94
10949	Freon 113	76-13-1	N.D.	2	10	0.94
10949	Freon 123a	354-23-4	N.D.	2	5	0.94
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.94
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.94
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.94
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.94
10949	Toluene	108-88-3	N.D.	1	5	0.94
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.94
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.94
10949	Trichloroethene	79-01-6	N.D.	1	5	0.94
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.94
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.94
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.94
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.94

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	10.2	0.50	0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

GSK02 0022

Analysis Report



Page 2 of 2

Sample Description: OU04E0411025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449982
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 11:05 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/26/2011 09:00

Suite 202

Reported: 10/31/2011 16:01

Beacon NY 12508

4E04- SDG#: GSK02-07

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 17:40	Chelsea B Eastep	0.94
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:05	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:06	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:04	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820003A	10/28/2011 19:40	Lisa J Cooke	1

GSK02-0823

Analysis Report



Page 1 of 2

Sample Description: OU04E1311025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449983
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 11:18 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/26/2011 09:00

Suite 202

Reported: 10/31/2011 16:01

Beacon NY 12508

4E13- SDG#: GSK02-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	0.99	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.99	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.99	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.99	
10949	Bromoform	75-25-2	N.D.	1	5	0.99	
10949	Bromomethane	74-83-9	N.D.	2	5	0.99	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.99	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.99	
10949	Chloroethane	75-00-3	N.D.	2	5	0.99	
10949	Chloroform	67-66-3	N.D.	1	5	0.99	
10949	Chloromethane	74-87-3	N.D.	2	5	0.99	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.99	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.99	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.99	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.99	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.99	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.99	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.99	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.99	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.99	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.99	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.99	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.99	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.99	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.99	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.99	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.99	
10949	Freon 113	76-13-1	N.D.	2	10	0.99	
10949	Freon 123a	354-23-4	N.D.	2	5	0.99	
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.99	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.99	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.99	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.99	
10949	Toluene	108-88-3	N.D.	1	5	0.99	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.99	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.99	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.99	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.99	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.99	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.99	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.99	
Wet Chemistry	SM20 2540 G	%	%	%			
00111	Moisture	n.a.	5.3	0.50	0.50	1	
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.							

GSK02 0024

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

2216 Rev. 3/27/06

Analysis Report



Page 2 of 2

Sample Description: OU04E1311025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449983
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 11:18 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/26/2011 09:00

Suite 202

Reported: 10/31/2011 16:01

Beacon NY 12508

4E13- SDG#: GSK02-08

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 18:02	Chelsea B Eastep	0.99
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:07	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:08	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:07	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301520003A	10/28/2011 19:40	Lisa J Cooke	1

GSK02 0025

Analysis Report



Page 1 of 2

Sample Description: OU04E2511025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449984
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 11:30 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/26/2011 09:00

Suite 202

Reported: 10/31/2011 16:01

Beacon NY 12508

4E25- SDG#: GSK02-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.6	6	1.08	
10949	Benzyl Chloride	100-44-7	N.D.	1	5	1.08	
10949	Bromobenzene	106-86-1	N.D.	1	6	1.08	
10949	Bromodichloromethane	75-27-4	N.D.	1	6	1.08	
10949	Bromoform	75-25-2	N.D.	1	6	1.08	
10949	Bromomethane	74-83-9	N.D.	2	6	1.08	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	1.08	
10949	Chlorobenzene	108-90-7	N.D.	1	6	1.08	
10949	Chloroethane	75-00-3	N.D.	2	6	1.08	
10949	Chloroform	67-66-3	N.D.	1	6	1.08	
10949	Chloromethane	74-87-3	N.D.	2	6	1.08	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	1.08	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	1.08	
10949	Dibromochloromethane	124-48-1	N.D.	1	6	1.08	
10949	Dibromomethane	74-95-2	N.D.	1	6	1.08	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	1.08	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	1.08	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	1.08	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	1.08	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	1.08	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	1.08	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	1.08	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	1.08	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	1.08	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	1.08	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	1.08	
10949	Ethylbenzene	100-41-4	N.D.	1	6	1.08	
10949	Freon 113	76-13-1	N.D.	2	12	1.08	
10949	Freon 123a	354-23-4	N.D.	2	6	1.08	
10949	Methylene Chloride	75-09-2	N.D.	2	6	1.08	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	1.08	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	1.08	
10949	Tetrachloroethene	127-16-4	N.D.	1	6	1.08	
10949	Toluene	108-88-3	N.D.	1	6	1.08	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	1.08	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	1.08	
10949	Trichloroethene	79-01-6	N.D.	1	6	1.08	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	1.08	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	1.08	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	1.08	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	1.08	

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

10.5

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02 8826

Analysis Report



Page 2 of 2

Sample Description: OU04E2511025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449984
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 11:30 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Suite 202

Reported: 10/31/2011 16:01

Beacon NY 12508

4E25- SDG#: GSK02-09

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 18:25	Chelsea B Eastep	1.08
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:11	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:12	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:11	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820003A	10/28/2011 19:40	Lisa J Cooke	1

GSK02 8827

Analysis Report



Page 1 of 2

Sample Description: OU04A0411025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449985
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 11:52 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4A04- SDG#: GSK02-10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.6	6	1.01	
10949	Benzyl Chloride	100-44-7	N.D.	1	5	1.01	
10949	Bromobenzene	108-86-1	N.D.	1	6	1.01	
10949	Bromodichloromethane	75-27-4	N.D.	1	6	1.01	
10949	Bromoform	75-25-2	N.D.	1	6	1.01	
10949	Bromomethane	74-83-9	N.D.	2	6	1.01	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	1.01	
10949	Chlorobenzene	108-90-7	N.D.	1	6	1.01	
10949	Chloroethane	75-00-3	N.D.	2	6	1.01	
10949	Chloroform	67-66-3	N.D.	1	6	1.01	
10949	Chloromethane	74-87-3	N.D.	2	6	1.01	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	1.01	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	1.01	
10949	Dibromochloromethane	124-48-1	N.D.	1	6	1.01	
10949	Dibromomethane	74-95-3	N.D.	1	6	1.01	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	1.01	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	1.01	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	1.01	
10949	Dichlorodifluoromethane	75-71-6	N.D.	2	6	1.01	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	1.01	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	1.01	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	1.01	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	1.01	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	1.01	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	1.01	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	1.01	
10949	Ethylbenzene	100-41-4	N.D.	1	6	1.01	
10949	Freon 113	76-13-1	N.D.	2	11	1.01	
10949	Freon 123a	354-23-4	N.D.	2	6	1.01	
10949	Methylene Chloride	75-09-2	N.D.	2	6	1.01	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	1.01	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	1.01	
10949	Tetrachloroethene	127-18-4	N.D.	1	6	1.01	
10949	Toluene	108-88-3	N.D.	1	6	1.01	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	1.01	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	1.01	
10949	Trichloroethene	75-01-6	N.D.	1	6	1.01	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	1.01	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	1.01	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	1.01	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	1.01	

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

11.0

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02 0020

Analysis Report



Page 2 of 2

Sample Description: OU04A0411025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449985
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 11:52 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4A04- SDG#: GSK02-10

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 18:48	Chelsea B Eastep	1.01
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:14	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:15	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:13	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301620003B	10/28/2011 19:40	Lisa J Cooke	1

CSK02 0829

Analysis Report



Page 1 of 2

Sample Description: OU04A1311025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449986
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 12:07 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/26/2011 09:00

Suite 202

Reported: 10/31/2011 16:01

Beacon NY 12508

4A13- SDG#: GSK02-11

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		DVQ
10949	Benzene	71-43-2	N.D.	0.5	5	0.96	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.96	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.96	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.96	
10949	Bromoform	75-25-2	N.D.	1	5	0.96	
10949	Bromomethane	74-83-9	N.D.	2	5	0.96	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.96	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.96	
10949	Chloroethane	75-00-3	N.D.	2	5	0.96	
10949	Chloroform	67-66-3	N.D.	1	5	0.96	
10949	Chloromethane	74-87-3	N.D.	2	5	0.96	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.96	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.96	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.96	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.96	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.96	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.96	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.96	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.96	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.96	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.96	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.96	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.96	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.96	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.96	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.96	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.96	
10949	Freon 113	76-13-1	N.D.	2	10	0.96	
10949	Freon 123a	354-22-4	N.D.	2	5	0.96	
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.96	45
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.96	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.96	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.96	
10949	Toluene	108-88-3	N.D.	1	5	0.96	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.96	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.96	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.96	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.96	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.96	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.96	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.96	

Wet Chemistry

SM20 2540 G

GC111	Moisture	n.a.	8.3	0.50	0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

GSK02 0030

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU04A1311025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449986
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 12:07 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4A13- SDG#: GSK02-11

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 19:11	Chelsea B Eastep	0.96
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:16	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:17	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:16	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820003B	10/28/2011 19:40	Lisa J Cooke	1

GSK02 0631

Analysis Report



Page 1 of 2

Sample Description: OU04A2511025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449987
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 12:20 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4A25- SDG#: GSK02-12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.99
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.99
10949	Bromobenzene	108-86-1	N.D.	1	5	0.99
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.99
10949	Bromoform	75-25-2	N.D.	1	5	0.99
10949	Bromomethane	74-83-9	N.D.	2	5	0.99
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.99
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.99
10949	Chloroethane	75-00-3	N.D.	2	5	0.99
10949	Chloroform	67-66-3	N.D.	1	5	0.99
10949	Chloromethane	74-87-3	N.D.	2	5	0.99
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.99
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.99
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.99
10949	Dibromomethane	74-95-3	N.D.	1	5	0.99
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.99
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.99
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.99
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.99
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.99
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.99
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.99
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.99
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.99
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.99
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.99
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.99
10949	Freon 113	76-13-1	N.D.	2	10	0.99
10949	Freon 123a	354-23-4	N.D.	2	5	0.99
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.99
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.99
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.99
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.99
10949	Toluene	108-88-3	N.D.	1	5	0.99
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.99
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.99
10949	Trichloroethene	79-01-6	N.D.	1	5	0.99
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.99
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.99
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.99
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.99

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture n.a. 5.6 0.50 0.50

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02 0032

Analysis Report



Page 2 of 2

Sample Description: OU04A2511025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449987
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 12:20 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4A25- SDG#: GSK02-12

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 19:33	Chelsea B Eastep	0.99
06389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:21	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:21	Lois E Hiltz	n.a.
07576	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:20	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820003B	10/28/2011 19:40	Lisa J Cooke	1

GSK02 5833

Analysis Report



Page 1 of 2

Sample Description: OUD4G0411025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449988
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 13:47 by DAB

Groundwater Science Co

560 Route 53

Suite 202

Beacon NY 12508

Submitted: 10/26/2011 09:00

Reported: 10/31/2011 16:01

4G04- SDG#: GSK02-13

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		DVR
10949	Benzene	71-43-2	N.D.	0.6	6	0.99	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.99	
10949	Bromobenzene	106-86-1	N.D.	1	6	0.99	
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.99	
10949	Bromoform	75-25-2	N.D.	1	6	0.99	
10949	Bromomethane	74-83-9	N.D.	2	6	0.99	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.99	
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.99	
10949	Chloroethane	75-00-3	N.D.	2	6	0.99	
10949	Chloroform	67-66-3	N.D.	1	6	0.99	
10949	Chloromethane	74-87-3	N.D.	2	6	0.99	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.99	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.99	
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.99	
10949	Dibromomethane	74-95-3	N.D.	1	6	0.99	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.99	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.99	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.99	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.99	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.99	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.99	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.99	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.99	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.99	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.99	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.99	
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.99	
10949	Freon 113	76-13-1	N.D.	2	11	0.99	
10949	Freon 123a	354-23-4	N.D.	2	6	0.99	UT
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.99	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.99	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.99	
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.99	
10949	Toluene	108-88-3	N.D.	1	6	0.99	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.99	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.99	
10949	Trichloroethene	79-01-6	N.D.	1	6	0.99	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.99	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.99	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.99	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.99	

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

10.7

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02 10034

Analysis Report



Page 2 of 2

Sample Description: OU04G0411025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449988
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 13:47 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4G04- SDG#: GSK02-13

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 19:56	Chelsea B Eastep	0.99
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:23	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:24	Lois E Hiltz	n.a.
07576	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:22	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820003B	10/28/2011 19:40	Lisa J Cooke	1

GSK02 8835

Analysis Report



Page 1 of 2

Sample Description: OU04G1311025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449989
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 14:00 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4G13- SDG#: GSK02-14

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	PVD
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	0.93	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.93	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.93	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.93	
10949	Bromoform	75-25-2	N.D.	1	5	0.93	
10949	Bromomethane	74-83-9	N.D.	2	5	0.93	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.93	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.93	
10949	Chloroethane	75-00-3	N.D.	2	5	0.93	
10949	Chloroform	67-66-3	N.D.	1	5	0.93	
10949	Chloromethane	74-87-3	N.D.	2	5	0.93	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.93	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.93	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.93	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.93	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.93	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.93	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.93	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.93	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.93	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.93	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.93	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.93	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.93	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.93	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.93	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.93	
10949	Freon 113	76-13-1	N.D.	2	10	0.93	
10949	Freon 123a	354-23-4	N.D.	2	5	0.93	UT
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.93	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.93	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.93	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.93	
10949	Toluene	106-88-3	N.D.	1	5	0.93	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.93	
10949	1,1,2-Trichloroethane	79-60-5	N.D.	1	5	0.93	
10949	Trichloroethene	79-03-6	N.D.	1	5	0.93	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.93	
10949	1,2,3-Trichloropropane	96-16-4	N.D.	1	5	0.93	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.93	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.93	

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

6.5

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02 0036

Analysis Report



Page 2 of 2

Sample Description: OU04G1311025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449989
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 14:00 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Suite 202

Reported: 10/31/2011 16:01

Beacon NY 12508

4G13- SDG#: GSK02-14

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Triel#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 20:19	Chelsea B Eastep	0.93
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:26	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:26	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:25	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820603B	10/28/2011 19:40	Lisa J Cooke	1

GSK02 8837

Analysis Report



Page 1 of 2

Sample Description: OU04G2511025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449990
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 14:11 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4G25- SDG#: GSK02-15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		0.0
10949	Benzene	71-43-2	N.D.	0.5	5	1	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	1	
10949	Bromobenzene	108-86-1	N.D.	1	5	1	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	1	
10949	Bromoform	75-25-2	N.D.	1	5	1	
10949	Bromomethane	74-83-9	N.D.	2	5	1	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	1	
10949	Chlorobenzene	108-90-7	N.D.	1	5	1	
10949	Chloroethane	75-00-3	N.D.	2	5	1	
10949	Chloroform	67-66-3	N.D.	1	5	1	
10949	Chloromethane	74-87-3	N.D.	2	5	1	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	1	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	1	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	1	
10949	Dibromomethane	74-95-3	N.D.	1	5	1	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	1	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	1	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	1	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	1	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	1	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1	
10949	Ethylbenzene	100-41-4	N.D.	1	5	1	
10949	Freon 113	76-13-1	N.D.	2	11	1	
10949	Freon 123a	354-23-4	N.D.	2	5	1	
10949	Methylene Chloride	75-09-2	N.D.	2	5	1	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1	
10949	1,1,1,2,2-Tetrachloroethane	75-34-5	N.D.	1	5	1	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	1	
10949	Toluene	108-88-3	N.D.	1	5	1	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	1	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	1	
10949	Trichloroethene	79-01-6	N.D.	1	5	1	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	1	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	1	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	1	

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

5.0

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02 8838

Analysis Report



Page 2 of 2

Sample Description: OU04G2511025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449990
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 14:11 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/26/2011 09:00

Suite 202

Reported: 10/31/2011 16:01

Beacon NY 12508

4G25- SDG#: GSK02-15

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 20:41	Chelsea B Eastep	1
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:28	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:29	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:27	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820003B	10/28/2011 19:40	Lisa J Cooke	1

GSK02 0039

Analysis Report



Page 1 of 2

Sample Description: TEQ11025AUGR Grab Water
Tech City Surficial Soil

LLI Sample # WW 6449991
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 14:35 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

TEQ-- SDG#: GSK02-16EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-03-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-98-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-16-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.5	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK02 0840

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TEQ11025AUGR Grab Water
Tech City Surficial Soil

LLI Sample # WW 6449991
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 14:35 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

TEQ-- SDG#: GSK02-16EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260E	SW-846 8260E	1	Y113011AA	10/28/2011 18:52	Nicholas R Rossi	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113011AA	10/28/2011 18:52	Nicholas R Rossi	2

GSK02 0611

Analysis Report



Page 1 of 2

Sample Description: OU0410411025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449992
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 14:48 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/26/2011 09:00

Suite 202

Reported: 10/31/2011 16:01

Beacon NY 12508

4104- SDG#: GSK02-17

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		DVR
10949	Benzene	71-43-2	N.D.	0.6	6	0.98	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.98	
10949	Bromobenzene	106-86-1	N.D.	1	6	0.98	
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.98	
10949	Bromoform	75-25-2	N.D.	1	6	0.98	
10949	Bromomethane	74-83-9	N.D.	2	6	0.98	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.98	
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.98	
10949	Chloroethane	75-00-3	N.D.	2	6	0.98	
10949	Chloroform	67-66-3	N.D.	1	6	0.98	
10949	Chloromethane	74-87-3	N.D.	2	6	0.98	
10949	2-Chlorotoluene	95-49-6	N.D.	1	6	0.98	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.98	
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.98	
10949	Dibromomethane	74-95-3	N.D.	1	6	0.98	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.98	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.98	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.98	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.98	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.98	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.98	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.98	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.98	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.98	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.98	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.98	
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.98	
10949	Freon 113	76-13-1	N.D.	2	11	0.98	
10949	Freon 123a	354-23-4	N.D.	2	6	0.98	
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.98	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.98	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.98	
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.98	
10949	Toluene	108-88-3	N.D.	1	6	0.98	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.98	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.98	
10949	Trichloroethene	79-01-6	N.D.	1	6	0.98	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.98	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.98	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.98	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.98	

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.e.

11.2

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02 8842

Analysis Report



Page 2 of 2

Sample Description: OU04I0411025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449992
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 14:48 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4I04- SDG#: GSK02-17

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113C21AA	10/29/2011 21:04	Chelsea B Eastep	0.98
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:32	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:33	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:31	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820003B	10/28/2011 19:40	Lisa J Cooke	1

GSK02 0843

Analysis Report



Page 1 of 2

Sample Description: OU04I1311025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449993
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 15:00 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4I13- SDG#: GSK02-18

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.99
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.99
10949	Bromobenzene	108-86-1	N.D.	1	5	0.99
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.99
10949	Bromoform	75-25-2	N.D.	1	5	0.99
10949	Bromomethane	74-83-9	N.D.	2	5	0.99
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.99
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.99
10949	Chloroethane	75-00-3	N.D.	2	5	0.99
10949	Chloroform	67-66-3	N.D.	1	5	0.99
10949	Chloromethane	74-87-3	N.D.	2	5	0.99
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.99
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.99
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.99
10949	Dibromomethane	74-95-3	N.D.	1	5	0.99
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.99
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.99
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.99
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.99
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.99
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.99
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.99
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.99
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.99
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.99
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.99
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.99
10949	Freon 113	76-13-1	N.D.	2	10	0.99
10949	Freon 123a	354-23-4	N.D.	2	5	0.99
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.99
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.99
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.99
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.99
10949	Toluene	108-88-3	N.D.	1	5	0.99
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.99
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.99
10949	Trichloroethene	79-01-6	N.D.	1	5	0.99
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.99
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.99
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.99
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.99

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	4.7	0.50	0.50
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02 0044

Analysis Report



Page 2 of 2

Sample Description: OU04I1311025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449993
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 15:00 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Suite 202

Reported: 10/31/2011 16:01

Beacon NY 12508

4I13- SDG#: GSK02-18

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 B260B	1	A113021AA	10/29/2011 21:27	Chelsea B Eastep	0.99
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:35	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:35	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:34	Lois E Hiltz	n.a.
50111	Moisture	SM20 2540 G	1	11301820003B	10/28/2011 19:40	Lisa J Cooke	1

GSK02 0045

Analysis Report



Page 1 of 2

Sample Description: OU04I2511025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449994
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 15:16 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4I25- SDG#: GSK02-19

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	1.01	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	1.01	
10949	Bromobenzene	108-86-1	N.D.	1	5	1.01	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	1.01	
10949	Bromoform	75-25-2	N.D.	1	5	1.01	
10949	Bromomethane	74-83-9	N.D.	2	5	1.01	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	1.01	
10949	Chlorobenzene	108-90-7	N.D.	1	5	1.01	
10949	Chloroethane	75-00-3	N.D.	2	5	1.01	
10949	Chloroform	67-66-3	N.D.	1	5	1.01	
10949	Chloromethane	74-87-3	N.D.	2	5	2.01	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	1.01	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	1.01	
10949	Dibromochloromethane	129-48-1	N.D.	1	5	1.01	
10949	Dibromomethane	74-95-3	N.D.	1	5	1.01	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1.01	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1.01	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1.01	
10949	Dichlorodifluoromethane	75-71-6	N.D.	2	5	1.01	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	1.01	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	1.01	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	2.01	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	1.01	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	1.01	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1.01	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1.01	
10949	Ethylbenzene	100-41-4	N.D.	1	5	1.01	
10949	Freon 113	76-13-1	N.D.	2	11	1.01	
10949	Freon 123a	354-23-4	N.D.	2	5	1.01	
10949	Methylene Chloride	75-09-2	N.D.	2	5	1.01	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1.01	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1.01	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	1.01	
10949	Toluene	108-86-3	N.D.	1	5	1.01	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	1.01	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	1.01	
10949	Trichloroethene	79-01-6	N.D.	1	5	1.01	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	1.01	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1.01	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	1.01	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	1.01	

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	5.4	0.50	0.50	1
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK02 0846.

Analysis Report



Page 2 of 2

Sample Description: OU04I2511025 Grab Soil
Tech City Surficial Soil

LLI Sample # SW 6449994
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 15:16 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

4I25- SDG#: GSK02-19

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113021AA	10/29/2011 21:49	Chelsea B Eastep	1.01
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201129925972	10/26/2011 22:37	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201129925972	10/26/2011 22:38	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201129925972	10/26/2011 22:36	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11301820003B	10/28/2011 19:40	Lisa J Cooke	1

GSK02 8047

Analysis Report



Page 1 of 2

Sample Description: TTBA10251026 Water
Tech City Surficial Soil

LLI Sample # WW 6449995
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

TTBA- SDG#: GSK02-20TE*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	106-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-6	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.6	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK02 8848

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TTBA10251026 Water
Tech City Surficial Soil

LLI Sample # WW 6449995
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

TTBA- SDG#: GSK02-20TB*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113011AA	10/26/2011 19:13	Nicholas R Rossi	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113011AA	10/28/2011 19:13	Nicholas R Rossi	1

GSK02 0849.

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
ug	microgram(s)	mg	milligram(s)
ml	milliliter(s)	l	liter(s)
m3	cubic meter(s)	ul	microliter(s)
< less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.			
> greater than			
J estimated value - The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).			
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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CSK62 0009

ATTACHMENT D

DATA VALIDATION CHECKLIST AND SUPPORT DOCUMENTATION

SOP # HW-24
Revision # 2
August 2008

USEPA
Hazardous Waste Support Branch
Validating Volatile Organic Compounds
By Gas Chromatography/Mass Spectrometry
SW-846 Method 8260B

Prepared by: George Karas Date: 8/22/08
George Karas Chemist
Hazardous Waste Support Section

Prepared by: Russell Arnone Date: 8/23/08
Russell Arnone Chemist
Hazardous Waste Support Section

Concurred by: Linda M. Maurer Date: 8/24/08
Linda Maurer Chief
Hazardous Waste Support Section

Approved by: Robert R. Rymon Date: 8/24/08
Robert Rymon Chief
Hazardous Waste Support Branch

Annual Review

Reviewed by: Russell Arnone Date: 8/24/08
Name

Reviewed by: _____ Date: _____
Name

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the USEPA SW-846, Method 8260B December 1996. The validation methods and actions discussed in this document are based on the requirements set forth in USEPA SW-846, Method 8260B and Method 8000C, Rev 3, March 2003; and "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," January, 2005. This document covers technical as well as method specific problems; however situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are defined on page 4.

The reviewer must prepare a detailed data assessment to be submitted along with the complete SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data, and contract non-compliance.

DEFINITIONS

Acronyms

BNA - base neutral acid(another name for Semi Volatiles)
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
CF - calibration factor
%D - percent difference
DCB -decachlorobiphenyl
DDD - dichlorodiphenyldichloroethane
DDE - dichlorodiphenylethane
DDT - dichlorodiphenyltrichloroethane
DoC - Date of Collection
GC - gas chromatography
GC/ECD - gas chromatography/electron capture detector
GC/MS - gas chromatography/mass spectrometer
GPC - gel permeation chromatography
IS - internal standard
kg - kilogram
µg - microgram
MS - matrix spike
MSD - matrix spike duplicate
l - liter
ml - milliliter
PCB - Polychlorinated biphenyl
PE - performance evaluation
PEM - Performance Evaluation Mixture
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SMC - system monitoring compound
SOP - standard operating procedure
SOW - Statement of Work
SVOA - semivolatile organic acid
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TCX -tetrachloro-m-xylene
TIC - tentatively identified compound

TOPO - Task Order Project Officer
TPO - Technical Project Officer
VOA - Volatile organic
VTSR - Validated Time of Sample Receipt

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

LAB QUALIFIERS:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

YES NO N/A

I. PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: SDG GSK02 LAB: Lancaster Laboratories

SITE NAME: TechCity (Former IBM Kingston)

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable
format or CLP Forms Equivalent? ☒

ACTION: If not, note the effect on review of the data in
the Data Assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative, and/or cover letter
signed release present? ☒

2.2 Are case number and SDG number(s) contained
in the narrative or cover letter? ☒

ACTION: If not, note the effect on review of the data in
the Data Assessment narrative.

II. VOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Reports, and/or Chain of Custodies
from the field samplers present for all samples
sign release present? ☒

ACTION: If no, contact the laboratory/sampling team for replacement
of missing or illegible copies.

1.2 Is a sampling trip report present (if required)? ☐ ☒

1.3 Sample Conditions/Problems

YES NO N/A

- 1.3.1 Do the Traffic Reports, Chain of Custodies, or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? IV

ACTION: If all the VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, flag all positive results "J" and all non-detects "R".

ACTION: If samples were not iced or if the ice was melted upon receipt at the laboratory and the temperature of the cooler was elevated ($>10^{\circ}\text{C}$), flag all positive results "J" and all non-detects non"UJ".

2.0 Holding Times

- 2.1 Have any volatile holding times, determined from date of collection to date of analysis, been exceeded? IV

The maximum holding time for aqueous samples is 14 days.

The maximum holding time for soils non aqueous samples is 14 days.

NOTE: If unpreserved, aqueous samples maintained at 4°C for aromatic hydrocarbons analysis must be analyzed within 7 days. If preserved with HCL acid to a $\text{pH}<2$ and stored at 4°C , then aqueous samples must be analyzed within 14 days from time of collection. For non-aqueous samples for volatile components that are frozen (less than 7°C) or are properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and perserved with NaHSO_4 , the maximum holding time is 14 days from sample collection. If

YES NO N/A

uncertain about preservation, contact the laboratory /sampling team to determine whether or not samples were preserved.

ACTION: Qualify sample results according to Table 1:

Table 1. Holding Time Actions for Trace Volatile Analysis

Matrix	Preserved	Criteria	Action	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 days	No qualifications	
	No	> 7 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes	> 14 days	J	R
Non Aqueous	No	≤ 14 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes/No	> 14 days	J	R

3.0 Surrogate Recovery (CLP Form II Equivalent)

3.1 Have the volatile surrogate recoveries been listed on Surrogate Recovery forms for each of the following matrices:

a. Water ✓

b. Soil ✓

3.2 If so, are all the samples listed on the appropriate Surrogate Recovery forms for each matrix:

a. Water ✓

b. Soil ✓

ACTION: If large errors exist, deliverables are unavailable or information is missing, document the effect(s) in Data

YES NO N/A

Assessments and contact the laboratory/project officer/appropriate official for an explanation /resubmittal, make any necessary corrections and document effect in the Data Assessment.

- 3.3 Were the surrogate recovery limits followed per Table 2. If Table 2 criteria were not followed, the laboratory may use in-house performance criteria (per SW-846, Method 8000C, section 9.7). Other compounds may be used as surrogates, depending upon the analysis requirements. (In-house Limits) ☐ ☒ ☐

Table 2. Surrogate Spike Recovery Limits for Water and Soil/Sediments

DMC	Recovery Limits (%)Water	Recovery Limits Soil/Sediment
4-Bromofluorobenzene	80-120	70-130
Dibromofluoromethane	80-120	70-130
Toluene-d ₈	80-120	70-130
Dichloroethane-d ₄	80-120	70-130

Note: Use above table if laboratory did not provide in house recovery criteria.

Note: Other compounds may be used as surrogated depending upon the analysis requirements.

- 3.4 Were outliers marked correctly with an asterisk?

☐ ☐ ☒

ACTION: Circle all outliers with a red pencil.

- 3.5 Were one or more volatile surrogate recoveries out of specification for any sample or method blank. Table 2.

☐ ☒ ☐

If yes, were samples reanalyzed?

☐ ☐ ☒

Were method blanks reanalyzed?

☐ ☐ ☒

YES NO N/A

ACTION: If all surrogate recoveries are > 10% but 1 or more compounds do not meet method specifications:

1. Flag all positive results as estimated ("J").
2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.
3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects, but qualify positive results as estimated "J".

If any surrogate has a recovery of < 10%:

1. Positive results are qualified with ("J").
2. Non-detects for that should be qualified as unusable ("R").

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. The basic concern is whether the blank problems represent an isolated problem with the blank alone or whether there is a fundamental problem with the analytical process. If one or more samples in the batch show acceptable surrogate recoveries, the reviewer may choose the blank problem to be an isolated occurrence.

3.6 Are there any transcription/calculation errors between raw data and reported data?

11 — ☒

Level IV not performed on this SDG

ACTION: If large errors exist, take action as specified in section 3.2 above.

4.0 Laboratory Control Sample (Form III/Equivalent)

4.1 Is the LCS prepared, extracted, analyzed, and reported once for every 20 field samples of a similar matrix, per SDG.

11 — ☒

YES NO N/A

Note: LCS consists of an aliquot of a clean (control) matrix similar to the sample matrix and of the same weight or volume.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation /resubmittals. Make note in the data assessment.

4.2 Were the Laboratory Control Samples analyzed at the required frequency for each of the following matrices:

A. Water	☒	☐	☐
B. Soil	☒	☐	☐
C. Med Soil	☐	☐	☒

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

4.3 Have in house LCS recovery limits been developed (Method 8000C, Sect 9.7). ☒ ☐ ☐

4.4 If in house limits are not developed, are LCS acceptance recovery limits between 70 - 130% (Method 8000c Sect 9.5)? ☐ ☐ ☒

4.5 Were one or more of the volatile LCS recoveries outside the in house laboratory recovery criteria for spiked analytes? If in house limits are not present use 70 - 130% recovery limits. ☒ ☐ ☐

YES NO N/A

Table 3. LCS Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit ≤ %R	No Qualifications	

5.0 Matrix Spikes (Form III or equivalent)

5.1 Are all data for matrix spike and matrix duplicate or matrix spike duplicate (MS/MD or MS/MSD) present and complete for each matrix? 11 — ☒

MS/MSD not performed on this SOG

NOTE: The laboratory should use one matrix spike and a duplicate analysis of an unspiked field sample if target analytes are expected in the sample. If the sample is not expected to contain target analytes, a MS/MSD should be analyzed (SW-846, Method 8260B, Sect 8.4.2).

5.2 Have MS/MD or MS/MSD results been summarized on modified CLP Form III? 11 — ☒

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency for each of the following matrices? (One MS/MD, MS/MSD or laboratory replicate must be performed for every 20 samples)

YES NO N/A

of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month [page 8000C, section 9.5.]

- | | | | | |
|----|-----------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a. | Water <i>not in this SOG</i> | ☒ | ☐ | ☐ |
| b. | Waste | ☐ | ☐ | ☒ |
| c. | Soil/Solid <i>not in this SOG</i> | ☒ | ☐ | ☐ |

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene. The concentration of the LCS should be determined as described SW-Method 8000C Section 9.5.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

5.4 Have in house MS recovery limits been developed (Method 8000C, Sect 9.7) for each matrix. ☐ ☐ ☒

5.5 Were one or more of the volatile MS/MSD recoveries outside of the in-house laboratory recovery criteria for spiked analytes? If none are present, then use 70-130% recovery as per SW-846, 8000C, Sect. 9.5.4. ☐ ☐ ☒

ACTION: Circle all outliers with a red pencil.

NOTE: If any individual % recovery in the MS (or MSD) falls outside the designated range for recovery the reviewer should determine if there is a matrix effect. A matrix effect is indicated if the LCS data are within limits but the MS data exceeds the limits.

YES NO N/A

NOTE: No qualification of data is necessary on MS and MSD data alone. However, using informed professional judgement, the data reviewer may use MS and MSD results in conjunction with other QC criteria to determine the need for some qualification.

Note: The data reviewer should first try to determine to what extent the results of the MS and MSD affect the associated data. This determination should be made with regard to the MS and MSD sample itself, as well as specific analytes for all samples associated with the MS and MSD.

Note: In those instances where it can be determined that the results of the MS and MSD affect only the sample spiked, limit qualification to this sample only. However, it may be determined through the MS and MSD results that a laboratory is having a systematic problem in the analysis of one or more analytes that affect all associated samples, and the reviewer must use professional judgement to qualify the data from all associated samples.

Note: The reviewer must use professional judgement to determine the need for qualification of non-spiked compounds.

ACTION: Follow criteria in Table 4 when professional judgement deems qualification of sample.

Table 4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit ≤ %R	No Qualifications	

YES NO N/A

6.0 Blank (CLP Form IV Equivalent)

6.1 Is the Method Blank Summary form present? ☒ ☐ ☐

6.2 Frequency of Analysis: Has a method blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch? ☒ ☐ ☐

6.3 Has a method blank been analyzed for each GC/MS system used ? ☒ ☐ ☐

ACTION: If any blank data are missing, take action as specified above (section 3.2). If blank data is not available, reject @ all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

6.4 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for volatile organic compounds?

☒ ☐ ☐

7.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

7.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary.

☐ ☒ ☐

YES NO N/A

7.2 Do any field/rinse blanks have positive
volatile organic compound results?

(TB + EQ)

— ✓ —

ACTION: Prepare a list of the samples associated with each
of the contaminated blanks. (Attach a separate
sheet.)

NOTE: All field blank results associated to a particular
group of samples (may exceed one per case or one
per day) may be used to qualify data. Blanks may
not be qualified because of contamination in
another blank. Field blanks must be qualified for
surrogate, or calibration QC problems.

ACTION: Follow the directions in Table 5 below to qualify
sample results due to contamination. Use the
largest value from all the associated blanks.

Table 5. Volatile Organic Analysis Blank Contamination Criteria

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Storage, Field, Trip, Instrument**	Detects	Not detected	No qualification
	< CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	> CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report the concentration for the sample with a U, or qualify the data as unusable R
		≥ CRQL and ≥ blank contamination	Use professional judgement
	= CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	Gross contamination	Detects	Qualify results as unusable R

* 2x the CRQL for methylene chloride, 2-butanone, and acetone

** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: If gross blank contamination exists(e.g., saturated peaks, "hump-o-grams," "junk" peaks), all affected positive compounds in the associated samples should be qualified as unusable "R", due to interference. Non-detected volatile organic target compounds do not require qualification unless the contamination is so high that it interferes with the analyses of non-detected compounds.

YES NO N/A

7.3 Are there field/rinse/equipment blanks associated with every sample?

☒ ☐ ☐

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

8.0 GC/MS Apparatus and Materials

8.1 Did the lab use the proper gas chromatographic column(s) for analysis of volatiles by Method 8260B? Check raw data, instrument logs or contact the lab to determine what type of column(s) was (were) used.

☒ ☐ ☐

NOTE: For the analysis of volatiles, the method requires the use of 60 m. x 0.75 mm capillary column, coated with VOCOL(Supelco) or equivalent column. (see SW-846, page 8260B-7, section 4.9.2)

ACTION: If the specified column, or equivalent, was not used, document the effects in the Data Assessment. Use professional judgement to determine the acceptability of the data.

9.0 GC/MS Instrument Performance Check (CLP Form V Equivalent)

9.1 Are the GC/MS Instrument Performance Check forms present for Bromofluorobenzene (BFB), and do these forms list the associated samples with date/time analyzed?

☒ ☐ ☐

9.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?

☒ ☐ ☐

9.3 Has an instrument performance check solution (BFB)

YES NO N/A

been analyzed for every twelve hours of sample analysis per instrument?(see Table 4, SW-846, page 8260B-36)

☒ ☐ ☐

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS GC/MS tuning data are available.

ACTION: If the laboratory/project officer cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable, "R".

9.4 Have the ion abundances been normalized to m/z 95?

☒ ☐ ☐

9.5 Have the ion abundance criteria been met for each instrument used?

☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, take action as specified in section 3.2.

9.6 Are there any transcription/calculation errors between mass lists and reported values? (Check at least two values but if errors are found, check more.)

☐ ☐ ☒

9.7 Have the appropriate number of significant figures (two) been reported?

☒ ☐ ☐

ACTION: If large errors exist, take action as specified in section 3.2.

9.8 Are the spectra of the mass calibration compounds acceptable.

☒ ☐ ☐

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

YES NO N/A

10.0 Target Analytes (CLP Form I Equivalent)

10.1 Are the Organic Analysis reporting forms present with required header information on each page, for each of the following:

- | | | | |
|--|-------------------------------------|--------------------------|-------------------------------------|
| a. Samples and/or fractions as appropriate | ☒ | ☐ | ☐ |
| b. Matrix spikes and matrix spike duplicates | ☐ | ☐ | ☒ |
| c. Blanks | ☒ | ☐ | ☐ |
| d. Laboratory Control Samples | ☒ | ☐ | ☐ |

10.2 Are the reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

- | | | | |
|---|-------------------------------------|--------------------------|-------------------------------------|
| a. Samples and/or fractions as appropriate | ☒ | ☐ | ☐ |
| b. Matrix spikes and matrix spike duplicates
(Mass spectra not required) | ☐ | ☐ | ☒ |
| c. Blanks | ☒ | ☐ | ☐ |
| d. Laboratory Control Samples | ☒ | ☐ | ☐ |

ACTION: If any data are missing, take action specified in 3.2 above.

10.3 Is chromatographic performance acceptable with respect to:

Baseline stability?	☒	☐	☐
---------------------	-------------------------------------	--------------------------	--------------------------

YES NO N/A

Resolution?

☒ ☐ ☐

Peak shape?

☒ ☐ ☐

Full-scale graph (attenuation)?

☒ ☐ ☐

Other: _____

ACTION: Use professional judgement to determine the acceptability of the data.

10.4 Are the lab-generated standard mass spectra of identified volatile compounds present for each sample? ☐ ☐ ☒

All ND

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the Data Assessment. If spectra are missing, contact the lab for missing spectra.

10.5 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration? ☐ ☐ ☒

All ND

10.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? ☐ ☐ ☒

10.7 Do the relative intensities of the characteristic ions in the sample agree within $\pm 30\%$ of the corresponding relative intensities in the reference spectrum? ☐ ☐ ☒

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected ("R"), flagged ("N") - Presumptive evidence of the presence of the compound) or changed to non detected ("U") at the calculated detection limit. In order to be

YES NO N/A

positively identified, the data must comply with the criteria listed in 9.6, 9.7, and 9.8.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

11.0 Tentatively Identified Compounds (TIC) (CLP Form I/TIC Equivalent)

11.1 If Tentatively Identified Compound were required for this project, are all Tentatively Identified Compound reporting forms present; and do listed TICs include scan number or retention time, estimated concentration and a qualifier? ☐ ☐ ☒

NOTE: Add "N" qualifier to all TICs which have CAS number, if missing.

NOTE: Have the project officer/appropriate official check the project plan to determine if lab was required to identify non-target analytes (SW-846, page 8260B-23, Sect. 7.6.2).

11.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:

a. Samples and/or fractions as appropriate ☐ ☐ ☒

b. Blanks ☐ ☐ ☒

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by a CAS#.

NOTE: If TICs are present in the associated blanks take action as specified in section 3.2 above.

YES NO N/A

11.3 Are any priority pollutants listed as TIC compounds (i.e., an BNA compound listed as a VOA TIC)? ☐ ☐ ☒

ACTION: 1. Flag with "R" any target compound listed as a TIC.
2. Make sure all rejected compounds are properly reported if they are target compounds.

11.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? ☐ ☐ ☒

11.5 Do TIC and "best match" standard relative ion intensities agree within $\pm 20\%$? ☐ ☐ ☒

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate. Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R". (Common lab contaminants: CO₂ (M/E 44), Siloxanes (M/E 73), Hexane, Aldol Condensation Products, Solvent Preservatives, and related byproducts).

12.0 Compound Quantitation and Reported Detection Limits

12.1 Are there any transcription/calculation errors in organic analysis reporting form results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and average initial RRF/CF were used to calculate organic analysis reporting form result. Were any errors found? ☐ ☐ ☒
level IV not performed on this SOG

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks > 25%) should be

YES NO N/A

reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

12.2 Are the method CRQL's adjusted to reflect sample dilutions and, for soils, sample moisture?

☒ ☐ ☐

ACTION: If errors are large, take action as specified in section 3.2 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC accedence dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original reporting form (if present) and substituting the data from the analysis of the diluted sample. Specify which organic analysis reporting form is to be used, then draw a red "X" across the entire page of all reporting forms that should not be used, including any in the summary package.

13.0 Standards Data (GC/MS)

13.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant Reports) present for initial and continuing calibration?

☒ ☐ ☐

ACTION: If any calibration standard data are missing, take action specified in section 3.2 above.

14.0 GC/MS Initial Calibration (CLP Form VI Equivalent)

YES NO N/A

14.1 Are the Initial Calibration reporting forms present and complete for the volatile fraction? ☒ ☐ ☐

ACTION: If any calibration forms or standard raw data are missing, take action specified in section 3.2 above.

ACTION: If the percent relative standard deviation (% RSD) is > 20%, (8000C-39) qualify positive results for that analyte "J". When % RSD > 90%,. Qualify all positive results for that analyte "J" and all non-detects results for that analyte "R".

14.2 Are all average RRFs > 0.050? ☒ ☐ ☐

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be $\geq$ the values in the following list. If individual RRF values reported are below the listed values document in the Data Assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with red pencil.

ACTION: For any target analyte with average RRF < 0.05, or for the requirements for the 5 compounds in 14.2 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

14.3 Are response factors stable over the concentration range of the calibration. ☒ ☐ ☐

NOTE: (Method Requirement) For the following CCC compounds, the %RSD values must be $\leq$ 30.0%. If %RSD values reported are > 30.0% document in the Data Assessment.

YES NO N/A

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

ACTION: Circle all outliers with a red pencil.

ACTION: If the % RSD is > 20.0%, or > 30% for the 6 compounds in 14.3 above, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

14.4 Was the % RSD determined using RRF or CF?

14 — —

If no, what method was used to determine the linearity of the initial calibration? Document any effects to the case in the Data Assessment.

14.5 Are there any transcription/calculation errors in the reporting of RRF or % RSD? (Check at least two values but if errors are found, check more.)

11 — — ✓

Level IV not performed on this SDG

ACTION: Circle errors with a red pencil.

ACTION: If errors are large, take action as specified in section 3.2 above.

15.0 GC/MS Calibration Verification (CLP Form VII Equivalent)

YES NO N/A

15.1 Are the Calibration Verification reporting forms present and complete for all compounds of interest? ☒ ☐ ☐

15.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument? ☒ ☐ ☐

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

ACTION: If any forms are missing or no calibration verification standard has been analyzed twelve hours prior to sample analysis, take action as specified in section 3.2 above. If calibration verification data are not available, flag all associated sample data as unusable ("R").

15.3 Was the % D determined from the calibration verification determined using RRF or CF? ☒ ☐ ☐

If no, what method was used to determine the calibration verification? Document any effects to the case in the Data Assessment.

15.4 Do any volatile compounds have a % D (difference or drift) between the initial and continuing RRF or CF which exceeds 20% (SW-846, page 8260B-19, section 7.4.5.2). ☒ ☐ ☐

NOTE: (Method Requirement) For the following CCC compounds, the %D values must be $\leq 20.0\%$. If %D values reported are $> 20.0\%$ document in the Data Assessment.

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

YES NO N/A

ACTION: Circle all outliers with a red pencil.

ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated, "J". When %D is above 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

15.5 Do any volatile compounds have a RRF < 0.05? 11 ✓ —

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be $\geq$ the values in the following list for each calibration verification. If average RRF values reported are below the listed values document in the data assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with a red pencil.

ACTION: If RRF < 0.05, or < the requirements for the 5 compounds in section 15.5 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

16.0 Internal Standards (CLP Form VIII Equivalent)

16.1 Are the internal standard (IS) areas on the internal standard reporting forms of every sample and blank within the upper and lower limits (-50% to + 100%) for each initial mid-point calibration (SW-846, 8260B-20, Sect. 7.4.7)? ✓ — —

YES NO N/A

ACTION: If errors are large or information is missing, take action as specified in section 3.2 above.

ACTION: List each outlying internal standard below.

Sample ID	IS #	Area Lower Limit	Area Upper Limit
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Attach additional sheets if necessary.)

- ACTION:
1. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results quantitated with this internal standard.
 2. Do not qualify non-detects when the associated IS are counts area > + 100%.
 3. If the IS area is below the lower limit (< - 50%), qualify all associated non-detects (U-values) "J".
 4. If extremely low area counts are reported (< - 25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable "R" and positive results as estimated "J".

16.2 Are the retention times of all internal standards within 30 seconds of the associated initial mid-point calibration standard (SW-846, 8260B-20, Sect. 7.4.6)? 1

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

YES NO N/A

17.0 Field Duplicates

17.1 Were any field duplicates submitted for
volatile analysis?

11 ☒

ACTION: Compare the reported results for field duplicates and
calculate the relative percent difference.

ACTION: Any gross variation between field duplicate
results must be addressed in the Data Assessment.
However, if large differences exist, take action
specified in section 3.2 above.



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Sample Reference List for SDG Number GSK02
with a Data Package Type of NYSDEC B
06911 - Groundwater Science Co
Project: TechCity Surficial Soil

<u>Lab Sample Number</u>	<u>Lab Sample Code</u>	<u>Client Sample Description</u>
6449976	4D02-	OU04D0211025 Grab Soil
6449977	4D13-	OU04D1311025 Grab Soil
6449978	4D25-	OU04D2511025 Grab Soil
6449979	4J02-	OU04J0211025 Grab Soil
6449980	4J13-	OU04J1311025 Grab Soil
6449981	4J25-	OU04J2511025 Grab Soil
6449982	4E04-	OU04E0411025 Grab Soil
6449983	4E13-	OU04E1311025 Grab Soil
6449984	4E25-	OU04E2511025 Grab Soil
6449985	4A04-	OU04A0411025 Grab Soil
6449986	4A13-	OU04A1311025 Grab Soil
6449987	4A25-	OU04A2511025 Grab Soil
6449988	4G04-	OU04G0411025 Grab Soil
6449989	4G13-	OU04G1311025 Grab Soil
6449990	4G25-	OU04G2511025 Grab Soil
6449991	TEQ--	TEQ11025AUGR Grab Water
6449992	4I04-	OU04I0411025 Grab Soil
6449993	4I13-	OU04I1311025 Grab Soil
6449994	4I25-	OU04I2511025 Grab Soil
6449995	TTBA-	TTBA10251026 Water

GSK02 5001

01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030B, December 1996.

10904 8260 Ext. Water Master

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

10949 8260 Ext. Soil Master

The soil sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

00111 Moisture

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2540 G

08389 GC/MS - LL Encore Prep

Two EnCore samples are collected per sample. The vials used for preparation are pre-preserved and pre-weighed. Two aliquots are extruded into a sodium bisulfate solution. The vials are re-weighed and the weight of the sample should be 5-g +/- .5 g. The prepared samples are then delivered to the lab for analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5035, November 2004.

07578 GC/MS-HL Encore Prep-NC

The sample is collected in an EnCore sampler and is submitted to the laboratory. A vial containing 5-ml methanol is prepared for each sample and weighed prior to adding the sample. After the sample is added to the vial, the vial is reweighed and the weight of sample is determined by difference. The weight of the sample should be 5-g +/- .5 g. The sample vial is then delivered to the lab for analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5035, November 2004.

GC/MS VOLATILES CALCULATIONS:

1. Relative response factor (RRF)

$$RRF = \frac{A_x}{A_{is}} \times \frac{C_{is}}{C_x}$$

Where :

A_x = Area of the characteristic ion for the compound to be measured.

A_{is} = Area of the characteristic ion for the specific internal standard to be measured.

C_{is} = Concentration of the internal standard.

C_x = Concentration of the compound to be measured.

2. % Relative Standard Deviation (%RSD)

$$\%RSD = \frac{\text{Standard deviation}}{\text{mean}} \times 100$$

3. % Difference (%D)

$$\%D = \frac{RRF_c - RRF_i}{RRF_i} \times 100$$

Where:

RRF_c = Relative response factor from continuing calibration standard.

RRF_i = Mean relative response factor from the initial calibration.

4. Concentration

$$\text{Concentration (ug/l)} = \frac{(A_x) (I_s) (D_f)}{(A_{is}) (RRF)}$$

Where:

A_x, A_{is}, RRF are as given in 1. above.

I_s = Concentration of internal standard added in parts per billion (ug/l)

D_f = Dilution factor

5. % Recovery (%Rec)

$$\%Rec = \frac{SSR - SR}{SA} \times 100$$

Where:

SSR = Spiked sample result

SR = Sample result

SA = Spike added

6. Relative Percent Difference (RPD)

$$RPD = \frac{|MSR - MSDR|}{(1/2) (MSR + MSDR)} \times 100$$

Where:

MSR = Matrix spike recovery

MSDR = Matrix spike duplicate recovery

GSX02 0854



Quality Control Reference List
GC/MS Volatiles

CLIENT: Groundwater Science Co
SDG: GSK02

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
Volatiles by 8260B	Y113011AA	VBLKY68	10/28/2011 13:08:00
		LCSY68	10/28/2011 13:52:00
		LCDY68	10/28/2011 14:13:00
		6449991	10/28/2011 18:52:00
		6449995	10/28/2011 19:13:00
Volatiles in Soil	A113021AA	VBLKA34	10/29/2011 13:35:00
		LCSA34	10/29/2011 14:00:00
		LCDA34	10/29/2011 14:24:00
		6449976	10/29/2011 15:23:00
		6449977	10/29/2011 15:46:00
		6449978	10/29/2011 16:09:00
		6449979	10/29/2011 16:32:00
		6449980	10/29/2011 16:54:00
		6449981	10/29/2011 17:17:00
		6449982	10/29/2011 17:40:00
		6449983	10/29/2011 18:02:00
		6449984	10/29/2011 18:25:00
		6449985	10/29/2011 18:48:00
		6449986	10/29/2011 19:11:00
		6449987	10/29/2011 19:33:00
		6449988	10/29/2011 19:56:00
		6449989	10/29/2011 20:19:00
		6449990	10/29/2011 20:41:00
		6449992	10/29/2011 21:04:00
		6449993	10/29/2011 21:27:00
		6449994	10/29/2011 21:49:00

GSK02 8856.



Quality Control Summary
 Surrogates
 GC/MS Volatiles
 SDG: GSK02
 Matrix: SOLID

Fraction: Volatiles by GC/MS

A113021AA Sample	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKA34	102	71 - 114	102	70 - 109	105	70 - 123	92	70 - 111
LCSA34	101	71 - 114	102	70 - 109	108	70 - 123	101	70 - 111
LCDA34	101	71 - 114	102	70 - 109	106	70 - 123	99	70 - 111
6449976	101	71 - 114	102	70 - 109	108	70 - 123	86	70 - 111
6449977	101	71 - 114	103	70 - 109	102	70 - 123	92	70 - 111
6449978	102	71 - 114	103	70 - 109	103	70 - 123	92	70 - 111
6449979	100	71 - 114	99	70 - 109	114	70 - 123	82	70 - 111
6449980	102	71 - 114	105	70 - 109	103	70 - 123	92	70 - 111
6449981	103	71 - 114	104	70 - 109	103	70 - 123	92	70 - 111
6449982	103	71 - 114	101	70 - 109	109	70 - 123	84	70 - 111
6449983	102	71 - 114	103	70 - 109	103	70 - 123	91	70 - 111
6449984	103	71 - 114	104	70 - 109	103	70 - 123	91	70 - 111
6449985	103	71 - 114	102	70 - 109	110	70 - 123	83	70 - 111
6449986	104	71 - 114	104	70 - 109	106	70 - 123	86	70 - 111
6449987	104	71 - 114	105	70 - 109	104	70 - 123	88	70 - 111
6449988	104	71 - 114	102	70 - 109	107	70 - 123	87	70 - 111
6449989	104	71 - 114	103	70 - 109	102	70 - 123	91	70 - 111
6449990	104	71 - 114	105	70 - 109	102	70 - 123	91	70 - 111
6449992	104	71 - 114	106	70 - 109	116	70 - 123	82	70 - 111
6449993	104	71 - 114	104	70 - 109	102	70 - 123	89	70 - 111
6449994	105	71 - 114	107	70 - 109	103	70 - 123	90	70 - 111

GSK02 8859



Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: GSK02
Matrix: SOLID

Fraction: Volatiles by GC/MS

A113021AA / VBLKA34 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	10/29/11	N.D.	ug/kg	2	5
Chloromethane	10/29/11	N.D.	ug/kg	2	5
Vinyl Chloride	10/29/11	N.D.	ug/kg	1	5
Bromomethane	10/29/11	N.D.	ug/kg	2	5
Chloroethane	10/29/11	N.D.	ug/kg	2	5
Trichlorofluoromethane	10/29/11	N.D.	ug/kg	2	5
1,1-Dichloroethene	10/29/11	N.D.	ug/kg	1	5
Freon 113	10/29/11	N.D.	ug/kg	2	10
Benzene	10/29/11	N.D.	ug/kg	0.5	5
Bromodichloromethane	10/29/11	N.D.	ug/kg	1	5
Carbon Tetrachloride	10/29/11	N.D.	ug/kg	1	5
Chloroform	10/29/11	N.D.	ug/kg	1	5
Dibromomethane	10/29/11	N.D.	ug/kg	1	5
1,1-Dichloroethane	10/29/11	N.D.	ug/kg	1	5
1,2-Dichloroethane	10/29/11	N.D.	ug/kg	1	5
1,2-Dichloroethene (Total)	10/29/11	N.D.	ug/kg	1	5
1,2-Dichloropropane	10/29/11	N.D.	ug/kg	1	5
cis-1,3-Dichloropropene	10/29/11	N.D.	ug/kg	1	5
Freon 123a	10/29/11	N.D.	ug/kg	2	5
Methylene Chloride	10/29/11	N.D.	ug/kg	2	5
Toluene	10/29/11	N.D.	ug/kg	1	5
1,1,1-Trichloroethane	10/29/11	N.D.	ug/kg	1	5
Trichloroethene	10/29/11	N.D.	ug/kg	1	5
Benzyl Chloride	10/29/11	N.D.	ug/kg	1	4
Bromobenzene	10/29/11	N.D.	ug/kg	1	5
Bromoform	10/29/11	N.D.	ug/kg	1	5
Chlorobenzene	10/29/11	N.D.	ug/kg	1	5
2-Chlorotoluene	10/29/11	N.D.	ug/kg	1	5
4-Chlorotoluene	10/29/11	N.D.	ug/kg	1	5
Dibromochloromethane	10/29/11	N.D.	ug/kg	1	5
1,2-Dichlorobenzene	10/29/11	N.D.	ug/kg	1	5
1,3-Dichlorobenzene	10/29/11	N.D.	ug/kg	1	5
1,4-Dichlorobenzene	10/29/11	N.D.	ug/kg	1	5
trans-1,3-Dichloropropene	10/29/11	N.D.	ug/kg	1	5
Ethylbenzene	10/29/11	N.D.	ug/kg	1	5
1,1,1,2-Tetrachloroethane	10/29/11	N.D.	ug/kg	1	5
1,1,2,2-Tetrachloroethane	10/29/11	N.D.	ug/kg	1	5
Tetrachloroethene	10/29/11	N.D.	ug/kg	1	5
1,1,2-Trichloroethane	10/29/11	N.D.	ug/kg	1	5
1,2,3-Trichloropropane	10/29/11	N.D.	ug/kg	1	5
Xylene (Total)	10/29/11	N.D.	ug/kg	1	5

GSK02 0057



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK02
Matrix: SOLID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSA34 LCSD: LCDA34		Batch: A113021AA (Sample number(s): 6449976-6449990, 6449992-6449994)						
Analyte	Spike Added ug/kg	LCS Conc ug/kg	LCSD Conc ug/kg	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	15.08	15.64	75	78	20-120	4	30
Chloromethane	20	19.52	20.12	98	101	54-132	3	30
Vinyl Chloride	20	17.5	18.1	88	91	53-120	3	30
Bromomethane	20	16.9	16.19	85	81	32-162	4	30
Chloroethane	20	16.86	17.1	84	86	37-154	1	30
Trichlorofluoromethane	20	19.72	20.05	99	100	58-133	2	30
1,1-Dichloroethene	20	16.32	17.14	82	86	73-123	5	30
Freon 113	20	17.49	18.18	87	91	61-126	4	30
1,1,1-Trichloroethane	20	17.45	17.85	87	89	71-125	2	30
1,1-Dichloroethane	20	18.31	18.98	92	95	80-120	4	30
1,2-Dichloroethane	20	18.18	18.24	91	91	71-129	0	30
1,2-Dichloroethene (Total)	40	33.81	34.83	85	87	80-120	3	30
1,2-Dichloropropane	20	18.64	18.93	93	95	80-120	2	30
Benzene	20	17.98	18.49	90	92	80-120	3	30
Bromodichloromethane	20	17.15	17.51	86	88	78-120	2	30
Carbon Tetrachloride	20	17.34	17.9	87	90	69-122	3	30
Chloroform	20	17.83	18.16	89	91	80-120	2	30
cis-1,3-Dichloropropene	20	16.07	16.79	80	84	80-120	4	30
Dibromomethane	20	17.17	17.44	86	87	80-120	2	30
Freon 123a	20	29.67	29.71	148 *	149 *	61-127	0	30
Methylene Chloride	20	19.08	19.12	95	96	76-124	0	30
Toluene	20	18.42	18.79	92	94	80-120	2	30
Trichloroethene	20	16.93	17.49	85	87	80-120	3	30
1,1,1,2-Tetrachloroethane	20	19.08	19.38	95	97	80-120	2	30
1,1,2,2-Tetrachloroethane	20	19.27	19.12	96	96	71-123	1	30
1,1,2-Trichloroethane	20	18.8	19.19	94	96	80-120	2	30
1,2,3-Trichloropropane	20	18.36	18.3	92	92	71-123	0	30
1,2-Dichlorobenzene	20	19.66	19.75	98	99	79-120	0	30
1,3-Dichlorobenzene	20	19.5	19.92	97	100	78-120	2	30
1,4-Dichlorobenzene	20	19.71	19.95	99	100	79-120	1	30
2-Chlorotoluene	20	18.99	19.3	95	96	78-120	2	30
4-Chlorotoluene	20	19.6	19.88	98	99	79-120	1	30
Benzyl Chloride	20	16.52	16.93	83	85	66-120	2	30
Bromobenzene	20	19.33	19.42	97	97	79-120	1	30
Bromoform	20	17.67	17.91	88	90	70-120	1	30
Chlorobenzene	20	19.29	19.59	96	98	80-120	2	30
Dibromochloromethane	20	18.55	18.66	93	93	77-120	1	30
Ethylbenzene	20	19.11	19.52	96	98	80-120	2	30
Tetrachloroethene	20	18.97	19.55	95	98	77-120	3	30
trans-1,3-Dichloropropene	20	17.28	17.73	86	89	77-120	3	30
Xylene (Total)	60	58.49	59.45	97	99	80-120	2	30

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK02____
Lab File ID: ag05t01.d BFB Injection Date: 08/05/11
Instrument ID: HP09685 BFB Injection Time: 16:24
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.65
75	30.0 - 60.0% of mass 95	47.62
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.92
173	Less than 2.0% of mass 174	0.50 (0.60)1
174	Greater than 50.0% of mass 95	83.83
175	5.0 - 9.0% of mass 174	5.89 (7.02)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.23 (96.90)1
177	5.0 - 9.0% of mass 176	5.36 (6.60)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	ag05i01.d	08/05/11	16:46
02	VSTD100	ag05i02.d	08/05/11	17:09
03	VSTD50	ag05i03.d	08/05/11	17:31
04	VSTD20	ag05i04.d	08/05/11	17:54
05	VSTD10	ag05i05.d	08/05/11	18:16
06	VSTD4	ag05i06.d	08/05/11	18:39
07	VSTD0001	ag05m01.d	08/05/11	19:01
08	VSTD300	ag05i11.d	08/05/11	19:24
09	VSTD100	ag05i12.d	08/05/11	19:46
10	VSTD50	ag05i13.d	08/05/11	20:09
11	VSTD20	ag05i14.d	08/05/11	20:31
12	VSTD10	ag05i15.d	08/05/11	20:54
13	VSTD4	ag05i16.d	08/05/11	21:17
14	VSTD0001	ag05m11.d	08/05/11	21:39
15	VLKA00	ag05b01.d	08/05/11	22:02
16	LCS1A00	ag05l02.d	08/05/11	22:47
17	6355784RE	ag05s01.d	08/05/11	23:09
18	LCSA00	ag05l03.d	08/05/11	23:53
19	LCDA00	ag05l04.d	08/06/11	00:18
20	LCD1A00	ag05l05.d	08/06/11	00:41
21	6364612	ag05s02.d	08/06/11	01:34
22	6364610	ag05s03.d	08/06/11	01:56

GSK02 0063

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK02____
 Lab File ID: ag05t01.d BFB Injection Date: 08/05/11
 Instrument ID: HP09685 BFB Injection Time: 16:24
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.65
75	30.0 - 60.0% of mass 95	47.62
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.92
173	Less than 2.0% of mass 174	0.50 (0.60)1
174	Greater than 50.0% of mass 95	83.83
175	5.0 - 9.0% of mass 174	5.89 (7.02)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.23 (96.90)1
177	5.0 - 9.0% of mass 176	5.36 (6.60)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6365515	ag05s05.d	08/06/11	02:41
24	6365516	ag05s06.d	08/06/11	03:03
25	6365519	ag05s07.d	08/06/11	03:25
26	6365520	ag05s08.d	08/06/11	03:48
27	6365518	ag05s09.d	08/06/11	04:11

GSK02 8864

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HPD9685 Calibration Date(s): 08/05/11 08/05/11
Heated Purge: (Y/N) Y Calibration Times: 16:46 18:39
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = ag05i06.d RRF 10 = ag05i05.d RRF 20 = ag05i04.d
RRF 50 = ag05i03.d RRF100 = ag05i02.d RRF300 = ag05i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.4002	0.3760	0.3842	0.4671	0.4416	0.3969		0.4110	9	AVG
Chloromethane	#0.3802	0.3704	0.3795	0.4270	0.4007	0.3664		0.3874	6	AVG
Vinyl Chloride	*0.4000	0.3727	0.3795	0.4384	0.4054	0.3734		0.3949	6	AVG
Bromomethane	0.2817	0.2727	0.2527	0.2727	0.2502	N/A		0.2660	5	AVG
Chloroethane	0.2170	0.2137	0.2131	0.2265	0.2272	0.1444		0.2070	15	AVG
Trichlorofluoromethane	0.4774	0.4452	0.4506	0.5253	0.5001	0.4289		0.4712	8	AVG
Ethanol	0.1380	0.1249	0.1123	0.1192	0.1029	0.1139		0.1185	10	AVG
Freon 123a	0.3489	0.3454	0.3458	0.3411	0.3423	0.3103		0.3390	4	AVG
Acrolein	1.5457	1.7705	1.6582	1.9737	2.2793	1.8750		1.8504	14	AVG
1,1-Dichloroethene	*0.2531	0.2489	0.2567	0.2566	0.2644	0.2388		0.2531	3	AVG
Dichlorofluoromethane	0.5932	0.5823	0.5781	0.5530	0.5418	0.4541		0.5504	9	AVG
Freon 113	0.2717	0.2619	0.2648	0.2770	0.2857	0.2538		0.2691	4	AVG
Acetone	0.0333	0.0266	0.0280	0.0334	0.0291	0.0264		0.0295	11	AVG
Methyl Iodide	0.4626	0.4847	0.4984	0.4917	0.5047	0.4584		0.4834	4	AVG
2-Propanol	0.7445	0.7607	0.7236	0.7004	0.6938	0.7118		0.7225	4	AVG
Carbon Disulfide	0.8279	0.8424	0.8717	0.8706	0.9053	0.7976		0.8526	4	AVG
Allyl Chloride	0.3826	0.3487	0.3538	0.3764	0.3859	0.3559		0.3672	4	AVG
Methyl Acetate	0.2347	0.1852	0.1928	0.2013	0.1906	0.1780		0.1971	10	AVG
Methylene Chloride	0.3516	0.3239	0.3166	0.3026	0.3045	0.2757		0.3125	8	AVG
t-Butyl Alcohol	1.2757	1.3904	1.3817	1.3347	1.3260	1.1543		1.3104	7	AVG
Acrylonitrile	0.1113	0.0926	0.1019	0.1176	0.1052	0.0955		0.1040	9	AVG
trans-1,2-Dichloroethene	0.2799	0.2933	0.3018	0.2967	0.3064	0.2788		0.2928	4	AVG
Methyl Tertiary Butyl Ether	0.8152	0.8311	0.8795	0.8723	0.8511	0.7991		0.8414	4	AVG
n-Hexane	0.3765	0.3707	0.3749	0.3921	0.4028	0.3779		0.3825	3	AVG
1,1-Dichloroethane	#0.4903	0.5134	0.5221	0.5149	0.5237	0.4711		0.5059	4	AVG
2-Chloro-1,3-Butadiene	0.3755	0.3923	0.4117	0.4264	0.4446	0.4014		0.4086	6	AVG
di-Isopropyl Ether	0.7989	0.8430	0.8641	0.8629	0.8660	0.7856		0.8368	4	AVG
Ethyl t-Butyl Ether	0.8081	0.8504	0.8841	0.8906	0.8891	0.8223		0.8574	4	AVG
cis-1,2-Dichloroethene	0.3194	0.3282	0.3326	0.3294	0.3369	0.3117		0.3264	3	AVG
1,2-Dichloroethene (total)	0.2997	0.3107	0.3172	0.3130	0.3217	0.2952		0.3096	3	AVG
2,2-Dichloropropane	0.4113	0.4270	0.4424	0.4501	0.4678	0.4236		0.4370	5	AVG
2-Butanone	0.1437	0.1213	0.1403	0.1687	0.1493	0.1320		0.1426	11	AVG
Propionitrile	1.3079	1.5768	1.4690	1.4129	1.4976	1.3322		1.4327	7	AVG
Methacrylonitrile	0.1343	0.1300	0.1445	0.1467	0.1324	0.1295		0.1362	6	AVG
Bromochloromethane	0.1590	0.1563	0.1581	0.1671	0.1657	0.1629		0.1615	3	AVG
Tetrahydrofuran	1.1957	1.3235	1.2617	1.4254	1.5396	1.3267		1.3454	9	AVG
Chloroform	*0.5068	0.5224	0.5322	0.5251	0.5302	0.4824		0.5165	4	AVG
1,1,1-Trichloroethane	0.5546	0.5085	0.5209	0.4854	0.4945	0.4518		0.5026	7	AVG
Cyclohexane	0.4634	0.4589	0.4586	0.4779	0.4864	0.4414		0.4644	3	AVG
Cyclohexane(mz84)	0.4303	0.4256	0.4187	0.4432	0.4447	0.4117		0.4290	3	AVG
Cyclohexane(mz69)	0.1496	0.1491	0.1491	0.1546	0.1585	0.1446		0.1509	3	AVG
1,1-Dichloropropene	0.3893	0.3979	0.4079	0.4087	0.4225	0.3863		0.4021	3	AVG
Carbon Tetrachloride	0.3767	0.3851	0.3964	0.4035	0.4190	0.3866		0.3945	4	AVG
Benzene	1.1762	1.2101	1.2149	1.1869	1.1999	1.0864		1.1791	4	AVG
Isobutyl Alcohol	0.3775	0.4286	0.4260	0.4031	0.4012	0.3613		0.3996	7	AVG
1,2-Dichloroethane	0.4157	0.4202	0.4289	0.4215	0.4174	0.3854		0.4148	4	AVG
1,2-Dichloroethane(mz98)	0.0360	0.0378	0.0384	0.0378	0.0376	0.0360		0.0373	3	AVG
t-Amyl Methyl Ether	0.7419	0.7733	0.8150	0.8246	0.8202	0.7781		0.7922	4	AVG
n-Heptane	0.3681	0.3809	0.3895	0.3920	0.4032	0.3906		0.3874	3	AVG
n-Butanol	0.3194	0.3728	0.3857	0.3832	0.3905	0.3596		0.3685	7	AVG
Trichloroethene	0.3132	0.3192	0.3231	0.3206	0.3301	0.3041		0.3184	3	AVG
Methylcyclohexane	0.5067	0.4504	0.4786	0.5390	0.5554	0.5382		0.5114	8	AVG

Minimum RRF for SPCC(8) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

GSX82 8871

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09685 Calibration Date(s): 08/05/11 08/05/11
Heated Purge: (Y/N) Y Calibration Times: 16:46 18:39
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = ag05i06.d RRF 10 = ag05i05.d RRF 20 = ag05i04.d
RRF 50 = ag05i03.d RRF100 = ag05i02.d RRF300 = ag05i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,2-Dichloropropane	0.2987	0.3124	0.3170	0.3167	0.3231	0.3044		0.3121	3	AVG
Dibromomethane	0.1961	0.1998	0.2075	0.2075	0.2042	0.1959		0.2018	3	AVG
1,4-Dioxane	0.1310	0.1450	0.1409	0.1513	0.1462	0.1407		0.1425	5	AVG
Methyl Methacrylate	0.2156	0.2086	0.2402	0.2508	0.2393	0.2365		0.2318	7	AVG
Bromodichloromethane	0.3435	0.3721	0.3918	0.3992	0.4078	0.3848		0.3832	6	AVG
2-Nitropropane	1.8434	2.2727	2.3055	2.8015	3.2583	N/A		2.4963	22	1STD EG
cis-1,3-Dichloropropene	0.4163	0.4572	0.4864	0.4999	0.5096	0.4812		0.4751	7	AVG
4-Methyl-2-Pentanone	0.2824	0.2570	0.3058	0.3808	0.3604	0.3012		0.3146	15	AVG
Toluene	1.0026	0.9895	1.0002	0.9703	0.9911	0.8950		0.9748	4	AVG
trans-1,3-Dichloropropene	0.5064	0.5572	0.5959	0.6148	0.6257	0.5931		0.5822	8	AVG
Ethyl Methacrylate	0.4164	0.4523	0.5229	0.5590	0.5526	0.5332		0.5060	11	AVG
1,1,2-Trichloroethane	0.3508	0.3546	0.3644	0.3598	0.3519	0.3329		0.3524	3	AVG
Tetrachloroethene	0.4310	0.4413	0.4384	0.4392	0.4550	0.4170		0.4370	3	AVG
1,3-Dichloropropane	0.5970	0.5975	0.6216	0.6202	0.6178	0.5828		0.6061	3	AVG
2-Hexanone	0.2748	0.2403	0.2908	0.3637	0.3414	N/A		0.3022	17	1STD EG
Dibromochloromethane	0.3318	0.3572	0.3898	0.4075	0.4170	0.4043		0.3846	9	AVG
1,2-Dibromomethane	0.3481	0.3568	0.3797	0.3773	0.3687	0.3521		0.3638	4	AVG
Chlorobenzene	1.1258	1.1585	1.1582	1.1310	1.1523	1.0423		1.1280	4	AVG
1,1,1,2-Tetrachloroethane	0.3435	0.3754	0.3909	0.3933	0.4059	0.3887		0.3829	6	AVG
Ethylbenzene	1.8022	1.8905	1.8915	1.8690	1.9138	1.6258		1.8321	6	AVG
m,p-Xylene	0.7071	0.7486	0.7451	0.7453	0.7721	0.6211		0.7232	7	AVG
Xylene (Total)	0.7017	0.7464	0.7450	0.7460	0.7718	0.6267		0.7229	7	AVG
o-Xylene	0.6909	0.7418	0.7447	0.7474	0.7713	0.6381		0.7223	7	AVG
Styrene	0.9897	1.1117	1.1913	1.2300	1.2779	1.0527		1.1422	10	AVG
Bromoform	0.2262	0.2449	0.2765	0.2995	0.3041	0.3036		0.2758	12	AVG
Isopropylbenzene	1.7089	1.8260	1.8499	1.8465	1.9076	1.6170		1.7926	6	AVG
Cyclohexanone	0.3847	0.4284	0.4200	0.4384	0.4430	0.4332		0.4246	5	AVG
Bromobenzene	0.8569	0.8749	0.8692	0.8577	0.8786	0.7767		0.8523	4	AVG
1,1,2,2-Tetrachloroethane	0.9233	0.8713	0.9367	0.9288	0.8827	0.8138		0.8928	5	AVG
1,2,3-Trichloropropane	0.3261	0.2749	0.2908	0.2823	0.2654	0.2355		0.2792	11	AVG
trans-1,4-Dichloro-2-Butene	0.2646	0.2709	0.2991	0.2891	0.2727	0.2319		0.2714	9	AVG
n-Propylbenzene	3.8059	3.9038	3.8472	3.7686	3.8029	2.9230		3.6752	10	AVG
2-Chlorotoluene	0.7983	0.8303	0.8145	0.8005	0.8262	0.7469		0.8028	4	AVG
1,3,5-Trimethylbenzene	2.5633	2.7366	2.7148	2.7150	2.8440	2.3211		2.6491	7	AVG
4-Chlorotoluene	0.8282	0.8602	0.8442	0.8356	0.8687	0.7451		0.8303	5	AVG
tert-Butylbenzene	0.5981	0.6304	0.6460	0.6489	0.6773	0.5793		0.6300	6	AVG
Pentachloroethane	0.4867	0.4874	0.5215	0.5589	0.5795	0.5089		0.5238	7	AVG
1,2,4-Trimethylbenzene	2.7858	2.9321	2.9291	2.9069	3.0183	2.4471		2.8366	7	AVG
sec-Butylbenzene	3.3243	3.4797	3.5079	3.5068	3.5900	2.8416		3.3751	8	AVG
1,3-Dichlorobenzene	1.6906	1.6950	1.6589	1.6469	1.6947	1.4122		1.6330	7	AVG
p-Isopropyltoluene	2.9352	3.1134	3.1546	3.1696	3.2735	2.5366		3.0305	9	AVG
1,4-Dichlorobenzene	1.7624	1.7494	1.7115	1.6685	1.7074	1.4919		1.6819	6	AVG
1,2,3-Trimethylbenzene	2.8786	2.7433	2.8234	2.9020	2.9903	2.5109		2.8081	6	AVG
Benzyl Chloride	0.3464	0.3669	0.4277	0.4465	0.4475	0.4332		0.4114	11	AVG
1,2-Dichlorobenzene	1.6598	1.6703	1.6403	1.6020	1.6346	1.4334		1.6067	5	AVG
n-Butylbenzene	1.5377	1.5876	1.6220	1.6133	1.6717	1.3990		1.5719	6	AVG
1,3-Diethylbenzene	1.7207	1.6420	1.7472	1.8440	1.9080	1.6494		1.7519	6	AVG
1,4-Diethylbenzene	1.8094	1.7602	1.8468	1.9346	2.0179	1.6705		1.8399	7	AVG
1,2-Diethylbenzene	1.5474	1.4719	1.5343	1.5770	1.6474	1.4258		1.5340	5	AVG
1,2-Dibromo-3-Chloropropane	0.1895	0.1639	0.1956	0.2019	0.1887	0.1863		0.1877	7	AVG
1,3,5-Trichlorobenzene	1.4093	1.3392	1.3486	1.3242	1.3718	1.2078		1.3335	5	AVG
1,2,4-Trichlorobenzene	1.4287	1.2922	1.3016	1.2941	1.3268	1.1463		1.2983	7	AVG

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum XRSR for CCC(%) = 30%

GSX32 8872

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09685 Calibration Date(s): 08/05/11 08/05/11
Heated Purge: (Y/N) Y Calibration Times: 16:46 18:39
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = ag05i06.d RRF 10= ag05i05.d RRF 20= ag05i04.d
RRF 50= ag05i03.d RRF100= ag05i02.d RRF300= ag05i01.d RRF =

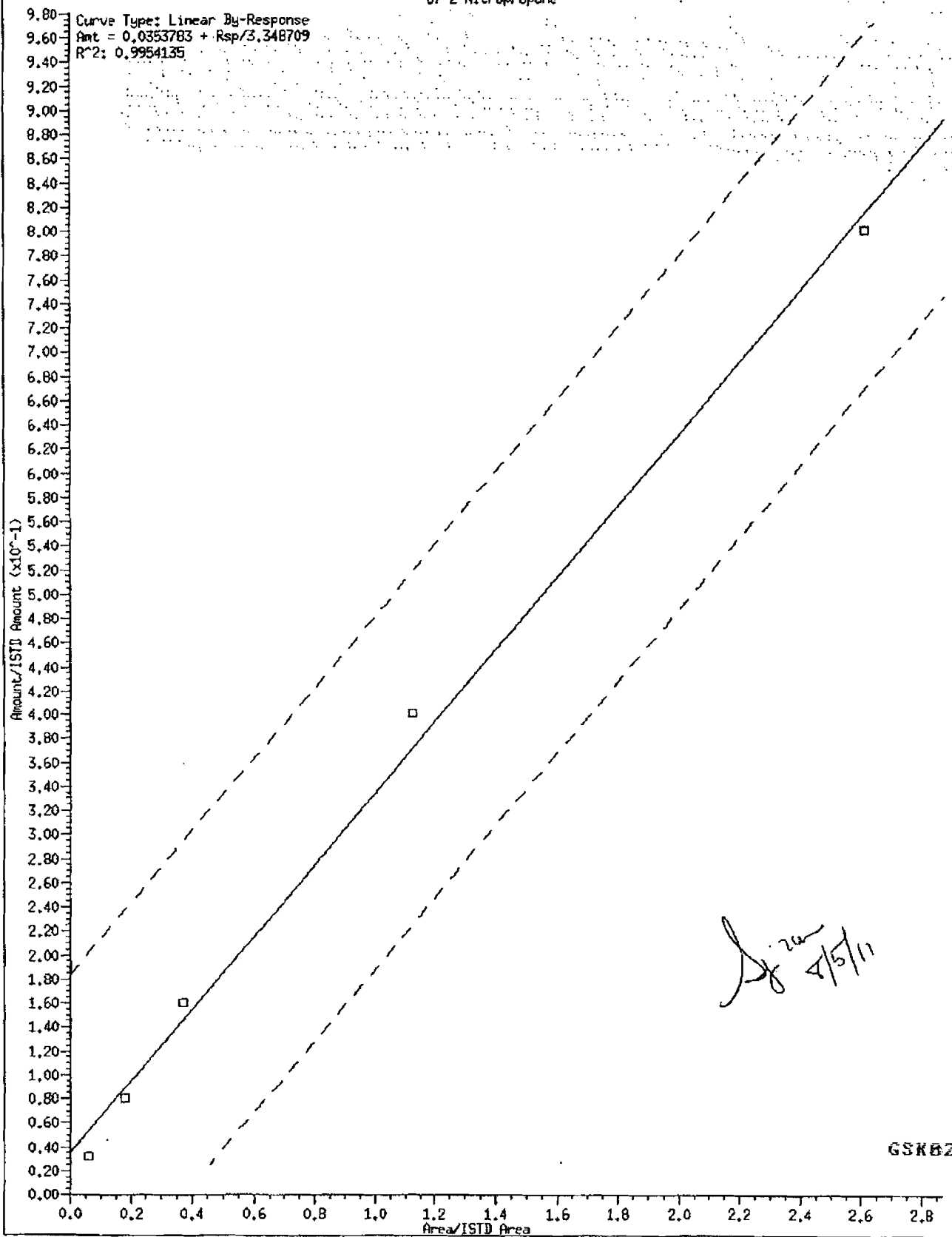
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Hexachlorobutadiene	0.6734	0.6805	0.6972	0.6913	0.7219	0.6320		0.6827	4	AVG
Naphthalene	3.6958	3.2673	3.5174	3.4855	3.3253	2.6341		3.3209	11	AVG
1,2,3-Trichlorobenzene	1.3899	1.2388	1.2585	1.2227	1.2336	1.0627		1.2343	8	AVG
2-Methylnaphthalene	2.4273	1.9061	2.2215	2.3318	2.2521	1.8183		2.1595	11	AVG
Dibromofluoromethane	0.2424	0.2435	0.2437	0.2454	0.2418	0.2403		0.2428	1	AVG
Dibromofluoromethane(mz111)	0.2475	0.2491	0.2497	0.2507	0.2480	0.2457		0.2484	1	AVG
1,2-Dichloroethane-d4	0.0580	0.0572	0.0584	0.0573	0.0571	0.0568		0.0575	1	AVG
1,2-Dichloroethane-d4(mz65)	0.2858	0.2859	0.2853	0.2883	0.2777	0.2773		0.2834	2	AVG
1,2-Dichloroethane-d4(mz104)	0.0372	0.0359	0.0365	0.0367	0.0356	0.0362		0.0364	2	AVG
Toluene-d8	1.2710	1.2712	1.2732	1.2743	1.2715	1.2545		1.2693	1	AVG
Toluene-d8(mz100)	0.8234	0.8243	0.8261	0.8297	0.8310	0.8172		0.8253	1	AVG
4-Bromofluorobenzene	0.5074	0.5071	0.5106	0.5131	0.5132	0.5190		0.5117	1	AVG
4-Bromofluorobenzene(mz174)	0.4306	0.4308	0.4334	0.4299	0.4275	0.4340		0.4310	1	AVG

Average %RSD 6

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

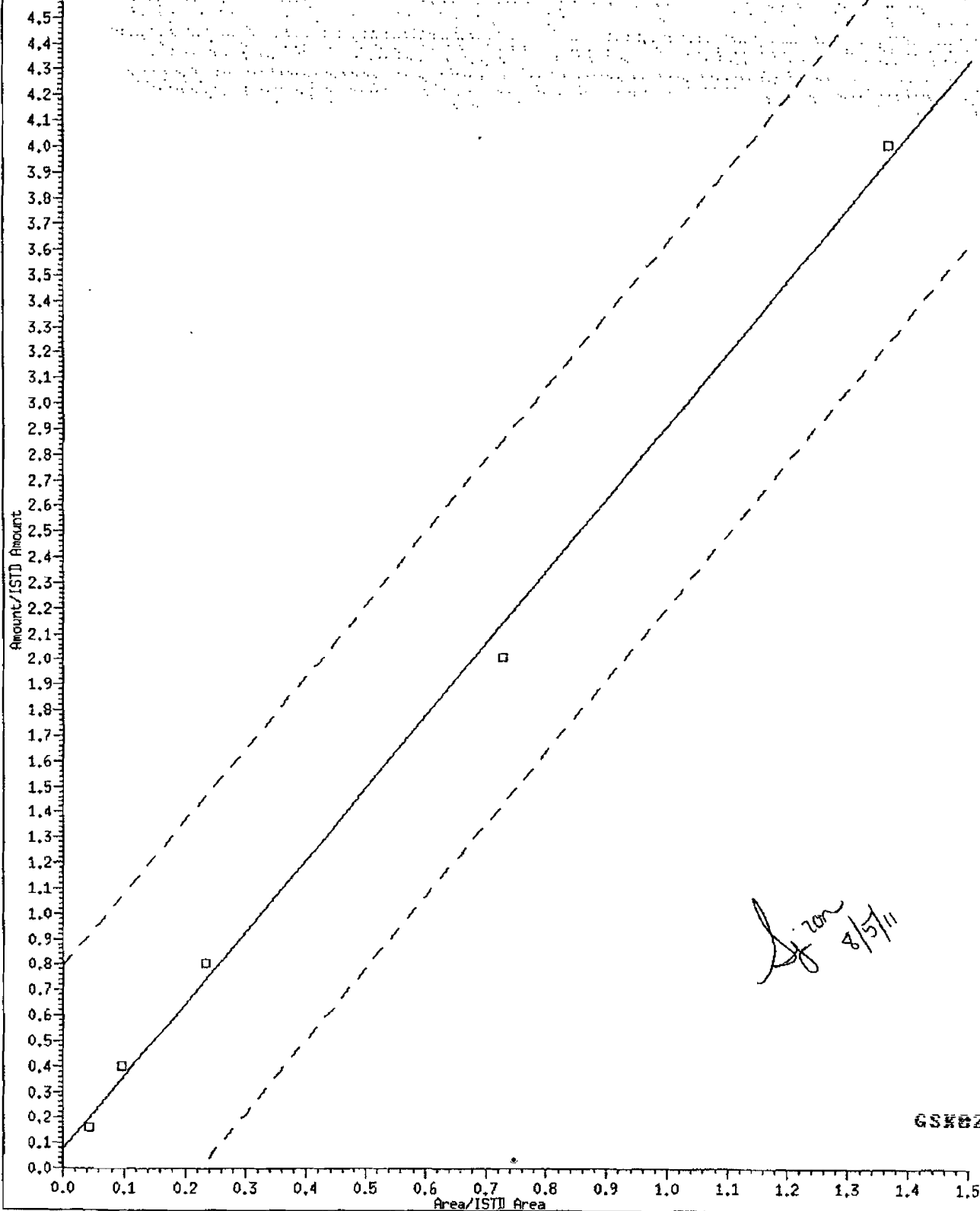
GSK02 0073

87 2-Nitropropane



102 2-Hexanone

Curve Type: Linear By-Response
Amt = 0.0761622 + Rsp/0.3532997
R²: 0.999673



GSK82 6875

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

```

/chem2/HP09685.i/11aug05a.b/ag05i01.d VSTD300
/chem2/HP09685.i/11aug05a.b/ag05i02.d VSTD100
/chem2/HP09685.i/11aug05a.b/ag05i03.d VSTD050
/chem2/HP09685.i/11aug05a.b/ag05i04.d VSTD020
/chem2/HP09685.i/11aug05a.b/ag05i05.d VSTD010
/chem2/HP09685.i/11aug05a.b/ag05i06.d VSTD004
    
```

Area Summary

File ID:

Internal Standard Name	ag05i01.d	ag05i02.d	ag05i03.d	ag05i04.d	ag05i05.d	ag05i06.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	226314	212391	256942	240095	196900	254796	231240	10	Yes
Fluorobenzene	1511470	1500041	1477258	1458586	1427546	1407953	1463809	3	Yes
Chlorobenzene-d5	1213175	1196725	1179094	1162981	1138664	1119047	1168281	3	Yes
1,4-Dichlorobenzene-d4	743497	710985	695398	686229	668690	653961	693127	5	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	ag05i01.d	ag05i02.d	ag05i03.d	ag05i04.d	ag05i05.d	ag05i06.d	Avg. RT
t-Butyl Alcohol-d10	3.958	3.945	3.958	3.951	3.952	3.952	3.953
Fluorobenzene	7.413	7.407	7.413	7.413	7.407	7.413	7.411
Chlorobenzene-d5	10.960	10.954	10.954	10.960	10.954	10.954	10.956
1,4-Dichlorobenzene-d4	12.858	12.852	12.852	12.852	12.852	12.852	12.853

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 08/05/2011 at 20:26.

GSK02 8876

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 ICV Date: 08/05/11 Time: 23:53
 Lab File ID: ag05103.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4110	0.3893	18.94	20	-5
# Chloromethane	0.3874	0.4223	21.80	20	9 #
* Vinyl Chloride	0.3949	0.4258	21.56	20	8 *
Bromomethane	0.2660	0.2237	16.82	20	-16
Chloroethane	0.2070	0.1928	18.63	20	-7
Trichlorofluoromethane	0.4712	0.5130	21.77	20	9
Ethanol	0.1185	0.1260	1062.90	1000	6
Freon 123a	0.3390	0.3378	19.93	20	0
Acrolein	1.8504	1.5375	124.64	150	-17
* 1,1-Dichloroethene	0.2531	0.2553	20.17	20	1 *
Dichlorofluoromethane	0.5504	0.5645	20.51	20	3
Freon 113	0.2691	0.2486	18.47	20	-8
Acetone	0.0295	0.0372	189.52	150	26 NTC
Methyl Iodide	0.4834	0.4327	17.90	20	-10
2-Propanol	0.7225	0.7201	149.51	150	0
Carbon Disulfide	0.8526	0.7227	16.95	20	-15
Allyl Chloride	0.3672	0.3470	18.90	20	-5
Methyl Acetate	0.1971	0.2651	26.90	20	34 NTC
Methylene Chloride	0.3125	0.3145	20.13	20	1
t-Butyl Alcohol	1.3104	1.5839	241.73	200	21 NTC
Acrylonitrile	0.1040	0.1173	112.74	100	13
trans-1,2-Dichloroethene	0.2928	0.2868	19.59	20	-2
Methyl Tertiary Butyl Ether	0.8414	0.7886	18.75	20	-6
n-Hexane	0.3825	0.3317	17.34	20	-13
# 1,1-Dichloroethane	0.5059	0.4891	19.33	20	-3 #
2-Chloro-1,3-Butadiene	0.4086	0.3671	17.96	20	-10
di-Isopropyl Ether	0.8368	0.7625	18.23	20	-9
Ethyl t-Butyl Ether	0.8574	0.7520	17.54	20	-12
cis-1,2-Dichloroethene	0.3264	0.3124	19.15	20	-4
1,2-Dichloroethene (total)	0.3096	0.2996	38.74	40	-3
2,2-Dichloropropane	0.4370	0.3974	18.18	20	-9
2-Butanone	0.1426	0.1557	163.84	150	9
Propionitrile	1.4327	1.5166	158.78	150	6
Methacrylonitrile	0.1362	0.1500	165.18	150	10
Bromochloromethane	0.1615	0.1598	19.79	20	-1
Tetrahydrofuran	1.3454	1.3826	102.76	100	3

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK02 0877

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 ICV Date: 08/05/11 Time: 23:53
 Lab File ID: ag05103.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.5165	0.4957	19.19	20	-4 *
1,1,1-Trichloroethane	0.5026	0.4678	18.61	20	-7
Cyclohexane	0.4644	0.4127	17.77	20	-11
1,1-Dichloropropene	0.4021	0.3815	18.97	20	-5
Carbon Tetrachloride	0.3945	0.3656	18.53	20	-7
Benzene	1.1791	1.1647	19.76	20	-1
Isobutyl Alcohol	0.3996	0.4438	555.24	500	11
1,2-Dichloroethane	0.4148	0.4123	19.88	20	-1
t-Amyl Methyl Ether	0.7922	0.6996	17.66	20	-12
n-Heptane	0.3874	0.3339	17.24	20	-14
n-Butanol	0.3685	0.3888	1054.90	1000	5
Trichloroethene	0.3184	0.2983	18.74	20	-6
Methylcyclohexane	0.5114	0.4978	19.47	20	-3
* 1,2-Dichloropropane	0.3121	0.2923	18.73	20	-6 *
Dibromomethane	0.2018	0.1961	19.44	20	-3
1,4-Dioxane	0.1425	0.1500	526.31	500	5
Methyl Methacrylate	0.2318	0.2164	18.67	20	-7
Bromodichloromethane	0.3832	0.3480	18.16	20	-9
2-Nitropropane	2.4963	2.0897	21.33	20	7
cis-1,3-Dichloropropene	0.4751	0.4211	17.73	20	-11
4-Methyl-2-Pentanone	0.3146	0.3320	105.52	100	6
* Toluene	0.9748	0.9137	18.75	20	-6 *
trans-1,3-Dichloropropene	0.5822	0.5007	17.20	20	-14
Ethyl Methacrylate	0.5060	0.4604	18.19	20	-9
1,1,2-Trichloroethane	0.3524	0.3359	19.06	20	-5
Tetrachloroethene	0.4370	0.4130	18.90	20	-5
1,3-Dichloropropane	0.6061	0.5776	19.06	20	-5
2-Hexanone	0.3022	0.3063	90.50	100	-10
Dibromochloromethane	0.3846	0.3436	17.87	20	-11
1,2-Dibromoethane	0.3638	0.3524	19.37	20	-3
# Chlorobenzene	1.1280	1.0489	18.60	20	-7 #
1,1,1,2-Tetrachloroethane	0.3829	0.3480	18.17	20	-9
* Ethylbenzene	1.8321	1.7339	18.93	20	-5 *
m+p-Xylene	0.7232	0.6954	38.46	40	-4
Xylene (Total)	0.7229	0.5531	57.45	60	-4
o-Xylene	0.7223	0.6859	18.99	20	-5

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(=)=20%

GSK82 8878

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 ICV Date: 08/05/11 Time: 23:53
 Lab File ID: ag05103.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Styrene	1.1422	1.0660	18.66	20	-7
# Bromoform	0.2758	0.2375	17.22	20	-14 #
Isopropylbenzene	1.7926	1.7232	19.23	20	-4
Cyclohexanone	0.4246	0.3623	426.57	500	-15
Bromobenzene	0.8523	0.7988	18.74	20	-6
# 1,1,2,2-Tetrachloroethane	0.8928	0.8712	19.52	20	-2 #
1,2,3-Trichloropropane	0.2792	0.2739	19.62	20	-2
trans-1,4-Dichloro-2-Butene	0.2714	0.2976	109.67	100	10
n-Propylbenzene	3.6752	3.5842	19.50	20	-2
2-Chlorotoluene	0.8028	0.7531	18.76	20	-6
1,3,5-Trimethylbenzene	2.6491	2.5915	19.57	20	-2
4-Chlorotoluene	0.8303	0.7903	19.04	20	-5
tert-Butylbenzene	0.6300	0.5941	18.86	20	-6
Pentachloroethane	0.5238	0.4770	18.21	20	-9
1,2,4-Trimethylbenzene	2.8366	2.6984	19.03	20	-5
sec-Butylbenzene	3.3751	3.2703	19.38	20	-3
1,3-Dichlorobenzene	1.6330	1.5103	18.50	20	-8
p-Isopropyltoluene	3.0305	2.9271	19.32	20	-3
1,4-Dichlorobenzene	1.6819	1.5619	18.57	20	-7
1,2,3-Trimethylbenzene	2.8081	2.7468	19.56	20	-2
Benzyl Chloride	0.4114	0.3490	16.97	20	-15
1,2-Dichlorobenzene	1.6067	1.4932	18.59	20	-7
n-Butylbenzene	1.5719	1.5214	19.36	20	-3
1,3-Diethylbenzene	1.7519	1.7218	19.66	20	-2
1,4-Diethylbenzene	1.8399	1.8117	19.69	20	-2
1,2-Diethylbenzene	1.5340	1.4673	19.13	20	-4
1,2-Dibromo-3-Chloropropane	0.1877	0.1803	19.22	20	-4
1,3,5-Trichlorobenzene	1.3335	1.2326	18.49	20	-8
1,2,4-Trichlorobenzene	1.2983	1.1275	17.37	20	-13
Hexachlorobutadiene	0.6827	0.6074	17.79	20	-11
Naphthalene	3.3209	3.1311	18.86	20	-6
1,2,3-Trichlorobenzene	1.2343	1.1280	18.28	20	-9
2-Methylnaphthalene	2.1595	1.8004	16.67	20	-17

Average %Drift 7

Minimum RRF for SPCC(=)0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK82 8879

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK02____
Lab File ID: ac29t01.d BFB Injection Date: 10/29/11
Instrument ID: HP09685 BFB Injection Time: 12:25
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.38
75	30.0 - 60.0% of mass 95	48.98
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.94
173	Less than 2.0% of mass 174	0.22 (0.26)1
174	Greater than 50.0% of mass 95	85.79
175	5.0 - 9.0% of mass 174	6.33 (7.38)1
176	Greater than 95.0%, but less than 101.0% of mass 174	82.96 (96.70)1
177	5.0 - 9.0% of mass 176	5.31 (6.40)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	ac29c01.d	10/29/11	12:50
02	VBLKA34	ac29b02.d	10/29/11	13:35
03	LCSA34	ac29l01.d	10/29/11	14:00
04	LCDA34	ac29l02.d	10/29/11	14:24
05	6449204RE	ac29s01.d	10/29/11	15:01
06	6449976	ac29s02.d	10/29/11	15:23
07	6449977	ac29s03.d	10/29/11	15:46
08	6449978	ac29s04.d	10/29/11	16:09
09	6449979	ac29s05.d	10/29/11	16:32
10	6449980	ac29s06.d	10/29/11	16:54
11	6449981	ac29s07.d	10/29/11	17:17
12	6449982	ac29s08.d	10/29/11	17:40
13	6449983	ac29s09.d	10/29/11	18:02
14	6449984	ac29s10.d	10/29/11	18:25
15	6449985	ac29s11.d	10/29/11	18:48
16	6449986	ac29s12.d	10/29/11	19:11
17	6449987	ac29s13.d	10/29/11	19:33
18	6449988	ac29s14.d	10/29/11	19:56
19	6449989	ac29s15.d	10/29/11	20:19
20	6449990	ac29s16.d	10/29/11	20:41
21	6449992	ac29s17.d	10/29/11	21:04
22	6449993	ac29s18.d	10/29/11	21:27

GSK02 0865

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _GSK02_
 Lab File ID: ac29t01.d BFB Injection Date: 10/29/11
 Instrument ID: HP09685 BFB Injection Time: 12:25
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.38
75	30.0 - 60.0% of mass 95	48.98
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.94
173	Less than 2.0% of mass 174	0.22 (0.26)1
174	Greater than 50.0% of mass 95	85.79
175	5.0 - 9.0% of mass 174	6.33 (7.38)1
176	Greater than 95.0%, but less than 101.0% of mass 174	82.96 (96.70)1
177	5.0 - 9.0% of mass 176	5.31 (6.40)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6449994	ac29s19.d	10/29/11	21:49
24	6451510	ac29s20.d	10/29/11	22:12

GSK02 0066

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 10/29/11 Time: 12:50
 Lab File ID: ac29c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4110	0.4792	58.29	50	17
# Chloromethane	0.3874	0.4723	60.96	50	22 #
* Vinyl Chloride	0.3949	0.4344	54.99	50	10 *
Bromomethane	0.2660	0.2835	53.28	50	7
Chloroethane	0.2070	0.2325	56.16	50	12
Trichlorofluoromethane	0.4712	0.5543	58.81	50	18
Ethanol	0.1185	0.1372	2894.42	2500	16
Freon 123a	0.3390	0.5161	76.12	50	52
Acrolein	1.8504	2.2243	601.03	500	20
* 1,1-Dichloroethene	0.2531	0.2474	48.87	50	-2 *
Dichlorofluoromethane	0.5504	0.5161	46.88	50	-6
Freon 113	0.2691	0.2714	50.41	50	1
Acetone	0.0295	0.0402	136.51	100	37 NTC
Methyl Iodide	0.4834	0.4685	48.46	50	-3
2-Propanol	0.7225	1.0096	349.37	250	40 NTC
Carbon Disulfide	0.8526	0.8803	51.63	50	3
Allyl Chloride	0.3672	0.4468	60.83	50	22 NTC
Methyl Acetate	0.1971	0.2529	64.17	50	28 NTC
Methylene Chloride	0.3125	0.3123	49.97	50	0
t-Butyl Alcohol	1.3104	1.3680	260.98	250	4
Acrylonitrile	0.1040	0.1177	56.55	50	13
trans-1,2-Dichloroethene	0.2928	0.2926	49.97	50	0
Methyl Tertiary Butyl Ether	0.8414	0.7344	43.64	50	-13
n-Hexane	0.3825	0.4159	54.37	50	9
# 1,1-Dichloroethane	0.5059	0.5375	53.12	50	6 #
2-Chloro-1,3-Butadiene	0.4086	0.4360	53.35	50	7
di-Isopropyl Ether	0.8368	0.9538	56.99	50	14
Ethyl t-Butyl Ether	0.8574	0.5607	32.70	50	-35 NTC
cis-1,2-Dichloroethene	0.3264	0.3194	48.93	50	-2
1,2-Dichloroethene (total)	0.3096	0.3060	98.90	100	-1
2,2-Dichloropropane	0.4370	0.4111	47.03	50	-6
2-Butanone	0.1426	0.2025	142.02	100	42 NTC
Propionitrile	1.4327	1.9814	345.74	250	38 NTC
Methacrylonitrile	0.1362	0.1444	132.48	125	6
Bromochloromethane	0.1615	0.1639	50.75	50	2
Tetrahydrofuran	1.3454	1.7928	133.25	100	33 NTC

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

63462 8898

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09585 Calibration Date: 10/29/11 Time: 12:50
 Lab File ID: ac29c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
* Chloroform	0.5165	0.5218	50.51	50	1	*
1,1,1-Trichloroethane	0.5026	0.4522	44.99	50	-10	
Cyclohexane	0.4644	0.4996	53.79	50	8	
Cyclohexane(mz84)	0.4290	0.4211	49.08	50	-2	
Cyclohexane(mz69)	0.1509	0.1497	49.59	50	-1	
1,1-Dichloropropene	0.4021	0.4079	50.72	50	1	
Carbon Tetrachloride	0.3945	0.4017	50.91	50	2	
Benzene	1.1791	1.2150	51.53	50	3	
Isobutyl Alcohol	0.3996	0.5521	863.57	625	38	NTL
1,2-Dichloroethane	0.4148	0.4266	51.42	50	3	
1,2-Dichloroethane(mz98)	0.0373	0.0365	48.98	50	-2	
t-Amyl Methyl Ether	0.7922	0.4362	27.53	50	-45	NTL
n-Heptane	0.3874	0.4778	61.68	50	23	NTL
n-Butanol	0.3685	0.4680	1587.35	1250	27	NTL
Trichloroethene	0.3184	0.3134	49.21	50	-2	
Methylcyclohexane	0.5114	0.5491	53.69	50	7	
* 1,2-Dichloropropane	0.3121	0.3347	53.62	50	7	*
Dibromomethane	0.2018	0.2039	50.52	50	1	
1,4-Dioxane	0.1425	0.1640	719.16	625	15	
Methyl Methacrylate	0.2318	0.2572	55.48	50	11	
Bromodichloromethane	0.3832	0.3929	51.26	50	3	
2-Nitropropane	2.4963	4.3462	138.63	100	39	NTL
cis-1,3-Dichloropropene	0.4751	0.4992	52.53	50	5	
4-Methyl-2-Pentanone	0.3146	0.5055	160.69	100	61	NTL
* Toluene	0.9748	1.0038	51.49	50	3	*
trans-1,3-Dichloropropene	0.5822	0.6122	52.58	50	5	
Ethyl Methacrylate	0.5060	0.5422	53.57	50	7	
1,1,2-Trichloroethane	0.3524	0.3639	51.63	50	3	
Tetrachloroethene	0.4370	0.4664	53.37	50	7	
1,3-Dichloropropane	0.6061	0.6555	54.07	50	8	
2-Hexanone	0.3022	0.5134	149.14	100	49	NTL
Dibromochloromethane	0.3846	0.4207	54.69	50	9	
1,2-Dibromoethane	0.3638	0.3848	52.89	50	6	
# Chlorobenzene	1.1280	1.1817	52.38	50	5	#
1,1,1,2-Tetrachloroethane	0.3829	0.4080	53.28	50	7	
* Ethylbenzene	1.8321	1.9650	53.63	50	7	*

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK02 0091
 Maximum %Drift for CCC(*)=20%

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP09685 Calibration Date: 10/29/11 Time: 12:50

Lab File ID: ac29c01.d Init. Calib. Date(s): 08/05/11 08/05/11

Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
m+p-Xylene	0.7232	0.7891	109.11	100	9
Xylene (Total)	0.7229	0.7852	162.92	150	9
o-Xylene	0.7223	0.7774	53.81	50	8
Styrene	1.1422	1.2642	55.34	50	11
# Bromoform	0.2758	0.3003	54.44	50	9 #
Isopropylbenzene	1.7926	1.9632	54.76	50	10
Cyclohexanone	0.4246	0.4596	676.50	625	8
Bromobenzene	0.8523	0.8808	51.67	50	3
# 1,1,2,2-Tetrachloroethane	0.8928	0.9175	51.39	50	3 #
1,2,3-Trichloropropane	0.2792	0.2786	49.89	50	0
trans-1,4-Dichloro-2-Butene	0.2714	0.2983	137.37	125	10
n-Propylbenzene	3.6752	3.8868	52.88	50	6
2-Chlorotoluene	0.8028	0.8164	50.85	50	2
1,3,5-Trimethylbenzene	2.6491	2.8500	53.79	50	8
4-Chlorotoluene	0.8303	0.8643	52.05	50	4
tert-Butylbenzene	0.6300	0.6624	52.57	50	5
Pentachloroethane	0.5238	0.5534	52.83	50	6
1,2,4-Trimethylbenzene	2.8366	2.9692	52.34	50	5
sec-Butylbenzene	3.3751	3.6451	54.00	50	8
1,3-Dichlorobenzene	1.6330	1.6996	52.04	50	4
p-Isopropyltoluene	3.0305	3.3108	54.62	50	9
1,4-Dichlorobenzene	1.6819	1.7386	51.69	50	3
1,2,3-Trimethylbenzene	2.8081	2.9473	52.48	50	5
Benzyl Chloride	0.4114	0.4116	50.03	50	0
1,2-Dichlorobenzene	1.6067	1.6517	51.40	50	3
n-Butylbenzene	1.5719	1.6488	52.45	50	5
1,3-Diethylbenzene	1.7519	1.8719	53.43	50	7
1,4-Diethylbenzene	1.8399	1.9864	53.98	50	8
1,2-Diethylbenzene	1.5340	1.6239	52.93	50	6
1,2-Dibromo-3-Chloropropane	0.1877	0.1968	52.43	50	5
1,3,5-Trichlorobenzene	1.3335	1.3920	52.20	50	4
1,2,4-Trichlorobenzene	1.2983	1.3132	50.57	50	1
Hexachlorobutadiene	0.6827	0.7373	54.00	50	8
Naphthalene	3.3209	3.5621	53.63	50	7
1,2,3-Trichlorobenzene	1.2343	1.2467	50.50	50	1
2-Methylnaphthalene	2.1595	2.2643	52.43	50	5

Minimum RRF for SPCC(=)0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(=)20%

GSK#2 8892

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 10/29/11 Time: 12:50
 Lab File ID: ac29c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dibromofluoromethane	0.2428	0.2454	50.53	50	1
Dibromofluoromethane (mz111)	0.2484	0.2493	50.18	50	0
1,2-Dichloroethane-d4	0.0575	0.0586	50.96	50	2
1,2-Dichloroethane-d4 (mz65)	0.2834	0.2954	52.12	50	4
1,2-Dichloroethane-d4 (mz104)	0.0364	0.0371	51.05	50	2
Toluene-d8	1.2693	1.3458	53.01	50	6
Toluene-d8 (mz100)	0.8253	0.8770	53.13	50	6
4-Bromofluorobenzene	0.5117	0.5122	50.04	50	0
4-Bromofluorobenzene (mz174)	0.4310	0.4504	52.25	50	4

Average %Drift 10

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK02: 8893

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

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/chem2/HP09685.i/11aug05a.b/ag05i06.d
/chem2/HP09685.i/11aug05a.b/ag05i05.d
/chem2/HP09685.i/11aug05a.b/ag05i04.d
/chem2/HP09685.i/11aug05a.b/ag05i03.d
/chem2/HP09685.i/11aug05a.b/ag05i02.d
/chem2/HP09685.i/11aug05a.b/ag05i01.d
  
```

File /chem2/HP09685.i/11aug05a.b/ag05i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09685.i/11oct29a.b/ac29c01.d

RT Summary

File ID:

=====

Internal Standard Name	ac29c01.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	3.958	3.958	Yes
Fluorobenzene	7.407	7.413	Yes
Chlorobenzene-d5	10.954	10.954	Yes
1,4-Dichlorobenzene-d4	12.852	12.852	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	ac29c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	127069	256942	128471	513884	No
Fluorobenzene	964967	1477258	738629	2954516	Yes
Chlorobenzene-d5	735785	1179094	589547	2358188	Yes
1,4-Dichlorobenzene-d4	446417	695398	347699	1390796	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments:

No target analytes quantitated
with this internal standard. 8882 8894

report generated on 10/29/2011 at 13:14

GSK02 8895

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK02

Lab File ID (Standard): ac29c01.d Date Analyzed: 10/29/11

Instrument ID: HP09685 Time Analyzed: 12:50

Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

		IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
	=====	=====	=====	=====	=====	=====	=====	=====	=====
	12 HOUR STD	964967	7.407	735785	10.954	446417	12.852	127069	3.958
	UPPER LIMIT	1929934	7.907	1471570	11.454	892834	13.352	254138	4.458
	LOWER LIMIT	482484	6.907	367892	10.454	223208	12.352	63534	3.458
	=====	=====	=====	=====	=====	=====	=====	=====	=====
	LAB SAMPLE								
	ID								
	=====	=====	=====	=====	=====	=====	=====	=====	=====
01	VBLKA34	904908	7.413	673075	10.960	384302	12.852		
02	LCSA34	933001	7.413	693342	10.954	417058	12.852		
03	LCDA34	957800	7.413	718907	10.954	432829	12.852		
04	6449204RE	839589	7.407	538431	10.954	210751 *	12.852		
05	6449976	916787	7.413	646272	10.954	289233	12.852		
06	6449977	913449	7.407	687547	10.954	398825	12.852		
07	6449978	891781	7.407	673455	10.954	389047	12.852		
08	6449979	859224	7.413	562588	10.960	232554	12.852		
09	6449980	882920	7.407	666018	10.954	385049	12.852		
10	6449981	860816	7.413	649337	10.954	376871	12.852		
11	6449982	842966	7.413	593641	10.960	259199	12.852		
12	6449983	849225	7.413	640724	10.954	360555	12.852		
13	6449984	839777	7.407	629181	10.954	356214	12.852		
14	6449985	823160	7.407	565515	10.954	239816	12.852		
15	6449986	821045	7.413	590826	10.954	287535	12.852		
16	6449987	824641	7.407	605173	10.954	308370	12.852		
17	6449988	809318	7.413	581008	10.954	293108	12.852		
18	6449989	814608	7.407	610842	10.954	347812	12.852		
19	6449990	807989	7.413	607562	10.954	353101	12.852		
20	6449992	778780	7.413	525448	10.960	223596	12.852		
21	6449993	763902	7.413	577379	10.954	316205	12.852		
22	6449994	753475	7.407	562391	10.954	312705	12.852		

Not in the
SDG

IS1 (FBZ)=Fluorobenzene

IS2 (CBZ)=Chlorobenzene-d5

IS3 (DCB)=1,4-Dichlorobenzene-d4

IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

GSK02 0102

Column used to flag values outside QC limits with an asterisk

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK02_____
 Lab File ID (Standard): ac29c01.d Date Analyzed: 10/29/11
 Instrument ID: HP09685 Time Analyzed: 12:50
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	964967	7.407	735785	10.954	446417	12.852	127069	3.958
UPPER LIMIT	1929934	7.907	1471570	11.454	892834	13.352	254138	4.458
LOWER LIMIT	482484	6.907	367892	10.454	223208	12.352	63534	3.458
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE								
ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
23 6451510	793818	7.407	615064	10.954	384021	12.858		

IS1 (FBZ)=Fluorobenzene UPPER LIMIT = + 100%
 IS2 (CBZ)=Chlorobenzene-d5 of internal standard area.
 IS3 (DCB)=1,4-Dichlorobenzene-d4 LOWER LIMIT = - 50%
 IS4 (TBA)=t-Butyl Alcohol-d10 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.



Quality Control Summary
Surrogates
GC/MS Volatiles
SDG: GSK02
Matrix: LIQUID

Fraction: Volatiles by GC/MS

Y113011AA Sample	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKY68	105	80 - 116	101	77 - 113	99	80 - 113	97	78 - 113
LCSY68	103	80 - 116	101	77 - 113	100	80 - 113	103	78 - 113
LCDY68	103	80 - 116	104	77 - 113	100	80 - 113	104	78 - 113
6449991	109	80 - 116	103	77 - 113	98	80 - 113	96	78 - 113
6449995	110	80 - 116	103	77 - 113	97	80 - 113	95	78 - 113

GSK02 0000



Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: GSK02
Matrix: LIQUID

Fraction: Volatiles by GC/MS

Y113011AA / VBLKY68 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	10/28/11	N.D.	ug/l	2	5
Chloromethane	10/28/11	N.D.	ug/l	1	5
Vinyl Chloride	10/28/11	N.D.	ug/l	1	5
Bromomethane	10/28/11	N.D.	ug/l	1	5
Chloroethane	10/28/11	N.D.	ug/l	1	5
Freon 123a	10/28/11	N.D.	ug/l	2	5
Freon 113	10/28/11	N.D.	ug/l	2	10
Trichlorofluoromethane	10/28/11	N.D.	ug/l	2	5
1,1-Dichloroethene	10/28/11	N.D.	ug/l	0.8	5
Ethylbenzene	10/28/11	N.D.	ug/l	0.8	5
1,1,1,2-Tetrachloroethane	10/28/11	N.D.	ug/l	1	5
Methylene Chloride	10/28/11	N.D.	ug/l	2	5
Bromoform	10/28/11	N.D.	ug/l	1	5
1,1-Dichloroethane	10/28/11	N.D.	ug/l	1	5
1,1,2,2-Tetrachloroethane	10/28/11	N.D.	ug/l	1	5
Bromobenzene	10/28/11	N.D.	ug/l	1	5
1,2-Dichloroethene (Total)	10/28/11	N.D.	ug/l	0.8	5
1,2,3-Trichloropropane	10/28/11	N.D.	ug/l	1	5
Chloroform	10/28/11	N.D.	ug/l	0.8	5
2-Chlorotoluene	10/28/11	N.D.	ug/l	1	5
1,1,1-Trichloroethane	10/28/11	N.D.	ug/l	0.8	5
4-Chlorotoluene	10/28/11	N.D.	ug/l	1	5
Benzene	10/28/11	N.D.	ug/l	0.5	5
Carbon Tetrachloride	10/28/11	N.D.	ug/l	1	5
1,2-Dichloroethane	10/28/11	N.D.	ug/l	1	5
Trichloroethene	10/28/11	N.D.	ug/l	1	5
1,2-Dichloropropane	10/28/11	N.D.	ug/l	1	5
Dibromomethane	10/28/11	N.D.	ug/l	1	5
Bromodichloromethane	10/28/11	N.D.	ug/l	1	5
1,3-Dichlorobenzene	10/28/11	N.D.	ug/l	1	5
cis-1,3-Dichloropropene	10/28/11	N.D.	ug/l	1	5
1,4-Dichlorobenzene	10/28/11	N.D.	ug/l	1	5
Toluene	10/28/11	N.D.	ug/l	0.7	5
trans-1,3-Dichloropropene	10/28/11	N.D.	ug/l	1	5
Benzyl Chloride	10/28/11	N.D.	ug/l	1	5
1,2-Dichlorobenzene	10/28/11	N.D.	ug/l	1	5
1,1,2-Trichloroethane	10/28/11	N.D.	ug/l	0.8	5
Tetrachloroethene	10/28/11	N.D.	ug/l	0.8	5
Dibromochloromethane	10/28/11	N.D.	ug/l	1	5
Chlorobenzene	10/28/11	N.D.	ug/l	0.8	5
Xylene (Total)	10/28/11	N.D.	ug/l	0.8	5

GSK02 0058



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK02
Matrix: LIQUID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSY68 LCSD: LCDY68		Batch: Y113011AA (Sample number(s): 6449991, 6449995)						
Analyte	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	18.17	17.36	91	87	47-120	5	30
Chloromethane	20	18.5	18.14	93	91	60-129	2	30
Vinyl Chloride	20	18.55	18.04	93	90	65-125	3	30
Bromomethane	20	16.24	15.71	81	79	44-120	3	30
Chloroethane	20	14.92	14.24	75	71	49-129	5	30
Freon 123a	20	18.99	17.76	95	89	63-125	7	30
Freon 113	20	20.7	19.79	104	99	69-128	5	30
Trichlorofluoromethane	20	21.52	20.22	108	101	64-129	6	30
1,1-Dichloroethene	20	19.07	18.41	95	92	74-123	4	30
1,1,1,2-Tetrachloroethane	20	19.67	19.26	98	96	80-120	2	30
Ethylbenzene	20	19.29	18.84	96	94	79-120	2	30
Methylene Chloride	20	19.38	18.94	97	95	80-120	2	30
1,1-Dichloroethane	20	19.52	19.02	98	95	79-120	3	30
Bromoform	20	20.13	19.86	101	99	61-120	1	30
1,1,2,2-Tetrachloroethane	20	20.43	20.23	102	101	71-120	1	30
Bromobenzene	20	18.98	18.44	95	92	80-120	3	30
1,2-Dichloroethene (Total)	40	36.6	36.15	91	90	80-120	1	30
1,2,3-Trichloropropane	20	22.46	22.64	112	113	80-120	1	30
2-Chlorotoluene	20	19.12	18.92	96	95	80-120	1	30
Chloroform	20	20.13	19.83	101	99	77-122	1	30
1,1,1-Trichloroethane	20	20.4	20.12	102	101	75-127	1	30
4-Chlorotoluene	20	19.29	18.66	96	93	80-120	3	30
1,2-Dichloroethane	20	22.26	21.78	111	109	70-130	2	30
Benzene	20	18.89	18.35	94	92	79-120	3	30
Carbon Tetrachloride	20	21.4	20.51	107	103	75-123	4	30
Trichloroethene	20	19.45	19.18	97	96	80-120	1	30
1,2-Dichloropropane	20	19	18.52	95	93	78-120	3	30
Dibromomethane	20	20.2	19.95	101	100	80-120	1	30
1,3-Dichlorobenzene	20	19.24	18.64	96	93	80-120	3	30
Bromodichloromethane	20	20.02	19.65	100	98	80-120	2	30
cis-1,3-Dichloropropene	20	18.93	18.85	95	94	80-120	0	30
1,4-Dichlorobenzene	20	19.23	18.9	96	95	80-120	2	30
Toluene	20	18.7	18.12	94	91	79-120	3	30
trans-1,3-Dichloropropene	20	19.66	19.44	98	97	79-120	1	30
1,1,2-Trichloroethane	20	19.3	19.33	96	97	80-120	0	30
1,2-Dichlorobenzene	20	19.55	18.93	98	95	80-120	3	30
Benzyl Chloride	20	20.89	20.94	104	105	69-120	0	30
Tetrachloroethene	20	19.68	19.35	98	97	80-121	2	30
Dibromochloromethane	20	19.58	19.03	98	95	80-120	3	30
Chlorobenzene	20	19.25	18.74	96	94	80-120	3	30
Xylene (Total)	60	56.66	55.42	94	92	80-120	2	30

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK02____
Lab File ID: ys27t05.d BFB Injection Date: 09/27/11
Instrument ID: HP09355 BFB Injection Time: 15:00
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.86
75	30.0 - 60.0% of mass 95	46.48
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.73
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.77
175	5.0 - 9.0% of mass 174	6.28 (7.50)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.42 (97.20)1
177	5.0 - 9.0% of mass 176	5.29 (6.50)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	ys27i01.d	09/27/11	15:19
02	VSTD100	ys27i02.d	09/27/11	15:40
03	VSTD50	ys27i03.d	09/27/11	16:01
04	VSTD20	ys27i04.d	09/27/11	16:21
05	VSTD10	ys27i05.d	09/27/11	16:42
06	VSTD4	ys27i06.d	09/27/11	17:13
07	MDL001 - MDL001	ys27m01.d	09/27/11	17:33
08	VELKY22	ys27b01.d	09/27/11	17:54
09	LCSY22	ys27l01.d	09/27/11	18:23
10	6416425	ys27s01.d	09/27/11	19:06
11	6416425MS	ys27s02.d	09/27/11	19:27
12	6416425MSD	ys27s03.d	09/27/11	19:48
13	6416426	ys27s04.d	09/27/11	20:08
14	6416427	ys27s05.d	09/27/11	20:29
15	6416427DL2	ys27s25.d	09/27/11	21:10
16	6416427DL	ys27s28.d	09/27/11	21:52
17	6416429	ys27s27.d	09/27/11	22:33
18	6416430	ys27s07.d	09/27/11	22:53
19	6416433	ys27s08.d	09/27/11	23:14
20	6416433DL	ys27s09.d	09/27/11	23:34
21	6416432DL	ys27s10.d	09/27/11	23:55
22	6416428	ys27s12.d	09/28/11	00:36

GSK02 0867

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK02____
Lab File ID: ys27t05.d BFB Injection Date: 09/27/11
Instrument ID: HP09355 BFB Injection Time: 15:00
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.86
75	30.0 - 60.0% of mass 95	46.48
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.73
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.77
175	5.0 - 9.0% of mass 174	6.28 (7.50)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.42 (97.20)1
177	5.0 - 9.0% of mass 176	5.29 (6.50)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6416428DL	ys27s13.d	09/28/11	00:57
24	6416431	ys27s14.d	09/28/11	01:18
25	6416431DL	ys27s15.d	09/28/11	01:38
26	6415940	ys27s16.d	09/28/11	01:59
27	6415937	ys27s17.d	09/28/11	02:20
28	6415937DL	ys27s18.d	09/28/11	02:41

GSK02 8868

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09355 Calibration Date(s): 09/27/11 09/27/11
Heated Purge: (Y/N) Y Calibration Times: 15:19 17:13
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID: RRF 4 = ys27i06.d RRF 10= ys27i05.d RRF 20= ys27i04.d
RRF 50= ys27i03.d RRF100= ys27i02.d RRF300= ys27i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.4848	0.4759	0.4492	0.4372	0.4315	0.3886		0.4445	8	AVG
Chloromethane	#0.5003	0.4566	0.4450	0.4480	0.4351	0.3695		0.4424	10	AVG
Vinyl Chloride	*0.4715	0.4400	0.4325	0.4337	0.4212	0.3655		0.4274	8	AVG
1,3-Butadiene	0.3671	0.2985	0.2813	0.2727	0.2686			0.2976	14	AVG
Bromomethane	0.3046	0.2860	0.2776	0.2742	0.2551	0.2249		0.2704	10	AVG
Chloroethane	0.2595	0.2411	0.2365	0.2290	0.2107	0.1741		0.2251	13	AVG
Dichlorofluoromethane	0.6078	0.5624	0.5544	0.5640	0.5234	0.4706		0.5471	8	AVG
Trichlorofluoromethane	0.5070	0.4784	0.4671	0.4558	0.4445	0.4175		0.4617	7	AVG
Ethyl Ether	0.2933	0.2848	0.2733	0.2745	0.2542	0.2300		0.2684	9	AVG
Freon 123a	0.3759	0.3468	0.3491	0.3522	0.3298	0.2846		0.3397	9	AVG
Acrolein	1.5699	2.1961	2.0952	1.9939	2.0923	2.0666		2.0023	11	AVG
1,1-Dichloroethene	*0.2615	0.2555	0.2586	0.2621	0.2537	0.2366		0.2547	4	AVG
Freon 113	0.2652	0.2546	0.2606	0.2615	0.2652	0.2535		0.2601	2	AVG
Acetone	0.0501	0.0465	0.0415	0.0388	0.0372	0.0350		0.0415	14	AVG
Methyl Iodide	0.4774	0.4721	0.4759	0.4795	0.4647	0.4474		0.4695	3	AVG
2-Propanol	0.4759	0.6344	0.6280	0.6920	0.6067	0.6632		0.6167	12	AVG
Carbon Disulfide	0.7851	0.7733	0.8138	0.8397	0.8158	0.7686		0.7994	4	AVG
Allyl Chloride	0.4929	0.4197	0.4144	0.4405	0.4169	0.3641		0.4247	10	AVG
Methyl Acetate	0.3706	0.3389	0.3120	0.3095	0.3212	0.2655		0.3196	11	AVG
Methylene Chloride	0.3406	0.3256	0.3196	0.3227	0.3101	0.2758		0.3157	7	AVG
t-Butyl Alcohol	0.7730	1.0684	1.0413	1.0790	0.9245	1.0438		0.9883	12	AVG
Acrylonitrile	0.2017	0.1996	0.1896	0.1845	0.1739	0.1739		0.1872	6	AVG
trans-1,2-Dichloroethene	0.3103	0.3075	0.3068	0.3128	0.2987	0.2896		0.3043	3	AVG
Methyl Tertiary Butyl Ether	1.0398	1.0171	1.0023	1.0135	0.9765	0.9429		0.9987	3	AVG
n-Hexane	0.5097	0.4736	0.5055	0.4810	0.4965	0.4836		0.4916	3	AVG
1,2-Dichloroethene (total)	0.3255	0.3224	0.3219	0.3258	0.3133	0.3052		0.3190	3	AVG
1,1-Dichloroethane	#0.5818	0.5711	0.5812	0.5854	0.5614	0.5449		0.5710	3	AVG
di-Isopropyl Ether	1.1454	1.1145	1.1111	1.1087	1.0639	1.0149		1.0931	4	AVG
2-Chloro-1,3-Butadiene	0.4749	0.4638	0.4840	0.5010	0.4803	0.4677		0.4786	3	AVG
Ethyl t-Butyl Ether	1.0905	1.0745	1.0626	1.0751	1.0322	0.9899		1.0541	4	AVG
cis-1,2-Dichloroethene	0.3406	0.3372	0.3369	0.3389	0.3279	0.3208		0.3337	2	AVG
2-Butanone	0.2414	0.2440	0.2247	0.2227	0.2149	0.2190		0.2278	5	AVG
2,2-Dichloropropane	0.3959	0.3973	0.4147	0.4266	0.4173	0.4121		0.4106	3	AVG
Propionitrile	1.4227	1.8339	1.8154	1.8144	1.8587	2.0471		1.7987	11	AVG
Methacrylonitrile	0.1936	0.1836	0.1826	0.1835	0.1783	0.1814		0.1838	3	AVG
Bromochloromethane	0.1620	0.1665	0.1650	0.1669	0.1603	0.1571		0.1630	2	AVG
Tetrahydrofuran	1.1799	1.6312	1.5676	1.5500	1.6105	1.8188		1.5597	13	AVG
Chloroform	*0.5181	0.5071	0.5108	0.5175	0.5006	0.4965		0.5084	2	AVG
1,1,1-Trichloroethane	0.5493	0.4801	0.4906	0.4694	0.4608	0.4636		0.4856	7	AVG
Cyclohexane	0.6039	0.5743	0.5864	0.5812	0.5953	0.5801		0.5869	2	AVG
Cyclohexane(mz 84)	0.4862	0.4626	0.4803	0.4725	0.4788	0.4724		0.4755	2	AVG
Cyclohexane(mz 69)	0.1761	0.1695	0.1787	0.1744	0.1792	0.1756		0.1756	2	AVG
1,1-Dichloropropene	0.4269	0.4227	0.4280	0.4398	0.4308	0.4253		0.4289	1	AVG
Carbon Tetrachloride	0.3106	0.3216	0.3365	0.3353	0.3562	0.3658		0.3410	6	AVG
Isobutyl Alcohol	0.3088	0.3952	0.3834	0.3991	0.3775	0.4252		0.3815	10	AVG
Benzene	1.3194	1.2929	1.3119	1.3250	1.2845	1.2618		1.2993	2	AVG
1,2-Dichloroethane	0.4187	0.4246	0.4158	0.4233	0.4143	0.4202		0.4195	1	AVG
1,2-Dichloroethane(mz 98)	0.0379	0.0390	0.0402	0.0399	0.0399	0.0409		0.0397	3	AVG
t-Amyl Methyl Ether	0.9808	0.9696	0.9694	0.9875	0.9808	0.9560		0.9740	1	AVG
n-Heptane	0.5888	0.5168	0.5528	0.5103	0.5503	0.5345		0.5422	5	AVG
n-Butanol	0.2544	0.3422	0.3455	0.3789	0.3663	0.4014		0.3481	15	AVG
Trichloroethene	0.3127	0.3104	0.3175	0.3212	0.3145	0.3180		0.3157	1	AVG

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

65802. 8888

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LAMCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09355 Calibration Date(s): 09/27/11 09/27/11
Heated Purge: (Y/N) Y Calibration Times: 15:19 17:13
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID: RRF 4 = ys27106.d RRF 10 = ys27105.d RRF 20 = ys27104.d
RRF 50 = ys27103.d RRF100 = ys27102.d RRF300 = ys27101.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,2-Dichloropropane	0.3418	0.3409	0.3506	0.3560	0.3499	0.3464	0.3476	2	AVG	
Methylcyclohexane(mz98)	0.2748	0.2658	0.2608	0.2624	0.2620	0.2601	0.2643	2	AVG	
Methylcyclohexane	0.6364	0.6088	0.6022	0.5966	0.5955	0.5812	0.6035	3	AVG	
Methyl Methacrylate	0.2721	0.2767	0.2787	0.2949	0.2944	0.3131	0.2883	5	AVG	
Dibromomethane	0.1961	0.1960	0.1957	0.2015	0.1986	0.2059	0.1990	2	AVG	
1,4-Dioxane	0.0929	0.1259	0.1214	0.1314	0.1293	0.1427	0.1239	14	AVG	
Bromodichloromethane	0.3284	0.3338	0.3493	0.3724	0.3812	0.4013	0.3611	8	AVG	
2-Nitropropane	0.0918	0.0972	0.0978	0.1019	0.1054	0.1118	0.1010	7	AVG	
2-Chloroethyl Vinyl Ether	0.1885	0.1939	0.1992	0.2096	0.2014	0.2030	0.1993	4	AVG	
cis-1,3-Dichloropropene	0.4261	0.4626	0.4844	0.5164	0.5161	0.5357	0.4902	8	AVG	
4-Methyl-2-Pentanone	0.4603	0.4847	0.4717	0.4847	0.4944	0.4731	0.4781	3	AVG	
Toluene	*1.1736	1.1173	1.1533	1.1751	1.1344	1.1255	1.1465	2	AVG	*
trans-1,3-Dichloropropene	0.5366	0.5791	0.6147	0.6603	0.6667	0.6964	0.6256	10	AVG	
Ethyl Methacrylate	0.6174	0.6497	0.6706	0.7171	0.7127	0.7267	0.6824	6	AVG	
1,1,2-Trichloroethane	0.4133	0.4137	0.4087	0.4205	0.4116	0.4182	0.4143	1	AVG	
Tetrachloroethene	0.4700	0.4600	0.4791	0.4833	0.4781	0.4864	0.4762	2	AVG	
1,3-Dichloropropane	0.7285	0.7221	0.7305	0.7414	0.7308	0.7418	0.7325	1	AVG	
2-Hexanone	0.4663	0.4925	0.4808	0.5023	0.5215	0.4822	0.4909	4	AVG	
Dibromochloromethane	0.3207	0.3447	0.3711	0.4085	0.4202	0.4491	0.3857	13	AVG	
1,2-Dibromoethane	0.4179	0.4181	0.4147	0.4341	0.4282	0.4434	0.4261	3	AVG	
Chlorobenzene	#1.2591	1.2386	1.2703	1.2801	1.2508	1.2482	1.2579	1	AVG	#
1,1,1,2-Tetrachloroethane	0.3644	0.3772	0.3936	0.4226	0.4183	0.4262	0.4004	6	AVG	
Ethylbenzene	*2.1223	2.1078	2.1890	2.2335	2.1877	2.0776	2.1530	3	AVG	*
m+p-Xylene	0.8403	0.8364	0.8686	0.8829	0.8736	0.8384	0.8567	2	AVG	
Xylene (Total)	0.8400	0.8402	0.8675	0.8856	0.8745	0.8419	0.8583	2	AVG	
o-Xylene	0.8394	0.8479	0.8653	0.8909	0.8765	0.8490	0.8615	2	AVG	
Styrene	1.2497	1.2970	1.3854	1.4475	1.4281	1.4011	1.3681	6	AVG	
Bromoform	#0.2042	0.2222	0.2448	0.2837	0.2994		0.2509	16	1STDEG	#
Isopropylbenzene	2.1793	2.1669	2.2385	2.2707	2.2471	2.0128	2.1859	4	AVG	
Cyclohexanone	0.3052	0.4398	0.4305	0.4549	0.4700	0.5263	0.4378	17	1STDEG	
1,1,2,2-Tetrachloroethane	#1.1182	1.1304	1.1278	1.1531	1.0995	1.0884	1.1195	2	AVG	#
trans-1,4-Dichloro-2-Butene	0.3194	0.3149	0.3313	0.3386	0.3330	0.3377	0.3292	3	AVG	
Bromobenzene	0.8970	0.8930	0.9241	0.9130	0.8896	0.8978	0.9024	1	AVG	
1,2,3-Trichloropropane	0.3292	0.3241	0.3195	0.3240	0.3116	0.3136	0.3203	2	AVG	
n-Propylbenzene	4.3719	4.3645	4.6155	4.5041	4.3404		4.4393	3	AVG	
2-Chlorotoluene	0.8834	0.8894	0.8996	0.9113	0.8903	0.8718	0.8910	2	AVG	
1,3,5-Trimethylbenzene	3.0708	3.0894	3.3042	3.2994	3.2204	2.8182	3.1337	6	AVG	
4-Chlorotoluene	0.9303	0.9003	0.9442	0.9497	0.9222	0.8988	0.9243	2	AVG	
tert-Butylbenzene	0.6772	0.6876	0.7297	0.7467	0.7401	0.7097	0.7152	4	AVG	
Pentachloroethane	0.4531	0.4995	0.5348	0.5814	0.5622	0.5732	0.5340	9	AVG	
1,2,4-Trimethylbenzene	3.1978	3.2498	3.3944	3.3976	3.3001	2.8949	3.2391	6	AVG	
sec-Butylbenzene	3.9281	3.9485	4.2368	4.1431	4.1210	3.2970	3.9457	9	AVG	
p-Isopropyltoluene	3.4371	3.4918	3.6873	3.6721	3.6279	3.0466	3.4938	7	AVG	
1,3-Dichlorobenzene	1.8059	1.8061	1.8384	1.8409	1.7935	1.7361	1.8035	2	AVG	
1,4-Dichlorobenzene	1.8823	1.8823	1.9026	1.9066	1.8576	1.7919	1.8706	2	AVG	
1,2,3-Trimethylbenzene	3.3907	3.4800	3.5317	3.5606	3.3143	2.8021	3.3466	8	AVG	
Benzyl Chloride	1.6603	1.8718	2.0304	2.2836	2.2946	2.2441	2.0642	13	AVG	
1,3-Diethylbenzene	2.1021	2.1416	2.1906	2.2052	2.0955	1.8890	2.1040	5	AVG	
1,4-Diethylbenzene	2.2690	2.2806	2.3160	2.3519	2.2441	1.9549	2.2360	6	AVG	
n-Butylbenzene	1.8229	1.8073	1.9127	1.8593	1.8546	1.6208	1.8129	6	AVG	
1,2-Dichlorobenzene	1.7991	1.8082	1.8265	1.8583	1.8327	1.6731	1.7997	4	AVG	
1,2-Diethylbenzene	1.8742	1.8531	1.8874	1.9056	1.8139	1.6352	1.8282	5	AVG	

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

GSX02 8881

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09355 Calibration Date(s): 09/27/11 09/27/11
Heated Purge: (Y/N) Y Calibration Times: 15:19 17:13
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID: RRF 4 = ys27i06.d RRF 10= ys27i05.d RRF 20= ys27i04.d
RRF 50= ys27i03.d RRF100= ys27i02.d RRF300= ys27i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,2-Dibromo-3-Chloropropane	0.2130	0.2184	0.2278	0.2471	0.2451	0.2465		0.2330	7	AVG
1,3,5-Trichlorobenzene	1.4749	1.4627	1.4776	1.4595	1.4526	1.3363		1.4439	4	AVG
1,2,4-Trichlorobenzene	1.3648	1.3727	1.3986	1.3799	1.3605	1.2228		1.3499	5	AVG
Hexachlorobutadiene	0.6315	0.6252	0.6592	0.6349	0.6611	0.5824		0.6324	5	AVG
Naphthalene	4.1788	4.2600	4.2757	4.3813	4.1892			4.2570	2	AVG
1,2,3-Trichlorobenzene	1.3813	1.3637	1.3649	1.3759	1.3425	1.1810		1.3349	6	AVG
2-Methylnaphthalene	2.4112	2.6066	2.6365	2.7599	2.5297	1.9710		2.4858	11	AVG
Dibromofluoromethane	0.2240	0.2235	0.2232	0.2224	0.2201	0.2210		0.2224	1	AVG
Dibromofluoromethane(mz111)	0.2263	0.2282	0.2283	0.2265	0.2267	0.2261		0.2270	0	AVG
1,2-Dichloroethane-d4	0.0602	0.0615	0.0603	0.0616	0.0616	0.0592		0.0607	2	AVG
1,2-Dichloroethane-d4(mz104)	0.0386	0.0392	0.0379	0.0386	0.0380	0.0380		0.0384	1	AVG
Toluene-d8(mz100)	0.9109	0.9119	0.9093	0.9163	0.9331	0.9605		0.9237	2	AVG
1,2-Dichloroethane-d4(mz65)	0.2802	0.2821	0.2799	0.2879	0.2920	0.2816		0.2839	2	AVG
4-Bromofluorobenzene(mz174)	0.4200	0.4191	0.4138	0.4152	0.4148	0.4126		0.4159	1	AVG
Toluene-d8	1.4000	1.3984	1.4031	1.4017	1.3957	1.3864		1.3975	0	AVG
4-Bromofluorobenzene	0.5083	0.5104	0.5039	0.5006	0.5016	0.4997		0.5041	1	AVG

Average %RSD 5

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

GSK02 0082

118 Cyclohexanone

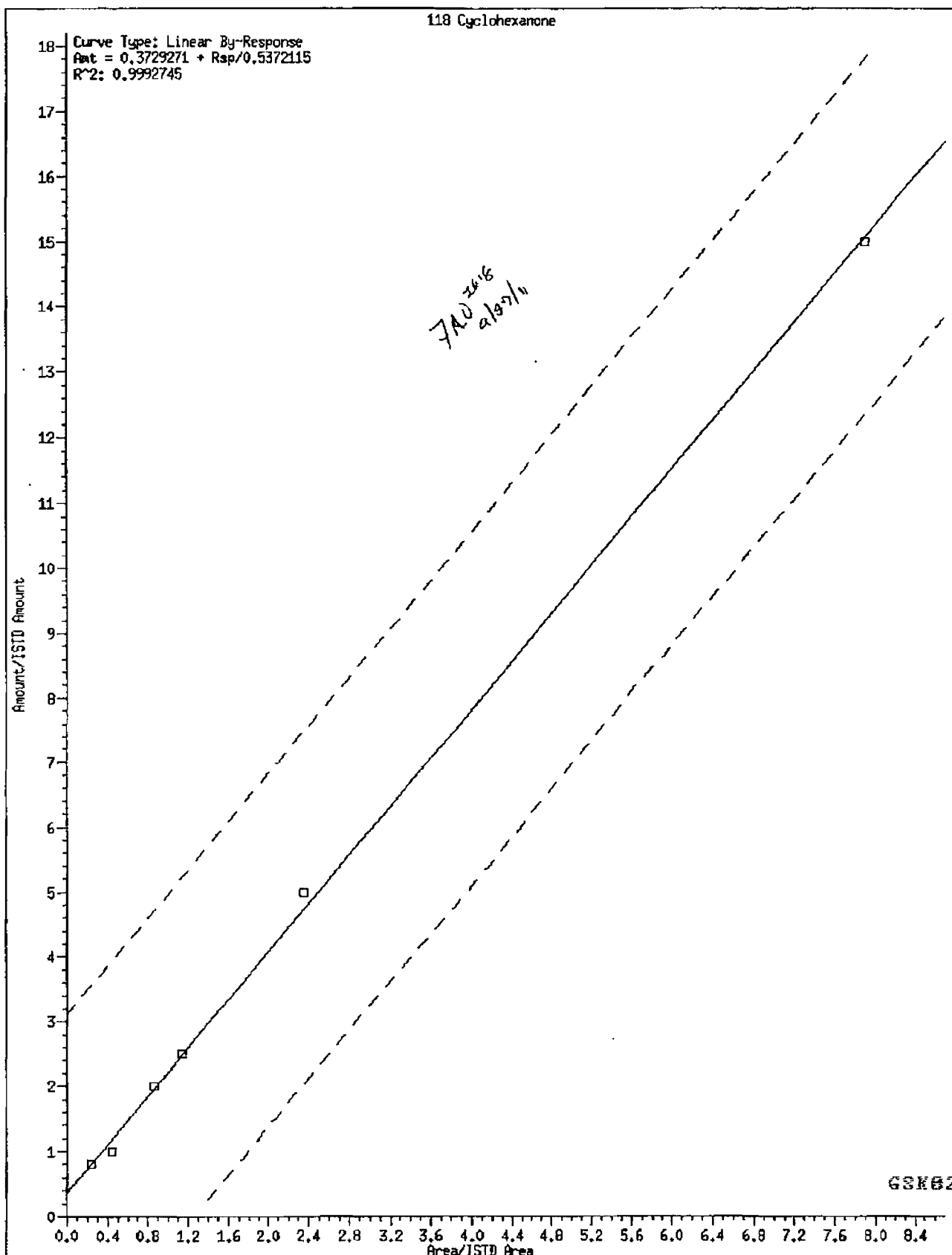
Curve Type: Linear By-Response
 Amt = 0.3729271 + Resp/0.5372115
 R²: 0.9992745

7A0246
 2/18/10

Amount/ISTD Amount

GSK62 8883

Area/ISTD Area



115 Bromoform

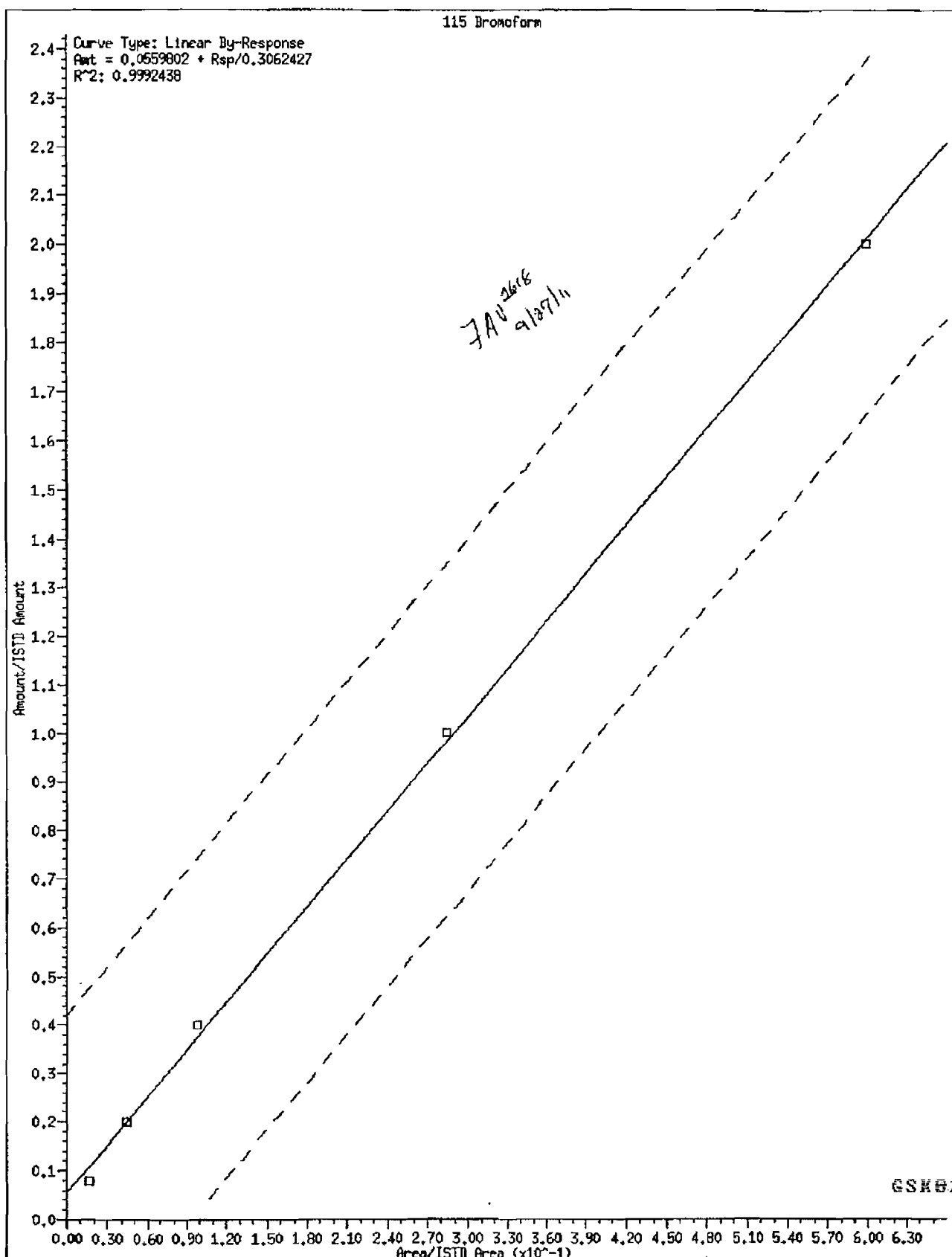
Curve Type: Linear By-Response
Amt = 0.0559602 + Rsp/0.3062427
R²: 0.9992438

FAV 2616
9/18/11

Amount/ISTD Amount

GSK02 0084

Area/ISTD Area (x10⁻¹)



Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP09355.i/11sep27c.b/ys27i01.d VSTD300
/chem2/HP09355.i/11sep27c.b/ys27i02.d VSTD100
/chem2/HP09355.i/11sep27c.b/ys27i03.d VSTD050
/chem2/HP09355.i/11sep27c.b/ys27i04.d VSTD020
/chem2/HP09355.i/11sep27c.b/ys27i05.d VSTD010
/chem2/HP09355.i/11sep27c.b/ys27i06.d VSTD004

Area Summary

File ID:

=====

Internal Standard Name	ys27i01.d	ys27i02.d	ys27i03.d	ys27i04.d	ys27i05.d	ys27i06.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	199673	219419	229779	233386	228536	300813	235268	15	Yes
Fluorobenzene	1206126	1215150	1185917	1214781	1174727	1132044	1188124	3	Yes
Chlorobenzene-d5	871442	860134	834610	853105	822003	787075	838062	4	Yes
1,4-Dichlorobenzene-d4	534501	520367	495993	498246	483668	472258	501006	5	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

=====

Internal Standard Name	ys27i01.d	ys27i02.d	ys27i03.d	ys27i04.d	ys27i05.d	ys27i06.d	Avg. RT
t-Butyl Alcohol-d10	2.133	2.139	2.145	2.127	2.151	2.145	2.140
Fluorobenzene	4.268	4.269	4.269	4.262	4.262	4.262	4.265
Chlorobenzene-d5	7.450	7.450	7.444	7.444	7.444	7.444	7.446
1,4-Dichlorobenzene-d4	9.446	9.440	9.440	9.439	9.440	9.440	9.441

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 09/27/2011 at 17:44.

GSK02 0005

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 09/27/11 Time: 18:23
 Lab File ID: ys27101.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4445	0.3825	17.21	20	-14
# Chloromethane	0.4424	0.4250	19.21	20	-4
* Vinyl Chloride	0.4274	0.4180	19.56	20	-2
1,3-Butadiene	0.2976	0.2712	18.22	20	-9
Bromomethane	0.2704	0.2553	18.88	20	-6
Chloroethane	0.2251	0.2088	18.55	20	-7
Dichlorofluoromethane	0.5471	0.5016	18.34	20	-8
Trichlorofluoromethane	0.4617	0.4599	19.92	20	0
Ethyl Ether	0.2684	0.2222	16.56	20	-17
Freon 123a	0.3397	0.3277	19.29	20	-4
Acrolein	2.0023	2.0445	153.16	150	2
* 1,1-Dichloroethene	0.2547	0.2736	21.48	20	7
Freon 113	0.2601	0.2837	21.82	20	9
Acetone	0.0415	0.0369	133.41	150	-11
Methyl Iodide	0.4695	0.4919	20.95	20	5
2-Propanol	0.6167	0.6333	154.05	150	3
Carbon Disulfide	0.7994	0.8061	20.17	20	1
Allyl Chloride	0.4247	0.4190	19.73	20	-1
Methyl Acetate	0.3196	0.3498	21.89	20	9
Methylene Chloride	0.3157	0.3400	21.54	20	8
t-Butyl Alcohol	0.9883	1.0934	221.27	200	11
Acrylonitrile	0.1872	0.1752	93.61	100	-6
trans-1,2-Dichloroethene	0.3043	0.3234	21.26	20	6
Methyl Tertiary Butyl Ether	0.9987	1.0510	21.05	20	5
n-Hexane	0.4916	0.5137	20.90	20	4
1,2-Dichloroethene (total)	0.3190	0.3365	42.20	40	6
# 1,1-Dichloroethane	0.5710	0.5957	20.87	20	4
di-Isopropyl Ether	1.0931	1.1359	20.78	20	4
2-Chloro-1,3-Butadiene	0.4786	0.5186	21.67	20	8
Ethyl t-Butyl Ether	1.0541	1.1018	20.90	20	5
cis-1,2-Dichloroethene	0.3337	0.3495	20.95	20	5
2-Butanone	0.2278	0.2212	145.67	150	-3
2,2-Dichloropropane	0.4106	0.4220	20.55	20	3
Propionitrile	1.7987	1.9764	164.82	150	10
Methacrylonitrile	0.1838	0.1887	153.94	150	3
Bromochloromethane	0.1630	0.1677	20.58	20	3

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK02 8886

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 09/27/11 Time: 18:23
 Lab File ID: ys27101.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Tetrahydrofuran	1.5597	1.7285	110.82	100	11
* Chloroform	0.5084	0.5274	20.75	20	4 *
1,1,1-Trichloroethane	0.4856	0.5021	20.68	20	3
Cyclohexane	0.5869	0.6311	21.51	20	8
1,1-Dichloropropene	0.4289	0.4518	21.07	20	5
Carbon Tetrachloride	0.3410	0.3510	20.59	20	3
Isobutyl Alcohol	0.3815	0.3996	523.69	500	5
Benzene	1.2993	1.3768	21.19	20	6
1,2-Dichloroethane	0.4195	0.4278	20.40	20	2
t-Amyl Methyl Ether	0.9740	1.0062	20.66	20	3
n-Heptane	0.5422	0.5368	19.80	20	-1
n-Butanol	0.3481	0.3624	1041.06	1000	4
Trichloroethene	0.3157	0.3258	20.64	20	3
* 1,2-Dichloropropane	0.3476	0.3546	20.41	20	2 *
Methylcyclohexane	0.6035	0.6273	20.79	20	4
Methyl Methacrylate	0.2883	0.3001	20.82	20	4
Dibromomethane	0.1990	0.2038	20.49	20	2
1,4-Dioxane	0.1239	0.1333	537.74	500	8
Bromodichloromethane	0.3611	0.3564	19.74	20	-1
2-Nitropropane	0.1010	0.0897	17.77	20	-11
2-Chloroethyl Vinyl Ether	0.1993	0.1934	19.41	20	-3
cis-1,3-Dichloropropene	0.4902	0.4836	19.73	20	-1
4-Methyl-2-Pentanone	0.4781	0.4776	99.89	100	0
* Toluene	1.1465	1.1955	20.85	20	4 *
trans-1,3-Dichloropropene	0.6256	0.6136	19.62	20	-2
Ethyl Methacrylate	0.6824	0.7564	22.17	20	11
1,1,2-Trichloroethane	0.4143	0.4284	20.68	20	3
Tetrachloroethene	0.4762	0.4992	20.97	20	5
1,3-Dichloropropane	0.7325	0.7526	20.55	20	3
2-Hexanone	0.4909	0.5001	101.87	100	2
Dibromochloromethane	0.3857	0.3708	19.23	20	-4
1,2-Dibromoethane	0.4261	0.4374	20.53	20	3
# Chlorobenzene	1.2579	1.3057	20.76	20	4 #
1,1,1,2-Tetrachloroethane	0.4004	0.4079	20.37	20	2
* Ethylbenzene	2.1530	2.2453	20.86	20	4 *
m+p-Xylene	0.8567	0.8953	41.80	40	5

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK82 #887
 Maximum %Drift for CCC(*)=20%

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 09/27/11 Time: 18:23
 Lab File ID: ys27101.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Xylene (Total)	0.8583	0.6274	62.66	60	4
o-Xylene	0.8615	0.8985	20.86	20	4
Styrene	1.3681	1.4263	20.85	20	4
# Bromoform	0.2509	0.2453	18.82	20	-6 #
Isopropylbenzene	2.1859	2.3150	21.18	20	6
Cyclohexanone	0.4378	0.4269	490.55	500	-2
# 1,1,2,2-Tetrachloroethane	1.1195	1.1184	19.98	20	0 #
trans-1,4-Dichloro-2-Butene	0.3292	0.3425	104.05	100	4
Bromobenzene	0.9024	0.9395	20.82	20	4
1,2,3-Trichloropropane	0.3203	0.3295	20.57	20	3
n-Propylbenzene	4.4393	4.6060	20.75	20	4
2-Chlorotoluene	0.8910	0.9089	20.40	20	2
1,3,5-Trimethylbenzene	3.1337	3.3407	21.32	20	7
4-Chlorotoluene	0.9243	0.9515	20.59	20	3
tert-Butylbenzene	0.7152	0.7404	20.70	20	4
Pentachloroethane	0.5340	0.5281	19.78	20	-1
1,2,4-Trimethylbenzene	3.2391	3.4399	21.24	20	6
sec-Butylbenzene	3.9457	4.2276	21.43	20	7
p-Isopropyltoluene	3.4938	3.7198	21.29	20	6
1,3-Dichlorobenzene	1.8035	1.8402	20.41	20	2
1,4-Dichlorobenzene	1.8706	1.9185	20.51	20	3
1,2,3-Trimethylbenzene	3.3466	3.5692	21.32	20	7
Benzyl Chloride	2.0642	2.3055	22.34	20	12
1,3-Diethylbenzene	2.1040	2.1824	20.75	20	4
1,4-Diethylbenzene	2.2360	2.2872	20.46	20	2
n-Butylbenzene	1.8129	1.8643	20.57	20	3
1,2-Dichlorobenzene	1.7997	1.8436	20.49	20	2
1,2-Diethylbenzene	1.8282	1.8700	20.46	20	2
1,2-Dibromo-3-Chloropropane	0.2330	0.2202	18.90	20	-5
1,3,5-Trichlorobenzene	1.4439	1.4460	20.03	20	0
1,2,4-Trichlorobenzene	1.3499	1.3237	19.61	20	-2
Hexachlorobutadiene	0.6324	0.5856	18.52	20	-7
Naphthalene	4.2570	4.0961	19.24	20	-4
1,2,3-Trichlorobenzene	1.3349	1.2883	19.30	20	-3
2-Methylnaphthalene	2.4858	2.3290	18.74	20	-6

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) 65482.0000
 Maximum %Drift for CCC(*)=20%

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 09/27/11 Time: 18:23
 Lab File ID: ys27101.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====

Average %Drift 5

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK02 0000
 Maximum %Drift for CCC(*)=20%

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK02____
Lab File ID: yc28c02.d BFB Injection Date: 10/28/11
Instrument ID: HP09355 BFB Injection Time: 12:20
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.08
75	30.0 - 60.0% of mass 95	49.58
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.15 (0.18)1
174	Greater than 50.0% of mass 95	81.05
175	5.0 - 9.0% of mass 174	5.88 (7.26)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.99 (98.70)1
177	5.0 - 9.0% of mass 176	5.43 (6.78)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	yc28c05.d	10/28/11	12:27
02	VSTD50	yc28c06.d	10/28/11	12:48
03	VBLKY68	yc28b02.d	10/28/11	13:08
04	LCSY68	yc28l02.d	10/28/11	13:52
05	LCDY68	yc28l03.d	10/28/11	14:13
06	LCS1Y68	yc28l04.d	10/28/11	14:33
07	LCD1Y68	yc28l05.d	10/28/11	14:54
08	6444157	yc28s01.d	10/28/11	15:46
09	6444158	yc28s02.d	10/28/11	16:07
10	6444159	yc28s03.d	10/28/11	16:28
11	6444160	yc28s04.d	10/28/11	16:49
12	6447189	yc28s05.d	10/28/11	17:09
13	6447191	yc28s07.d	10/28/11	17:51
14	6447192	yc28s08.d	10/28/11	18:11
15	6448139	yc28s09.d	10/28/11	18:32
16	6449991	yc28s10.d	10/28/11	18:52
17	6449995	yc28s11.d	10/28/11	19:13
18	6451493	yc28s12.d	10/28/11	19:34
19	6451502	yc28s13.d	10/28/11	19:55
20	6446120	yc28s14.d	10/28/11	20:16
21	6450590	yc28s15.d	10/28/11	20:36
22	6450591	yc28s16.d	10/28/11	20:57

GSK02 8869

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK02____
 Lab File ID: yc28t02.d BFB Injection Date: 10/28/11
 Instrument ID: HP09355 BFB Injection Time: 12:20
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.08
75	30.0 - 60.0% of mass 95	49.58
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.15 (0.18)1
174	Greater than 50.0% of mass 95	81.05
175	5.0 - 9.0% of mass 174	5.88 (7.26)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.99 (98.70)1
177	5.0 - 9.0% of mass 176	5.43 (6.78)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6450807	yc28s17.d	10/28/11	21:17
24	6450808	yc28s18.d	10/28/11	21:38
25	6450809	yc28s19.d	10/28/11	21:59
26	6452158	yc28s20.d	10/28/11	22:19

GSK02 0070

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 10/28/11 Time: 12:27
 Lab File ID: yc28c05.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4445	0.4840	54.44	50	9
# Chloromethane	0.4424	0.4621	52.22	50	4 #
* Vinyl Chloride	0.4274	0.4278	50.05	50	0 *
Bromomethane	0.2704	0.2697	49.87	50	0
Chloroethane	0.2251	0.2250	49.97	50	0
Dichlorofluoromethane	0.5471	0.5290	48.34	50	-3
Trichlorofluoromethane	0.4617	0.5143	55.69	50	11
Ethyl Ether	0.2684	0.2548	47.48	50	-5
Freon 123a	0.3397	0.3141	46.22	50	-8
Acrolein	2.0023	1.2125	302.78	500	-39 NTL
* 1,1-Dichloroethene	0.2547	0.2413	47.38	50	-5 *
Freon 113	0.2601	0.2700	51.90	50	4
Acetone	0.0415	0.0642	154.71	100	55 NTL
Methyl Iodide	0.4695	0.4552	48.48	50	-3
2-Propanol	0.5167	0.6796	275.49	250	10
Carbon Disulfide	0.7994	0.7839	49.03	50	-2
Allyl Chloride	0.4247	0.4901	57.70	50	15
Methyl Acetate	0.3196	0.4693	73.41	50	47 NTL
Methylene Chloride	0.3157	0.2913	46.14	50	-8
t-Butyl Alcohol	0.9883	1.0943	276.81	250	11
Acrylonitrile	0.1872	0.2265	60.51	50	21 NTL
trans-1,2-Dichloroethene	0.3043	0.2763	45.40	50	-9
Methyl Tertiary Butyl Ether	0.9987	0.9853	49.33	50	-1
n-Hexane	0.4916	0.4417	44.93	50	-10
1,2-Dichloroethene (total)	0.3190	0.2914	91.31	100	-9
# 1,1-Dichloroethane	0.5710	0.5494	48.11	50	-4 #
di-Isopropyl Ether	1.0931	1.0124	46.31	50	-7
2-Chloro-1,3-Butadiene	0.4786	0.4764	49.77	50	0
Ethyl t-Butyl Ether	1.0541	0.9751	46.25	50	-8
cis-1,2-Dichloroethene	0.3337	0.3064	45.91	50	-8
2-Butanone	0.2278	0.3182	139.69	100	40 NTL
2,2-Dichloropropane	0.4106	0.4378	53.31	50	7
Propionitrile	1.7987	1.2468	173.30	250	-31 NTL
Methacrylonitrile	0.1838	0.2107	143.25	125	15
Bromochloromethane	0.1630	0.1592	48.83	50	-2
Tetrahydrofuran	1.5597	1.0694	68.56	100	-31 NTL

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(=)=20%

GSK02.0096

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 10/28/11 Time: 12:27
 Lab File ID: yc28c05.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====					
* Chloroform	0.5084	0.5127	50.42	50	1 *
1,1,1-Trichloroethane	0.4856	0.4740	48.80	50	-2
Cyclohexane	0.5869	0.5361	45.67	50	-9
Cyclohexane(mz 84)	0.4755	0.4374	45.99	50	-8
Cyclohexane(mz 69)	0.1756	0.1597	45.47	50	-9
1,1-Dichloropropene	0.4289	0.4170	48.61	50	-3
Carbon Tetrachloride	0.3410	0.3784	55.48	50	11
Isobutyl Alcohol	0.3815	0.3762	616.24	625	-1
Benzene	1.2993	1.2002	46.19	50	-8
1,2-Dichloroethane	0.4195	0.4651	55.44	50	11
1,2-Dichloroethane(mz 98)	0.0397	0.0375	47.25	50	-5
t-Amyl Methyl Ether	0.9740	0.9048	46.45	50	-7
n-Heptane	0.5422	0.4852	44.74	50	-11
n-Butanol	0.3481	0.3202	1149.72	1250	-8
Trichloroethene	0.3157	0.3091	48.95	50	-2
* 1,2-Dichloropropane	0.3476	0.3302	47.50	50	-5 *
Methylcyclohexane(mz98)	0.2643	0.2478	46.87	50	-6
Methylcyclohexane	0.6035	0.5614	46.52	50	-7
Methyl Methacrylate	0.2883	0.3288	57.02	50	14
Dibromomethane	0.1990	0.2052	51.56	50	3
1,4-Dioxane	0.1239	0.0957	482.61	625	-23 NTL
Bromodichloromethane	0.3611	0.3860	53.46	50	7
2-Nitropropane	0.1010	0.1453	143.87	100	44 NTL
2-Chloroethyl Vinyl Ether	0.1993	0.2433	61.03	50	22 NTC
cis-1,3-Dichloropropene	0.4902	0.4951	50.49	50	1
4-Methyl-2-Pentanone	0.4781	0.5960	124.66	100	25 NTC
* Toluene	1.1465	1.0495	45.77	50	-8 *
trans-1,3-Dichloropropene	0.6256	0.6619	52.90	50	6
Ethyl Methacrylate	0.6824	0.6706	49.14	50	-2
1,1,2-Trichloroethane	0.4143	0.4016	48.46	50	-3
Tetrachloroethene	0.4762	0.4623	48.54	50	-3
1,3-Dichloropropane	0.7325	0.7278	49.68	50	-1
2-Hexanone	0.4909	0.6441	131.20	100	31 NTC
Dibromochloromethane	0.3857	0.4153	53.83	50	8
1,2-Dibromoethane	0.4261	0.4302	50.48	50	1
# Chlorobenzene	1.2579	1.1947	47.49	50	-5 #

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK02.0097

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 10/28/11 Time: 12:27
 Lab File ID: yc28c05.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRP50	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,1,1,2-Tetrachloroethane	0.4004	0.4124	51.49	50	3
* Ethylbenzene	2.1530	2.0919	48.58	50	-3 *
m+p-Xylene	0.8567	0.8177	95.44	100	-5
Xylene (Total)	0.8583	0.8169	142.76	150	-5
o-Xylene	0.8615	0.8153	47.32	50	-5
Styrene	1.3681	1.3302	48.61	50	-3
# Bromoform	0.2509	0.3119	53.72	50	7 #
Isopropylbenzene	2.1859	2.1520	49.22	50	-2
Cyclohexanone	0.4378	0.3625	514.95	625	-18
# 1,1,2,2-Tetrachloroethane	1.1195	1.1296	50.45	50	1 #
trans-1,4-Dichloro-2-Butene	0.3292	0.4123	156.56	125	25 <i>NTC</i>
Bromobenzene	0.9024	0.8384	46.45	50	-7
1,2,3-Trichloropropane	0.3203	0.3573	55.77	50	12
n-Propylbenzene	4.4393	4.1299	46.51	50	-7
2-Chlorotoluene	0.8910	0.8271	46.42	50	-7
1,3,5-Trimethylbenzene	3.1337	3.0717	49.01	50	-2
4-Chlorotoluene	0.9243	0.8799	47.60	50	-5
tert-Butylbenzene	0.7152	0.6735	47.09	50	-6
Pentachloroethane	0.5340	0.5244	49.10	50	-2
1,2,4-Trimethylbenzene	3.2391	3.1853	49.17	50	-2
sec-Butylbenzene	3.9457	3.8735	49.08	50	-2
p-Isopropyltoluene	3.4938	3.4758	49.74	50	-1
1,3-Dichlorobenzene	1.8035	1.7063	47.31	50	-5
1,4-Dichlorobenzene	1.8706	1.7709	47.34	50	-5
1,2,3-Trimethylbenzene	3.3466	3.2936	49.21	50	-2
Benzyl Chloride	2.0642	2.3651	57.29	50	15
1,3-Diethylbenzene	2.1040	2.0463	48.63	50	-3
1,4-Diethylbenzene	2.2360	2.1841	48.84	50	-2
n-Butylbenzene	1.8129	1.7761	48.98	50	-2
1,2-Dichlorobenzene	1.7997	1.7491	48.59	50	-3
1,2-Diethylbenzene	1.8282	1.7679	48.35	50	-3
1,2-Dibromo-3-Chloropropane	0.2330	0.3371	72.33	50	45 <i>NTC</i>
1,3,5-Trichlorobenzene	1.4439	1.3992	48.45	50	-3
1,2,4-Trichlorobenzene	1.3499	1.2992	48.12	50	-4
Hexachlorobutadiene	0.6324	0.5774	45.66	50	-9
Naphthalene	4.2570	4.5500	53.44	50	7

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSX02 0898

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 10/28/11 Time: 12:27
 Lab File ID: yc28c05.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,2,3-Trichlorobenzene	1.3349	1.2871	48.21	50	-4
2-Methylnaphthalene	2.4858	2.6762	53.83	50	8
Dibromofluoromethane	0.2224	0.2324	52.27	50	5
Dibromofluoromethane(mz111)	0.2270	0.2394	52.74	50	5
1,2-Dichloroethane-d4	0.0607	0.0647	53.25	50	6
1,2-Dichloroethane-d4 (mz104)	0.0384	0.0385	50.09	50	0
1,2-Dichloroethane-d4 (mz65)	0.2839	0.3300	58.11	50	16
Toluene-d8 (mz100)	0.9237	0.8931	48.35	50	-3
4-Bromofluorobenzene(mz174)	0.4159	0.4237	50.94	50	2
Toluene-d8	1.3975	1.3844	49.53	50	-1
4-Bromofluorobenzene	0.5041	0.5146	51.04	50	2

Average %Drift 9

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK02 8899

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP09355.i/11sep27c.b/ys27i06.d
/chem2/HP09355.i/11sep27c.b/ys27i05.d
/chem2/HP09355.i/11sep27c.b/ys27i04.d
/chem2/HP09355.i/11sep27c.b/ys27i03.d
/chem2/HP09355.i/11sep27c.b/ys27i02.d
/chem2/HP09355.i/11sep27c.b/ys27i01.d

File /chem2/HP09355.i/11sep27c.b/ys27i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09355.i/11oct28b.b/yc28c05.d

RT Summary

File ID:

=====

Internal Standard Name	yc28c05.d	ICAL RT	In Spec
-----	-----	-----	-----
n-Butyl Alcohol-d10	2.127	2.145	Yes
Fluorobenzene	4.262	4.269	Yes
Chlorobenzene-d5	7.438	7.444	Yes
1,4-Dichlorobenzene-d4	9.434	9.440	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	yc28c05.d	ICAL Area	Low Limit	High Limit	In Spec
-----	-----	-----	-----	-----	-----
n-Butyl Alcohol-d10	445809	229779	114890	459558	Yes
Fluorobenzene	1150787	1185917	592958	2371834	Yes
Chlorobenzene-d5	828579	834610	417305	1669220	Yes
1,4-Dichlorobenzene-d4	513699	496993	248496	993986	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

GSK02 0145

Comments: _____

report generated on 10/28/2011 at 14:55

GSX02 0101

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK02
 Lab File ID (Standard): yc28c05.d Date Analyzed: 10/28/11
 Instrument ID: HP09355 Time Analyzed: 12:27
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

		IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
	=====	=====	=====	=====	=====	=====	=====	=====	=====
	12 HOUR STD	1150787	4.262	828579	7.438	513699	9.434	445809	2.127
	UPPER LIMIT	2301574	4.762	1657158	7.938	1027398	9.934	891618	2.627
	LOWER LIMIT	575394	3.762	414290	6.938	256850	8.934	222904	1.627
	=====	=====	=====	=====	=====	=====	=====	=====	=====
	LAB SAMPLE								
	ID								
	=====	=====	=====	=====	=====	=====	=====	=====	=====
01	VBLKY68	1101294	4.256	774893	7.438	442255	9.440	382145	2.127
02	LCSY68	1072758	4.256	762296	7.438	461414	9.433	419812	2.133
03	LCDY68	1115772	4.256	794695	7.438	477286	9.434	447272	2.133
04	LCS1Y68	1109520	4.256	781321	7.438	444815	9.440	439613	2.127
05	LCD1Y68	1086173	4.262	766814	7.444	436293	9.439	414045	2.139
06	6444157	1061697	4.262	758753	7.444	441661	9.440	430051	2.133
07	6444158	1066756	4.256	756369	7.438	436650	9.440	406514	2.127
08	6444159	1037692	4.250	748523	7.438	431332	9.434	390415	2.127
09	6444160	1008377	4.256	722373	7.438	413470	9.434	387180	2.115
10	6447189	1008130	4.256	714397	7.444	414798	9.440	376856	2.121
11	6447191	951751	4.250	685384	7.438	402218	9.434	358268	2.115
12	6447192	933128	4.262	665027	7.438	387427	9.440	337916	2.133
13	6448139	959295	4.256	687740	7.438	400852	9.440	363206	2.121
14	6449991	925201	4.256	662266	7.444	387640	9.440	330906	2.127
15	6449995	900193	4.256	650337	7.444	379475	9.440	342827	2.127
16	6451493	909289	4.262	657225	7.444	386579	9.439	335671	2.127
17	6451502	891849	4.256	644644	7.438	373905	9.439	329366	2.127
18	6446120	872203	4.250	632177	7.438	368747	9.440	325632	2.121
19	6450590	887659	4.262	640345	7.444	376384	9.439		
20	6450591	881447	4.256	637201	7.438	376118	9.439		
21	6450807	846314	4.256	609650	7.444	357617	9.440		
22	6450808	846149	4.256	610536	7.438	356200	9.440		

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

GSK62 8184

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK02____
 Lab File ID (Standard): yc28c05.d Date Analyzed: 10/28/11
 Instrument ID: HP09355 Time Analyzed: 12:27
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1150787	4.262	828579	7.438	513699	9.434	445809	2.127
UPPER LIMIT	2301574	4.762	1657158	7.938	1027398	9.934	891618	2.627
LOWER LIMIT	575394	3.762	414290	6.938	256850	8.934	222904	1.627
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE								
ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
23 6450809	851427	4.262	614339	7.444	361760	9.439		
24 6452158	839343	4.262	605276	7.444	358467	9.439		

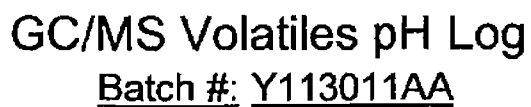
IS1 (FBZ)=Fluorobenzene UPPER LIMIT = + 100%
 IS2 (CBZ)=Chlorobenzene-d5 of internal standard area.
 IS3 (DCB)=1,4-Dichlorobenzene-d4 LOWER LIMIT = - 50%
 IS4 (TBA)=t-Butyl Alcohol-d10 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

page 2 of 2

FORM VIII VOA

GSK02 0105

PH LOG.xls

VOA Prep Summary by SDG: GSK02

21 - GC/MS Volatiles

11/9/11

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	% Moisture	Moisture vol (mL)	Final Extraction Vol (mL)	Problem Codes
6449976	169A	07578	11376344	N	10/25/11 09:20	10/26/11 21:47	28.90 g	33.84 g	4.94 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449976	193A	08389	11376296	Y	10/25/11 09:20	10/26/11 21:48	32.50 g	37.24 g	4.74 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449976	193B	08389	11376303	N	10/25/11 09:20	10/26/11 21:49	32.62 g	37.14 g	4.52 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449977	169A	07578	11376345	N	10/25/11 09:36	10/26/11 21:50	28.88 g	33.80 g	4.92 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449977	193A	08389	11376288	Y	10/25/11 09:36	10/26/11 21:51	32.73 g	37.59 g	4.86 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449977	193B	08389	11376257	N	10/25/11 09:36	10/26/11 21:51	32.52 g	37.35 g	4.83 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449978	169A	07578	11376346	N	10/25/11 09:47	10/26/11 21:52	29.03 g	33.91 g	4.88 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449978	193A	08389	11376288	Y	10/25/11 09:47	10/26/11 21:53	32.61 g	37.54 g	4.93 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449978	193B	08389	11376282	N	10/25/11 09:47	10/26/11 21:54	32.67 g	37.54 g	4.87 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449979	169A	07578	11376347	N	10/25/11 10:14	10/26/11 21:55	28.88 g	33.86 g	4.98 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449979	193A	08389	11376266	Y	10/25/11 10:14	10/26/11 21:56	32.74 g	37.74 g	5.00 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449979	193B	08389	11376291	N	10/25/11 10:14	10/26/11 21:56	32.91 g	37.91 g	5.00 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449980	169A	07578	11376348	N	10/25/11 10:25	10/26/11 21:59	28.85 g	33.93 g	5.08 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449980	193A	08389	11376310	Y	10/25/11 10:25	10/26/11 22:00	32.62 g	37.62 g	5.00 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449980	193B	08389	11376264	N	10/25/11 10:25	10/26/11 22:01	32.54 g	37.49 g	4.95 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449981	169A	07578	11376349	N	10/25/11 10:38	10/26/11 22:02	28.73 g	33.28 g	4.55 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449981	193A	08389	11376281	N	10/25/11 10:38	10/26/11 22:03	32.57 g	37.00 g	4.43 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6449981	193B	08389	11376313	Y	10/25/11 10:38	10/26/11 22:03	32.52 g	37.05 g	4.53 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449982	169A	07578	11376350	N	10/25/11 11:05	10/26/11 22:04	28.86 g	34.22 g	5.36 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449982	193A	08389	11376312	Y	10/25/11 11:05	10/26/11 22:05	32.78 g	38.11 g	5.33 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449982	193B	08389	11376307	N	10/25/11 11:05	10/26/11 22:06	32.65 g	38.10 g	5.45 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449983	169A	07578	11376351	N	10/25/11 11:18	10/26/11 22:07	28.96 g	33.83 g	4.87 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449983	193A	08389	11376305	Y	10/25/11 11:18	10/26/11 22:07	32.63 g	37.70 g	5.07 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449983	193B	08389	11376265	N	10/25/11 11:18	10/26/11 22:08	32.76 g	37.45 g	4.69 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	

Moisture Vol (mL) = weight (g) x (% moisture/100)

Final Extraction Vol (mL) = Preservative Vol + Moisture Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements

B = vial leaked

C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)

D = sampler not full

E = effervescence observed

F = pH >= 2

G = headspace in container

VOA Prep Summary by SDG: GSK02

21 - GC/MS Volatiles

3563

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	% Moisture	Moisture vol (mL)	Final Extraction Vol (mL)	Problem Codes
6449984	169A	07578	11376352	N	10/25/11 11:30	10/26/11 22:11	28.98 g	33.91 g	4.93 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449984	193A	08389	11376287	Y	10/25/11 11:30	10/26/11 22:11	32.79 g	37.43 g	4.64 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449984	193B	08389	11376280	N	10/25/11 11:30	10/26/11 22:12	32.70 g	38.27 g	5.57 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6449985	169A	07578	11376353	N	10/25/11 11:52	10/26/11 22:13	28.88 g	33.79 g	4.91 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449985	193A	08389	11376276	N	10/25/11 11:52	10/26/11 22:14	32.75 g	37.68 g	4.93 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449985	193B	08389	11376277	Y	10/25/11 11:52	10/26/11 22:15	32.59 g	37.54 g	4.95 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449986	169A	07578	11376354	N	10/25/11 12:07	10/26/11 22:16	28.87 g	34.39 g	5.52 g	4.50 g - 5.50 g	N	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6449986	193A	08389	11376263	N	10/25/11 12:07	10/26/11 22:16	32.68 g	38.15 g	5.47 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449986	193B	08389	11376270	Y	10/25/11 12:07	10/26/11 22:17	32.71 g	37.94 g	5.23 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449987	169A	07578	11376355	N	10/25/11 12:20	10/26/11 22:20	28.71 g	33.59 g	4.88 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449987	193A	08389	11376283	Y	10/25/11 12:20	10/26/11 22:21	32.68 g	37.72 g	5.06 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449987	193B	08389	11376290	N	10/25/11 12:20	10/26/11 22:21	32.59 g	37.32 g	4.73 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449988	169A	07578	11376356	N	10/25/11 13:47	10/26/11 22:22	28.97 g	34.06 g	5.09 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449988	193A	08389	11376300	N	10/25/11 13:47	10/26/11 22:23	32.46 g	37.60 g	5.14 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449988	193B	08389	11376301	Y	10/25/11 13:47	10/26/11 22:24	32.75 g	37.81 g	5.06 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449989	169A	07578	11376357	N	10/25/11 14:00	10/26/11 22:25	28.89 g	34.29 g	5.40 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449989	193A	08389	11376304	N	10/25/11 14:00	10/26/11 22:26	32.70 g	38.25 g	5.55 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6449989	193B	08389	11376262	Y	10/25/11 14:00	10/26/11 22:26	32.68 g	38.08 g	5.40 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449990	169A	07578	11376358	N	10/25/11 14:11	10/26/11 22:27	29.02 g	33.96 g	4.94 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449990	193A	08389	11376278	N	10/25/11 14:11	10/26/11 22:28	32.51 g	37.41 g	4.90 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449990	193B	08389	11376273	Y	10/25/11 14:11	10/26/11 22:29	32.58 g	37.57 g	4.99 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449992	169A	07578	11376359	N	10/25/11 14:48	10/26/11 22:31	28.91 g	34.16 g	5.25 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449992	193A	08389	11376267	N	10/25/11 14:48	10/26/11 22:32	32.82 g	37.99 g	5.17 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449992	193B	08389	11376269	Y	10/25/11 14:48	10/26/11 22:33	32.66 g	37.77 g	5.11 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	

Moisture Vol (mL) = weight (g) x (% moisture/100)

Final Extraction Vol (mL) = Preservative Vol + Moisture Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements

B = vial leaked

C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)

D = sampler not full

E = effervescence observed

F = pH >= 2

G = headspace in container

VOA Prep Summary by SDG: GSK02

21 - GC/MS Volatiles

8/16/11

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	% Moisture	Moisture vol (mL)	Final Extraction Vol (mL)	Problem Codes
6449993	169A	07578	11376360	N	10/25/11 15:00	10/26/11 22:34	28.86 g	33.73 g	4.87 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6449993	193A	08389	11376274	N	10/25/11 15:00	10/26/11 22:35	32.63 g	37.71 g	5.08 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449993	193B	08389	11376258	Y	10/25/11 15:00	10/26/11 22:35	32.56 g	37.59 g	5.03 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449994	169A	07578	11376361	N	10/25/11 15:16	10/26/11 22:36	28.97 g	33.45 g	4.48 g	4.50 g - 5.50 g	N	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6449994	193A	08389	11376279	N	10/25/11 15:16	10/26/11 22:37	32.70 g	37.76 g	5.06 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6449994	193B	08389	11376292	Y	10/25/11 15:16	10/26/11 22:38	32.68 g	37.64 g	4.96 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	

Moisture Vol (mL) = weight (g) x (% moisture/100)

Final Extraction Vol (mL) = Preservative Vol + Moisture Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements

D = sampler not full

B = vial leaked

E = effervescence observed

C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)

F = pH >= 2

G = headspace in container

Moisture Data

6SK82 8678



MOISTURE

CLIENT: Groundwater Science Co
SDG: GSK02

SAMPLE NUMBERS:

<u>Sample #</u>	<u>Sample Code</u>
6449976	4D02-
6449977	4D13-
6449978	4D25-
6449979	4J02-
6449980	4J13-
6449981	4J25-
6449982	4E04-
6449983	4E13-
6449984	4E25-
6449985	4A04-
6449986	4A13-
6449987	4A25-
6449988	4G04-
6449989	4G13-
6449990	4G25-
6449992	4I04-
6449993	4I13-
6449994	4I25-

COMMENTS:

Due to limitations of the data package software, Form I's are unavailable for wet chemistry data. Please refer to analysis reports for this information.

The moisture value calculation is:

$$\% \text{ moisture} = \frac{A - B}{C} \times 100$$

Where: A = weight of sample and container before drying
B = weight of sample and container after drying
C = weight of sample before drying

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>LCS</u> <u>%REC</u>	<u>LCSD</u> <u>%REC</u>	<u>LCS/LCSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 11301820003A					
Moisture			Sample number(s): 6449976-6449984		
	100		99-101		
Batch number: 11301820003B					
Moisture			Sample number(s): 6449985-6449990, 6449992-6449994		
	100		99-101		

GSK02 8671



MOISTURE

CLIENT: Groundwater Science Co
SDG: GSK02

Sample Matrix Quality Control

Analysis Name	BKG Conc	DUP Conc	RPD	RPD Max
Batch number: 11301820003A Moisture	5.0	5.0	0	15
Batch number: 11301820003B Moisture	5.4	5.4	0	15

* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.

Moisture Data Report

Batch #: 11301820003

Sample ID	Batch ID	Analysis#	Tare Wt	Sample Wt	Dry Wt	%Moisture	Analysis Date (Emp#)	Verified Date (Emp#)
LCS 89.5% Std.			1.0913	5.0220	1.6274	89.32	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449976	A	00111	1.0780	9.6509	9.8150	9.47	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449977	A	00111	1.0928	7.4716	8.1855	5.07	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449978	A	00111	1.1114	8.0438	8.6245	6.60	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449979	A	00111	1.0859	9.6577	9.6487	11.34	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449980	A	00111	1.0923	8.3584	9.0347	4.98	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449981BKG	A	00111	1.1038	8.6841	9.3517	5.02	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449981DUP	A	00111	1.0912	8.3717	9.0433	5.01	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449982	A	00111	1.1028	7.9599	8.2501	10.21	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449983	A	00111	1.0957	7.3197	8.0259	5.32	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449984	A	00111	1.0855	8.4937	8.6837	10.54	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449985	B	00111	1.1048	8.3613	8.5477	10.98	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449986	B	00111	1.0895	8.0872	8.5065	8.29	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449987	B	00111	1.1000	8.7276	9.3212	5.80	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449988	B	00111	1.0751	8.7343	8.8728	10.72	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449989	B	00111	1.0922	7.1343	7.7612	6.52	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449990	B	00111	1.0776	8.1115	8.7836	5.00	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449992	B	00111	1.1063	8.5108	8.6611	11.23	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449993	B	00111	1.0733	7.8059	8.5117	4.71	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449994BKG	B	00111	1.0912	7.2487	7.9485	5.40	10/28/11 (0943/LJC)	10/31/11 (0236/CW)
6449994DUP	B	00111	1.1020	7.4273	8.1290	5.39	10/28/11 (0943/LJC)	10/31/11 (0236/CW)

GSK8258672

Analysis Report



Page 1 of 2

Sample Description: TEQ11025AUGR Grab Water
Tech City Surficial Soil

LLI Sample # WW 6449991
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 14:35 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

TEQ-- SDG#: GSK02-16EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-98-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-16-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.5	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK02 8848

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TEQ11025AUGR Grab Water
Tech City Surficial Soil

LLI Sample # WW 6449991
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011 14:35 by DAB

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

TEQ-- SDG#: GSK02-16EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113011AA	10/28/2011 18:52	Nicholas R Rossi	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113011AA	10/28/2011 18:52	Nicholas R Rossi	1

GSK02 0041

Analysis Report



Page 1 of 2

Sample Description: TTBA10251026 Water
Tech City Surficial Soil

LLI Sample # WW 6449995
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

TTBA- SDG#: GSK02-20TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	106-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-6	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK02 8848

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TTBA10251026 Water
Tech City Surficial Soil

LLI Sample # WW 6449995
LLI Group # 1273182
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/25/2011

Groundwater Science Co

Submitted: 10/26/2011 09:00

560 Route 53

Reported: 10/31/2011 16:01

Suite 202

Beacon NY 12508

TTBA- SDG#: GSK02-20TB*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113011AA	10/26/2011 19:13	Nicholas R Rossi	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113011AA	10/26/2011 19:13	Nicholas R Rossi	1

GSK02 0049.

ATTACHMENT E
PROJECT CORRESPONDENCE

No Project Correspondence associated with this SDG



"Truth through Science"

Veridian
Environmental, Inc

DATA VALIDATION REPORT

TECHCITY (FORMER IBM KINGSTON) GROUNDWATER CONTAMINATION SUPERFUND SITE

Lancaster Laboratories
SDG: **GSK03**

January 20, 2012

Prepared for:

GROUNDWATER SCIENCES CORPORATION
2601 Market Place Street, Suite 310
Harrisburg, Pennsylvania 17110

Prepared by:

VERIDIAN ENVIRONMENTAL, INC.
1111 Kennedy Place
Suite 2
Davis, California 95616

DATA VALIDATION REPORT

TECHCITY (FORMER IBM KINGSTON) GROUNDWATER CONTAMINATION SUPERFUND SITE

January 20, 2012

Name	Position	Signature/Date
Veridian Environmental, Inc.		
Prepared by:		
Tracy A. Young	Senior Quality Assurance Chemist	 01/20/2012
Ann Lack	Senior Quality Assurance Chemist	 1/20/2012
Reviewed and Approved by:		
Charlotte R. Symms	President	 1/20/2012

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ACRONYMS

<u>Acronym</u>	<u>Definition</u>
%D	Percent Difference
%REC	Percent Recovery
%RI	Percent Relative Intensity
%RPD	Percent Relative Percent Difference
%RSD	Percent Relative Standard Deviation
%S	Percent Solids
ARRF	Average Relative Response Factor
CCC	Calibration Check Analytes
CCV	Continuing Calibration Verification
CD	Correctable Deficiency
CF	Calibration Factor
CLP	Contract Laboratory Program
COC	Chain-of-Custody
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
DER	Division of Environmental Remediation
DF	Dilution Factor
DL	Dilution Limit
DO	Diluted Out
DOC	Date of Collection
DQO	Data Quality Objective
DVR	Data Validation Report
EDD	Electronic Data Deliverable
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
GSC	Groundwater Sciences Corporation
ICAL	Initial Calibration
ICV	Initial Calibration Verification
IS	Internal Standard
kg	Kilogram
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
l	Liter
LL	Lower Limit
LLI	Lancaster Laboratories, Inc.
MDL	Method Detection Limit
ml	Milliliter
MRL	Method Reporting Limit
MS	Matrix Spike

<u>Acronym</u>	<u>Definition</u>
MSD	Matrix Spike Duplicate
µg	Microgram
ND	Non-detect
NFG	National Functional Guidelines
NIST	National Institute of Standards and Technology
NQW	No Qualification Warranted
NTC	Non Target Compound
NYSDEC	New York State Department of Environmental Conservation
OERR	Office of Emergency and Remedial Response
OSWER	Office of Solid Waste and Emergency Response
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
RRF	Relative Response Factor
RRT	Relative Retention Time
RSD	Relative Standard Deviation
RT	Retention Time
SDG	Sample Delivery Group
SM	Standard Method
SOP	Standard Operating Procedure
SOW	Statement of Work
SPCC	System Performance Check Analytes
Surr	Surrogate
TAL	Target Analyte List
TCL	Target Analyte List
TIC	Tentatively Identified Analyte
UL	Upper Limit
U.S. EPA	United States Environmental Protection Agency
VEI	Veridian Environmental, Inc.
VOC	Volatile Organic Analyte

1.0 INTRODUCTION

This Data Validation Report (DVR) details the assessment and the Level IV data validation performed on the sample analyses from SDG GSK03 as summarized in Attachment A. These samples were collected on October 26, 2011, as part of the TechCity (Former IBM Kingston) Facility Superfund Site in Kingston, New York. The samples were shipped to and analyzed by Lancaster Laboratories, Inc., (LLI) in Lancaster, Pennsylvania.

Data validation of all sample results was performed by Tracy A. Young, Ann Lack, and Charlotte R. Symms of Veridian Environmental, Inc. (VEI). A review (Level III) of 100% of the data, which allows for complete independent data review without reconstruction of analytical data, was conducted. In addition, approximately 10% of the project data underwent a comprehensive or extensive review (Level IV) which allowed for the complete reconstruction of the chemical analyses. The comprehensive review included the recalculation of calibration curves and sample results. None of the samples from this report were selected for the comprehensive Level IV review. The data were validated in accordance with the analytical methods and the documents entitled: *RFI Management Plans, Former IBM Kingston Facility* (Golder Associates, 2009); *U.S. EPA Region 2 RCRA and CERCLA Data Validation Standard Operating Procedures* (U.S. EPA Region 2, 2006); and with guidance from *DER-10 / Technical Guidance for Site Investigation and Remediation* (NYSDEC DEC Program Policy, 2010), *Data Quality Assessment: A Reviewer's Guide* (U.S. EPA QA/G-9R 2006); *Data Quality Assessment: Statistical Tools for Practitioners* (U.S. EPA QA-G-9S, 2006); and *U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (U.S. EPA, 2008).

The data were examined to determine the usability of the analytical results and the compliance relative to requirements specified in the analytical methods and guidelines provided. Qualifier codes have been placed next to the results on the laboratory analytical result forms so the data user can quickly assess the qualitative and/or quantitative reliability of any result. The data qualifications allow the data end-user to best understand the usability of the analytical results. It should be understood that data that have not been qualified in this report should be considered valid based on the quality control (QC) criteria that have been reviewed. This report was prepared to provide a critical review of the laboratory analyses and the reported analytical results. Quality assurance (QA) reviews of laboratory-generated data routinely identify various problems associated with analytical measurements, even from the most experienced and capable laboratories.

The findings of this QA review are presented in Section 2.0 of this report, a summary is presented in Section 3.0, and the references are provided in Section 4.0. Attachment A summarizes the client sample identification, the analytical laboratory, laboratory sample identification, sample date, sample time, and the analyses requested for each sample in this SDG. Copies of the laboratory case narrative, the sample chain-of-custody (COC) record, and the sample receipt documentation log report forms for samples discussed in this DVR are included in Attachment B. The qualified analytical result forms for the samples are provided in Attachment C. The samples were analyzed for Volatile Organic Analytes (EPA Method 8260B) and Moisture (Standard Method 2540G). The data validation checklist and copies of all relevant documentation needed to support the findings of the quality assurance review are presented in Attachment D. Project Correspondence is presented as Attachment E.

Several data validation flags are utilized in the validation process. The definitions of these qualifier flags are as follows:

- U The analyte was analyzed for, but was not detected at or above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected at or above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample result and/or analysis have been rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

All necessary flags have been incorporated into the data presented in this report (Attachment C). As per project-specific reporting requirements, all results reported at concentrations less than the sample-specific practical quantitation limits (adjusted for dilution factors, sample size, and percent solids) should be considered estimated (J).

2.0 FINDINGS

Copies of all relevant documentation needed to support the findings of the quality assurance review are presented in Attachment D of this report. Data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis do not require any corrective action by the laboratory. Accordingly, the following data usability issues should not necessarily be construed as an indication of laboratory performance. Data that warranted qualification are summarized in Section 3.0 of this report.

2.1 VOLATILE ORGANIC ANALYTES DATA VALIDATION

The samples analyzed for Volatile Organic Analytes (VOCs) by U.S. EPA Method 8260B were evaluated for the following data requirements.

	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable	Not Applicable
Sample Condition Upon Receipt	✓				
Analytical Holding Times	✓				
Blank Analyses	✓				
GC/MS Tuning and Mass Calibrations	✓				
Initial Calibrations	✓				
Initial Calibration Verifications	✓				

	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable	Not Applicable
Continuing Calibrations			✓		
Surrogate Spike Recoveries	✓				
LCS Analyses			✓		
MS/MSD Analyses					✓
Internal Standards			✓		
Verification of Sample Results					✓
Field Duplicate Results					✓
Verification of the Client EDD	✓				
Moisture Content	✓				
Additional Findings		✓			

A comprehensive Level IV review was performed on ten percent (10%) of the project data. None of the samples from SDG GSK03 were selected for the comprehensive Level IV review. Details of the data findings are presented following the summary of the data requirements.

2.1.1 Sample Condition Upon Receipt

All samples were received intact, with the proper preservation ($\text{pH} \leq 2$ and at $4^\circ \pm 2^\circ\text{C}$) by LLI.

2.1.2 Analytical Holding Times

All samples were prepared and analyzed within the project-specified holding time of 14 days from sample collection.

2.1.3 Blank Analyses

All associated field and laboratory blanks were free of target analyte contamination.

2.1.4 Gas Chromatograph/Mass Spectrometer Tuning and Mass Calibrations

All gas chromatograph/mass spectrometer (GC/MS) tuning and mass calibrations met project criteria (m/z ratios). All project samples were analyzed within the 12-hour tune windows.

2.1.5 Initial Calibrations

For the initial calibrations, all SPCC (min. RRFs) and CCC analytes ($\% \text{RSD} \leq 30\%$) met project criteria. In addition, all target analytes displayed acceptable calibrations (average RRF > 0.050 and $\% \text{RSD} \leq 20\%$).

2.1.6 Initial Calibration Verifications

All target analytes demonstrated acceptable percent differences in the Initial Calibration Verification (ICV).

2.1.7 Continuing Calibrations

For the continuing calibrations, all SPCC (min. RRFs) and CCC analytes (%D $\leq$ 20%) met project criteria. In addition, the percent differences and RRFs for all other target analytes were $\leq$ 20% and > 0.050 , respectively, except for the analyte listed in the following table.

A high percent difference was noted for Freon 123a in the following continuing calibration. The associated non-detect results are estimated (UJ) in accordance with the project criteria.

<u>Instrument ID</u> <u>Date (Time)</u>	<u>Analyte(s)</u>	<u>Percent</u> <u>Difference</u>	<u>Associated</u> <u>Qualified Sample(s)</u>
HP09685 11/02/2011 (14:47)	Freon 123a	26%	OU3AC0411026 OU03A0411026

2.1.8 Surrogate Spike Recoveries

For all project analyses, the surrogate recoveries were within project criteria.

2.1.9 Laboratory Control Sample Analyses

For all LCS analyses, the recoveries for all target analytes met project criteria with the exception of cis-1,3-dichloropropene in the following table. Low percent recoveries were noted for cis-1,3-dichloropropene as listed below. Consequently, the associated results may be biased low (UJ).

<u>Lab Sample ID, Date (Time)</u>	<u>Analyte(s)</u>	<u>Percent</u> <u>Recovery</u>	<u>Limits</u>	<u>Associated</u> <u>Qualified Sample(s)</u>
LCSA38, 11/02/2011 (18:02)	cis-1,3-Dichloropropene	75%	80-120%	OU3AC0411026
LCDA38, 11/02/2011 (18:27)		76%		OU03A0411026

2.1.10 Matrix Spike/Matrix Spike Duplicate Analyses

The laboratory did not prepare and analyze a Matrix Spike/Matrix Spike Duplicate (MS/MSD) for this analysis on any sample from SDG GSK03. Consequently, an assessment of matrix effects cannot be made for these samples.

2.1.11 Internal Standards

For all project sample analyses, the internal standards met project criteria (RT within $\pm$ 30 seconds of ICAL mid-point standard and internal standard area within -50% to + 100% of ICAL mid-point standard) except for the internal standard areas noted in the following table.

Low internal standard areas were reported in the samples (and their re-analyses) as listed below. All results quantitated with this internal standard are non-detect and considered estimated (UJ) in the associated samples. As all the reanalyzed samples were also outside the limits, the original samples were reported and the laboratory noted that this is confirmation of the matrix effect.

<u>Date of Analysis</u>	<u>Sample</u>	<u>Internal Standard</u>	<u>IS Area</u>	<u>12 Hour Standard</u>
10/31/2011	OU3AA0411026	1,4-Dichlorobenzene-d ₄	187690	439110
10/31/2011	OU3AA0411026 RE	1,4-Dichlorobenzene-d ₄	216673	439110

<u>Date of Analysis</u>	<u>Sample</u>	<u>Internal Standard</u>	<u>IS Area</u>	<u>12 Hour Standard</u>
10/31/2011	OU3AD1311026	1,4-Dichlorobenzene-d ₄	208547	439110
10/31/2011	OU3AD1311026 RE	1,4-Dichlorobenzene-d ₄	196642	439110
10/31/2011	OU04F0411026	1,4-Dichlorobenzene-d ₄	202013	439110
10/31/2011	OU04B0411026	1,4-Dichlorobenzene-d ₄	212347	439110
10/31/2011	OU03A1311026	1,4-Dichlorobenzene-d ₄	185458	439110
11/02/2011	OU04F0411026 RE	1,4-Dichlorobenzene-d ₄	321268	698371
11/02/2011	OU04B0411026 RE	1,4-Dichlorobenzene-d ₄	322238	698371
11/02/2011	OU03A1311026 RE	1,4-Dichlorobenzene-d ₄	319564	698371

2.1.12 Verification of Sample Results

None of the samples from SDG GSK03 were selected for a comprehensive Level IV review.

2.1.13 Field Duplicate Results

Field duplicates were not submitted for this analysis; consequently, an assessment of precision cannot be made.

2.1.14 Verification of the Client Electronic Data Deliverable

The database files provided in the laboratory's enhanced general format matched the data reported by the laboratory.

2.1.15 Moisture Content

The moisture content of the soil samples was analyzed by Standard Method 2540G. For all project samples, the moisture content was within project criteria.

2.1.16 Additional Findings

As noted on the VOA Prep Summary, samples **OU3AB1311026**, **OU3AA0411026**, **OU3AA1311026**, **OU3AE0411026**, **OU3AE1311026**, **OU3AD0411026**, **OU3AC0411026**, and **OU3AC1311026** were outside the weight requirements. Qualification of the data is not warranted on this basis.

2.2 FIELD DUPLICATES

Field duplicates were not submitted with SDG GSK03; consequently an assessment of precision cannot be made.

2.3 REPRESENTATIVENESS EVALUATION

Representativeness is a qualitative evaluation of whether the data represent actual environmental conditions. Representativeness was evaluated using holding time criteria, which reflect the length of time after sample collection that a sample or extract remains representative of environmental conditions. Depending on the analysis, either one or two holding times were evaluated. For those analyses that do not include a sample extraction, only one holding time was evaluated: the length of

time between sample collection and analysis. For analyses that require sample extraction prior to analysis, two holding times were evaluated: the length of time from sampling until extraction and the length of time from extraction to analysis. Holding times were compared to standard method-specific holding times accepted by the U.S. EPA. All holding times that are within acceptance criteria are considered representative. Those holding times outside of U.S. EPA acceptance criteria are qualitatively evaluated to determine their effect on sample representativeness. Representativeness was also evaluated by analysis of laboratory method blanks, trip blanks, and equipment blanks that were used to identify sources of contamination not associated with environmental conditions. As summarized in the following sections, the samples appear to be representative of the environmental conditions on site.

2.3.1 Sample Condition Upon Receipt

All samples arrived at the laboratory intact, appropriately preserved and documented.

2.3.2 Analytical Holding Times

As previously noted, all holding times were met.

2.3.3 Blank Analyses

As previously discussed, all field and laboratory blanks were free of all target analytes.

2.4 USABILITY AND COMPARABILITY

Usability of data was evaluated by assuring that all the analytical requests were met, the samples were received in the proper condition, and all analyses were performed within the appropriate holding times with the exception of those noted in this report.

3.0 SUMMARY

This QA review has identified aspects of the analytical data that required qualification due to continuing calibrations, LCS recoveries, and internal standards. None of the VOC data was rejected. To confidently use any of the analytical data within this sample set, the data user should understand the qualifications and limitations of the results. SDG GSK03 met the project completeness goal of 90%. The percent completeness is summarized in the following table.

Fraction	Number of Results	Number of Rejected Results	Percent Completeness
VOCs	820	0	100%
Overall	820	0	100%

4.0 REFERENCES

Data Quality Assessment: A Reviewer's Guide, U.S. Environmental Protection Agency, EPA *Data Quality Assessment: A Reviewer's Guide*, U.S. Environmental Protection Agency, EPA QA/G-9R, February, 2006.

Data Quality Assessment: Statistical Tools for Practitioners, U.S. Environmental Protection Agency, EPA QA/G-9S, February, 2006.

DER-10 / Technical Guidance for Site Investigation and Remediation, Office of Remediation and Materials Management, DEC Program Policy, May 3, 2010.

RFI Management Plans, Former IBM Kingston Facility, Golder Associates, September 2005.

Standard Methods for the Examination of Water and Wastewater, 20th Edition, American Public Health Association, 1998.

Method 2540G Moisture Content

SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods Third Edition, U.S. Environmental Protection Agency, Office of Solid Waste, December 1994.

Method 8260B: Volatile Organic Analytes by Gas Chromatography/Mass Spectrometry

U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, EPA 540-R-08-01, June 2008.

U.S EPA Region 2 RCRA and CERCLA Field and Data Validation Standard Operating Procedures

<u>SOP No.</u>	<u>Title</u>	<u>Date</u>
SOP HW-24 Revision 2	Validating Volatile Organic Analytes by SW-846 Method 8260B	October 2006

ATTACHMENT A

CHAIN-OF-CUSTODY SUMMARY TABLE

ATTACHMENT A
CHAIN-OF-CUSTODY SUMMARY TABLE
TechCity (Former IBM Kingston)
Kingston, New York

Client Sample ID	Laboratory	Laboratory SDG	Laboratory Sample ID	Collection Date	Matrix	Parameter(s) Analyzed
OU3AB0411026	Lancaster Labs	GSK03	6451483	10/26/2011	Soil	V
OU3AB1311026	Lancaster Labs	GSK03	6451484	10/26/2011	Soil	V
OU3AA0411026	Lancaster Labs	GSK03	6451485	10/26/2011	Soil	V
OU3AA1311026	Lancaster Labs	GSK03	6451486	10/26/2011	Soil	V
OU3AE0411026	Lancaster Labs	GSK03	6451487	10/26/2011	Soil	V
OU3AE1311026	Lancaster Labs	GSK03	6451488	10/26/2011	Soil	V
OU3AD0411026	Lancaster Labs	GSK03	6451489	10/26/2011	Soil	V
OU3AD1311026	Lancaster Labs	GSK03	6451490	10/26/2011	Soil	V
OU3AC0411026	Lancaster Labs	GSK03	6451491	10/26/2011	Soil	V
OU3AC1311026	Lancaster Labs	GSK03	6451492	10/26/2011	Soil	V
TEQ11026SHVL (Equipment Rinsate)	Lancaster Labs	GSK03	6451493	10/26/2011	Water	V
OU04F0411026	Lancaster Labs	GSK03	6451494	10/26/2011	Soil	V
OU04F1311026	Lancaster Labs	GSK03	6451495	10/26/2011	Soil	V
OU04F2511026	Lancaster Labs	GSK03	6451496	10/26/2011	Soil	V
OU04B0411026	Lancaster Labs	GSK03	6451497	10/26/2011	Soil	V
OU04B1311026	Lancaster Labs	GSK03	6451498	10/26/2011	Soil	V
OU04B2511026	Lancaster Labs	GSK03	6451499	10/26/2011	Soil	V
OU03A0411026	Lancaster Labs	GSK03	6451500	10/26/2011	Soil	V
OU03A1311026	Lancaster Labs	GSK03	6451501	10/26/2011	Soil	V
TTBA10261026 (Trip Blank)	Lancaster Labs	GSK03	6451502	10/26/2011	Water	V

Notes:

- SDG - Sample Delivery Group
- V - Volatile Organic Compounds by U.S. EPA Method 8260B

ATTACHMENT B

CASE NARRATIVE AND CHAIN-OF-CUSTODY RECORDS



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2661 • www.lancasterlabs.com

NYSDEC ASP Category B Data Package

Prepared for:

Groundwater Science Co
560 Route 53
Suite 202
Beacon NY 12508

Project: TechCity Surficial Soil
Soil and Water Samples
Collected on 10/26/11

SDG# GSK03

GROUP	SAMPLE NUMBERS
1273428	6451483-6451502

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:

Date: 11/15/2011

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Nicole Maljovec at Ext. 1537.

Total Number of Pages 781



CLIENT: Groundwater Science Co
SDG: GSK03

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Volatiles in Soil

Volatiles by 8260B

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
6451483	OU3AB0411026		X	0.95	
6451484	OU3AB1311026		X	0.81	
6451485	OU3AA0411026		X	0.88	
6451486	OU3AA1311026		X	0.88	
6451487	OU3AE0411026		X	0.9	
6451488	OU3AE1311026		X	0.85	
6451489	OU3AD0411026		X	0.91	
6451490	OU3AD1311026		X	0.91	
6451491	OU3AC0411026		X	0.86	
6451492	OU3AC1311026		X	0.87	
6451493	TEQ11026SHVL	X		1	Equipment Blank
6451494	OU04F0411026		X	0.99	
6451495	OU04F1311026		X	1.01	
6451496	OU04F2511026		X	1.07	
6451497	OU04B0411026		X	1	
6451498	OU04B1311026		X	0.97	
6451499	OU04B2511026		X	0.88	
6451500	OU03A0411026		X	0.98	
6451501	OU03A1311026		X	0.87	
6451502	TTBA10261026	X		1	Trip Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE PREPARATION:

The weight for several samples was found to be outside the weight requirement when these samples were re-weighed at the laboratory. Please see the VOA Prep Summary sheets in the Preparations Log section for more information.

ANALYSIS:

No problems were encountered with the analysis of the samples.

GSK03 6652.



CLIENT: Groundwater Science Co
SDG: GSK03

GC/MS Volatiles

Fraction: Volatiles by GC/MS

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Site specific matrix QC samples were not submitted for this SDG. The batch matrix QC was performed on samples from another project. Therefore the matrix effects would not be relevant and matrix QC is not provided in the data package. Laboratory spike data (LCS) are provided.

Sample number(s): 6451491, 6451500: Analysis: 10949

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Sample number(s): 6451485, 6451490, 6451494, 6451497, 6451501: Analysis: 10949

The GC/MS volatile internal standard peak areas were outside the QC limits. A re-analysis was performed, and the matrix effect was confirmed.

DATA INTERPRETATION :

No further interpretation is necessary for the data submitted.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Narrative Reviewed and Approved 11/14/11 by
(Date)

Kathy J. Fair
Kathy J. Fair
Specialist

GSK03 0053



Environmental Sample Administration Receipt Documentation Log

Client/Project: Groundwater Sciences Corp

Shipping Container Sealed: ☒ YES ☐ NO

Date of Receipt: 10/27/11

Custody Seal Present * : ☒ YES ☐ NO

Time of Receipt: 0925

* Custody seal was intact unless otherwise noted in the discrepancy section

Source Code: 50.1

Package: ☒ Chilled ☐ Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	2137	4.8°	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems

Unpacker Signature/Emp#: Hayden 2816 Date/Time: 10/27/11 1020

GS#03. 2884

Issued by Dept. 6042 Management

2174.06

ATTACHMENT C

QUALIFIED LABORATORY TEST RESULT FORMS

Analysis Report



ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Groundwater Science Co
560 Route 53
Suite 202
Beacon NY 12508

November 07, 2011

Project: TechCity Surficial Soil

Submittal Date: 10/27/2011

Group Number: 1273428

SDG: GSK03

PO Number: DB93002.37

State of Sample Origin: NY

Client Sample Description

OU3AB0411026 Grab Soil
OU3AB1311026 Grab Soil
OU3AA0411026 Grab Soil
OU3AA1311026 Grab Soil
OU3AE0411026 Grab Soil
OU3AE1311026 Grab Soil
OU3AD0411026 Grab Soil
OU3AD1311026 Grab Soil
OU3AC0411026 Grab Soil
OU3AC1311026 Grab Soil
TEQ11026SHVL Water
OU04F0411026 Grab Soil
OU04F1311026 Grab Soil
OU04F2511026 Grab Soil
OU04B0411026 Grab Soil
OU04B1311026 Grab Soil
OU04B2511026 Grab Soil
OU03A0411026 Grab Soil
OU03A1311026 Grab Soil
TTBA10261026 Water

Lancaster Labs (LLI)

6451483
6451484
6451485
6451486
6451487
6451488
6451489
6451490
6451491
6451492
6451493
6451494
6451495
6451496
6451497
6451498
6451499
6451500
6451501
6451502

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Groundwater Science Co
COPY TO
1 COPY TO Data Package Group

Attn: Dorothy Bergmann

GSK03 6667

Analysis Report



Questions? Contact your Client Services Representative
Nicole L. Maljovec at (717) 656-2300 Ext. 1537

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Robin C. Runkle".

Robin C. Runkle
Senior Specialist

65X83 8888

Analysis Report



Page 1 of 2

Sample Description: OU3AB0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451483
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 09:25 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AB04 SDG#: GSK03-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-646 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.6	6	0.95
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.95
10949	Bromobenzene	108-86-1	N.D.	1	6	0.95
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.95
10949	Bromoform	75-25-2	N.D.	1	6	0.95
10949	Bromomethane	74-83-9	N.D.	3	6	0.95
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.95
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.95
10949	Chloroethane	75-00-3	N.D.	3	6	0.95
10949	Chloroform	67-66-3	N.D.	1	6	0.95
10949	Chloromethane	74-87-3	N.D.	3	6	0.95
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.95
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.95
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.95
10949	Dibromomethane	74-95-3	N.D.	1	6	0.95
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.95
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.95
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.95
10949	Dichlorodifluoromethane	75-71-8	N.D.	3	6	0.95
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.95
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.95
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.95
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.95
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.95
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.95
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.95
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.95
10949	Freon 113	76-13-1	N.D.	3	13	0.95
10949	Freon 123a	354-23-4	N.D.	3	6	0.95
10949	Methylene Chloride	75-09-2	N.D.	3	6	0.95
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.95
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.95
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.95
10949	Toluene	108-88-3	N.D.	1	6	0.95
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.95
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.95
10949	Trichloroethene	79-01-6	N.D.	1	6	0.95
10949	Trichlorofluoromethane	75-69-4	N.D.	3	6	0.95
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.95
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.95
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.95

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

24.5

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK03 0010

Analysis Report



Page 2 of 2

Sample Description: OU3AB0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451483
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 09:25 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/27/2011 09:25

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

3AB04 SDG#: GSK03-01

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 13:39	Chelsea B Eastep	0.95
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 14:46	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 14:49	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 14:48	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 0011

Analysis Report



Page 1 of 2

Sample Description: OU3AB1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451484
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 09:37 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AB13 SDG#: GSK03-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.81
10949	Benzyl Chloride	100-44-7	N.D.	0.9	4	0.81
10949	Bromobenzene	108-86-1	N.D.	0.9	5	0.81
10949	Bromodichloromethane	75-27-4	N.D.	0.9	5	0.81
10949	Bromoform	75-25-2	N.D.	0.9	5	0.81
10949	Bromomethane	74-83-9	N.D.	2	5	0.81
10949	Carbon Tetrachloride	56-23-5	N.D.	0.9	5	0.81
10949	Chlorobenzene	108-90-7	N.D.	0.9	5	0.81
10949	Chloroethane	75-00-3	N.D.	2	5	0.81
10949	Chloroform	67-66-3	N.D.	0.9	5	0.81
10949	Chloromethane	74-87-3	N.D.	2	5	0.81
10949	2-Chlorotoluene	95-49-8	N.D.	0.9	5	0.81
10949	4-Chlorotoluene	106-43-4	N.D.	0.9	5	0.81
10949	Dibromochloromethane	124-48-1	N.D.	0.9	5	0.81
10949	Dibromomethane	74-95-3	N.D.	0.9	5	0.81
10949	1,2-Dichlorobenzene	95-50-1	N.D.	0.9	5	0.81
10949	1,3-Dichlorobenzene	541-73-1	N.D.	0.9	5	0.81
10949	1,4-Dichlorobenzene	106-46-7	N.D.	0.9	5	0.81
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.81
10949	1,1-Dichloroethane	75-34-3	N.D.	0.9	5	0.81
10949	1,2-Dichloroethane	107-06-2	N.D.	0.9	5	0.81
10949	1,1-Dichloroethene	75-35-4	N.D.	0.9	5	0.81
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.9	5	0.81
10949	1,2-Dichloropropane	78-87-5	N.D.	0.9	5	0.81
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.9	5	0.81
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.9	5	0.81
10949	Ethylbenzene	100-41-4	N.D.	0.9	5	0.81
10949	Freon 113	75-13-1	N.D.	2	9	0.81
10949	Freon 123a	354-23-4	N.D.	2	5	0.81
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.81
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.9	5	0.81
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.9	5	0.81
10949	Tetrachloroethene	127-18-4	N.D.	0.9	5	0.81
10949	Toluene	108-88-3	N.D.	0.9	5	0.81
10949	1,1,1-Trichloroethane	71-55-6	N.D.	0.9	5	0.81
10949	1,1,2-Trichloroethane	79-00-5	N.D.	0.9	5	0.81
10949	Trichloroethene	79-01-6	N.D.	0.9	5	0.81
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.81
10949	1,2,3-Trichloropropane	96-18-4	N.D.	0.9	5	0.81
10949	Vinyl Chloride	75-01-4	N.D.	0.9	5	0.81
10949	Xylene (Total)	1330-20-7	N.D.	0.9	5	0.81

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

13.9

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK03 0012

Analysis Report



Page 2 of 2

Sample Description: OU3AB1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451484
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 09:37 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AB13 SDG#: GSK03-02

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 15:32	Chelsea E Eastep	0.81
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 14:50	Christopher D Meeks	n.a.
06389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 14:50	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 14:50	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03-0013

Analysis Report



Page 1 of 2

Sample Description: OU3AA0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451485
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 10:07 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

3AA04 SDG#: GSK03-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	0.88	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.88	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.88	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.88	
10949	Bromoform	75-25-2	N.D.	1	5	0.88	
10949	Bromomethane	74-83-9	N.D.	2	5	0.88	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.88	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.88	
10949	Chloroethane	75-00-3	N.D.	2	5	0.88	
10949	Chloroform	67-66-3	N.D.	1	5	0.88	
10949	Chloromethane	74-87-3	N.D.	2	5	0.88	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.88	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.88	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.88	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.88	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.88	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.88	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.88	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.88	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.88	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.88	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.88	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.88	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.88	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.88	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.88	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.88	
10949	Freon 113	76-13-1	N.D.	2	11	0.88	
10949	Freon 123a	354-23-4	N.D.	2	5	0.88	
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.88	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.88	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.88	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.88	
10949	Toluene	108-88-3	N.D.	1	5	0.88	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.88	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.88	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.88	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.88	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.88	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.88	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.88	

The GC/MS volatile internal standard peak areas were outside the QC limits. A re-analysis was performed, and the matrix effect was confirmed.

Wet Chemistry	SM20 2540 G	%	%	%	
00111	Moisture	n.a.	16.9	0.50	0.50
*Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					1
					GSK03 0014

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU3AA0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451485
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 10:07 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AA04 SDG#: GSK03-03

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 14:24	Chelsea B Eastep	0.88
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 14:52	Christopher D Meeks	n.a.
06389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 14:52	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 14:52	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 8815

Analysis Report



Page 1 of 2

Sample Description: OU3AA1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451486
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 10:21 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AA13 SDG#: GSK03-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.88
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.88
10949	Bromobenzene	108-86-1	N.D.	1	5	0.88
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.88
10949	Bromoform	75-25-2	N.D.	1	5	0.88
10949	Bromomethane	74-83-9	N.D.	2	5	0.88
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.88
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.88
10949	Chloroethane	75-00-3	N.D.	2	5	0.88
10949	Chloroform	67-66-3	N.D.	1	5	0.88
10949	Chloromethane	74-87-3	N.D.	2	5	0.88
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.88
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.88
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.88
10949	Dibromomethane	74-95-3	N.D.	1	5	0.88
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.88
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.88
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.88
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.88
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.88
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.88
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.88
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.88
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.88
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.88
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.88
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.88
10949	Freon 113	76-13-1	N.D.	2	10	0.88
10949	Freon 123a	354-23-4	N.D.	2	5	0.88
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.88
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.88
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.88
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.88
10949	Toluene	108-88-3	N.D.	1	5	0.88
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.88
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.88
10949	Trichloroethene	79-01-6	N.D.	1	5	0.88
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.88
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.88
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.95
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.88

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

11.7

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK03 0016

Analysis Report



Page 2 of 2

Sample Description: OU3AA1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451486
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 10:21 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AA13 SDG#: GSK03-04

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 14:47	Chelsea B Eastep	0.88
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 14:54	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 14:54	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 14:53	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 0817

Analysis Report



Page 1 of 2

Sample Description: OU3AE0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451487
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 10:43 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AE04 SDG#: GSK03-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.9
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.9
10949	Bromobenzene	108-86-1	N.D.	1	5	0.9
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.9
10949	Bromoform	75-25-2	N.D.	1	5	0.9
10949	Bromomethane	74-83-9	N.D.	2	5	0.9
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.9
10949	Chlorobenzene	106-90-7	N.D.	1	5	0.9
10949	Chloroethane	75-00-3	N.D.	2	5	0.9
10949	Chloroform	67-66-3	N.D.	1	5	0.9
10949	Chloromethane	74-87-3	N.D.	2	5	0.9
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.9
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.9
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.9
10949	Dibromomethane	74-95-3	N.D.	1	5	0.9
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.9
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.9
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.9
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.9
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.9
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.9
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.9
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.9
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.9
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.9
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.9
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.9
10949	Freon 113	76-13-1	N.D.	2	11	0.9
10949	Freon 123a	354-23-4	N.D.	2	5	0.9
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.9
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.9
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.9
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.9
10949	Toluene	108-88-3	N.D.	1	5	0.9
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.9
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.9
10949	Trichloroethene	79-01-6	N.D.	1	5	0.9
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.9
10949	1,2,3-Trichloropropane	96-15-4	N.D.	1	5	0.9
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.9
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.9

Wet Chemistry	SM20 2540 G	%	%	%	
00111	Moisture	n.a.	15.0	0.50	0.50
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

GSK03 0818

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU3AE0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451487
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 10:43 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AE04 SDG#: GSK03-05

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 15:10	Chelsea B Eastep	0.9
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 14:55	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 14:56	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 14:55	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 0019

Analysis Report



Page 1 of 2

Sample Description: OU3AE1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451488
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 11:07 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/27/2011 09:25

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

3AE13 SDG#: GSK03-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.85
10949	Benzyl Chloride	100-44-7	N.D.	0.9	4	0.85
10949	Bromobenzene	108-86-1	N.D.	0.9	5	0.85
10949	Bromodichloromethane	75-27-4	N.D.	0.9	5	0.85
10949	Bromoform	75-25-2	N.D.	0.9	5	0.85
10949	Bromomethane	74-83-9	N.D.	2	5	0.65
10949	Carbon Tetrachloride	56-23-5	N.D.	0.9	5	0.85
10949	Chlorobenzene	108-90-7	N.D.	0.9	5	0.85
10949	Chloroethane	75-00-3	N.D.	2	5	0.85
10949	Chloroform	67-66-3	N.D.	0.9	5	0.85
10949	Chloromethane	74-87-3	N.D.	2	5	0.85
10949	2-Chlorotoluene	95-49-8	N.D.	0.9	5	0.85
10949	4-Chlorotoluene	106-43-4	N.D.	0.9	5	0.85
10949	Dibromochloromethane	124-48-1	N.D.	0.9	5	0.85
10949	Dibromomethane	74-95-3	N.D.	0.9	5	0.85
10949	1,2-Dichlorobenzene	95-50-1	N.D.	0.9	5	0.85
10949	1,3-Dichlorobenzene	541-73-1	N.D.	0.9	5	0.85
10949	1,4-Dichlorobenzene	106-46-7	N.D.	0.9	5	0.85
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.85
10949	1,1-Dichloroethane	75-34-3	N.D.	0.9	5	0.85
10949	1,2-Dichloroethane	107-06-2	N.D.	0.9	5	0.85
10949	1,1-Dichloroethene	75-35-4	N.D.	0.9	5	0.85
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.9	5	0.85
10949	1,2-Dichloropropane	78-87-5	N.D.	0.9	5	0.85
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.9	5	0.85
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.9	5	0.85
10949	Ethylbenzene	100-41-4	N.D.	0.9	5	0.85
10949	Freon 113	76-13-1	N.D.	2	9	0.85
10949	Freon 123a	354-23-4	N.D.	2	5	0.25
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.85
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.9	5	0.85
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.9	5	0.85
10949	Tetrachloroethene	127-18-4	N.D.	0.9	5	0.25
10949	Toluene	108-88-3	N.D.	0.9	5	0.25
10949	1,1,1-Trichloroethane	71-55-6	N.D.	0.9	5	0.85
10949	1,1,2-Trichloroethane	79-00-5	N.D.	0.9	5	0.85
10949	Trichloroethene	79-01-6	N.D.	0.9	5	0.85
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.85
10949	1,2,3-Trichloropropane	96-18-4	N.D.	0.9	5	0.85
10949	Vinyl Chloride	75-01-4	N.D.	0.9	5	0.85
10949	Xylene (Total)	1330-20-7	N.D.	0.9	5	0.85

Wet Chemistry	SM20 2540 G	%	%	%	
06111 Moisture	n.a.	9.0	0.50	0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

GSK03 0628

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU3AE1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451488
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 11:07 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AE13 SDG#: GSK03-06

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 16:18	Chelsea B Eastep	0.85
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 14:57	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 14:58	Christopher D Meeks	n.a.
07576	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 14:57	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03: 0021

Analysis Report



Page 1 of 2

Sample Description: OU3AD0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451489
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 11:31 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AD04 SDG#: GSK03-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.91
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.91
10949	Bromobenzene	108-86-1	N.D.	1	5	0.91
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.91
10949	Bromoform	75-25-2	N.D.	1	5	0.91
10949	Bromomethane	74-83-9	N.D.	2	5	0.91
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.91
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.91
10949	Chloroethane	75-00-3	N.D.	2	5	0.91
10949	Chloroform	67-66-3	N.D.	1	5	0.91
10949	Chloromethane	74-87-5	N.D.	2	5	0.91
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.91
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.91
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.91
10949	Dibromomethane	74-95-3	N.D.	1	5	0.91
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.91
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.91
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.91
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.91
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.91
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.91
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.91
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.91
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.91
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.91
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.91
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.91
10949	Freon 113	76-13-1	N.D.	2	11	0.91
10949	Freon 123a	354-23-4	N.D.	2	5	0.91
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.91
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.91
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.91
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.91
10949	Toluene	108-88-3	N.D.	1	5	0.91
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.91
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.91
10949	Trichloroethene	79-01-6	N.D.	1	5	0.91
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.91
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.91
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.91
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.91

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

16.7

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK03 0022.

Analysis Report



Page 2 of 2

Sample Description: OU3AD0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451489
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 11:31 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AD04 SDG#: GSK03-07

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Data and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 18:11	Chelsea B Eastep	0.91
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 15:00	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 15:00	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 14:59	Christopher D Meeks	n.a.
30111	Moisture	SM20 2540 G	1	11305620002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 6823

Analysis Report



Page 1 of 2

Sample Description: OU3AD1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451490
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 11:47 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AD13 SDG#: GSK03-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.91
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.91
10949	Bromobenzene	108-86-1	N.D.	1	5	0.91
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.91
10949	Bromoform	75-25-2	N.D.	1	5	0.91
10949	Bromomethane	74-83-9	N.D.	2	5	0.91
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.91
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.91
10949	Chloroethane	75-00-3	N.D.	2	5	0.91
10949	Chloroform	67-66-3	N.D.	1	5	0.91
10949	Chloromethane	74-87-3	N.D.	2	5	0.91
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.91
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.91
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.91
10949	Dibromomethane	74-95-3	N.D.	1	5	0.91
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.91
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.91
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.91
10949	Dichlorodifluoromethane	75-71-6	N.D.	2	5	0.91
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.91
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.91
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.91
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.91
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.91
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.91
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.91
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.91
10949	Freon 113	76-13-1	N.D.	2	10	0.91
10949	Freon 123a	354-23-4	N.D.	2	5	0.91
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.91
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.91
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.91
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.91
10949	Toluene	108-88-3	N.D.	1	5	0.91
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.91
10949	1,1,2-Trichloroethane	79-00-9	N.D.	1	5	0.91
10949	Trichloroethene	79-01-6	N.D.	1	5	0.91
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.91
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.91
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.91
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.91

The GC/MS volatile internal standard peak areas were outside the QC limits. A re-analysis was performed, and the matrix effect was confirmed.

Wet Chemistry SM20 2540 G % % %
00111 Moisture n.a. 11.1 0.50 0.50

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK03 0824

Analysis Report



Page 2 of 2

Sample Description: OU3AD1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451490
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 11:47 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AD13 SDG#: GSK03-08

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 17:03	Chelsea B Eastep	0.91
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 15:02	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 15:02	Christopher D Meeks	n.a.
07576	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 15:01	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisner	1

GSK03-0825

Analysis Report



Page 1 of 2

Sample Description: OU3AC0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451491
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 12:04 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AC04 SDG#: GSK03-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	DVQ
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	0.86	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.86	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.86	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.86	
10949	Bromoform	75-25-2	N.D.	1	5	0.86	
10949	Bromomethane	74-83-9	N.D.	2	5	0.86	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.86	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.86	
10949	Chloroethane	75-00-3	N.D.	2	5	0.86	
10949	Chloroform	67-66-3	N.D.	1	5	0.86	
10949	Chloromethane	74-87-3	N.D.	2	5	0.86	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.86	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.86	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.86	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.86	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.86	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.86	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.86	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.86	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.86	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.86	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.86	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.86	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.86	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.86	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.86	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.86	
10949	Freon 113	76-13-1	N.D.	2	10	0.86	
10949	Freon 123a	354-23-4	N.D.	2	5	0.86	
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.86	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.86	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.86	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.86	
10949	Toluene	108-88-3	N.D.	1	5	0.86	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.86	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.86	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.86	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.86	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.86	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.86	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.86	

The LCS and/or LCS/D recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAP Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry	SM20 2540 G	%	%	%	
00111 Moisture	n.a.	16.2	0.50	0.50	GSK03 8826
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU3AC0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451491
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 12:04 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AC04 SDG#: GSK03-09

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 B260B	1	A113062AA	11/03/2011 00:36	Chelsea B Eastep	0.86
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 15:03	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 15:04	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 15:03	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 0827

Analysis Report



Page 1 of 2

Sample Description: OU3AC1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451492
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 12:21 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

3AC14 SDG#: GSK03-10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.87
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.87
10949	Bromobenzene	108-86-1	N.D.	1	5	0.87
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.87
10949	Bromoform	75-25-2	N.D.	1	5	0.87
10949	Bromomethane	74-83-9	N.D.	2	5	0.87
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.87
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.87
10949	Chloroethane	75-00-3	N.D.	2	5	0.87
10949	Chloroform	67-66-3	N.D.	1	5	0.87
10949	Chloromethane	74-87-3	N.D.	2	5	0.87
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.87
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.87
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.87
10949	Dibromomethane	74-95-3	N.D.	1	5	0.87
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.87
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.87
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.87
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.87
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.87
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.87
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.87
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.87
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.87
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.87
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.87
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.87
10949	Freon 113	76-13-1	N.D.	2	10	0.87
10949	Freon 123a	354-23-4	N.D.	2	5	0.87
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.87
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.87
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.87
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.87
10949	Toluene	108-88-3	N.D.	1	5	0.87
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.87
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.87
10949	Trichloroethene	79-01-6	N.D.	1	5	0.87
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.87
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.87
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.87
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.87

Wet Chemistry	SM20 2540 G	%	%	%	
00111	Moisture	n.a.	3.1	0.50	0.50
*Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

GSK03 0020

Analysis Report



Page 2 of 2

Sample Description: OU3AC1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451492
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 12:21 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/27/2011 09:25

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

3AC14 SDG#: GSK03-10

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-646 8260B	1	A113041AA	10/31/2011 17:48	Chelsea B Eastep	0.87
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 15:05	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 15:05	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 15:05	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 0029

Analysis Report



Page 1 of 2

Sample Description: TEQ11026SHVL Water
Tech City Surficial Soils

LLI Sample # WW 6451493
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 13:51 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

6SHVL SDG#: GSK03-11EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 82608	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	106-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.5	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK03 8838

Analysis Report



Page 2 of 2

Sample Description: TEQ11026SHVL Water
Tech City Surficial Soils

LLI Sample # WW 6451493
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 13:51 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/27/2011 09:25

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

6SHVL SDG#: GSK03-11EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113011AA	10/28/2011 19:34	Nicholas R Rossi	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113011AA	10/28/2011 19:34	Nicholas R Rossi	1

GSK03 0031

Analysis Report



Page 1 of 2

Sample Description: OU04F0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451494
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 14:04 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/27/2011 09:25

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

04F04 SDG#: GSK03-12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		DVR
10949	Benzene	71-43-2	N.D.	0.5	5	0.99	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.99	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.99	uJ
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.99	uJ
10949	Bromoform	75-25-2	N.D.	1	5	0.99	
10949	Bromomethane	74-83-9	N.D.	2	5	0.99	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.99	
10949	Chlorobenzene	106-90-7	N.D.	1	5	0.99	
10949	Chloroethane	75-00-3	N.D.	2	5	0.99	
10949	Chloroform	67-66-3	N.D.	1	5	0.99	
10949	Chloromethane	74-87-3	N.D.	2	5	0.99	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.99	uJ
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.99	uJ
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.99	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.99	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.99	uJ
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.99	uJ
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.99	uJ
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.99	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.99	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.99	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.99	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.99	
10949	1,2-Dichloropropane	75-87-5	N.D.	1	5	0.99	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.99	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.99	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.99	
10949	Freon 113	76-13-1	N.D.	2	11	0.99	
10949	Freon 123a	354-23-4	N.D.	2	5	0.99	
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.99	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.99	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.99	uJ
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.99	
10949	Toluene	108-88-3	N.D.	1	5	0.99	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.99	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.99	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.99	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.99	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.99	uJ
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.99	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.99	

The GC/MS volatile internal standard peak areas were outside the QC limits. A re-analysis was performed, and the matrix effect was confirmed.

Wet Chemistry

SM20 2540 G

GC111	Moisture	n.a.	8.6	0.50	0.50	1
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK03 0832

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: 0004F0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451494
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 14:04 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/27/2011 09:25

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

04F04 SDG#: GSK03-12

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 18:56	Chelsea B Eastep	0.99
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 15:08	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 15:08	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 15:08	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03-0033

Analysis Report



Page 1 of 2

Sample Description: OU04F1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451495
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 14:21 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

04F13 SDG#: GSK03-13

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	1.01
10949	Benzyl Chloride	100-44-7	N.D.	1	4	1.01
10949	Bromobenzene	108-86-1	N.D.	1	5	1.01
10949	Bromodichloromethane	75-27-4	N.D.	1	5	1.01
10949	Bromoform	75-25-2	N.D.	1	5	1.01
10949	Bromomethane	74-83-9	N.D.	2	5	1.01
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	1.01
10949	Chlorobenzene	108-90-7	N.D.	1	5	1.01
10949	Chloroethane	75-00-3	N.D.	2	5	1.01
10949	Chloroform	67-66-3	N.D.	1	5	1.01
10949	Chloromethane	74-87-3	N.D.	2	5	1.01
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	1.01
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	1.01
10949	Dibromochloromethane	124-48-1	N.D.	1	5	1.01
10949	Dibromomethane	74-95-3	N.D.	1	5	1.01
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1.01
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1.01
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1.01
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1.01
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	1.01
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	1.01
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	1.01
10949	1,2-Dichloroethane (Total)	540-59-0	N.D.	1	5	1.01
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	1.01
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1.01
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1.01
10949	Ethylbenzene	100-41-4	N.D.	1	5	1.01
10949	Freon 113	76-13-1	N.D.	2	11	1.01
10949	Freon 123a	354-23-4	N.D.	2	5	1.01
10949	Methylene Chloride	75-09-2	N.D.	2	5	1.01
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1.01
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1.01
10949	Tetrachloroethene	127-18-4	N.D.	1	5	1.01
10949	Toluene	108-88-3	N.D.	1	5	1.01
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	1.01
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	1.01
10949	Trichloroethene	79-01-6	N.D.	1	5	1.01
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	1.01
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1.01
10949	Vinyl Chloride	75-01-4	N.D.	1	5	1.01
10949	Xylene (Total)	1330-20-7	N.D.	1	5	1.01

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

5.6

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK03 8834

Analysis Report



Page 2 of 2

Sample Description: OU04F1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451495
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 14:21 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

04F13 SDG#: GSK03-13

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 19:19	Chelsea B Eastep	1.01
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 15:10	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 15:10	Christopher D Meeks	n.a.
07578	GC/MS-EL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 15:10	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 0035

Analysis Report



Page 1 of 2

Sample Description: OU04F2511026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451496
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 14:31 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

04F25 SDG#: GSK03-14

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.6	6	1.07
10949	Benzyl Chloride	100-44-7	N.D.	1	4	1.07
10949	Bromobenzene	108-86-1	N.D.	1	6	1.07
10949	Bromodichloromethane	75-27-4	N.D.	1	6	1.07
10949	Bromoform	75-25-2	N.D.	1	6	1.07
10949	Bromomethane	74-83-9	N.D.	2	6	1.07
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	1.07
10949	Chlorobenzene	108-90-7	N.D.	1	6	1.07
10949	Chloroethane	75-00-3	N.D.	2	6	1.07
10949	Chloroform	67-66-3	N.D.	1	6	1.07
10949	Chloromethane	74-87-3	N.D.	2	6	1.07
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	1.07
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	1.07
10949	Dibromochloromethane	124-48-1	N.D.	1	6	1.07
10949	Dibromomethane	74-95-3	N.D.	1	6	1.07
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	1.07
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	1.07
10949	2,4-Dichlorobenzene	106-46-7	N.D.	1	6	1.07
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	1.07
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	1.07
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	1.07
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	1.07
10949	1,2-Dichloroethane (Total)	540-59-0	N.D.	1	6	1.07
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	1.07
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	1.07
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	1.07
10949	Ethylbenzene	100-41-4	N.D.	1	6	1.07
10949	Freon 113	76-13-1	N.D.	2	11	1.07
10949	Freon 123a	354-23-4	N.D.	2	6	1.07
10949	Methylene Chloride	75-09-2	N.D.	2	6	1.07
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	1.07
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	1.07
10949	Tetrachloroethene	127-18-4	N.D.	1	6	1.07
10949	Toluene	108-88-3	N.D.	1	6	1.07
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	1.07
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	1.07
10949	Trichloroethene	79-01-6	N.D.	1	6	1.07
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	1.07
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	1.07
10949	Vinyl Chloride	75-01-4	N.D.	1	6	1.07
10949	Xylene (Total)	1330-20-7	N.D.	1	6	1.07

Wet Chemistry		SM20 2540 G	%	%	%	
00111	Moisture	n.a.	5.0	0.50	0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

GSK03 8536



Sample Description: OU04F2511026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451496
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 14:31 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/27/2011 09:25

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

04F25 SDG#: GSK03-14

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 19:42	Chelsea B Eastep	1.07
06369	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 15:13	Christopher D Meeks	n.a.
06389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 15:14	Christopher D Meeks	n.a.
07578	GC/MS-RL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 15:13	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 0037

Analysis Report



Page 1 of 2

Sample Description: OU04B0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451497
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 14:57 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

04B04 SDG#: GSK03-15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	DVQ
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.6	6	1	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	1	
10949	Bromobenzene	108-86-1	N.D.	1	6	1	uJ
10949	Bromodichloromethane	75-27-4	N.D.	1	6	1	
10949	Bromoform	75-25-2	N.D.	1	6	1	
10949	Bromomethane	74-83-9	N.D.	2	6	1	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	1	
10949	Chlorobenzene	108-90-7	N.D.	1	6	1	
10949	Chloroethane	75-00-3	N.D.	2	6	1	
10949	Chloroform	67-66-3	N.D.	1	6	1	
10949	Chloromethane	74-87-3	N.D.	2	6	1	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	1	uJ
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	1	uJ
10949	Dibromochloromethane	124-48-1	N.D.	1	6	1	
10949	Dibromomethane	74-95-3	N.D.	1	6	1	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	1	uJ
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	1	uJ
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	1	uJ
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	1	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	1	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	1	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	1	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	1	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	1	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	1	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	1	
10949	Ethylbenzene	100-41-4	N.D.	1	6	1	
10949	Freon 113	76-13-1	N.D.	2	11	1	
10949	Freon 123a	354-23-4	N.D.	2	6	1	
10949	Methylene Chloride	75-09-2	N.D.	2	6	1	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	1	
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	1	uJ
10949	Tetrachloroethene	127-18-4	N.D.	1	6	1	
10949	Toluene	108-88-3	N.D.	1	6	1	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	1	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	1	
10949	Trichloroethene	79-01-6	N.D.	1	6	1	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	1	
10949	1,2,3-Trichloropropene	96-18-4	N.D.	1	6	1	uJ
10949	Vinyl Chloride	75-01-4	N.D.	1	6	1	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	1	

The GC/MS volatile internal standard peak areas were outside the QC limits. A re-analysis was performed, and the matrix effect was confirmed.

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	10.0	0.50	0.50	1
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK03 0030

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result



Sample Description: OU04B0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451497
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 14:57 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

04B04 SDG#: GSK03-15

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 20:04	Chelsea B Eastep	1
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 15:15	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 15:15	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 15:15	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 0039

Analysis Report



Page 1 of 2

Sample Description: OU04B1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451498
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 15:10 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

04B13 SDG#: GSK03-16

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.97
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.97
10949	Bromobenzene	108-86-1	N.D.	1	5	0.97
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.97
10949	Bromoform	75-25-2	N.D.	1	5	0.97
10949	Bromomethane	74-83-9	N.D.	2	5	0.97
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.97
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.97
10949	Chloroethane	75-00-3	N.D.	2	5	0.97
10949	Chloroform	67-66-3	N.D.	1	5	0.97
10949	Chloromethane	74-87-3	N.D.	2	5	0.97
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.97
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.97
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.97
10949	Dibromomethane	74-95-3	N.D.	1	5	0.97
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.97
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.97
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.97
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.97
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.97
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.97
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.97
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.97
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.97
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.97
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.97
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.97
10949	Freon 113	76-13-1	N.D.	2	10	0.97
10949	Freon 123a	354-23-4	N.D.	2	5	0.97
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.97
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.97
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.97
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.97
10949	Toluene	108-88-3	N.D.	1	5	0.97
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.97
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.97
10949	Trichloroethene	79-01-6	N.D.	1	5	0.97
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.97
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.97
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.97
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.97

Wet Chemistry	SM20 2540 G	%	%	%	
00111	Moisture	n.a.	7.5	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

GSK03 0646

Analysis Report



Page 2 of 2

Sample Description: OU04B1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451498
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 15:10 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

04B13 SDG#: GSK03-16

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 20:27	Chelsea E Eastep	0.97
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 15:17	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 15:17	Christopher D Meeks	n.a.
07576	GC/MS-EL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 15:16	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 0841

Analysis Report



Page 1 of 2

Sample Description: OU04B2511026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451499
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 15:24 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

04B25 SDG#: GSK03-17

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.88
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.88
10949	Bromobenzene	108-86-1	N.D.	1	5	0.88
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.88
10949	Bromoform	75-25-2	N.D.	1	5	0.88
10949	Bromomethane	74-83-9	N.D.	2	5	0.88
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.88
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.88
10949	Chloroethane	75-00-3	N.D.	2	5	0.88
10949	Chloroform	67-66-3	N.D.	1	5	0.88
10949	Chloromethane	74-87-3	N.D.	2	5	0.88
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.88
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.88
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.88
10949	Dibromomethane	74-95-3	N.D.	1	5	0.88
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.88
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.88
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.88
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.88
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.88
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.88
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.88
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.88
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.88
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.88
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.88
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.88
10949	Freon 113	78-13-1	N.D.	2	10	0.88
10949	Freon 123a	354-23-4	N.D.	2	5	0.88
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.88
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.88
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.88
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.88
10949	Toluene	108-88-3	N.D.	1	5	0.88
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.88
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.88
10949	Trichloroethene	79-01-6	N.D.	1	5	0.88
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.88
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.88
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.88
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.88

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

8.6

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK03: 8842



Sample Description: 0004B2511026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451499
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 15:24 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

04B25 SDG#: GSK03-17

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113041AA	10/31/2011 20:50	Chelsea B Eastep	0.88
06389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 15:18	Christopher D Meeks	n.a.
06389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 15:19	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 15:18	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 0043

Analysis Report



Page 1 of 2

Sample Description: OU03A0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451500
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 15:55 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/27/2011 09:25

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

03A04 SDG#: GSK03-18

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260E	ug/kg	ug/kg	ug/kg		D/Q
10949	Benzene	71-43-2	N.D.	0.6	6	0.98	
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.98	
10949	Bromobenzene	108-86-1	N.D.	1	6	0.98	
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.98	
10949	Bromoform	75-25-2	N.D.	1	6	0.98	
10949	Bromomethane	74-83-9	N.D.	2	6	0.98	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.98	
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.98	
10949	Chloroethane	75-00-3	N.D.	2	6	0.98	
10949	Chloroform	67-66-3	N.D.	1	6	0.98	
10949	Chloromethane	74-87-3	N.D.	2	6	0.98	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.98	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.98	
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.98	
10949	Dibromomethane	74-95-3	N.D.	1	6	0.98	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.98	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.98	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.98	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.98	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.98	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.98	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.98	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.98	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.98	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.98	5
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.98	
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.98	
10949	Freon 113	76-13-1	N.D.	2	11	0.98	
10949	Freon 123a	354-23-4	N.D.	2	6	0.98	
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.98	5
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.98	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.98	
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.98	
10949	Toluene	108-88-3	N.D.	1	6	0.98	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.98	
10949	1,1,2-Trichloroethane	75-00-5	N.D.	1	6	0.98	
10949	Trichloroethene	79-01-6	N.D.	1	6	0.98	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.98	
10949	1,2,3-Trichloropropane	96-16-4	N.D.	1	6	0.98	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.98	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.98	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAP Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	14.3	0.50	%	0.50
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

SSK03 0344

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU03A0411026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451500
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 15:55 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/27/2011 09:25

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

03A04 SDG#: GSK03-18

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/03/2011 01:44	Chelsea B Eastep	0.98
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 15:21	Christopher D Meeks	n.a
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 15:21	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 15:20	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03 0845

Analysis Report



Page 1 of 2

Sample Description: OU03A1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451501
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 16:11 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

03A13 SDG#: GSK03-19

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	0.87	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.87	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.87	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.87	
10949	Bromoform	75-25-2	N.D.	1	5	0.87	
10949	Bromomethane	74-83-9	N.D.	2	5	0.87	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.87	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.87	
10949	Chloroethane	75-00-3	N.D.	2	5	0.87	
10949	Chloroform	67-66-3	N.D.	1	5	0.87	
10949	Chloromethane	74-87-3	N.D.	2	5	0.87	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.87	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.87	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.87	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.87	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.87	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.87	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.87	
10949	Dichlorodifluoromethane	75-71-6	N.D.	2	5	0.87	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.87	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.87	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.87	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.87	
10949	1,2-Dichloropropane	78-57-5	N.D.	1	5	0.87	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.87	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.87	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.87	
10949	Freon 113	76-13-1	N.D.	2	10	0.87	
10949	Freon 123a	354-23-4	N.D.	2	5	0.87	
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.87	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.87	
10949	1,1,2,2-Tetrachloroethane	75-34-5	N.D.	1	5	0.87	
10949	Tetrachloroethane	127-18-4	N.D.	1	5	0.87	
10949	Toluene	108-88-3	N.D.	1	5	0.87	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.87	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.87	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.87	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.87	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.87	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.87	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.87	

The GC/MS volatile internal standard peak areas were outside the QC limits. A re-analysis was performed, and the matrix effect was confirmed.

Wet Chemistry	SM20 2540 G	%	%	%	
00111 Moisture	n.a.	10.6	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					GSK03 8846

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU03A1311026 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6451501
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 16:11 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/27/2011 09:25

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

Q3A13 SDG#: GSK03-19

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	AL13041AA	10/31/2011 21:35	Chelsea B Eastep	0.87
09389	GC/MS - LL Encore Prep	SW-846 5035	1	201130025985	10/27/2011 15:22	Christopher D Meeks	n.a.
06389	GC/MS - LL Encore Prep	SW-846 5035	2	201130025985	10/27/2011 15:23	Christopher D Meeks	n.a.
07578	GC/MS-EL Encore Prep-NC	SW-846 5035	1	201130025985	10/27/2011 15:22	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11305820002A	11/01/2011 20:04	Scott W Freisher	1

GSK03-19-47

Analysis Report



Page 1 of 2

Sample Description: TTBA10261026 Water
Tech City Surficial Soils

LLI Sample # WW 6451502
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

-TTBA SDG#: GSK03-20TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.6	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

65183 6648

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TTBA10261026 Water
Tech City Surficial Soils

LLI Sample # WW 6451502
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

-TTBA SDG#: GSK03-20TB*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113011AA	10/28/2011 19:55	Nicholas R Rossi	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113011AA	10/28/2011 19:55	Nicholas R Rossi	1

GSK03 8849

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
ug	microgram(s)	mg	milligram(s)
ml	milliliter(s)	l	liter(s)
m3	cubic meter(s)	ul	microliter(s)
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value - The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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CSK63. 8889

ATTACHMENT D

DATA VALIDATION CHECKLIST AND SUPPORT DOCUMENTATION

SOP # HW-24

Revision # 2

August 2008

USEPA
Hazardous Waste Support Branch
Validating Volatile Organic Compounds
By Gas Chromatography/Mass Spectrometry
SW-846 Method 8260B

Prepared by:

George Karas

George Karas, Chemist
Hazardous Waste Support Section

Date:

8/22/08

Prepared by:

Russell Arnone

Russell Arnone, Chemist
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Date:

8/22/08

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Linda Mauer, Chief
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8/24/08

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Robert Ranson, Chief
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Date:

8/24/08

Annual Review

Reviewed by:

Russell Arnone

Name

Date:

8/24/08

Reviewed by:

Name

Date:

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the USEPA SW-846, Method 8260B December 1996. The validation methods and actions discussed in this document are based on the requirements set forth in USEPA SW-846, Method 8260B and Method 8000C, Rev 3, March 2003; and "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," January, 2005. This document covers technical as well as method specific problems; however situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are defined on page 4.

The reviewer must prepare a detailed data assessment to be submitted along with the complete SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data, and contract non-compliance.

DEFINITIONS

Acronyms

BNA - base neutral acid (another name for Semi Volatiles)
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
CF - calibration factor
%D - percent difference
DCB - decachlorobiphenyl
DDD - dichlorodiphenyldichloroethane
DDE - dichlorodiphenylethane
DDT - dichlorodiphenyltrichloroethane
DoC - Date of Collection
GC - gas chromatography
GC/ECD - gas chromatography/electron capture detector
GC/MS - gas chromatography/mass spectrometer
GPC - gel permeation chromatography
IS - internal standard
kg - kilogram
µg - microgram
MS - matrix spike
MSD - matrix spike duplicate
ℓ - liter
mℓ - milliliter
PCB - Polychlorinated biphenyl
PE - performance evaluation
PEM - Performance Evaluation Mixture
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SMC - system monitoring compound
SOP - standard operating procedure
SOW - Statement of Work
SVOA - semivolatile organic acid
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TCX - tetrachloro-m-xylene
TIC - tentatively identified compound

TOPO - Task Order Project Officer
TPO - Technical Project Officer
VOA - Volatile organic
VTSR - Validated Time of Sample Receipt

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

LAB QUALIFIERS:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

USEPA Region II
SW846 Method 8260B VOA

Date: August 2008
SOP: HW-24, Rev. 2

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

YES NO N/A

I. PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: SDG GSK03 LAB: Lancaster Laboratories

SITE NAME: TechCity (former IBM Kingston)

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable
format or CLP Forms Equivalent? ✓ ___

ACTION: If not, note the effect on review of the data in
the Data Assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative, and/or cover letter
signed release present? ✓ ___

2.2 Are case number and SDG number(s) contained
in the narrative or cover letter? ✓ ___

ACTION: If not, note the effect on review of the data in
the Data Assessment narrative.

II. VOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Reports, and/or Chain of Custodies
from the field samplers present for all samples
sign release present? ✓ ___

ACTION: If no, contact the laboratory/sampling team for replacement
of missing or illegible copies.

1.2 Is a sampling trip report present (if required)? 1 ___ ✓

1.3 Sample Conditions/Problems

YES NO N/A

- 1.3.1 Do the Traffic Reports, Chain of Custodies, or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? 14

ACTION: If all the VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, flag all positive results "J" and all non-detects "R".

ACTION: If samples were not iced or if the ice was melted upon receipt at the laboratory and the temperature of the cooler was elevated ($>10^{\circ}\text{C}$), flag all positive results "J" and all non-detects non"UJ".

2.0 Holding Times

- 2.1 Have any volatile holding times, determined from date of collection to date of analysis, been exceeded? 14

The maximum holding time for aqueous samples is 14 days.

The maximum holding time for soils non aqueous samples is 14 days.

NOTE: If unpreserved, aqueous samples maintained at 4°C for aromatic hydrocarbons analysis must be analyzed within 7 days. If preserved with HCL acid to a $\text{pH}<2$ and stored at 4°C , then aqueous samples must be analyzed within 14 days from time of collection. For non-aqueous samples for volatile components that are frozen (less than 7°C) or are properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and perserved with NaHSO_4 , the maximum holding time is 14 days from sample collection. If

YES NO N/A

uncertain about preservation, contact the laboratory /sampling team to determine whether or not samples were preserved.

ACTION: Qualify sample results according to Table 1:

Table 1. Holding Time Actions for Trace Volatile Analysis

Matrix	Preserved	Criteria	Action	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 days	No qualifications	
	No	> 7 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes	> 14 days	J	R
Non Aqueous	No	≤ 14 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes/No	> 14 days	J	R

3.0 Surrogate Recovery (CLP Form II Equivalent)

3.1 Have the volatile surrogate recoveries been listed on Surrogate Recovery forms for each of the following matrices:

- a. Water ☒ ☐ ☐
- b. Soil ☒ ☐ ☐

3.2 If so, are all the samples listed on the appropriate Surrogate Recovery forms for each matrix:

- a. Water ☒ ☐ ☐
- b. Soil ☒ ☐ ☐

ACTION: If large errors exist, deliverables are unavailable or information is missing, document the effect(s) in Data

YES NO N/A

Assessments and contact the laboratory/project officer/appropriate official for an explanation /resubmittal, make any necessary corrections and document effect in the Data Assessment.

- 3.3 Were the surrogate recovery limits followed per Table 2. If Table 2 criteria were not followed, the laboratory may use in-house performance criteria (per SW-846, Method 8000C, section 9.7). Other compounds may be used as surrogates, depending upon the analysis requirements. ☐ ☒ ☐

In-house Limits

Table 2. Surrogate Spike Recovery Limits for Water and Soil/Sediments

DMC	Recovery Limits (%)Water	Recovery Limits Soil/Sediment
4-Bromofluorobenzene	80-120	70-130
Dibromofluoromethane	80-120	70-130
Toluene-d ₈	80-120	70-130
Dichloroethane-d ₄	80-120	70-130

Note: Use above table if laboratory did not provide in house recovery criteria.

Note: Other compounds may be used as surrogated depending upon the analysis requirements.

- 3.4 Were outliers marked correctly with an asterisk? ☐ ☐ ☒

ACTION: Circle all outliers with a red pencil.

- 3.5 Were one or more volatile surrogate recoveries out of specification for any sample or method blank. Table 2. ☐ ☒ ☐

If yes, were samples reanalyzed? ☐ ☐ ☒

Were method blanks reanalyzed? ☐ ☐ ☒

YES NO N/A

ACTION: If all surrogate recoveries are > 10% but 1 or more compounds do not meet method specifications:

1. Flag all positive results as estimated ("J").
2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.
3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects, but qualify positive results as estimated "J".

If any surrogate has a recovery of < 10%:

1. Positive results are qualified with ("J").
2. Non-detects for that should be qualified as unusable ("R").

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. The basic concern is whether the blank problems represent an isolated problem with the blank alone or whether there is a fundamental problem with the analytical process. If one or more samples in the batch show acceptable surrogate recoveries, the reviewer may choose the blank problem to be an isolated occurrence.

3.6 Are there any transcription/calculation errors between raw data and reported data?

11 — ☒

Level IV not performed on this SDG

ACTION: If large errors exist, take action as specified in section 3.2 above.

4.0 Laboratory Control Sample (Form III/Equivalent)

4.1 Is the LCS prepared, extracted, analyzed, and reported once for every 20 field samples of a similar matrix, per SDG.

11 — ☒

YES NO N/A

Note: LCS consists of an aliquot of a clean (control) matrix similar to the sample matrix and of the same weight or volume.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation /resubmittals. Make note in the data assessment.

4.2 Were the Laboratory Control Samples analyzed at the required frequency for each of the following matrices:

A. Water	☒	☐	☐
B. Soil	☒	☐	☐
C. Med Soil	☐	☐	☒

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

4.3 Have in house LCS recovery limits been developed (Method 8000C, Sect 9.7). ☒ ☐ ☐

4.4 If in house limits are not developed, are LCS acceptance recovery limits between 70 - 130% (Method 8000c Sect 9.5)? ☐ ☐ ☒

4.5 Were one or more of the volatile LCS recoveries outside the in house laboratory recovery criteria for spiked analytes? If in house limits are not present use 70 - 130% recovery limits.

☒ ☐ ☐

YES NO N/A

Table 3. LCS Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit ≤ %R	No Qualifications	

5.0 Matrix Spikes (Form III or equivalent)

5.1 Are all data for matrix spike and matrix duplicate or matrix spike duplicate (MS/MD or MS/MSD) present and complete for each matrix? ☐ ☐ ☒

MS/MSD not collected for this SDG

NOTE: The laboratory should use one matrix spike and a duplicate analysis of an unspiked field sample if target analytes are expected in the sample. If the sample is not expected to contain target analytes, a MS/MSD should be analyzed (SW-846, Method 8260B, Sect 8.4.2).

5.2 Have MS/MD or MS/MSD results been summarized on modified CLP Form III? ☐ ☐ ☒

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency for each of the following matrices? (One MS/MD, MS/MSD or laboratory replicate must be performed for every 20 samples)

YES NO N/A

of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month [page 8000C, section 9.5.]]

- | | | | | |
|----|------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a. | Water (Not in this SWG) | ☒ | ☐ | ☐ |
| b. | Waste | ☐ | ☐ | ☒ |
| c. | Soil/Solid (Not in this SWG) | ☒ | ☐ | ☐ |

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene. The concentration of the LCS should be determined as described SW-Method 8000C Section 9.5.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

5.4 Have in house MS recovery limits been developed (Method 8000C, Sect 9.7) for each matrix. ☐ ☐ ☒

5.5 Were one or more of the volatile MS/MSD recoveries outside of the in-house laboratory recovery criteria for spiked analytes? If none are present, then use 70-130% recovery as per SW-846, 8000C, Sect. 9.5.4. ☐ ☐ ☒

ACTION: Circle all outliers with a red pencil.

NOTE: If any individual % recovery in the MS (or MSD) falls outside the designated range for recovery the reviewer should determine if there is a matrix effect. A matrix effect is indicated if the LCS data are within limits but the MS data exceeds the limits.

YES NO N/A

NOTE: No qualification of data is necessary on MS and MSD data alone. However, using informed professional judgement, the data reviewer may use MS and MSD results in conjunction with other QC criteria to determine the need for some qualification.

Note: The data reviewer should first try to determine to what extent the results of the MS and MSD affect the associated data. This determination should be made with regard to the MS and MSD sample itself, as well as specific analytes for all samples associated with the MS and MSD.

Note: In those instances where it can be determined that the results of the MS and MSD affect only the sample spiked, limit qualification to this sample only. However, it may be determined through the MS and MSD results that a laboratory is having a systematic problem in the analysis of one or more analytes that affect all associated samples, and the reviewer must use professional judgement to qualify the data from all associated samples.

Note: The reviewer must use professional judgement to determine the need for qualification of non-spiked compounds.

ACTION: Follow criteria in Table 4 when professional judgement deems qualification of sample.

Table 4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit ≤ %R	No Qualifications	

YES NO N/A

6.0 Blank (CLP Form IV Equivalent)

6.1 Is the Method Blank Summary form present? 11 ✓ — —

6.2 Frequency of Analysis: Has a method blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch? 11 ✓ — —

6.3 Has a method blank been analyzed for each GC/MS system used ? 11 ✓ — —

ACTION: If any blank data are missing, take action as specified above (section 3.2). If blank data is not available, reject @ all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

6.4 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for volatile organic compounds? 11 ✓ — —

7.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

7.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary. 11 ✓ — —

YES NO N/A

7.2 Do any field/rinse blanks have positive
volatile organic compound results?

(TB + EQ)

— ☒ —

ACTION: Prepare a list of the samples associated with each
of the contaminated blanks. (Attach a separate
sheet.)

NOTE: All field blank results associated to a particular
group of samples (may exceed one per case or one
per day) may be used to qualify data. Blanks may
not be qualified because of contamination in
another blank. Field blanks must be qualified for
surrogate, or calibration QC problems.

ACTION: Follow the directions in Table 5 below to qualify
sample results due to contamination. Use the
largest value from all the associated blanks.

Table 5. Volatile Organic Analysis Blank Contamination Criteria

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Storage, Field, Trip, Instrument**	Detects	Not detected	No qualification
	< CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	> CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report the concentration for the sample with a U, or qualify the data as unusable R
		≥ CRQL and ≥ blank contamination	Use professional judgement
	= CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	Gross contamination	Detects	Qualify results as unusable R

* 2x the CRQL for methylene chloride, 2-butanone, and acetone

** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: If gross blank contamination exists(e.g., saturated peaks, "hump-o-grams," "junk" peaks), all affected positive compounds in the associated samples should be qualified as unusable "R", due to interference. Non-detected volatile organic target compounds do not require qualification unless the contamination is so high that it interferes with the analyses of non-detected compounds.

YES NO N/A

7.3 Are there field/rinse/equipment blanks associated with every sample?

☒ — —

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

8.0 GC/MS Apparatus and Materials

8.1 Did the lab use the proper gas chromatographic column(s) for analysis of volatiles by Method 8260B? Check raw data, instrument logs or contact the lab to determine what type of column(s) was (were) used.

☒ — —

NOTE: For the analysis of volatiles, the method requires the use of 60 m. x 0.75 mm capillary column, coated with VOCOL(Supelco) or equivalent column. (see SW-846, page 8260B-7, section 4.9.2)

ACTION: If the specified column, or equivalent, was not used, document the effects in the Data Assessment. Use professional judgement to determine the acceptability of the data.

9.0 GC/MS Instrument Performance Check (CLP Form V Equivalent)

9.1 Are the GC/MS Instrument Performance Check forms present for Bromofluorobenzene (BFB), and do these forms list the associated samples with date/time analyzed?

☒ — —

9.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?

☒ — —

9.3 Has an instrument performance check solution (BFB)

YES NO N/A

been analyzed for every twelve hours of sample analysis per instrument?(see Table 4, SW-846, page 8260B-36)

☒ ☐ ☐

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS GC/MS tuning data are available.

ACTION: If the laboratory/project officer cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable, "R".

9.4 Have the ion abundances been normalized to m/z 95?

☒ ☐ ☐

9.5 Have the ion abundance criteria been met for each instrument used?

☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, take action as specified in section 3.2.

9.6 Are there any transcription/calculation errors between mass lists and reported values? (Check at least two values but if errors are found, check more.)

☐ ☐ ☒

9.7 Have the appropriate number of significant figures (two) been reported?

☒ ☐ ☐

ACTION: If large errors exist, take action as specified in section 3.2.

9.8 Are the spectra of the mass calibration compounds acceptable.

☒ ☐ ☐

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

YES NO N/A

10.0 Target Analytes (CLP Form I Equivalent)

10.1 Are the Organic Analysis reporting forms present with required header information on each page, for each of the following:

- | | | | | |
|----|---|-------------------------------------|-----|-------------------------------------|
| a. | Samples and/or fractions as appropriate | ☒ | ___ | ___ |
| b. | Matrix spikes and matrix spike duplicates | ☐ | ___ | ☒ |
| c. | Blanks | ☒ | ___ | ___ |
| d. | Laboratory Control Samples | ☒ | ___ | ___ |

10.2 Are the reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

- | | | | | |
|----|--|-------------------------------------|-----|-------------------------------------|
| a. | Samples and/or fractions as appropriate | ☒ | ___ | ___ |
| b. | Matrix spikes and matrix spike duplicates
(Mass spectra not required) | ☐ | ___ | ☒ |
| c. | Blanks | ☒ | ___ | ___ |
| d. | Laboratory Control Samples | ☒ | ___ | ___ |

ACTION: If any data are missing, take action specified in 3.2 above.

10.3 Is chromatographic performance acceptable with respect to:

Baseline stability?	☒	___	___
---------------------	-------------------------------------	-----	-----

YES NO N/A

Resolution?

14 ✓ — —

Peak shape?

14 ✓ — —

Full-scale graph (attenuation)?

11 ✓ — —

Other: _____

ACTION: Use professional judgement to determine the acceptability of the data.

10.4 Are the lab-generated standard mass spectra of identified volatile compounds present for each sample? 11 — ✓

ALL ND

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the Data Assessment. If spectra are missing, contact the lab for missing spectra.

10.5 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration? 11 — ✓

ALL ND

10.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? 11 — ✓

10.7 Do the relative intensities of the characteristic ions in the sample agree within $\pm 30\%$ of the corresponding relative intensities in the reference spectrum? 11 — ✓

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected ("R"), flagged ("N") - Presumptive evidence of the presence of the compound) or changed to non detected ("U") at the calculated detection limit. In order to be

YES NO N/A

positively identified, the data must comply with the criteria listed in 9.6, 9.7, and 9.8.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

11.0 Tentatively Identified Compounds (TIC) (CLP Form I/TIC Equivalent)

11.1 If Tentatively Identified Compound were required for this project, are all Tentatively Identified Compound reporting forms present; and do listed TICs include scan number or retention time, estimated concentration and a qualifier? ☐ ☐ ☒

NOTE: Add "N" qualifier to all TICs which have CAS number, if missing.

NOTE: Have the project officer/appropriate official check the project plan to determine if lab was required to identify non-target analytes (SW-846, page 8260B-23, Sect. 7.6.2).

11.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:

a. Samples and/or fractions as appropriate ☐ ☐ ☒

b. Blanks ☐ ☐ ☒

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by a CAS#.

NOTE: If TICs are present in the associated blanks take action as specified in section 3.2 above.

YES NO N/A

11.3 Are any priority pollutants listed as TIC compounds (i.e., an BNA compound listed as a VOA TIC)? ☐ ☐ ☒

ACTION: 1. Flag with "R" any target compound listed as a TIC.
2. Make sure all rejected compounds are properly reported if they are target compounds.

11.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? ☐ ☐ ☒

11.5 Do TIC and "best match" standard relative ion intensities agree within $\pm 20\%$? ☐ ☐ ☒

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate. Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R". (Common lab contaminants: CO₂ (M/E 44), Siloxanes (M/E 73), Hexane, Aldol Condensation Products, Solvent Preservatives, and related byproducts).

12.0 Compound Quantitation and Reported Detection Limits

12.1 Are there any transcription/calculation errors in organic analysis reporting form results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and average initial RRF/CF were used to calculate organic analysis reporting form result. Were any errors found? ☐ ☐ ☒

Level IV not performed on this SDA

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks > 25%) should be

YES NO N/A

reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

12.2 Are the method CRQL's adjusted to reflect sample dilutions and, for soils, sample moisture? ☒ ☐ ☐

ACTION: If errors are large, take action as specified in section 3.2 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC accedence dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original reporting form (if present) and substituting the data from the analysis of the diluted sample. Specify which organic analysis reporting form is to be used, then draw a red "X" across the entire page of all reporting forms that should not be used, including any in the summary package.

13.0 Standards Data (GC/MS)

13.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant Reports) present for initial and continuing calibration? ☒ ☐ ☐

ACTION: If any calibration standard data are missing, take action specified in section 3.2 above.

14.0 GC/MS Initial Calibration (CLP Form VI Equivalent)

YES NO N/A

14.1 Are the Initial Calibration reporting forms present and complete for the volatile fraction? ✓ — —

ACTION: If any calibration forms or standard raw data are missing, take action specified in section 3.2 above.

ACTION: If the percent relative standard deviation (% RSD) is > 20%, (8000C-39) qualify positive results for that analyte "J". When % RSD > 90%,. Qualify all positive results for that analyte "J" and all non-detects results for that analyte "R".

14.2 Are all average RRFs > 0.050? ✓ — —

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be $\geq$ the values in the following list. If individual RRF values reported are below the listed values document in the Data Assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with red pencil.

ACTION: For any target analyte with average RRF < 0.05, or for the requirements for the 5 compounds in 14.2 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

14.3 Are response factors stable over the concentration range of the calibration. ✓ — —

NOTE: (Method Requirement) For the following CCC compounds, the %RSD values must be $\leq$ 30.0%. If %RSD values reported are > 30.0% document in the Data Assessment.

YES NO N/A

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

ACTION: Circle all outliers with a red pencil.

ACTION: If the % RSD is > 20.0%, or > 30% for the 6 compounds in 14.3 above, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

14.4 Was the % RSD determined using RRF or CF?

IV — —

If no, what method was used to determine the linearity of the initial calibration? Document any effects to the case in the Data Assessment.

14.5 Are there any transcription/calculation errors in the reporting of RRF or % RSD? (Check at least two values but if errors are found, check more.)

11 — ✓

Level IV not performed on this SDG

ACTION: Circle errors with a red pencil.

ACTION: If errors are large, take action as specified in section 3.2 above.

15.0 GC/MS Calibration Verification (CLP Form VII Equivalent)

YES NO N/A

15.1 Are the Calibration Verification reporting forms present and complete for all compounds of interest? *✓*

15.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument? *✓*

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

ACTION: If any forms are missing or no calibration verification standard has been analyzed twelve hours prior to sample analysis, take action as specified in section 3.2 above. If calibration verification data are not available, flag all associated sample data as unusable ("R").

15.3 Was the % D determined from the calibration verification determined using RRF or CF? *✓*

If no, what method was used to determine the calibration verification? Document any effects to the case in the Data Assessment.

15.4 Do any volatile compounds have a % D (difference or drift) between the initial and continuing RRF or CF which exceeds 20% (SW-846, page 8260B-19, section 7.4.5.2). *✓*

NOTE: (Method Requirement) For the following CCC compounds, the %D values must be $\leq 20.0\%$. If %D values reported are $> 20.0\%$ document in the Data Assessment.

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

YES NO N/A

ACTION: Circle all outliers with a red pencil.

ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated, "J". When %D is above 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

15.5 Do any volatile compounds have a RRF < 0.05? 11 ✓ —

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be $\geq$ the values in the following list for each calibration verification. If average RRF values reported are below the listed values document in the data assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with a red pencil.

ACTION: If RRF < 0.05, or < the requirements for the 5 compounds in section 15.5 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

16.0 Internal Standards (CLP Form VIII Equivalent)

16.1 Are the internal standard (IS) areas on the internal standard reporting forms of every sample and blank within the upper and lower limits (-50% to + 100%) for each initial mid-point calibration (SW-846, 8260B-20, Sect. 7.4.7)? 11 ✓ —

YES NO N/A

ACTION: If errors are large or information is missing, take action as specified in section 3.2 above.

ACTION: List each outlying internal standard below.

See attached sheet for full list

Sample ID	IS #	Area Lower Limit	Area Upper Limit
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Attach additional sheets if necessary.)

- ACTION:
1. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results quantitated with this internal standard.
 2. Do not qualify non-detects when the associated IS are counts area $> + 100\%$.
 3. If the IS area is below the lower limit ($< - 50\%$), qualify all associated non-detects (U-values) "J".
 4. If extremely low area counts are reported ($< - 25\%$) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable "R" and positive results as estimated "J".

16.2 Are the retention times of all internal standards within 30 seconds of the associated initial mid-point calibration standard (SW-846, 8260B-20, Sect. 7.4.6)? ✓

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

YES NO N/A

17.0 Field Duplicates

17.1 Were any field duplicates submitted for
volatile analysis?

11 ✓

ACTION: Compare the reported results for field duplicates and
calculate the relative percent difference.

ACTION: Any gross variation between field duplicate
results must be addressed in the Data Assessment.
However, if large differences exist, take action
specified in section 3.2 above.

TechCity (Former IBM Kingston) Site
Method 8260B, Internal Standard Area Outliers
SDG GSK03

<u>Sample</u>	<u>Internal Standard</u>	<u>IS Area</u>	<u>Area Lower Limit</u>	<u>Area Upper Limit</u>
OU3AA0411026	1,4-Dichlorobenzene-d ₄	187690	219555	878220
OU3AA0411026 RE	1,4-Dichlorobenzene-d ₄	216673	219555	878220
OU3AD1311026	1,4-Dichlorobenzene-d ₄	208547	219555	878220
OU3AD1311026 RE	1,4-Dichlorobenzene-d ₄	196642	219555	878220
OU04F0411026	1,4-Dichlorobenzene-d ₄	202013	219555	878220
OU04B0411026	1,4-Dichlorobenzene-d ₄	212347	219555	878220
OU03A1311026	1,4-Dichlorobenzene-d ₄	185458	219555	878220
OU04F0411026 RE	1,4-Dichlorobenzene-d ₄	321268	698371	698371
OU04B0411026 RE	1,4-Dichlorobenzene-d ₄	322238	698371	698371
OU03A1311026	1,4-Dichlorobenzene-d ₄	319564	698371	698371



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Sample Reference List for SDG Number GSK03
with a Data Package Type of NYSDEC B
06911 - Groundwater Science Co
Project: TechCity Surficial Soil

<u>Lab Sample Number</u>	<u>Lab Sample Code</u>	<u>Client Sample Description</u>
6451483	3AB04	OU3AB0411026 Grab Soil
6451484	3AB13	OU3AB1311026 Grab Soil
6451485	3AA04	OU3AA0411026 Grab Soil
6451486	3AA13	OU3AA1311026 Grab Soil
6451487	3AE04	OU3AE0411026 Grab Soil
6451488	3AE13	OU3AE1311026 Grab Soil
6451489	3AD04	OU3AD0411026 Grab Soil
6451490	3AD13	OU3AD1311026 Grab Soil
6451491	3AC04	OU3AC0411026 Grab Soil
6451492	3AC14	OU3AC1311026 Grab Soil
6451493	6SHVL	TEQ11026SHVL Water
6451494	04F04	OU04F0411026 Grab Soil
6451495	04F13	OU04F1311026 Grab Soil
6451496	04F25	OU04F2511026 Grab Soil
6451497	04B04	OU04B0411026 Grab Soil
6451498	04B13	OU04B1311026 Grab Soil
6451499	04B25	OU04B2511026 Grab Soil
6451500	03A04	OU03A0411026 Grab Soil
6451501	03A13	OU03A1311026 Grab Soil
6451502	-TTBA	TTBA10261026 Water

GSK03 0001

01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030B, December 1996.

10904 8260 Ext. Water Master

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

10949 8260 Ext. Soil Master

The soil sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

00111 Moisture

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2540 G

08389 GC/MS - LL Encore Prep

Two EnCore samples are collected per sample. The vials used for preparation are pre-preserved and pre-weighed. Two aliquots are extruded into a sodium bisulfate solution. The vials are re-weighed and the weight of the sample should be 5-g +/- .5 g. The prepared samples are then delivered to the lab for analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5035, November 2004.

07578 GC/MS-HL Encore Prep-NC

The sample is collected in an EnCore sampler and is submitted to the laboratory. A vial containing 5-ml methanol is prepared for each sample and weighed prior to adding the sample. After the sample is added to the vial, the vial is reweighed and the weight of sample is determined by difference. The weight of the sample should be 5-g +/- .5 g. The sample vial is then delivered to the lab for analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5035, November 2004.

GC/MS VOLATILES CALCULATIONS:

1. Relative response factor (RRF)

$$RRF = \frac{A_x}{A_{is}} \times \frac{C_{is}}{C_x}$$

Where :

A_x = Area of the characteristic ion for the compound to be measured.

A_{is} = Area of the characteristic ion for the specific internal standard to be measured.

C_{is} = Concentration of the internal standard.

C_x = Concentration of the compound to be measured.

2. % Relative Standard Deviation (%RSD)

$$\%RSD = \frac{\text{Standard deviation}}{\text{mean}} \times 100$$

3. % Difference (%D)

$$\%D = \frac{RRF_c - RRF_i}{RRF_i} \times 100$$

Where:

RRF_c = Relative response factor from continuing calibration standard.

RRF_i = Mean relative response factor from the initial calibration.

4. Concentration

$$\text{Concentration (ug/l)} = \frac{(A_x) (I_s) (D_f)}{(A_{is}) (RRF)}$$

Where:

A_x, A_{is}, RRF are as given in 1. above.

I_s = Concentration of internal standard added in parts per billion (ug/l)

D_f = Dilution factor

5. % Recovery (%Rec)

$$\%Rec = \frac{SSR - SR}{SA} \times 100$$

Where:

SSR = Spiked sample result

SR = Sample result

SA = Spike added

6. Relative Percent Difference (RPD)

$$RPD = \frac{|MSR - MSDR|}{(1/2) (MSR + MSDR)} \times 100$$

Where:

MSR = Matrix spike recovery

MSDR = Matrix spike duplicate recovery

GSK03 0054



Quality Control Reference List
GC/MS Volatiles

CLIENT: Groundwater Science Co
SDG: GSK03

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
Volatiles by 8260B	Y113011AA	VBLY68	10/28/2011 13:08:00
		LCSY68	10/28/2011 13:52:00
		LCDY68	10/28/2011 14:13:00
		6451493	10/28/2011 19:34:00
		6451502	10/28/2011 19:55:00
Volatiles in Soil	A113041AA	VBLKA35	10/31/2011 12:07:00
		LCSA35	10/31/2011 12:32:00
		LCDA35	10/31/2011 12:55:00
		6451483	10/31/2011 13:39:00
		6451484	10/31/2011 15:32:00
		6451485	10/31/2011 14:24:00
		6451485RE	10/31/2011 15:55:00
		6451486	10/31/2011 14:47:00
		6451487	10/31/2011 15:10:00
		6451488	10/31/2011 16:18:00
		6451489	10/31/2011 18:11:00
		6451490	10/31/2011 17:03:00
		6451490RE	10/31/2011 18:34:00
		6451492	10/31/2011 17:48:00
		6451494	10/31/2011 18:56:00
		6451495	10/31/2011 19:19:00
		6451496	10/31/2011 19:42:00
		6451497	10/31/2011 20:04:00
		6451498	10/31/2011 20:27:00
		6451499	10/31/2011 20:50:00
		6451501	10/31/2011 21:35:00
Volatiles in Soil	A113062AA	VBLKA38	11/02/2011 15:56:00
		LCSA38	11/02/2011 18:02:00
		LCDA38	11/02/2011 18:27:00
		6451491	11/03/2011 00:36:00
		6451494RE	11/03/2011 00:59:00
		6451497RE	11/03/2011 01:21:00
		6451500	11/03/2011 01:44:00
		6451501RE	11/03/2011 02:07:00

GSK03: 8856



Quality Control Summary
 Surrogates
 GC/MS Volatiles
 SDG: GSK03
 Matrix: SOLID

Fraction: Volatiles by GC/MS

Sample	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKA35	99	71 - 114	101	70 - 109	105	70 - 123	90	70 - 111
LCSA35	99	71 - 114	100	70 - 109	108	70 - 123	98	70 - 111
LCDA35	99	71 - 114	103	70 - 109	107	70 - 123	97	70 - 111
6451483	98	71 - 114	100	70 - 109	110	70 - 123	87	70 - 111
6451484	101	71 - 114	104	70 - 109	110	70 - 123	81	70 - 111
6451485	100	71 - 114	102	70 - 109	121	70 - 123	76	70 - 111
6451486	99	71 - 114	104	70 - 109	106	70 - 123	90	70 - 111
6451487	99	71 - 114	101	70 - 109	107	70 - 123	86	70 - 111
6451488	100	71 - 114	102	70 - 109	108	70 - 123	82	70 - 111
6451489	101	71 - 114	101	70 - 109	107	70 - 123	87	70 - 111
6451490	102	71 - 114	103	70 - 109	116	70 - 123	78	70 - 111
6451492	101	71 - 114	101	70 - 109	108	70 - 123	83	70 - 111
6451494	102	71 - 114	104	70 - 109	115	70 - 123	81	70 - 111
6451495	103	71 - 114	105	70 - 109	104	70 - 123	89	70 - 111
6451496	104	71 - 114	104	70 - 109	105	70 - 123	88	70 - 111
6451497	102	71 - 114	104	70 - 109	112	70 - 123	80	70 - 111
6451498	103	71 - 114	103	70 - 109	105	70 - 123	87	70 - 111
6451499	104	71 - 114	102	70 - 109	109	70 - 123	83	70 - 111
6451501	104	71 - 114	104	70 - 109	115	70 - 123	74	70 - 111

Sample	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKA38	102	71 - 114	103	70 - 109	104	70 - 123	90	70 - 111
LCSA38	99	71 - 114	100	70 - 109	108	70 - 123	100	70 - 111
LCDA38	100	71 - 114	102	70 - 109	106	70 - 123	99	70 - 111
6451491	103	71 - 114	108	70 - 109	102	70 - 123	93	70 - 111
6451500	104	71 - 114	105	70 - 109	108	70 - 123	88	70 - 111

GSK03 0060



Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: GSK03
Matrix: SOLID

Fraction: Volatiles by GC/MS

A113041AA / VBLKA35 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	10/31/11	N.D.	ug/kg	2	5
Chloromethane	10/31/11	N.D.	ug/kg	2	5
Vinyl Chloride	10/31/11	N.D.	ug/kg	1	5
Bromomethane	10/31/11	N.D.	ug/kg	2	5
Chloroethane	10/31/11	N.D.	ug/kg	2	5
Trichlorofluoromethane	10/31/11	N.D.	ug/kg	2	5
1,1-Dichloroethene	10/31/11	N.D.	ug/kg	1	5
Freon 113	10/31/11	N.D.	ug/kg	2	10
Benzene	10/31/11	N.D.	ug/kg	0.5	5
Bromodichloromethane	10/31/11	N.D.	ug/kg	1	5
Carbon Tetrachloride	10/31/11	N.D.	ug/kg	1	5
Chloroform	10/31/11	N.D.	ug/kg	1	5
Dibromomethane	10/31/11	N.D.	ug/kg	1	5
1,1-Dichloroethane	10/31/11	N.D.	ug/kg	1	5
1,2-Dichloroethane	10/31/11	N.D.	ug/kg	1	5
1,2-Dichloroethene (Total)	10/31/11	N.D.	ug/kg	1	5
1,2-Dichloropropane	10/31/11	N.D.	ug/kg	1	5
cis-1,3-Dichloropropene	10/31/11	N.D.	ug/kg	1	5
Freon 123a	10/31/11	N.D.	ug/kg	2	5
Methylene Chloride	10/31/11	N.D.	ug/kg	2	5
Toluene	10/31/11	N.D.	ug/kg	1	5
1,1,1-Trichloroethane	10/31/11	N.D.	ug/kg	1	5
Trichloroethene	10/31/11	N.D.	ug/kg	1	5
Benzyl Chloride	10/31/11	N.D.	ug/kg	1	4
Bromobenzene	10/31/11	N.D.	ug/kg	1	5
Bromoform	10/31/11	N.D.	ug/kg	1	5
Chlorobenzene	10/31/11	N.D.	ug/kg	1	5
2-Chlorotoluene	10/31/11	N.D.	ug/kg	1	5
4-Chlorotoluene	10/31/11	N.D.	ug/kg	1	5
Dibromochloromethane	10/31/11	N.D.	ug/kg	1	5
1,2-Dichlorobenzene	10/31/11	N.D.	ug/kg	1	5
1,3-Dichlorobenzene	10/31/11	N.D.	ug/kg	1	5
1,4-Dichlorobenzene	10/31/11	N.D.	ug/kg	1	5
trans-1,3-Dichloropropene	10/31/11	N.D.	ug/kg	1	5
Ethylbenzene	10/31/11	N.D.	ug/kg	1	5
1,1,1,2-Tetrachloroethane	10/31/11	N.D.	ug/kg	1	5
1,1,2,2-Tetrachloroethane	10/31/11	N.D.	ug/kg	1	5
Tetrachloroethene	10/31/11	N.D.	ug/kg	1	5
1,1,2-Trichloroethane	10/31/11	N.D.	ug/kg	1	5
1,2,3-Trichloropropane	10/31/11	N.D.	ug/kg	1	5
Xylene (Total)	10/31/11	N.D.	ug/kg	1	5

A113062AA / VBLKA38 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	11/02/11	N.D.	ug/kg	2	5

0057



Quality Control Summary
 Method Blank
 GC/MS Volatiles
 SDG: GSK03
 Matrix: SOLID

Fraction: Volatiles by GC/MS

A113062AA / VBLKA38					
Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Chloromethane	11/02/11	N.D.	ug/kg	2	5
Vinyl Chloride	11/02/11	N.D.	ug/kg	1	5
Bromomethane	11/02/11	N.D.	ug/kg	2	5
Chloroethane	11/02/11	N.D.	ug/kg	2	5
Trichlorofluoromethane	11/02/11	N.D.	ug/kg	2	5
1,1-Dichloroethene	11/02/11	N.D.	ug/kg	1	5
Freon 113	11/02/11	N.D.	ug/kg	2	10
Benzene	11/02/11	N.D.	ug/kg	0.5	5
Bromodichloromethane	11/02/11	N.D.	ug/kg	1	5
Carbon Tetrachloride	11/02/11	N.D.	ug/kg	1	5
Chloroform	11/02/11	N.D.	ug/kg	1	5
Dibromomethane	11/02/11	N.D.	ug/kg	1	5
1,1-Dichloroethane	11/02/11	N.D.	ug/kg	1	5
1,2-Dichloroethane	11/02/11	N.D.	ug/kg	1	5
1,2-Dichloroethene (Total)	11/02/11	N.D.	ug/kg	1	5
1,2-Dichloropropane	11/02/11	N.D.	ug/kg	1	5
cis-1,3-Dichloropropene	11/02/11	N.D.	ug/kg	1	5
Freon 123a	11/02/11	N.D.	ug/kg	2	5
Methylene Chloride	11/02/11	N.D.	ug/kg	2	5
Toluene	11/02/11	N.D.	ug/kg	1	5
1,1,1-Trichloroethane	11/02/11	N.D.	ug/kg	1	5
Trichloroethene	11/02/11	N.D.	ug/kg	1	5
Benzyl Chloride	11/02/11	N.D.	ug/kg	1	4
Bromobenzene	11/02/11	N.D.	ug/kg	1	5
Bromoform	11/02/11	N.D.	ug/kg	1	5
Chlorobenzene	11/02/11	N.D.	ug/kg	1	5
2-Chlorotoluene	11/02/11	N.D.	ug/kg	1	5
4-Chlorotoluene	11/02/11	N.D.	ug/kg	1	5
Dibromochloromethane	11/02/11	N.D.	ug/kg	1	5
1,2-Dichlorobenzene	11/02/11	N.D.	ug/kg	1	5
1,3-Dichlorobenzene	11/02/11	N.D.	ug/kg	1	5
1,4-Dichlorobenzene	11/02/11	N.D.	ug/kg	1	5
trans-1,3-Dichloropropene	11/02/11	N.D.	ug/kg	1	5
Ethylbenzene	11/02/11	N.D.	ug/kg	1	5
1,1,1,2-Tetrachloroethane	11/02/11	N.D.	ug/kg	1	5
1,1,2,2-Tetrachloroethane	11/02/11	N.D.	ug/kg	1	5
Tetrachloroethene	11/02/11	N.D.	ug/kg	1	5
1,1,2-Trichloroethane	11/02/11	N.D.	ug/kg	1	5
1,2,3-Trichloropropane	11/02/11	N.D.	ug/kg	1	5
Xylene (Total)	11/02/11	N.D.	ug/kg	1	5

GSK03 8858



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK03
Matrix: SOLID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSA35 LCSD: LCDA35		Batch: A113041AA (Sample number(s): 6451483-6451490, 6451492, 6451494-6451499, 6451501)						
Analyte	Spike Added ug/kg	LCS Conc ug/kg	LCSD Conc ug/kg	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	17.96	16.12	90	81	20-120	11	30
Chloromethane	20	20.93	19.53	105	98	54-132	7	30
Vinyl Chloride	20	18.79	16.69	94	83	53-120	12	30
Bromomethane	20	16.74	14.98	84	75	32-162	11	30
Chloroethane	20	16.96	14.98	85	75	37-154	12	30
Trichlorofluoromethane	20	19.24	17.2	96	86	58-133	11	30
1,1-Dichloroethene	20	18.86	17.63	94	88	73-123	7	30
Freon 113	20	19.94	18.37	100	92	61-126	8	30
1,1,1-Trichloroethane	20	18.03	17.05	90	85	71-125	6	30
1,1-Dichloroethane	20	19.28	18.5	96	93	80-120	4	30
1,2-Dichloroethane	20	18.01	18.09	90	90	71-129	0	30
1,2-Dichloroethene (Total)	40	35.8	34.55	89	86	80-120	4	30
1,2-Dichloropropane	20	18.65	18.31	93	92	80-120	2	30
Benzene	20	18.65	18.18	93	91	80-120	3	30
Bromodichloromethane	20	17.06	16.85	85	84	78-120	1	30
Carbon Tetrachloride	20	18.34	17.52	92	88	69-122	5	30
Chloroform	20	18.14	17.46	91	87	80-120	4	30
cis-1,3-Dichloropropene	20	16.1	16.46	81	82	80-120	2	30
Dibromomethane	20	17.1	17.14	85	86	80-120	0	30
Freon 123a	20	18.89	17.91	94	90	61-127	5	30
Methylene Chloride	20	18.36	17.76	92	89	76-124	3	30
Toluene	20	19.5	18.82	98	94	80-120	4	30
Trichloroethene	20	17.62	16.98	88	85	80-120	4	30
1,1,1,2-Tetrachloroethane	20	19.44	18.89	97	94	80-120	3	30
1,1,2,2-Tetrachloroethane	20	18.22	18.76	91	94	71-123	3	30
1,1,2-Trichloroethane	20	18.73	18.86	94	94	80-120	1	30
1,2,3-Trichloropropane	20	18.05	18.27	90	91	71-123	1	30
1,2-Dichlorobenzene	20	19.28	19	96	95	79-120	1	30
1,3-Dichlorobenzene	20	19.55	19.23	98	96	78-120	2	30
1,4-Dichlorobenzene	20	19.56	19.1	98	96	79-120	2	30
2-Chlorotoluene	20	18.94	18.67	95	93	78-120	1	30
4-Chlorotoluene	20	19.68	19.29	98	96	79-120	2	30
Benzyl Chloride	20	17.19	17.69	86	88	66-120	3	30
Bromobenzene	20	19.37	19.22	97	96	79-120	1	30
Bromoform	20	17.65	17.84	88	89	70-120	1	30
Chlorobenzene	20	19.53	19.06	98	95	80-120	2	30
Dibromochloromethane	20	18.59	18.7	93	93	77-120	1	30
Ethylbenzene	20	19.63	18.82	98	94	80-120	4	30
Tetrachloroethene	20	20.39	19.6	102	98	77-120	4	30
trans-1,3-Dichloropropene	20	17.75	18.06	89	90	77-120	2	30
Xylene (Total)	60	59.87	57.74	100	96	80-120	4	30



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK03
Matrix: SOLID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSA38 LCSD: LCDA38		Batch: A113062AA (Sample number(s): 6451491, 6451494, 6451497, 6451500-6451501)						
Analyte	Spike Added ug/kg	LCS Conc ug/kg	LCSD Conc ug/kg	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	17.05	16.35	85	82	20-120	4	30
Chloromethane	20	21.29	19.42	106	97	54-132	9	30
Vinyl Chloride	20	19.02	17.26	95	86	53-120	10	30
Bromomethane	20	16.94	16.91	85	85	32-162	0	30
Chloroethane	20	17.2	17.36	86	87	37-154	1	30
Trichlorofluoromethane	20	19.66	18.78	98	94	58-133	5	30
1,1-Dichloroethene	20	17.86	17.61	89	88	73-123	1	30
Freon 113	20	18.91	18.12	95	91	61-126	4	30
1,1,1-Trichloroethane	20	17.18	16.69	86	83	71-125	3	30
1,1-Dichloroethane	20	18.32	17.92	92	90	80-120	2	30
1,2-Dichloroethane	20	17.57	17.21	88	86	71-129	2	30
1,2-Dichloroethene (Total)	40	33.75	33.23	84	83	80-120	2	30
1,2-Dichloropropane	20	17.67	17.51	88	88	80-120	1	30
Benzene	20	17.75	17.4	89	87	80-120	2	30
Bromodichloromethane	20	15.94	16.13	80	81	78-120	1	30
Carbon Tetrachloride	20	17.27	16.82	86	84	69-122	3	30
Chloroform	20	17.2	16.61	86	83	80-120	3	30
cis-1,3-Dichloropropene	20	15.07	15.11	75 *	76 *	80-120	0	30
Dibromomethane	20	16.41	16.43	82	82	80-120	0	30
Freon 123a	20	24.66	24.92	123	125	61-127	1	30
Methylene Chloride	20	17.28	17.22	86	86	76-124	0	30
Toluene	20	18.43	17.65	92	88	80-120	4	30
Trichloroethene	20	16.55	16.11	83	81	80-120	3	30
1,1,1,2-Tetrachloroethane	20	18.1	17.85	91	89	80-120	1	30
1,1,2,2-Tetrachloroethane	20	17.19	16.82	86	84	71-123	2	30
1,1,2-Trichloroethane	20	17.61	17.42	88	87	80-120	1	30
1,2,3-Trichloropropane	20	17.28	16.51	86	83	71-123	5	30
1,2-Dichlorobenzene	20	17.82	17.78	89	89	79-120	0	30
1,3-Dichlorobenzene	20	18.21	17.86	91	89	78-120	2	30
1,4-Dichlorobenzene	20	18.04	17.88	90	89	79-120	1	30
2-Chlorotoluene	20	17.51	17.34	88	87	78-120	1	30
4-Chlorotoluene	20	18.09	17.82	90	89	79-120	1	30
Benzyl Chloride	20	15.78	15.7	79	78	66-120	1	30
Bromobenzene	20	17.83	17.77	89	89	79-120	0	30
Bromoform	20	16.08	16.51	80	83	70-120	3	30
Chlorobenzene	20	18.42	18.13	92	91	80-120	2	30
Dibromochloromethane	20	17.23	17.22	86	86	77-120	0	30
Ethylbenzene	20	18.32	17.99	92	90	80-120	2	30
Tetrachloroethene	20	19	18.65	95	93	77-120	2	30
trans-1,3-Dichloropropene	20	16.61	16.21	83	81	77-120	2	30
Xylene (Total)	60	55.96	54.84	93	91	80-120	2	30

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03
Lab File ID: ag05t01.d BFB Injection Date: 08/05/11
Instrument ID: HP09685 BFB Injection Time: 16:24
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.65
75	30.0 - 60.0% of mass 95	47.62
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.92
173	Less than 2.0% of mass 174	0.50 (0.60)1
174	Greater than 50.0% of mass 95	83.83
175	5.0 - 9.0% of mass 174	5.89 (7.02)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.23 (96.90)1
177	5.0 - 9.0% of mass 176	5.36 (6.60)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	ag05i01.d	08/05/11	16:46
02	VSTD100	ag05i02.d	08/05/11	17:09
03	VSTD50	ag05i03.d	08/05/11	17:31
04	VSTD20	ag05i04.d	08/05/11	17:54
05	VSTD10	ag05i05.d	08/05/11	18:16
06	VSTD4	ag05i06.d	08/05/11	18:39
07	VSTD0001	ag05m01.d	08/05/11	19:01
08	VSTD300	ag05i11.d	08/05/11	19:24
09	VSTD100	ag05i12.d	08/05/11	19:46
10	VSTD50	ag05i13.d	08/05/11	20:09
11	VSTD20	ag05i14.d	08/05/11	20:31
12	VSTD10	ag05i15.d	08/05/11	20:54
13	VSTD4	ag05i16.d	08/05/11	21:17
14	VSTD0001	ag05m11.d	08/05/11	21:39
15	VLKA00	ag05b01.d	08/05/11	22:02
16	LCS1A00	ag05l02.d	08/05/11	22:47
17	6355784RE	ag05s01.d	08/05/11	23:09
18	LCSA00	ag05l03.d	08/05/11	23:53
19	LCDA00	ag05l04.d	08/06/11	00:18
20	LCD1A00	ag05l05.d	08/06/11	00:41
21	6364612	ag05s02.d	08/06/11	01:34
22	6364610	ag05s03.d	08/06/11	01:56

GSK03 8865

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03
 Lab File ID: ag05t01.d BFB Injection Date: 08/05/11
 Instrument ID: HP09685 BFB Injection Time: 16:24
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.65
75	30.0 - 60.0% of mass 95	47.62
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.92
173	Less than 2.0% of mass 174	0.50 (0.60)1
174	Greater than 50.0% of mass 95	83.83
175	5.0 - 9.0% of mass 174	5.89 (7.02)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.23 (96.90)1
177	5.0 - 9.0% of mass 176	5.36 (6.60)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6365515	ag05s05.d	08/06/11	02:41
24	6365516	ag05s06.d	08/06/11	03:03
25	6365519	ag05s07.d	08/06/11	03:25
26	6365520	ag05s08.d	08/06/11	03:48
27	6365518	ag05s09.d	08/06/11	04:11

GSK03 0066

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09685 Calibration Date(s): 08/05/11 08/05/11
Heated Purge: (Y/N) Y Calibration Times: 16:46 18:39
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = ag05i06.d RRF 10= ag05i05.d RRF 20= ag05i04.d
RRF 50= ag05i03.d RRF100= ag05i02.d RRF300= ag05i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.4002	0.3760	0.3842	0.4671	0.4416	0.3969		0.4110	9	AVG
Chloromethane	#0.3802	0.3704	0.3795	0.4270	0.4007	0.3664		0.3874	6	AVG
Vinyl Chloride	*0.4000	0.3727	0.3795	0.4384	0.4054	0.3734		0.3949	6	AVG
Bromomethane	0.2817	0.2727	0.2527	0.2727	0.2502	N/A		0.2660	5	AVG
Chloroethane	0.2170	0.2137	0.2131	0.2265	0.2272	0.1444		0.2070	15	AVG
Trichlorofluoromethane	0.4774	0.4452	0.4506	0.5253	0.5001	0.4289		0.4712	8	AVG
Ethanol	0.1380	0.1249	0.1123	0.1192	0.1029	0.1139		0.1185	10	AVG
Freon 123a	0.3489	0.3454	0.3458	0.3411	0.3423	0.3103		0.3390	4	AVG
Acrolein	1.5457	1.7705	1.6582	1.9737	2.2793	1.8750		1.8504	14	AVG
1,1-Dichloroethene	*0.2531	0.2489	0.2567	0.2566	0.2644	0.2388		0.2531	3	AVG
Dichlorofluoromethane	0.5932	0.5823	0.5781	0.5530	0.5418	0.4541		0.5504	9	AVG
Freon 113	0.2717	0.2619	0.2648	0.2770	0.2857	0.2538		0.2691	4	AVG
Acetone	0.0333	0.0266	0.0280	0.0334	0.0291	0.0264		0.0295	11	AVG
Methyl Iodide	0.4626	0.4847	0.4984	0.4917	0.5047	0.4584		0.4834	4	AVG
2-Propanol	0.7445	0.7607	0.7236	0.7004	0.6938	0.7118		0.7225	4	AVG
Carbon Disulfide	0.8279	0.8424	0.8717	0.8706	0.9053	0.7976		0.8526	4	AVG
Allyl Chloride	0.3826	0.3487	0.3538	0.3764	0.3859	0.3559		0.3672	4	AVG
Methyl Acetate	0.2347	0.1852	0.1928	0.2013	0.1906	0.1780		0.1971	10	AVG
Methylene Chloride	0.3516	0.3239	0.3166	0.3026	0.3045	0.2757		0.3125	8	AVG
t-Butyl Alcohol	1.2757	1.3904	1.3817	1.3347	1.3260	1.1543		1.3104	7	AVG
Acrylonitrile	0.1113	0.0926	0.1019	0.1176	0.1052	0.0955		0.1040	9	AVG
trans-1,2-Dichloroethene	0.2799	0.2933	0.3018	0.2967	0.3064	0.2788		0.2928	4	AVG
Methyl Tertiary Butyl Ether	0.8152	0.8311	0.8795	0.8723	0.8511	0.7991		0.8414	4	AVG
n-Hexane	0.3785	0.3707	0.3749	0.3921	0.4028	0.3779		0.3825	3	AVG
1,1-Dichloroethane	#0.4903	0.5134	0.5221	0.5149	0.5237	0.4711		0.5059	4	AVG
2-Chloro-1,3-Butadiene	0.3755	0.3923	0.4117	0.4264	0.4446	0.4014		0.4086	6	AVG
di-Isopropyl Ether	0.7989	0.8430	0.8641	0.8629	0.8660	0.7856		0.8368	4	AVG
Ethyl t-Butyl Ether	0.8081	0.8504	0.8841	0.8906	0.8891	0.8223		0.8574	4	AVG
cis-1,2-Dichloroethene	0.3194	0.3282	0.3326	0.3294	0.3369	0.3117		0.3264	3	AVG
1,2-Dichloroethene (total)	0.2997	0.3107	0.3172	0.3130	0.3217	0.2952		0.3096	3	AVG
2,2-Dichloropropane	0.4113	0.4270	0.4424	0.4501	0.4678	0.4236		0.4370	5	AVG
2-Butanone	0.1437	0.1213	0.1403	0.1687	0.1493	0.1320		0.1426	11	AVG
Propionitrile	1.3079	1.5768	1.4690	1.4129	1.4976	1.3322		1.4327	7	AVG
Methacrylonitrile	0.1343	0.1300	0.1445	0.1467	0.1324	0.1295		0.1362	6	AVG
Bromochloromethane	0.1590	0.1563	0.1581	0.1671	0.1657	0.1629		0.1615	3	AVG
Tetrahydrofuran	1.1957	1.3235	1.2617	1.4254	1.5396	1.3267		1.3454	9	AVG
Chloroform	*0.5068	0.5224	0.5322	0.5251	0.5302	0.4824		0.5165	4	AVG
1,1,1-Trichloroethane	0.5546	0.5085	0.5209	0.4854	0.4945	0.4518		0.5026	7	AVG
Cyclohexane	0.4634	0.4589	0.4586	0.4779	0.4864	0.4414		0.4644	3	AVG
Cyclohexane(mz84)	0.4303	0.4256	0.4187	0.4432	0.4447	0.4117		0.4290	3	AVG
Cyclohexane(mz69)	0.1496	0.1491	0.1491	0.1546	0.1585	0.1446		0.1509	3	AVG
1,1-Dichloropropene	0.3893	0.3979	0.4079	0.4087	0.4225	0.3863		0.4021	3	AVG
Carbon Tetrachloride	0.3767	0.3851	0.3964	0.4035	0.4190	0.3866		0.3945	4	AVG
Benzene	1.1762	1.2101	1.2149	1.1869	1.1999	1.0864		1.1791	4	AVG
Isobutyl Alcohol	0.3775	0.4286	0.4260	0.4031	0.4012	0.3613		0.3996	7	AVG
1,2-Dichloroethane	0.4157	0.4202	0.4289	0.4215	0.4174	0.3854		0.4148	4	AVG
1,2-Dichloroethane(mz98)	0.0360	0.0378	0.0384	0.0378	0.0376	0.0360		0.0373	3	AVG
t-Amyl Methyl Ether	0.7419	0.7733	0.8150	0.8246	0.8202	0.7781		0.7922	4	AVG
n-Heptane	0.3681	0.3809	0.3895	0.3920	0.4032	0.3906		0.3874	3	AVG
n-Butanol	0.3194	0.3728	0.3857	0.3832	0.3905	0.3596		0.3685	7	AVG
Trichloroethene	0.3132	0.3192	0.3231	0.3206	0.3301	0.3041		0.3184	3	AVG
Methylcyclohexane	0.5067	0.4504	0.4786	0.5390	0.5554	0.5382		0.5114	8	AVG

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

65K93 08074

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09685 Calibration Date(s): 08/05/11 08/05/11
Heated Purge: (Y/N) Y Calibration Times: 16:46 18:39
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = ag05i06.d RRF 10 = ag05i05.d RRF 20 = ag05i04.d
RRF 50 = ag05i03.d RRF100 = ag05i02.d RRF300 = ag05i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,2-Dichloropropane	0.2987	0.3124	0.3170	0.3167	0.3231	0.3044		0.3121	3	AVG
Dibromomethane	0.1961	0.1998	0.2075	0.2075	0.2042	0.1959		0.2018	3	AVG
1,4-Dioxane	0.1310	0.1450	0.1409	0.1513	0.1462	0.1407		0.1425	5	AVG
Methyl Methacrylate	0.2156	0.2086	0.2402	0.2508	0.2393	0.2365		0.2318	7	AVG
Bromodichloromethane	0.3435	0.3721	0.3918	0.3992	0.4078	0.3848		0.3832	6	AVG
2-Nitropropane	1.8434	2.2727	2.3055	2.8015	3.2583	N/A		2.4963	22	1STDEG
cis-1,3-Dichloropropene	0.4163	0.4572	0.4864	0.4999	0.5096	0.4812		0.4751	7	AVG
4-Methyl-2-Pentanone	0.2824	0.2570	0.3058	0.3808	0.3604	0.3012		0.3146	15	AVG
Toluene	1.0026	0.9895	1.0002	0.9703	0.9911	0.8950		0.9748	4	AVG
trans-1,3-Dichloropropene	0.5064	0.5572	0.5959	0.6148	0.6257	0.5931		0.5822	8	AVG
Ethyl Methacrylate	0.4164	0.4523	0.5229	0.5590	0.5526	0.5332		0.5060	11	AVG
1,1,2-Trichloroethane	0.3508	0.3546	0.3644	0.3598	0.3519	0.3329		0.3524	3	AVG
Tetrachloroethene	0.4310	0.4413	0.4384	0.4392	0.4550	0.4170		0.4370	3	AVG
1,3-Dichloropropane	0.5970	0.5975	0.6216	0.6202	0.6178	0.5828		0.6061	3	AVG
2-Hexanone	0.2748	0.2403	0.2908	0.3637	0.3414	N/A		0.3022	17	1STDEG
Dibromochloromethane	0.3318	0.3572	0.3898	0.4075	0.4170	0.4043		0.3846	9	AVG
1,2-Dibromoethane	0.3481	0.3568	0.3797	0.3773	0.3687	0.3521		0.3638	4	AVG
Chlorobenzene	#1.1258	1.1585	1.1582	1.1310	1.1523	1.0423		1.1280	4	AVG
1,1,1,2-Tetrachloroethane	0.3435	0.3754	0.3909	0.3933	0.4059	0.3887		0.3829	6	AVG
Ethylbenzene	*1.8022	1.8905	1.8915	1.8690	1.9138	1.6258		1.8321	6	AVG
m,p-Xylene	0.7071	0.7486	0.7451	0.7453	0.7721	0.6211		0.7232	7	AVG
Xylene (Total)	0.7017	0.7464	0.7450	0.7460	0.7718	0.6267		0.7229	7	AVG
o-Xylene	0.6909	0.7418	0.7447	0.7474	0.7713	0.6381		0.7223	7	AVG
Styrene	0.9897	1.1117	1.1913	1.2300	1.2779	1.0527		1.1422	10	AVG
Bromoform	#0.2262	0.2449	0.2765	0.2995	0.3041	0.3036		0.2758	12	AVG
Isopropylbenzene	1.7089	1.8260	1.8499	1.8465	1.9076	1.6170		1.7926	6	AVG
Cyclohexanone	0.3847	0.4284	0.4200	0.4384	0.4430	0.4332		0.4246	5	AVG
Bromobenzene	0.8569	0.8749	0.8692	0.8577	0.8786	0.7767		0.8523	4	AVG
1,1,2,2-Tetrachloroethane	#0.9233	0.8713	0.9367	0.9288	0.8827	0.8138		0.8928	5	AVG
1,2,3-Trichloropropane	0.3261	0.2749	0.2908	0.2823	0.2654	0.2355		0.2792	11	AVG
trans-1,4-Dichloro-2-Butene	0.2646	0.2709	0.2991	0.2891	0.2727	0.2319		0.2714	9	AVG
n-Propylbenzene	3.8059	3.9038	3.8472	3.7686	3.8029	2.9230		3.6752	10	AVG
2-Chlorotoluene	0.7983	0.8303	0.8145	0.8005	0.8262	0.7469		0.8028	4	AVG
1,3,5-Trimethylbenzene	2.5633	2.7366	2.7148	2.7150	2.8440	2.3211		2.6491	7	AVG
4-Chlorotoluene	0.8282	0.8602	0.8442	0.8356	0.8687	0.7451		0.8303	5	AVG
tert-Butylbenzene	0.5981	0.6304	0.6460	0.6489	0.6773	0.5793		0.6300	6	AVG
Pentachloroethane	0.4867	0.4874	0.5215	0.5589	0.5795	0.5089		0.5238	7	AVG
1,2,4-Trimethylbenzene	2.7858	2.9321	2.9291	2.9069	3.0183	2.4471		2.8366	7	AVG
sec-Butylbenzene	3.3243	3.4797	3.5079	3.5068	3.5900	2.8416		3.3751	8	AVG
1,3-Dichlorobenzene	1.6906	1.6950	1.6589	1.6469	1.6947	1.4122		1.6330	7	AVG
p-Isopropyltoluene	2.9352	3.1134	3.1546	3.1696	3.2735	2.5366		3.0305	9	AVG
1,4-Dichlorobenzene	1.7624	1.7494	1.7115	1.6685	1.7074	1.4919		1.6819	6	AVG
1,2,3-Trimethylbenzene	2.8786	2.7433	2.8234	2.9020	2.9903	2.5109		2.8081	6	AVG
Benzyl Chloride	0.3464	0.3669	0.4277	0.4465	0.4475	0.4332		0.4114	11	AVG
1,2-Dichlorobenzene	1.6598	1.6703	1.6403	1.6020	1.6346	1.4334		1.6067	5	AVG
n-Butylbenzene	1.5377	1.5876	1.6220	1.6133	1.6717	1.3990		1.5719	6	AVG
1,3-Diethylbenzene	1.7207	1.6420	1.7472	1.8440	1.9080	1.6494		1.7519	6	AVG
1,4-Diethylbenzene	1.8094	1.7602	1.8468	1.9346	2.0179	1.6705		1.8399	7	AVG
1,2-Diethylbenzene	1.5474	1.4719	1.5343	1.5770	1.6474	1.4258		1.5340	5	AVG
1,2-Dibromo-3-Chloropropane	0.1895	0.1639	0.1956	0.2019	0.1887	0.1863		0.1877	7	AVG
1,3,5-Trichlorobenzene	1.4093	1.3392	1.3486	1.3242	1.3718	1.2078		1.3335	5	AVG
1,2,4-Trichlorobenzene	1.4287	1.2922	1.3016	1.2941	1.3268	1.1463		1.2983	7	AVG

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

GSX53 8875

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09685 Calibration Date(s): 08/05/11 08/05/11
Heated Purge: (Y/N) Y Calibration Times: 16:46 18:39
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = ag05i06.d RRF 10= ag05i05.d RRF 20= ag05i04.d
RRF 50= ag05i03.d RRF100= ag05i02.d RRF300= ag05i01.d RRF =

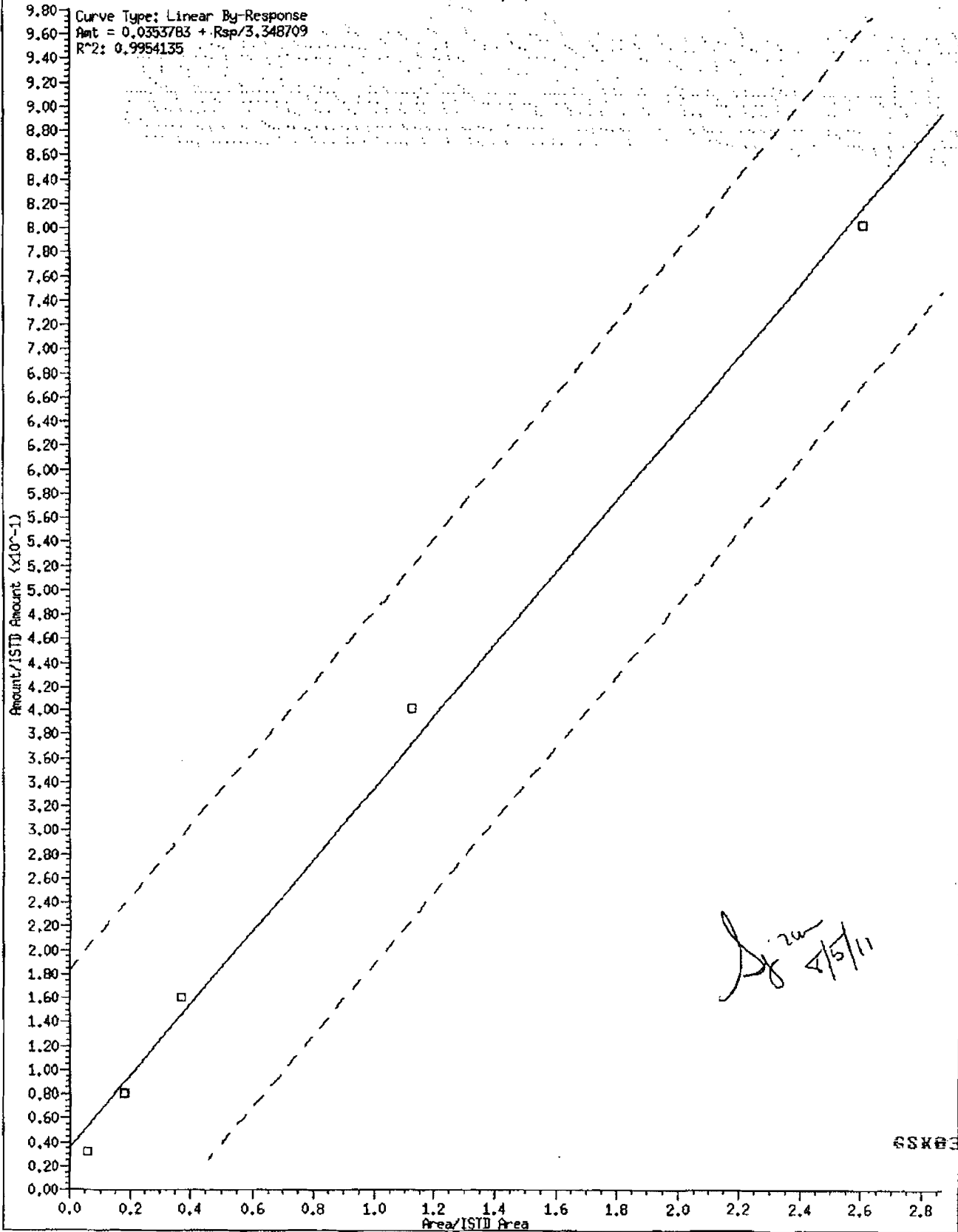
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Hexachlorobutadiene	0.6734	0.6805	0.6972	0.6913	0.7219	0.6320		0.6827	4	AVG
Naphthalene	3.6958	3.2673	3.5174	3.4855	3.3253	2.6341		3.3209	11	AVG
1,2,3-Trichlorobenzene	1.3899	1.2388	1.2585	1.2227	1.2336	1.0627		1.2343	8	AVG
2-Methylnaphthalene	2.4273	1.9061	2.2215	2.3318	2.2521	1.8183		2.1595	11	AVG
Dibromofluoromethane	0.2424	0.2435	0.2437	0.2454	0.2418	0.2403		0.2428	1	AVG
Dibromofluoromethane(mz111)	0.2475	0.2491	0.2497	0.2507	0.2480	0.2457		0.2484	1	AVG
1,2-Dichloroethane-d4	0.0580	0.0572	0.0584	0.0573	0.0571	0.0568		0.0575	1	AVG
1,2-Dichloroethane-d4(mz65)	0.2858	0.2859	0.2853	0.2883	0.2777	0.2773		0.2834	2	AVG
1,2-Dichloroethane-d4(mz104)	0.0372	0.0359	0.0365	0.0367	0.0356	0.0362		0.0364	2	AVG
Toluene-d8	1.2710	1.2712	1.2732	1.2743	1.2715	1.2545		1.2693	1	AVG
Toluene-d8(mz100)	0.8234	0.8243	0.8261	0.8297	0.8310	0.8172		0.8253	1	AVG
4-Bromofluorobenzene	0.5074	0.5071	0.5106	0.5131	0.5132	0.5190		0.5117	1	AVG
4-Bromofluorobenzene(mz174)	0.4306	0.4308	0.4334	0.4299	0.4275	0.4340		0.4310	1	AVG

Average %RSD 6

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

GSKB3 8676

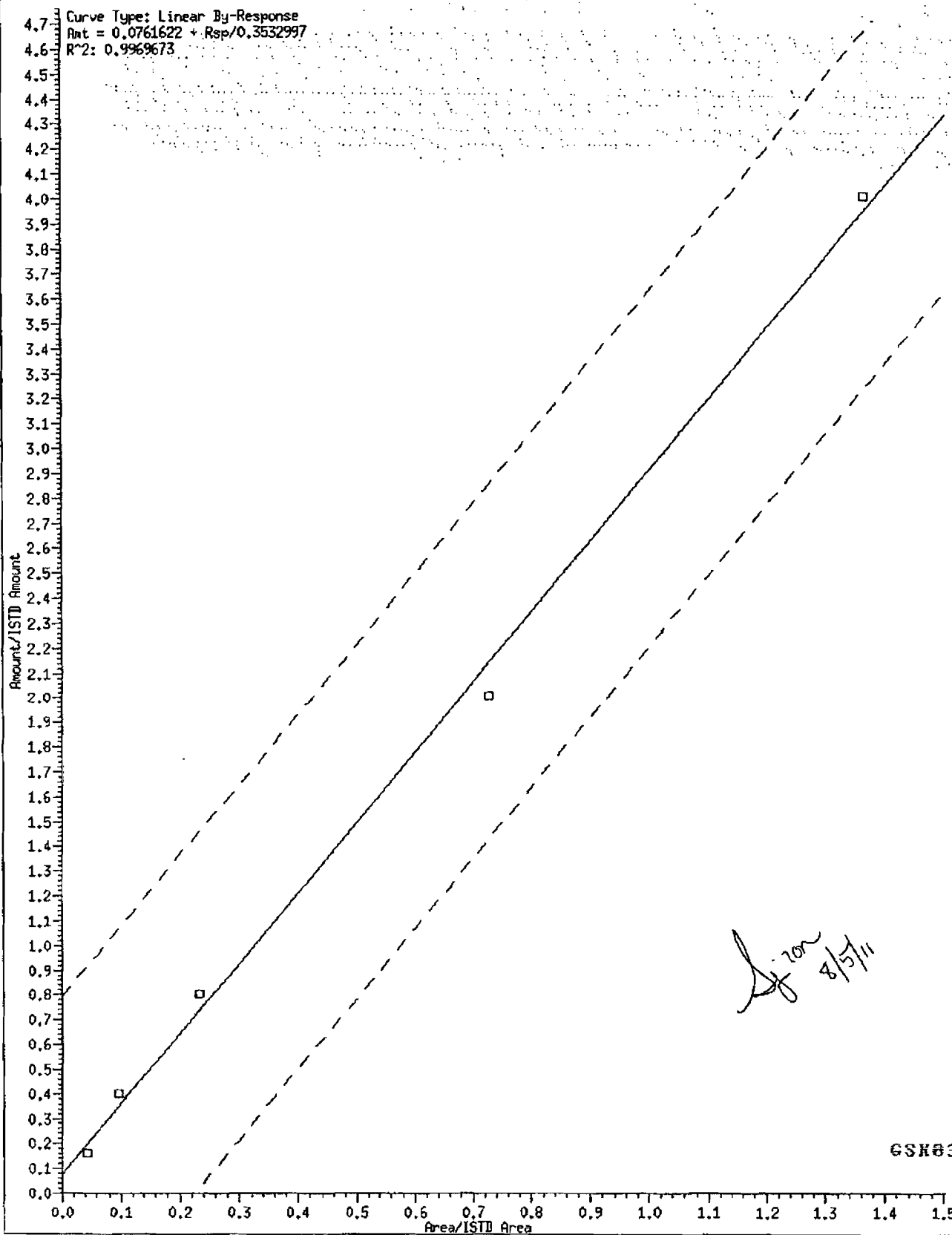
B7 2-Nitropropane



6SK03 8877

102 2-Hexanone

Curve Type: Linear By-Response
 Ant = 0.0761622 + Rsp/0.3532997
 R²: 0.9969673



Signature
 8/5/11

GSK03 0078

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

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/chem2/HP09685.i/11aug05a.b/ag05i01.d VSTD300
/chem2/HP09685.i/11aug05a.b/ag05i02.d VSTD100
/chem2/HP09685.i/11aug05a.b/ag05i03.d VSTD050
/chem2/HP09685.i/11aug05a.b/ag05i04.d VSTD020
/chem2/HP09685.i/11aug05a.b/ag05i05.d VSTD010
/chem2/HP09685.i/11aug05a.b/ag05i06.d VSTD004
    
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Area Summary

File ID:

Internal Standard Name	ag05i01.d	ag05i02.d	ag05i03.d	ag05i04.d	ag05i05.d	ag05i06.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	226314	212391	256942	240095	196900	254796	231240	10	Yes
Fluorobenzene	1511470	1500041	1477258	1458586	1427546	1407953	1463809	3	Yes
Chlorobenzene-d5	1213175	1196725	1179094	1162981	1138664	1119047	1168281	3	Yes
1,4-Dichlorobenzene-d4	743497	710985	695398	686229	668690	653961	693127	5	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	ag05i01.d	ag05i02.d	ag05i03.d	ag05i04.d	ag05i05.d	ag05i06.d	Avg. RT
t-Butyl Alcohol-d10	3.958	3.945	3.958	3.951	3.952	3.952	3.953
Fluorobenzene	7.413	7.407	7.413	7.413	7.407	7.413	7.411
Chlorobenzene-d5	10.960	10.954	10.954	10.960	10.954	10.954	10.956
1,4-Dichlorobenzene-d4	12.858	12.852	12.852	12.852	12.852	12.852	12.853

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 08/05/2011 at 20:25.

63K83 8879

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 ICV Date: 08/05/11 Time: 23:53
 Lab File ID: ag05103.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4110	0.3893	18.94	20	-5
# Chloromethane	0.3874	0.4223	21.80	20	9 #
* Vinyl Chloride	0.3949	0.4258	21.56	20	8 *
Bromomethane	0.2660	0.2237	16.82	20	-16
Chloroethane	0.2070	0.1928	18.63	20	-7
Trichlorofluoromethane	0.4712	0.5130	21.77	20	9
Ethanol	0.1185	0.1260	1062.90	1000	6
Freon 123a	0.3390	0.3378	19.93	20	0
Acrolein	1.8504	1.5375	124.64	150	-17
* 1,1-Dichloroethene	0.2531	0.2553	20.17	20	1 *
Dichlorofluoromethane	0.5504	0.5645	20.51	20	3
Freon 113	0.2691	0.2486	18.47	20	-8
Acetone	0.0295	0.0372	189.52	150	26 NTC
Methyl Iodide	0.4834	0.4327	17.90	20	-10
2-Propanol	0.7225	0.7201	149.51	150	0
Carbon Disulfide	0.8526	0.7227	16.95	20	-15
Allyl Chloride	0.3672	0.3470	18.90	20	-5
Methyl Acetate	0.1971	0.2651	26.90	20	34 NTC
Methylene Chloride	0.3125	0.3145	20.13	20	1
t-Butyl Alcohol	1.3104	1.5839	241.73	200	21 NTC
Acrylonitrile	0.1040	0.1173	112.74	100	13
trans-1,2-Dichloroethene	0.2928	0.2868	19.59	20	-2
Methyl Tertiary Butyl Ether	0.8414	0.7886	18.75	20	-6
n-Hexane	0.3825	0.3317	17.34	20	-13
# 1,1-Dichloroethane	0.5059	0.4891	19.33	20	-3 #
2-Chloro-1,3-Butadiene	0.4086	0.3671	17.96	20	-10
di-Isopropyl Ether	0.8368	0.7625	18.23	20	-9
Ethyl t-Butyl Ether	0.8574	0.7520	17.54	20	-12
cis-1,2-Dichloroethene	0.3264	0.3124	19.15	20	-4
1,2-Dichloroethene (total)	0.3096	0.2996	38.74	40	-3
2,2-Dichloropropane	0.4370	0.3974	18.18	20	-9
2-Butanone	0.1426	0.1557	163.84	150	9
Propionitrile	1.4327	1.5166	158.78	150	6
Methacrylonitrile	0.1362	0.1500	165.18	150	10
Bromochloromethane	0.1615	0.1598	19.79	20	-1
Tetrahydrofuran	1.3454	1.3826	102.76	100	3

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK03 0000

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 ICV Date: 08/05/11 Time: 23:53
 Lab File ID: ag05103.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.5165	0.4957	19.19	20	-4 *
1,1,1-Trichloroethane	0.5026	0.4678	18.61	20	-7
Cyclohexane	0.4644	0.4127	17.77	20	-11
1,1-Dichloropropene	0.4021	0.3815	18.97	20	-5
Carbon Tetrachloride	0.3945	0.3656	18.53	20	-7
Benzene	1.1791	1.1647	19.76	20	-1
Isobutyl Alcohol	0.3996	0.4438	555.24	500	11
1,2-Dichloroethane	0.4148	0.4123	19.88	20	-1
t-Amyl Methyl Ether	0.7922	0.6996	17.66	20	-12
n-Heptane	0.3874	0.3339	17.24	20	-14
n-Butanol	0.3685	0.3888	1054.90	1000	5
Trichloroethene	0.3184	0.2983	18.74	20	-6
Methylcyclohexane	0.5114	0.4978	19.47	20	-3
* 1,2-Dichloropropane	0.3121	0.2923	18.73	20	-6 *
Dibromomethane	0.2018	0.1961	19.44	20	-3
1,4-Dioxane	0.1425	0.1500	526.31	500	5
Methyl Methacrylate	0.2318	0.2164	18.67	20	-7
Bromodichloromethane	0.3832	0.3480	18.16	20	-9
2-Nitropropane	2.4963	2.0897	21.33	20	7
cis-1,3-Dichloropropene	0.4751	0.4211	17.73	20	-11
4-Methyl-2-Pentanone	0.3146	0.3320	105.52	100	6
* Toluene	0.9748	0.9137	18.75	20	-6 *
trans-1,3-Dichloropropene	0.5822	0.5007	17.20	20	-14
Ethyl Methacrylate	0.5060	0.4604	18.19	20	-9
1,1,2-Trichloroethane	0.3524	0.3359	19.06	20	-5
Tetrachloroethene	0.4370	0.4130	18.90	20	-5
1,3-Dichloropropane	0.6061	0.5776	19.06	20	-5
2-Hexanone	0.3022	0.3063	90.50	100	-10
Dibromochloromethane	0.3846	0.3436	17.87	20	-11
1,2-Dibromoethane	0.3638	0.3524	19.37	20	-3
# Chlorobenzene	1.1280	1.0489	18.60	20	-7 #
1,1,1,2-Tetrachloroethane	0.3829	0.3480	18.17	20	-9
* Ethylbenzene	1.8321	1.7339	18.93	20	-5 *
m+p-Xylene	0.7232	0.6954	38.46	40	-4
Xylene (Total)	0.7229	0.5531	57.45	60	-4
o-Xylene	0.7223	0.6859	18.99	20	-5

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

SSK03 0081

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 ICV Date: 08/05/11 Time: 23:53
 Lab File ID: ag05103.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Styrene	1.1422	1.0660	18.66	20	-7
# Bromoform	0.2758	0.2375	17.22	20	-14 #
Isopropylbenzene	1.7926	1.7232	19.23	20	-4
Cyclohexanone	0.4246	0.3623	426.57	500	-15
Bromobenzene	0.8523	0.7988	18.74	20	-6
# 1,1,2,2-Tetrachloroethane	0.8928	0.8712	19.52	20	-2 #
1,2,3-Trichloropropane	0.2792	0.2739	19.62	20	-2
trans-1,4-Dichloro-2-Butene	0.2714	0.2976	109.67	100	10
n-Propylbenzene	3.6752	3.5842	19.50	20	-2
2-Chlorotoluene	0.8028	0.7531	18.76	20	-6
1,3,5-Trimethylbenzene	2.6491	2.5915	19.57	20	-2
4-Chlorotoluene	0.8303	0.7903	19.04	20	-5
tert-Butylbenzene	0.6300	0.5941	18.86	20	-6
Pentachloroethane	0.5238	0.4770	18.21	20	-9
1,2,4-Trimethylbenzene	2.8366	2.6984	19.03	20	-5
sec-Butylbenzene	3.3751	3.2703	19.38	20	-3
1,3-Dichlorobenzene	1.6330	1.5103	18.50	20	-8
p-Isopropyltoluene	3.0305	2.9271	19.32	20	-3
1,4-Dichlorobenzene	1.6819	1.5619	18.57	20	-7
1,2,3-Trimethylbenzene	2.8081	2.7468	19.56	20	-2
Benzyl Chloride	0.4114	0.3490	16.97	20	-15
1,2-Dichlorobenzene	1.6067	1.4932	18.59	20	-7
n-Butylbenzene	1.5719	1.5214	19.36	20	-3
1,3-Diethylbenzene	1.7519	1.7218	19.66	20	-2
1,4-Diethylbenzene	1.8399	1.8117	19.69	20	-2
1,2-Diethylbenzene	1.5340	1.4673	19.13	20	-4
1,2-Dibromo-3-Chloropropane	0.1877	0.1803	19.22	20	-4
1,3,5-Trichlorobenzene	1.3335	1.2326	18.49	20	-8
1,2,4-Trichlorobenzene	1.2983	1.1275	17.37	20	-13
Hexachlorobutadiene	0.6827	0.6074	17.79	20	-11
Naphthalene	3.3209	3.1311	18.86	20	-6
1,2,3-Trichlorobenzene	1.2343	1.1280	18.28	20	-9
2-Methylnaphthalene	2.1595	1.8004	16.67	20	-17

Average %Drift 7

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK83 8682

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03____
Lab File ID: ac31t01.d BFB Injection Date: 10/31/11
Instrument ID: HP09685 BFB Injection Time: 10:57
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.54
75	30.0 - 60.0% of mass 95	48.86
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.89
173	Less than 2.0% of mass 174	0.36 (0.42)1
174	Greater than 50.0% of mass 95	84.69
175	5.0 - 9.0% of mass 174	6.07 (7.16)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.51 (96.24)1
177	5.0 - 9.0% of mass 176	5.34 (6.55)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	ac31c01.d	10/31/11	11:22
02	VBLKA35	ac31b02.d	10/31/11	12:07
03	LCSA35	ac31l01.d	10/31/11	12:32
04	LCDA35	ac31l02.d	10/31/11	12:55
05	6451483	ac31s01.d	10/31/11	13:39
06	6451485	ac31s03.d	10/31/11	14:24
07	6451486	ac31s04.d	10/31/11	14:47
08	6451487	ac31s05.d	10/31/11	15:10
09	6451484	ac31s21.d	10/31/11	15:32
10	6451485RE	ac31s22.d	10/31/11	15:55
11	6451488	ac31s06.d	10/31/11	16:18
12	6451490	ac31s08.d	10/31/11	17:03
13	6451492	ac31s10.d	10/31/11	17:48
14	6451489	ac31s23.d	10/31/11	18:11
15	6451490RE	ac31s24.d	10/31/11	18:34
16	6451494	ac31s11.d	10/31/11	18:56
17	6451495	ac31s12.d	10/31/11	19:19
18	6451496	ac31s13.d	10/31/11	19:42
19	6451497	ac31s14.d	10/31/11	20:04
20	6451498	ac31s15.d	10/31/11	20:27
21	6451499	ac31s16.d	10/31/11	20:50
22	6451501	ac31s18.d	10/31/11	21:35

GSK03 0067

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03____
 Lab File ID: ac31t01.d BFB Injection Date: 10/31/11
 Instrument ID: HP09685 BFB Injection Time: 10:57
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.54
75	30.0 - 60.0% of mass 95	48.86
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.89
173	Less than 2.0% of mass 174	0.36 (0.42)1
174	Greater than 50.0% of mass 95	84.69
175	5.0 - 9.0% of mass 174	6.07 (7.16)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.51 (96.24)1
177	5.0 - 9.0% of mass 176	5.34 (6.55)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6452616	ac31s19.d	10/31/11	21:58
24	6452617	ac31s20.d	10/31/11	22:21

GSK03 0000

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP09685 Calibration Date: 10/31/11 Time: 11:22

Lab File ID: ac31c01.d Init. Calib. Date(s): 08/05/11 08/05/11

Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4110	0.4138	50.34	50	1
# Chloromethane	0.3874	0.4087	52.76	50	6 #
* Vinyl Chloride	0.3949	0.3713	47.02	50	-6 *
Bromomethane	0.2660	0.2480	46.62	50	-7
Chloroethane	0.2070	0.2035	49.15	50	-2
Trichlorofluoromethane	0.4712	0.4776	50.67	50	1
Ethanol	0.1185	0.1086	2290.95	2500	-8
Freon 123a	0.3390	0.3014	44.46	50	-11
Acrolein	1.8504	2.3174	626.19	500	25
* 1,1-Dichloroethene	0.2531	0.2527	49.93	50	0 *
Dichlorofluoromethane	0.5504	0.4751	43.16	50	-14
Freon 113	0.2691	0.2823	52.44	50	5
Acetone	0.0295	0.0395	134.05	100	34
Methyl Iodide	0.4834	0.4695	48.56	50	-3
2-Propanol	0.7225	0.8536	295.36	250	18
Carbon Disulfide	0.8526	0.8836	51.82	50	4
Allyl Chloride	0.3672	0.4249	57.86	50	16
Methyl Acetate	0.1971	0.2189	55.52	50	11
Methylene Chloride	0.3125	0.2953	47.24	50	-6
t-Butyl Alcohol	1.3104	1.4454	275.75	250	10
Acrylonitrile	0.1040	0.1147	55.13	50	10
trans-1,2-Dichloroethene	0.2928	0.2856	48.77	50	-2
Methyl Tertiary Butyl Ether	0.8414	0.7269	43.20	50	-14
n-Hexane	0.3825	0.4276	55.90	50	12
# 1,1-Dichloroethane	0.5059	0.5221	51.60	50	3 #
2-Chloro-1,3-Butadiene	0.4086	0.4250	52.00	50	4
di-Isopropyl Ether	0.8368	0.9114	54.46	50	9
Ethyl t-Butyl Ether	0.8574	0.5902	34.42	50	-31
cis-1,2-Dichloroethene	0.3264	0.3119	47.79	50	-4
1,2-Dichloroethene (total)	0.3096	0.2988	96.56	100	-3
2,2-Dichloropropane	0.4370	0.4146	47.44	50	-5
2-Butanone	0.1426	0.1525	106.96	100	7
Propionitrile	1.4327	1.9800	345.49	250	38
Methacrylonitrile	0.1362	0.1288	118.15	125	-5
Bromochloromethane	0.1615	0.1544	47.81	50	-4
Tetrahydrofuran	1.3454	1.6921	125.76	100	26

Minimum RRF for SPCC(#) = 0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*) = 20%

GSK83 18853

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 10/31/11 Time: 11:22
 Lab File ID: ac31c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
* Chloroform	0.5165	0.5035	48.74	50	-3	*
1,1,1-Trichloroethane	0.5026	0.4460	44.37	50	-11	
Cyclohexane	0.4644	0.5075	54.64	50	9	
Cyclohexane(mz84)	0.4290	0.4370	50.93	50	2	
Cyclohexane(mz69)	0.1509	0.1523	50.47	50	1	
1,1-Dichloropropene	0.4021	0.4039	50.22	50	0	
Carbon Tetrachloride	0.3945	0.4018	50.92	50	2	
Benzene	1.1791	1.1774	49.93	50	0	
Isobutyl Alcohol	0.3996	0.5465	854.68	625	37	NTL
1,2-Dichloroethane	0.4148	0.3968	47.82	50	-4	
1,2-Dichloroethane(mz98)	0.0373	0.0352	47.25	50	-5	NTL
t-Amyl Methyl Ether	0.7922	0.4632	29.24	50	-42	NTL
n-Heptane	0.3874	0.4719	60.91	50	22	NTL
n-Butanol	0.3685	0.4396	1491.01	1250	19	
Trichloroethene	0.3184	0.3041	47.75	50	-4	
Methylcyclohexane	0.5114	0.5270	51.53	50	3	
* 1,2-Dichloropropane	0.3121	0.3178	50.92	50	2	*
Dibromomethane	0.2018	0.1878	46.54	50	-7	
1,4-Dioxane	0.1425	0.1584	694.51	625	11	
Methyl Methacrylate	0.2318	0.2278	49.14	50	-2	
Bromodichloromethane	0.3832	0.3735	48.73	50	-3	
2-Nitropropane	2.4963	3.4205	110.99	100	11	
cis-1,3-Dichloropropene	0.4751	0.4626	48.69	50	-3	
4-Methyl-2-Pentanone	0.3146	0.3371	107.14	100	7	
* Toluene	0.9748	1.0130	51.96	50	4	*
trans-1,3-Dichloropropene	0.5822	0.6126	52.61	50	5	
Ethyl Methacrylate	0.5060	0.5169	51.08	50	2	
1,1,2-Trichloroethane	0.3524	0.3563	50.55	50	1	
Tetrachloroethene	0.4370	0.4866	55.68	50	11	
1,3-Dichloropropane	0.6061	0.6399	52.79	50	6	
2-Hexanone	0.3022	0.3507	103.08	100	3	
Dibromochloromethane	0.3846	0.4214	54.79	50	10	
1,2-Dibromoethane	0.3638	0.3757	51.64	50	3	
# Chlorobenzene	1.1280	1.1917	52.82	50	6	#
1,1,1,2-Tetrachloroethane	0.3829	0.4173	54.49	50	9	
* Ethylbenzene	1.8321	1.9957	54.46	50	9	*

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK83 0094

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 10/31/11 Time: 11:22
 Lab File ID: ac31c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
m+p-Xylene	0.7232	0.7919	109.50	100	9
Xylene (Total)	0.7229	0.7850	162.87	150	9
o-Xylene	0.7223	0.7710	53.37	50	7
Styrene	1.1422	1.2554	54.95	50	10
# Bromoform	0.2758	0.2995	54.30	50	9 #
Isopropylbenzene	1.7926	1.9879	55.45	50	11
Cyclohexanone	0.4246	0.4272	628.82	625	1
Bromobenzene	0.8523	0.8937	52.42	50	5
# 1,1,2,2-Tetrachloroethane	0.8928	0.8738	48.94	50	-2 #
1,2,3-Trichloropropane	0.2792	0.2611	46.76	50	-6
trans-1,4-Dichloro-2-Butene	0.2714	0.2770	127.60	125	2
n-Propylbenzene	3.6752	3.9601	53.88	50	8
2-Chlorotoluene	0.8028	0.8318	51.81	50	4
1,3,5-Trimethylbenzene	2.6491	2.8935	54.61	50	9
4-Chlorotoluene	0.8303	0.8795	52.96	50	6
tert-Butylbenzene	0.6300	0.6745	53.53	50	7
Pentachloroethane	0.5238	0.5621	53.65	50	7
1,2,4-Trimethylbenzene	2.8366	3.0154	53.15	50	6
sec-Butylbenzene	3.3751	3.7466	55.50	50	11
1,3-Dichlorobenzene	1.6330	1.7285	52.92	50	6
p-Isopropyltoluene	3.0305	3.3731	55.65	50	11
1,4-Dichlorobenzene	1.6819	1.7572	52.24	50	4
1,2,3-Trimethylbenzene	2.8081	2.9310	52.19	50	4
Benzyl Chloride	0.4114	0.4084	49.64	50	-1
1,2-Dichlorobenzene	1.6067	1.6861	52.47	50	5
n-Butylbenzene	1.5719	1.7281	54.97	50	10
1,3-Diethylbenzene	1.7519	1.8868	53.85	50	8
1,4-Diethylbenzene	1.8399	2.0110	54.65	50	9
1,2-Diethylbenzene	1.5340	1.6347	53.28	50	7
1,2-Dibromo-3-Chloropropane	0.1877	0.1791	47.73	50	-5
1,3,5-Trichlorobenzene	1.3335	1.4207	53.27	50	7
1,2,4-Trichlorobenzene	1.2983	1.3095	50.43	50	1
Hexachlorobutadiene	0.6827	0.7743	56.71	50	13
Naphthalene	3.3209	3.4329	51.69	50	3
1,2,3-Trichlorobenzene	1.2343	1.2883	52.19	50	4
2-Methylnaphthalene	2.1595	2.2094	51.15	50	2

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK03 0695

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 10/31/11 Time: 11:22
 Lab File ID: ac31c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRP50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dibromofluoromethane	0.2428	0.2417	49.77	50	0
Dibromofluoromethane (mz111)	0.2484	0.2484	49.99	50	0
1,2-Dichloroethane-d4	0.0575	0.0579	50.39	50	1
1,2-Dichloroethane-d4 (mz65)	0.2834	0.2874	50.71	50	1
1,2-Dichloroethane-d4 (mz104)	0.0364	0.0368	50.65	50	1
Toluene-d8	1.2693	1.3650	53.77	50	8
Toluene-d8 (mz100)	0.8253	0.8894	53.89	50	8
4-Bromofluorobenzene	0.5117	0.4990	48.75	50	-2
4-Bromofluorobenzene (mz174)	0.4310	0.4489	52.08	50	4

Average %Drift 8

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSX63 8894

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

```

/chem2/HP09685.i/11aug05a.b/ag05i06.d
/chem2/HP09685.i/11aug05a.b/ag05i05.d
/chem2/HP09685.i/11aug05a.b/ag05i04.d
/chem2/HP09685.i/11aug05a.b/ag05i03.d
/chem2/HP09685.i/11aug05a.b/ag05i02.d
/chem2/HP09685.i/11aug05a.b/ag05i01.d

```

File /chem2/HP09685.i/11aug05a.b/ag05i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09685.i/11oct31a.b/ac31c01.d

RT Summary

File ID:

=====

Internal Standard Name	ac31c01.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	3.952	3.958	Yes
Fluorobenzene	7.407	7.413	Yes
Chlorobenzene-d5	10.954	10.954	Yes
1,4-Dichlorobenzene-d4	12.852	12.852	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	ac31c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	114504	256942	128471	513884	No *
Fluorobenzene	1007223	1477258	738629	2954516	Yes
Chlorobenzene-d5	727800	1179094	589547	2358188	Yes
1,4-Dichlorobenzene-d4	439110	695398	347699	1390796	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments:

* Not a referencing internal
in target compound lists.
ann 448 11/3/11

report generated on 10/31/2011 at 11:51

GSK83 8838

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03____
 Lab File ID: an02t03.d BFB Injection Date: 11/02/11
 Instrument ID: HP09685 BFB Injection Time: 14:16
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.31
75	30.0 - 60.0% of mass 95	50.02
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.97
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	85.43
175	5.0 - 9.0% of mass 174	6.26 (7.33)1
176	Greater than 95.0%, but less than 101.0% of mass 174	82.63 (96.73)1
177	5.0 - 9.0% of mass 176	5.60 (6.78)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	an02c03.d	11/02/11	14:47
02	VBLKA38	an02b04.d	11/02/11	15:56
03	LCSA38	an02l09.d	11/02/11	18:02
04	LCDA38	an02l10.d	11/02/11	18:27
05	6454507	an02s36.d	11/02/11	19:20
06	6454508	an02s37.d	11/02/11	19:43
07	6454509	an02s38.d	11/02/11	20:05
08	6454510	an02s39.d	11/02/11	20:28
09	6454511	an02s40.d	11/02/11	20:51
10	6454512	an02s41.d	11/02/11	21:13
11	6454513	an02s42.d	11/02/11	21:36
12	6454514	an02s43.d	11/02/11	21:58
13	6454515	an02s44.d	11/02/11	22:21
14	6454518	an02s45.d	11/02/11	22:44
15	6454519	an02s46.d	11/02/11	23:06
16	6454520	an02s47.d	11/02/11	23:29
17	6454521	an02s48.d	11/02/11	23:51
18	6451491	an02s50.d	11/03/11	00:36
19	6451494RE	an02s51.d	11/03/11	00:59
20	6451497RE	an02s52.d	11/03/11	01:21
21	6451500	an02s53.d	11/03/11	01:44
22	6451501RE	an02s54.d	11/03/11	02:07

65X83 6069

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/02/11 Time: 14:47
 Lab File ID: an02c03.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====
Dichlorodifluoromethane	0.4110	0.4225	51.40	50	3
# Chloromethane	0.3874	0.3819	49.30	50	-1 #
* Vinyl Chloride	0.3949	0.3516	44.51	50	-11 *
Bromomethane	0.2660	0.2478	46.58	50	-7
Chloroethane	0.2070	0.2085	50.35	50	1
Trichlorofluoromethane	0.4712	0.4913	52.13	50	4
Ethanol	0.1185	0.1173	2474.68	2500	-1
Freon 123a	0.3390	0.4274	63.04	50	26
Acrolein	1.8504	2.7075	731.59	500	46 NTC
* 1,1-Dichloroethene	0.2531	0.2417	47.74	50	-5 *
Dichlorofluoromethane	0.5504	0.4274	38.82	50	-22 NTC
Freon 113	0.2691	0.2674	49.68	50	-1
Acetone	0.0295	0.0286	96.86	100	-3
Methyl Iodide	0.4834	0.4565	47.22	50	-6
2-Propanol	0.7225	1.0957	379.16	250	52 NTC
Carbon Disulfide	0.8526	0.8409	49.31	50	-1
Allyl Chloride	0.3672	0.4105	55.89	50	12
Methyl Acetate	0.1971	0.2366	60.01	50	20
Methylene Chloride	0.3125	0.2880	46.07	50	-8
t-Butyl Alcohol	1.3104	1.4263	272.10	250	9
Acrylonitrile	0.1040	0.1053	50.61	50	1
trans-1,2-Dichloroethene	0.2928	0.2801	47.83	50	-4
Methyl Tertiary Butyl Ether	0.8414	0.7181	42.67	50	-15
n-Hexane	0.3825	0.4046	52.89	50	6
# 1,1-Dichloroethane	0.5059	0.5166	51.06	50	2 #
2-Chloro-1,3-Butadiene	0.4086	0.4217	51.60	50	3
di-Isopropyl Ether	0.8368	0.8979	53.65	50	7
Ethyl t-Butyl Ether	0.8574	0.5990	34.93	50	-30 NTC
cis-1,2-Dichloroethene	0.3264	0.3046	46.67	50	-7
1,2-Dichloroethene (total)	0.3096	0.2923	94.50	100	-6
2,2-Dichloropropane	0.4370	0.4083	46.71	50	-7
2-Butanone	0.1426	0.1594	111.78	100	12
Propionitrile	1.4327	2.3272	406.08	250	62 NTC
Methacrylonitrile	0.1362	0.1288	118.21	125	-5
Bromochloromethane	0.1615	0.1598	49.48	50	-1
Tetrahydrofuran	1.3454	1.9918	148.04	100	48 NTC

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

63863 8899

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/02/11 Time: 14:47
 Lab File ID: an02c03.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
* Chloroform	0.5165	0.5038	48.77	50	-2	*
1,1,1-Trichloroethane	0.5026	0.4635	46.11	50	-8	
Cyclohexane	0.4644	0.4796	51.63	50	3	
Cyclohexane(mz84)	0.4290	0.4103	47.82	50	-4	
Cyclohexane(mz69)	0.1509	0.1453	48.14	50	-4	
1,1-Dichloropropene	0.4021	0.3946	49.06	50	-2	
Carbon Tetrachloride	0.3945	0.3991	50.58	50	1	
Benzene	1.1791	1.1561	49.02	50	-2	
Isobutyl Alcohol	0.3996	0.6200	969.73	625	55	NTC
1,2-Dichloroethane	0.4148	0.4131	49.79	50	0	
1,2-Dichloroethane(mz98)	0.0373	0.0354	47.50	50	-5	NTC
t-Amyl Methyl Ether	0.7922	0.4837	30.53	50	-39	NTC
n-Heptane	0.3874	0.4590	59.24	50	18	
n-Butanol	0.3685	0.5182	1757.77	1250	41	NTC
Trichloroethene	0.3184	0.3003	47.15	50	-6	
Methylcyclohexane	0.5114	0.4929	48.19	50	-4	
* 1,2-Dichloropropane	0.3121	0.3131	50.16	50	0	*
Dibromomethane	0.2018	0.1910	47.33	50	-5	
1,4-Dioxane	0.1425	0.1860	815.55	625	30	NTC
Methyl Methacrylate	0.2318	0.2274	49.04	50	-2	
Bromodichloromethane	0.3832	0.3752	48.96	50	-2	
2-Nitropropane	2.4963	4.3684	139.30	100	39	NTC
cis-1,3-Dichloropropene	0.4751	0.4603	48.44	50	-3	
4-Methyl-2-Pentanone	0.3146	0.3637	115.61	100	16	
* Toluene	0.9748	1.0026	51.43	50	3	*
trans-1,3-Dichloropropene	0.5822	0.6080	52.21	50	4	
Ethyl Methacrylate	0.5060	0.5121	50.59	50	1	
1,1,2-Trichloroethane	0.3524	0.3567	50.61	50	1	
Tetrachloroethene	0.4370	0.4810	55.03	50	10	
1,3-Dichloropropane	0.6061	0.6448	53.19	50	6	
2-Hexanone	0.3022	0.3839	112.46	100	12	
Dibromochloromethane	0.3846	0.4255	55.31	50	11	
1,2-Dibromoethane	0.3638	0.3777	51.91	50	4	
# Chlorobenzene	1.1280	1.1817	52.38	50	5	#
1,1,1,2-Tetrachloroethane	0.3829	0.4170	54.45	50	9	
* Ethylbenzene	1.8321	1.9694	53.75	50	7	*

Minimum RRF for SPCC(=)0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(=)20%

GSX03 0100

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/02/11 Time: 14:47
 Lab File ID: an02c03.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====
m+p-Xylene	0.7232	0.7950	109.93	100	10
Xylene (Total)	0.7229	0.7856	163.01	150	9
o-Xylene	0.7223	0.7669	53.08	50	6
Styrene	1.1422	1.2569	55.02	50	10
# Bromoform	0.2758	0.3073	55.72	50	11 #
Isopropylbenzene	1.7926	1.9701	54.95	50	10
Cyclohexanone	0.4246	0.5778	850.53	625	36 NTC
Bromobenzene	0.8523	0.8701	51.04	50	2
# 1,1,2,2-Tetrachloroethane	0.8928	0.8492	47.56	50	-5 #
1,2,3-Trichloropropane	0.2792	0.2605	46.66	50	-7
trans-1,4-Dichloro-2-Butene	0.2714	0.2788	128.41	125	3
n-Propylbenzene	3.6752	3.7669	51.25	50	2
2-Chlorotoluene	0.8028	0.7992	49.78	50	0
1,3,5-Trimethylbenzene	2.6491	2.7655	52.20	50	4
4-Chlorotoluene	0.8303	0.8519	51.30	50	3
tert-Butylbenzene	0.6300	0.6555	52.02	50	4
Pentachloroethane	0.5238	0.6482	61.88	50	24 NTC
1,2,4-Trimethylbenzene	2.8366	2.9108	51.31	50	3
sec-Butylbenzene	3.3751	3.6313	53.80	50	8
1,3-Dichlorobenzene	1.6330	1.7128	52.44	50	5
p-Isopropyltoluene	3.0305	3.2850	54.20	50	8
1,4-Dichlorobenzene	1.6819	1.7395	51.71	50	3
1,2,3-Trimethylbenzene	2.8081	3.2557	57.97	50	16
Benzyl Chloride	0.4114	0.3976	48.32	50	-3
1,2-Dichlorobenzene	1.6067	1.6369	50.94	50	2
n-Butylbenzene	1.5719	1.6857	53.62	50	7
1,3-Diethylbenzene	1.7519	2.0723	59.14	50	18
1,4-Diethylbenzene	1.8399	2.1805	59.25	50	19
1,2-Diethylbenzene	1.5340	1.7884	58.29	50	17
1,2-Dibromo-3-Chloropropane	0.1877	0.1830	48.75	50	-2
1,3,5-Trichlorobenzene	1.3335	1.3673	51.27	50	3
1,2,4-Trichlorobenzene	1.2983	1.2225	47.08	50	-6
Hexachlorobutadiene	0.6827	0.7278	53.30	50	7
Naphthalene	3.3209	3.3009	49.70	50	-1
1,2,3-Trichlorobenzene	1.2343	1.2306	49.85	50	0
2-Methylnaphthalene	2.1595	3.0407	70.40	50	41 NTC

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) QSK83 6181
 Maximum %Drift for CCC(*)=20%

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/02/11 Time: 14:47
 Lab File ID: an02c03.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dibromofluoromethane	0.2428	0.2445	50.34	50	1
Dibromofluoromethane (mz111)	0.2484	0.2510	50.52	50	1
1,2-Dichloroethane-d4	0.0575	0.0583	50.72	50	1
1,2-Dichloroethane-d4 (mz65)	0.2834	0.2986	52.69	50	5
1,2-Dichloroethane-d4 (mz104)	0.0364	0.0373	51.27	50	3
Toluene-d8	1.2693	1.3650	53.77	50	8
Toluene-d8 (mz100)	0.8253	0.8883	53.82	50	8
4-Bromofluorobenzene	0.5117	0.5076	49.59	50	-1
4-Bromofluorobenzene (mz174)	0.4310	0.4657	54.02	50	8

Average %Drift 10

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

63K83 8182

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP09685.i/11aug05a.b/ag05i06.d
/chem2/HP09685.i/11aug05a.b/ag05i05.d
/chem2/HP09685.i/11aug05a.b/ag05i04.d
/chem2/HP09685.i/11aug05a.b/ag05i03.d
/chem2/HP09685.i/11aug05a.b/ag05i02.d
/chem2/HP09685.i/11aug05a.b/ag05i01.d

File /chem2/HP09685.i/11aug05a.b/ag05i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09685.i/11nov02c.b/an02c03.d

RT Summary

File ID:

=====

Internal Standard Name	an02c03.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	3.958	3.958	Yes
Fluorobenzene	7.413	7.413	Yes
Chlorobenzene-d5	10.954	10.954	Yes
1,4-Dichlorobenzene-d4	12.852	12.852	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	an02c03.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	148375	256942	128471	513884	Yes
Fluorobenzene	1530769	1477258	738629	2954516	Yes
Chlorobenzene-d5	1108695	1179094	589547	2358188	Yes
1,4-Dichlorobenzene-d4	698371	695398	347699	1390796	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

GSX03 0103

Comments: _____

report generated on 11/02/2011 at 15:13

GSXB3 6184

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03
 Lab File ID (Standard): ac31c01.d Date Analyzed: 10/31/11
 Instrument ID: HP09685 Time Analyzed: 11:22
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

		IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD		1007223	7.407	727800	10.954	439110	12.852	114504	3.952
UPPER LIMIT		2014446	7.907	1455600	11.454	878220	13.352	229008	4.452
LOWER LIMIT		503612	6.907	363900	10.454	219555	12.352	57252	3.452
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE									
ID									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
01	VBLKA35	945367	7.407	674205	10.954	383143	12.852		
02	LCSA35	975166	7.413	696231	10.954	417661	12.852		
03	LCDA35	1008710	7.413	726402	10.954	430788	12.852		
04	6451483	977150	7.407	656698	10.954	324375	12.852		
05	6451485	878982	7.407	517724	10.954	187690 *	12.852		
06	6451486	930454	7.413	642615	10.960	338541	12.852		
07	6451487	918129	7.413	630494	10.954	305449	12.852		
08	6451484	884706	7.413	591715	10.960	269323	12.852		
09	6451485RE	846173	7.407	526477	10.954	216673 *	12.852		
10	6451488	831735	7.413	566249	10.960	258257	12.852		
11	6451490	834445	7.413	516216	10.954	208547 *	12.852		
12	6451492	840327	7.407	571452	10.954	260689	12.852		
13	6451489	825181	7.407	569237	10.954	291123	12.852		
14	6451490RE	815691	7.407	518679	10.954	196642 *	12.852		
15	6451494	759756	7.407	483712	10.954	202013 *	12.852		
16	6451495	818152	7.413	591291	10.960	330127	12.852		
17	6451496	806775	7.413	579932	10.960	326762	12.852		
18	6451497	799362	7.407	526892	10.954	212347 *	12.852		
19	6451498	808867	7.407	576285	10.954	301776	12.852		
20	6451499	782862	7.407	539538	10.954	259828	12.852		
21	6451501	771292	7.407	478454	10.954	185458 *	12.852		
22	6452616	760814	7.413	541237	10.954	289525	12.852		

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

GSK03 0111

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03____
 Lab File ID (Standard): ac3lc01.d Date Analyzed: 10/31/11
 Instrument ID: HP09685 Time Analyzed: 11:22
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1007223	7.407	727800	10.954	439110	12.852	114504	3.952
UPPER LIMIT	2014446	7.907	1455600	11.454	878220	13.352	229008	4.452
LOWER LIMIT	503612	6.907	363900	10.454	219555	12.352	57252	3.452
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE								
ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
23 6452617	758221	7.413	587543	10.954	360557	12.852		

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03
 Lab File ID (Standard): an02c03.d Date Analyzed: 11/02/11
 Instrument ID: HP09685 Time Analyzed: 14:47
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1530769	7.413	1108695	10.954	698371	12.852	148375	3.958
UPPER LIMIT	3061538	7.913	2217390	11.454	1396742	13.352	296750	4.458
LOWER LIMIT	765384	6.913	554348	10.454	349186	12.352	74188	3.458
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
01 VBLKA38	1453040	7.413	1044542	10.954	610961	12.852	173544	3.946
02 LCSA38	1634806	7.407	1171641	10.954	705678	12.852	194933	3.946
03 LCDA38	1621073	7.413	1184820	10.954	718028	12.852	206172	3.951
04 6454507	1571880	7.401	1037640	10.954	432645	12.852		
05 6454508	1541733	7.413	1033555	10.954	459039	12.852		
06 6454509	1501324	7.407	995083	10.954	425127	12.852		
07 6454510	1508956	7.413	1067711	10.954	521262	12.852		
08 6454511	1495251	7.413	1055505	10.954	544357	12.852		
09 6454512	1453137	7.407	1011583	10.954	469939	12.852		
10 6454513	1399748	7.407	924748	10.954	372107	12.852		
11 6454514	1383324	7.413	990149	10.954	529999	12.852		
12 6454515	1381643	7.413	994470	10.954	549937	12.852		
13 6454518	1301971	7.413	825942	10.954	331468 *	12.852		Not in SD
14 6454519	1276197	7.413	886248	10.954	415931	12.852		
15 6454520	923835	7.407	647421	10.954	275724 *	12.852		Not in SD
16 6454521	1260448	7.407	873639	10.954	413159	12.852		
17 6451491	1270620	7.407	939761	10.960	538264	12.852		
18 6451494RE	1180597	7.413	758583	10.960	321268 *	12.852		
19 6451497RE	1225863	7.407	804705	10.954	322238 *	12.852		
20 6451500	1234896	7.413	866650	10.960	446391	12.852		
21 6451501RE	1234619	7.413	809176	10.954	319564 *	12.852		

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Reanalysis not reported.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

GSK03 8113



Quality Control Summary
 Surrogates
 GC/MS Volatiles
 SDG: GSK03
 Matrix: LIQUID

Fraction: Volatiles by GC/MS

Y113011AA Sample	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKY68	105	80 - 116	101	77 - 113	99	80 - 113	97	78 - 113
LCSY68	103	80 - 116	101	77 - 113	100	80 - 113	103	78 - 113
LCDY68	103	80 - 116	104	77 - 113	100	80 - 113	104	78 - 113
6451493	111	80 - 116	105	77 - 113	96	80 - 113	95	78 - 113
6451502	111	80 - 116	102	77 - 113	97	80 - 113	96	78 - 113

GSK03 0661



Quality Control Summary
 Method Blank
 GC/MS Volatiles
 SDG: GSK03
 Matrix: LIQUID

Fraction: Volatiles by GC/MS

Y113011AA / VBLKY68 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	10/28/11	N.D.	ug/l	2	5
Chloromethane	10/28/11	N.D.	ug/l	1	5
Vinyl Chloride	10/28/11	N.D.	ug/l	1	5
Bromomethane	10/28/11	N.D.	ug/l	1	5
Chloroethane	10/28/11	N.D.	ug/l	1	5
Freon 123a	10/28/11	N.D.	ug/l	2	5
Freon 113	10/28/11	N.D.	ug/l	2	10
Trichlorofluoromethane	10/28/11	N.D.	ug/l	2	5
1,1-Dichloroethene	10/28/11	N.D.	ug/l	0.8	5
Ethylbenzene	10/28/11	N.D.	ug/l	0.8	5
1,1,1,2-Tetrachloroethane	10/28/11	N.D.	ug/l	1	5
Methylene Chloride	10/28/11	N.D.	ug/l	2	5
Bromoform	10/28/11	N.D.	ug/l	1	5
1,1-Dichloroethane	10/28/11	N.D.	ug/l	1	5
1,1,2,2-Tetrachloroethane	10/28/11	N.D.	ug/l	1	5
Bromobenzene	10/28/11	N.D.	ug/l	1	5
1,2-Dichloroethene (Total)	10/28/11	N.D.	ug/l	0.8	5
1,2,3-Trichloropropane	10/28/11	N.D.	ug/l	1	5
Chloroform	10/28/11	N.D.	ug/l	0.8	5
2-Chlorotoluene	10/28/11	N.D.	ug/l	1	5
1,1,1-Trichloroethane	10/28/11	N.D.	ug/l	0.8	5
4-Chlorotoluene	10/28/11	N.D.	ug/l	1	5
Benzene	10/28/11	N.D.	ug/l	0.5	5
Carbon Tetrachloride	10/28/11	N.D.	ug/l	1	5
1,2-Dichloroethane	10/28/11	N.D.	ug/l	1	5
Trichloroethene	10/28/11	N.D.	ug/l	1	5
1,2-Dichloropropane	10/28/11	N.D.	ug/l	1	5
Dibromomethane	10/28/11	N.D.	ug/l	1	5
Bromodichloromethane	10/28/11	N.D.	ug/l	1	5
1,3-Dichlorobenzene	10/28/11	N.D.	ug/l	1	5
cis-1,3-Dichloropropene	10/28/11	N.D.	ug/l	1	5
1,4-Dichlorobenzene	10/28/11	N.D.	ug/l	1	5
Toluene	10/28/11	N.D.	ug/l	0.7	5
trans-1,3-Dichloropropene	10/28/11	N.D.	ug/l	1	5
Benzyl Chloride	10/28/11	N.D.	ug/l	1	5
1,2-Dichlorobenzene	10/28/11	N.D.	ug/l	1	5
1,1,2-Trichloroethane	10/28/11	N.D.	ug/l	0.8	5
Tetrachloroethene	10/28/11	N.D.	ug/l	0.8	5
Dibromochloromethane	10/28/11	N.D.	ug/l	1	5
Chlorobenzene	10/28/11	N.D.	ug/l	0.8	5
Xylene (Total)	10/28/11	N.D.	ug/l	0.8	5

GSK03 0059



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate (LCSD)

SDG: GSK03
Matrix: LIQUID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSY68 LCSD: LCDY68		Batch: Y113011AA (Sample number(s): 6451493, 6451502)						
Analyte	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	18.17	17.36	91	87	47-120	5	30
Chloromethane	20	18.5	18.14	93	91	60-129	2	30
Vinyl Chloride	20	18.55	18.04	93	90	65-125	3	30
Bromomethane	20	16.24	15.71	81	79	44-120	3	30
Chloroethane	20	14.92	14.24	75	71	49-129	5	30
Freon 123a	20	18.99	17.76	95	89	63-125	7	30
Freon 113	20	20.7	19.79	104	99	69-128	5	30
Trichlorofluoromethane	20	21.52	20.22	108	101	64-129	6	30
1,1-Dichloroethene	20	19.07	18.41	95	92	74-123	4	30
1,1,1,2-Tetrachloroethane	20	19.67	19.26	98	96	80-120	2	30
Ethylbenzene	20	19.29	18.84	96	94	79-120	2	30
Methylene Chloride	20	19.38	18.94	97	95	80-120	2	30
1,1-Dichloroethane	20	19.52	19.02	98	95	79-120	3	30
Bromoform	20	20.13	19.86	101	99	61-120	1	30
1,1,2,2-Tetrachloroethane	20	20.43	20.23	102	101	71-120	1	30
Bromobenzene	20	18.98	18.44	95	92	80-120	3	30
1,2-Dichloroethene (Total)	40	36.6	36.15	91	90	80-120	1	30
1,2,3-Trichloropropane	20	22.46	22.64	112	113	80-120	1	30
2-Chlorotoluene	20	19.12	18.92	96	95	80-120	1	30
Chloroform	20	20.13	19.83	101	99	77-122	1	30
1,1,1-Trichloroethane	20	20.4	20.12	102	101	75-127	1	30
4-Chlorotoluene	20	19.29	18.66	96	93	80-120	3	30
1,2-Dichloroethane	20	22.26	21.78	111	109	70-130	2	30
Benzene	20	18.89	18.35	94	92	79-120	3	30
Carbon Tetrachloride	20	21.4	20.51	107	103	75-123	4	30
Trichloroethene	20	19.45	19.18	97	96	80-120	1	30
1,2-Dichloropropane	20	19	18.52	95	93	78-120	3	30
Dibromomethane	20	20.2	19.95	101	100	80-120	1	30
1,3-Dichlorobenzene	20	19.24	18.64	96	93	80-120	3	30
Bromodichloromethane	20	20.02	19.65	100	98	80-120	2	30
cis-1,3-Dichloropropene	20	18.93	18.85	95	94	80-120	0	30
1,4-Dichlorobenzene	20	19.23	18.9	96	95	80-120	2	30
Toluene	20	18.7	18.12	94	91	79-120	3	30
trans-1,3-Dichloropropene	20	19.66	19.44	98	97	79-120	1	30
1,1,2-Trichloroethane	20	19.3	19.33	96	97	80-120	0	30
1,2-Dichlorobenzene	20	19.55	18.93	98	95	80-120	3	30
Benzyl Chloride	20	20.89	20.94	104	105	69-120	0	30
Tetrachloroethene	20	19.68	19.35	98	97	80-121	2	30
Dibromochloromethane	20	19.58	19.03	98	95	80-120	3	30
Chlorobenzene	20	19.25	18.74	96	94	80-120	3	30
Xylene (Total)	60	56.66	55.42	94	92	80-120	2	30

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03____
Lab File ID: ys27t05.d BFB Injection Date: 09/27/11
Instrument ID: HP09355 BFB Injection Time: 15:00
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.86
75	30.0 - 60.0% of mass 95	46.48
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.73
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.77
175	5.0 - 9.0% of mass 174	6.28 (7.50)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.42 (97.20)1
177	5.0 - 9.0% of mass 176	5.29 (6.50)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	ys27i01.d	09/27/11	15:19
02	VSTD100	ys27i02.d	09/27/11	15:40
03	VSTD50	ys27i03.d	09/27/11	16:01
04	VSTD20	ys27i04.d	09/27/11	16:21
05	VSTD10	ys27i05.d	09/27/11	16:42
06	VSTD4	ys27i06.d	09/27/11	17:13
07	MDL001 - MDL001	ys27m01.d	09/27/11	17:33
08	VBLKY22	ys27b01.d	09/27/11	17:54
09	LCSY22	ys27l01.d	09/27/11	18:23
10	6416425	ys27s01.d	09/27/11	19:06
11	6416425MS	ys27s02.d	09/27/11	19:27
12	6416425MSD	ys27s03.d	09/27/11	19:48
13	6416426	ys27s04.d	09/27/11	20:08
14	6416427	ys27s05.d	09/27/11	20:29
15	6416427DL2	ys27s25.d	09/27/11	21:10
16	6416427DL	ys27s28.d	09/27/11	21:52
17	6416429	ys27s27.d	09/27/11	22:33
18	6416430	ys27s07.d	09/27/11	22:53
19	6416433	ys27s08.d	09/27/11	23:14
20	6416433DL	ys27s09.d	09/27/11	23:34
21	6416432DL	ys27s10.d	09/27/11	23:55
22	6416428	ys27s12.d	09/28/11	00:36

GSK03 0078

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03____
 Lab File ID: ys27t05.d BFB Injection Date: 09/27/11
 Instrument ID: HP09355 BFB Injection Time: 15:00
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.86
75	30.0 - 60.0% of mass 95	46.48
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.73
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.77
175	5.0 - 9.0% of mass 174	6.28 (7.50)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.42 (97.20)1
177	5.0 - 9.0% of mass 176	5.29 (6.50)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6416428DL	ys27s13.d	09/28/11	00:57
24	6416431	ys27s14.d	09/28/11	01:18
25	6416431DL	ys27s15.d	09/28/11	01:38
26	6415940	ys27s16.d	09/28/11	01:59
27	6415937	ys27s17.d	09/28/11	02:20
28	6415937DL	ys27s18.d	09/28/11	02:41

GSK03 0071

5A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09355 Calibration Date(s): 09/27/11 09/27/11
Heated Purge: (Y/N) Y Calibration Times: 15:19 17:13
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID:	RRF 4 = ys27i06.d	RRF 10= ys27i05.d	RRF 20= ys27i04.d	RRF 50= ys27i03.d	RRF100= ys27i02.d	RRF300= ys27i01.d	RRF =			
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.4848	0.4759	0.4492	0.4372	0.4315	0.3886		0.4445	8	AVG
Chloromethane	#0.5003	0.4566	0.4450	0.4480	0.4351	0.3695		0.4424	10	AVG
Vinyl Chloride	*0.4715	0.4400	0.4325	0.4337	0.4212	0.3655		0.4274	8	AVG
1,3-Butadiene	0.3671	0.2985	0.2813	0.2727	0.2686			0.2976	14	AVG
Bromomethane	0.3046	0.2860	0.2776	0.2742	0.2551	0.2249		0.2704	10	AVG
Chloroethane	0.2595	0.2411	0.2365	0.2290	0.2107	0.1741		0.2251	13	AVG
Dichlorofluoromethane	0.6078	0.5624	0.5544	0.5640	0.5234	0.4706		0.5471	8	AVG
Trichlorofluoromethane	0.5070	0.4784	0.4671	0.4558	0.4445	0.4175		0.4617	7	AVG
Ethyl Ether	0.2933	0.2848	0.2733	0.2745	0.2542	0.2300		0.2684	9	AVG
Freon 123a	0.3759	0.3468	0.3491	0.3522	0.3298	0.2846		0.3397	9	AVG
Acrolein	1.5699	2.1961	2.0952	1.9939	2.0923	2.0666		2.0023	11	AVG
1,1-Dichloroethene	*0.2615	0.2555	0.2586	0.2621	0.2537	0.2366		0.2547	4	AVG
Freon 113	0.2652	0.2546	0.2606	0.2615	0.2652	0.2535		0.2601	2	AVG
Acetone	0.0501	0.0465	0.0415	0.0388	0.0372	0.0350		0.0415	14	AVG
Methyl Iodide	0.4774	0.4721	0.4759	0.4795	0.4647	0.4474		0.4695	3	AVG
2-Propanol	0.4759	0.6344	0.6280	0.6920	0.6067	0.6632		0.6167	12	AVG
Carbon Disulfide	0.7851	0.7733	0.8138	0.8397	0.8158	0.7686		0.7994	4	AVG
Allyl Chloride	0.4929	0.4197	0.4144	0.4405	0.4169	0.3641		0.4247	10	AVG
Methyl Acetate	0.3706	0.3389	0.3120	0.3095	0.3212	0.2655		0.3196	11	AVG
Methylene Chloride	0.3406	0.3256	0.3196	0.3227	0.3101	0.2758		0.3157	7	AVG
t-Butyl Alcohol	0.7730	1.0684	1.0413	1.0790	0.9245	1.0438		0.9883	12	AVG
Acrylonitrile	0.2017	0.1996	0.1896	0.1845	0.1739	0.1739		0.1872	6	AVG
trans-1,2-Dichloroethene	0.3103	0.3075	0.3068	0.3128	0.2987	0.2896		0.3043	3	AVG
Methyl Tertiary Butyl Ether	1.0398	1.0171	1.0023	1.0135	0.9765	0.9429		0.9987	3	AVG
n-Hexane	0.5097	0.4736	0.5055	0.4810	0.4965	0.4836		0.4916	3	AVG
1,2-Dichloroethene (total)	0.3255	0.3224	0.3219	0.3258	0.3133	0.3052		0.3190	3	AVG
1,1-Dichloroethane	#0.5818	0.5711	0.5812	0.5854	0.5614	0.5449		0.5710	3	AVG
di-Isopropyl Ether	1.1454	1.1145	1.1111	1.1087	1.0639	1.0149		1.0931	4	AVG
2-Chloro-1,3-Butadiene	0.4749	0.4638	0.4840	0.5010	0.4803	0.4677		0.4786	3	AVG
Ethyl t-Butyl Ether	1.0905	1.0745	1.0626	1.0751	1.0322	0.9899		1.0541	4	AVG
cis-1,2-Dichloroethene	0.3406	0.3372	0.3369	0.3389	0.3279	0.3208		0.3337	2	AVG
2-Butanone	0.2414	0.2440	0.2247	0.2227	0.2149	0.2190		0.2278	5	AVG
2,2-Dichloropropane	0.3959	0.3973	0.4147	0.4266	0.4173	0.4121		0.4106	3	AVG
Propionitrile	1.4227	1.8339	1.8154	1.8144	1.8587	2.0471		1.7987	11	AVG
Methacrylonitrile	0.1936	0.1836	0.1826	0.1835	0.1783	0.1814		0.1838	3	AVG
Bromochloromethane	0.1620	0.1665	0.1650	0.1669	0.1603	0.1571		0.1630	2	AVG
Tetrahydrofuran	1.1799	1.6312	1.5676	1.5500	1.6105	1.8188		1.5597	13	AVG
Chloroform	*0.5181	0.5071	0.5108	0.5175	0.5006	0.4965		0.5084	2	AVG
1,1,1-Trichloroethane	0.5493	0.4801	0.4906	0.4694	0.4608	0.4636		0.4856	7	AVG
Cyclohexane	0.6039	0.5743	0.5864	0.5812	0.5953	0.5801		0.5869	2	AVG
Cyclohexane(mz 84)	0.4862	0.4626	0.4803	0.4725	0.4788	0.4724		0.4755	2	AVG
Cyclohexane(mz 69)	0.1761	0.1695	0.1787	0.1744	0.1792	0.1756		0.1756	2	AVG
1,1-Dichloropropene	0.4269	0.4227	0.4280	0.4398	0.4308	0.4253		0.4289	1	AVG
Carbon Tetrachloride	0.3106	0.3216	0.3365	0.3553	0.3562	0.3658		0.3410	6	AVG
Isobutyl Alcohol	0.3088	0.3952	0.3834	0.3991	0.3775	0.4252		0.3815	10	AVG
Benzene	1.3194	1.2929	1.3119	1.3250	1.2845	1.2618		1.2993	2	AVG
1,2-Dichloroethane	0.4187	0.4246	0.4158	0.4233	0.4143	0.4202		0.4195	1	AVG
1,2-Dichloroethane(mz 98)	0.0379	0.0390	0.0402	0.0399	0.0399	0.0409		0.0397	3	AVG
t-Amyl Methyl Ether	0.9808	0.9696	0.9694	0.9875	0.9808	0.9560		0.9740	1	AVG
n-Heptane	0.5888	0.5168	0.5528	0.5103	0.5503	0.5345		0.5422	5	AVG
n-Butanol	0.2544	0.3422	0.3455	0.3789	0.3663	0.4014		0.3481	15	AVG
Trichloroethene	0.3127	0.3104	0.3175	0.3212	0.3145	0.3180		0.3157	1	AVG

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

65X83-8883

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09355 Calibration Date(s): 09/27/11 09/27/11
Heated Purge: (Y/N) Y Calibration Times: 15:19 17:13
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID:	RRF 4 = ys27i06.d	RRF 10= ys27i05.d	RRF 20= ys27i04.d	RRF 50= ys27i03.d	RRF100= ys27i02.d	RRF300= ys27i01.d	RRF =	RRF	% RSD	CAL. METHOD
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,2-Dichloropropane	0.3418	0.3409	0.3506	0.3560	0.3499	0.3464		0.3476	2	AVG
Methylcyclohexane(mz98)	0.2748	0.2658	0.2608	0.2624	0.2620	0.2601		0.2643	2	AVG
Methylcyclohexane	0.6364	0.6088	0.6022	0.5966	0.5955	0.5812		0.6035	3	AVG
Methyl Methacrylate	0.2721	0.2767	0.2787	0.2949	0.2944	0.3131		0.2883	5	AVG
Dibromomethane	0.1961	0.1960	0.1957	0.2015	0.1986	0.2059		0.1990	2	AVG
1,4-Dioxane	0.0929	0.1259	0.1214	0.1314	0.1293	0.1427		0.1239	14	AVG
Bromodichloromethane	0.3284	0.3338	0.3493	0.3724	0.3812	0.4013		0.3611	8	AVG
2-Nitropropane	0.0918	0.0972	0.0978	0.1019	0.1054	0.1118		0.1010	7	AVG
2-Chloroethyl Vinyl Ether	0.1885	0.1939	0.1992	0.2096	0.2014	0.2030		0.1993	4	AVG
cis-1,3-Dichloropropene	0.4261	0.4626	0.4844	0.5164	0.5161	0.5357		0.4902	8	AVG
4-Methyl-2-Pentanone	0.4603	0.4847	0.4717	0.4847	0.4944	0.4731		0.4781	3	AVG
Toluene	1.1736	1.1173	1.1533	1.1751	1.1344	1.1255		1.1465	2	AVG
trans-1,3-Dichloropropene	0.5366	0.5791	0.6147	0.6603	0.6667	0.6964		0.6256	10	AVG
Ethyl Methacrylate	0.6174	0.6497	0.6706	0.7171	0.7127	0.7267		0.6824	6	AVG
1,1,2-Trichloroethane	0.4133	0.4137	0.4087	0.4205	0.4116	0.4182		0.4143	1	AVG
Tetrachloroethene	0.4700	0.4600	0.4791	0.4833	0.4781	0.4864		0.4762	2	AVG
1,3-Dichloropropane	0.7285	0.7221	0.7305	0.7414	0.7308	0.7418		0.7325	1	AVG
2-Hexanone	0.4663	0.4925	0.4808	0.5023	0.5215	0.4822		0.4909	4	AVG
Dibromochloromethane	0.3207	0.3447	0.3711	0.4085	0.4202	0.4491		0.3857	13	AVG
1,2-Dibromoethane	0.4179	0.4181	0.4147	0.4341	0.4282	0.4434		0.4261	3	AVG
Chlorobenzene	1.2591	1.2386	1.2703	1.2801	1.2508	1.2482		1.2579	1	AVG
1,1,1,2-Tetrachloroethane	0.3644	0.3772	0.3936	0.4226	0.4183	0.4262		0.4004	6	AVG
Ethylbenzene	2.1223	2.1078	2.1890	2.2335	2.1877	2.0776		2.1530	3	AVG
m+p-Xylene	0.8403	0.8364	0.8686	0.8829	0.8736	0.8384		0.8567	2	AVG
Xylene (Total)	0.8400	0.8402	0.8675	0.8856	0.8745	0.8419		0.8583	2	AVG
o-Xylene	0.8394	0.8479	0.8653	0.8909	0.8765	0.8490		0.8615	2	AVG
Styrene	1.2497	1.2970	1.3854	1.4475	1.4281	1.4011		1.3681	6	AVG
Bromoform	0.2042	0.2222	0.2448	0.2837	0.2994			0.2509	16	1STDEG
Isopropylbenzene	2.1793	2.1669	2.2385	2.2707	2.2471	2.0128		2.1859	4	AVG
Cyclohexanone	0.3052	0.4398	0.4305	0.4549	0.4700	0.5263		0.4378	17	1STDEG
1,1,2,2-Tetrachloroethane	1.1182	1.1304	1.1278	1.1531	1.0995	1.0884		1.1195	2	AVG
trans-1,4-Dichloro-2-Butene	0.3194	0.3149	0.3313	0.3386	0.3330	0.3377		0.3292	3	AVG
Bromobenzene	0.8970	0.8930	0.9241	0.9130	0.8896	0.8978		0.9024	1	AVG
1,2,3-Trichloropropane	0.3292	0.3241	0.3195	0.3240	0.3116	0.3136		0.3203	2	AVG
n-Propylbenzene	4.3719	4.3645	4.6155	4.5041	4.3404			4.4393	3	AVG
2-Chlorotoluene	0.8834	0.8894	0.8996	0.9113	0.8903	0.8718		0.8910	2	AVG
1,3,5-Trimethylbenzene	3.0708	3.0894	3.3042	3.2994	3.2204	2.8182		3.1337	6	AVG
4-Chlorotoluene	0.9303	0.9003	0.9442	0.9497	0.9222	0.8988		0.9243	2	AVG
tert-Butylbenzene	0.6772	0.6876	0.7297	0.7467	0.7401	0.7097		0.7152	4	AVG
Pentachloroethane	0.4531	0.4995	0.5348	0.5814	0.5622	0.5732		0.5340	9	AVG
1,2,4-Trimethylbenzene	3.1978	3.2498	3.3944	3.3976	3.3001	2.8949		3.2391	6	AVG
sec-Butylbenzene	3.9281	3.9485	4.2368	4.1431	4.1210	3.2970		3.9457	9	AVG
p-Isopropyltoluene	3.4371	3.4918	3.6873	3.6721	3.6279	3.0466		3.4938	7	AVG
1,3-Dichlorobenzene	1.8059	1.8061	1.8384	1.8409	1.7935	1.7361		1.8035	2	AVG
1,4-Dichlorobenzene	1.8823	1.8823	1.9026	1.9066	1.8576	1.7919		1.8706	2	AVG
1,2,3-Trimethylbenzene	3.3907	3.4800	3.5317	3.5606	3.3143	2.8021		3.3466	8	AVG
Benzyl Chloride	1.6603	1.8718	2.0304	2.2836	2.2946	2.2441		2.0642	13	AVG
1,3-Diethylbenzene	2.1021	2.1416	2.1906	2.2052	2.0955	1.8890		2.1040	5	AVG
1,4-Diethylbenzene	2.2690	2.2806	2.3160	2.3519	2.2441	1.9549		2.2360	6	AVG
n-Butylbenzene	1.8229	1.8073	1.9127	1.8593	1.8546	1.6208		1.8129	6	AVG
1,2-Dichlorobenzene	1.7991	1.8082	1.8265	1.8583	1.8327	1.6731		1.7997	4	AVG
1,2-Diethylbenzene	1.8742	1.8531	1.8874	1.9056	1.8139	1.6352		1.8282	5	AVG

Minimum RRF for SPCC(8) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

63863 6884

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09355 Calibration Date(s): 09/27/11 09/27/11
Heated Purge: (Y/N) Y Calibration Times: 15:19 17:13
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID: RRF 4 = ys27i06.d RRF 10= ys27i05.d RRF 20= ys27i04.d
RRF 50= ys27i03.d RRF100= ys27i02.d RRF300= ys27i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,2-Dibromo-3-Chloropropane	0.2130	0.2184	0.2278	0.2471	0.2451	0.2465		0.2330	7	AVG
1,3,5-Trichlorobenzene	1.4749	1.4627	1.4776	1.4595	1.4526	1.3363		1.4439	4	AVG
1,2,4-Trichlorobenzene	1.3648	1.3727	1.3986	1.3799	1.3605	1.2228		1.3499	5	AVG
Hexachlorobutadiene	0.6315	0.6252	0.6592	0.6349	0.6611	0.5824		0.6324	5	AVG
Naphthalene	4.1788	4.2600	4.2757	4.3813	4.1892			4.2570	2	AVG
1,2,3-Trichlorobenzene	1.3813	1.3637	1.3649	1.3759	1.3425	1.1810		1.3349	6	AVG
2-Methylnaphthalene	2.4112	2.6066	2.6365	2.7599	2.5297	1.9710		2.4858	11	AVG
Dibromofluoromethane	0.2240	0.2235	0.2232	0.2224	0.2201	0.2210		0.2224	1	AVG
Dibromofluoromethane(mz111)	0.2263	0.2282	0.2283	0.2265	0.2267	0.2261		0.2270	0	AVG
1,2-Dichloroethane-d4	0.0602	0.0615	0.0603	0.0616	0.0616	0.0592		0.0607	2	AVG
1,2-Dichloroethane-d4(mz104)	0.0386	0.0392	0.0379	0.0386	0.0380	0.0380		0.0384	1	AVG
Toluene-d8(mz100)	0.9109	0.9119	0.9093	0.9163	0.9331	0.9605		0.9237	2	AVG
1,2-Dichloroethane-d4(mz65)	0.2802	0.2821	0.2799	0.2879	0.2920	0.2816		0.2839	2	AVG
4-Bromofluorobenzene(mz174)	0.4200	0.4191	0.4138	0.4152	0.4148	0.4126		0.4159	1	AVG
Toluene-d8	1.4000	1.3984	1.4031	1.4017	1.3957	1.3864		1.3975	0	AVG
4-Bromofluorobenzene	0.5083	0.5104	0.5039	0.5006	0.5016	0.4997		0.5041	1	AVG

Average %RSD 5

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

68883 8885

118 Cyclohexanone

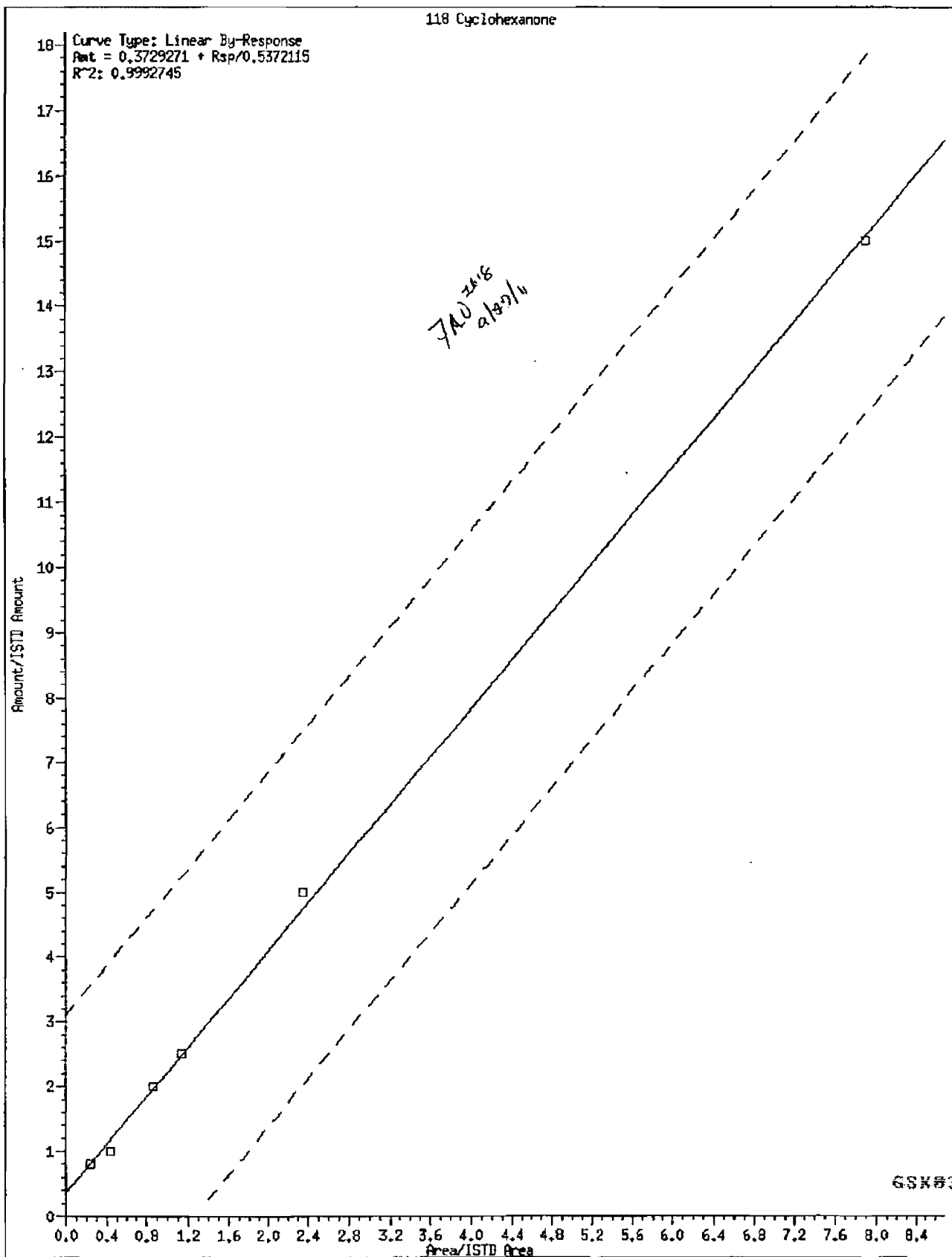
Curve Type: Linear By-Response
 Int = 0.5729271 + Rsp/0.5372115
 R²: 0.9992745

7AD 3418
 2/15/14

Amount/ISTD Amount

GSX83 8886

Area/ISTD Area



115 Bromoform

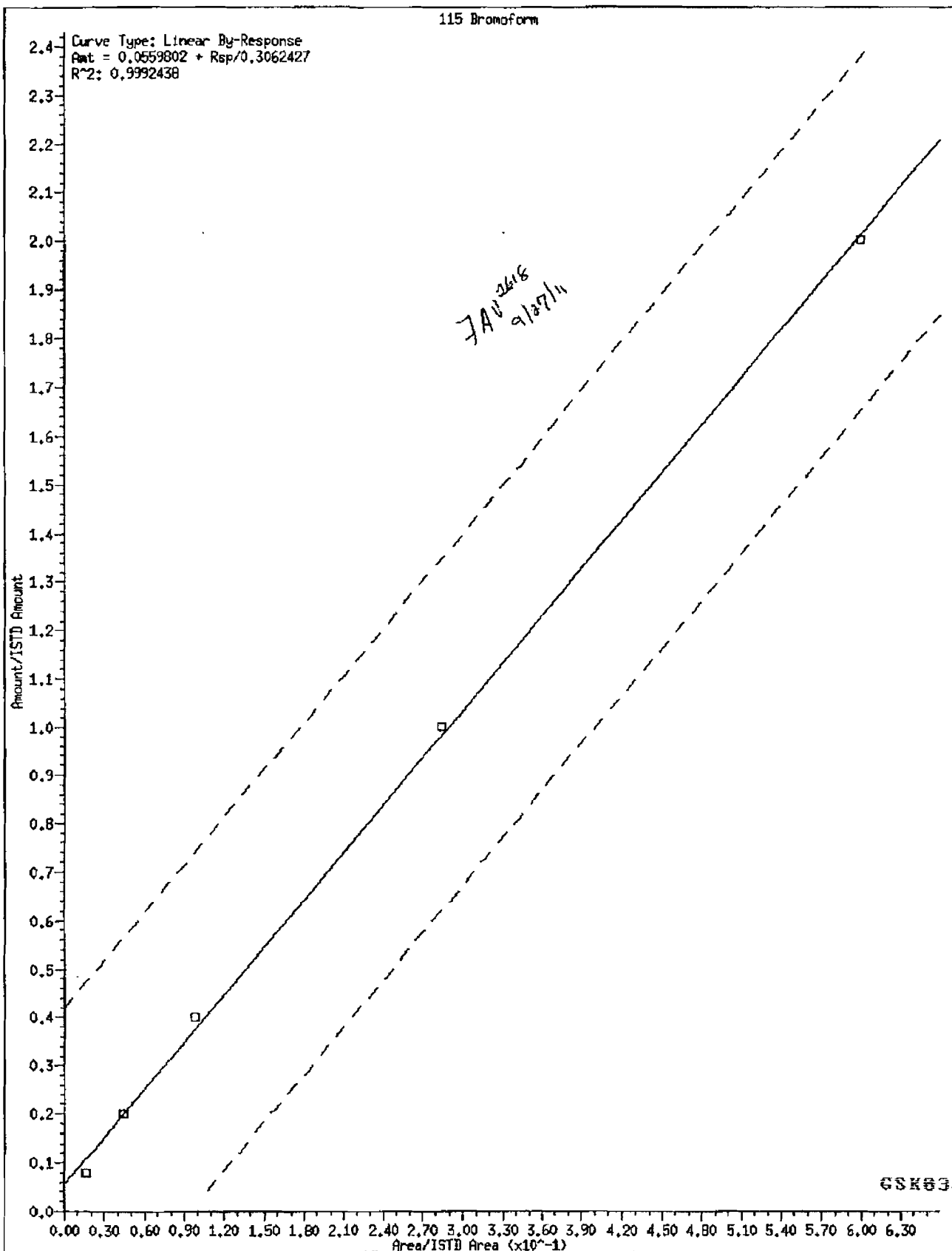
Curve Type: Linear By-Response
 Amt = 0.0559802 + Rsp/0.3062427
 R²: 0.9992438

7A02418
 9/27/11

6SK63 6667

Amount/ISTD Amount

Area/ISTD Area (x10⁻¹)



Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP09355.i/11sep27c.b/ys27i01.d VSTD300
/chem2/HP09355.i/11sep27c.b/ys27i02.d VSTD100
/chem2/HP09355.i/11sep27c.b/ys27i03.d VSTD050
/chem2/HP09355.i/11sep27c.b/ys27i04.d VSTD020
/chem2/HP09355.i/11sep27c.b/ys27i05.d VSTD010
/chem2/HP09355.i/11sep27c.b/ys27i06.d VSTD004

Area Summary

File ID:

=====

Internal Standard Name	ys27i01.d	ys27i02.d	ys27i03.d	ys27i04.d	ys27i05.d	ys27i06.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	199673	219419	229779	233385	228536	300813	235268	15	Yes
Fluorobenzene	1206126	1215150	1185917	1214781	1174727	1132044	1188124	3	Yes
Chlorobenzene-d5	871442	860134	834610	853105	822003	787075	818062	4	Yes
1,4-Dichlorobenzene-d4	534501	520367	496993	498246	483668	472258	501005	5	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

=====

Internal Standard Name	ys27i01.d	ys27i02.d	ys27i03.d	ys27i04.d	ys27i05.d	ys27i06.d	Avg. RT
t-Butyl Alcohol-d10	2.133	2.139	2.145	2.127	2.151	2.145	2.140
Fluorobenzene	4.268	4.269	4.269	4.262	4.262	4.262	4.265
Chlorobenzene-d5	7.450	7.450	7.444	7.444	7.444	7.444	7.446
1,4-Dichlorobenzene-d4	9.446	9.440	9.440	9.439	9.440	9.440	9.441

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 09/27/2011 at 17:44.

GSK03 0000

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 09/27/11 Time: 18:23
 Lab File ID: ys27101.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4445	0.3825	17.21	20	-14
# Chloromethane	0.4424	0.4250	19.21	20	-4 #
* Vinyl Chloride	0.4274	0.4180	19.56	20	-2 *
1,3-Butadiene	0.2976	0.2712	18.22	20	-9
Bromomethane	0.2704	0.2553	18.88	20	-6
Chloroethane	0.2251	0.2088	18.55	20	-7
Dichlorofluoromethane	0.5471	0.5016	18.34	20	-8
Trichlorofluoromethane	0.4617	0.4599	19.92	20	0
Ethyl Ether	0.2684	0.2222	16.56	20	-17
Freon 123a	0.3397	0.3277	19.29	20	-4
Acrolein	2.0023	2.0445	153.16	150	2
* 1,1-Dichloroethene	0.2547	0.2736	21.48	20	7 *
Freon 113	0.2601	0.2837	21.82	20	9
Acetone	0.0415	0.0369	133.41	150	-11
Methyl Iodide	0.4695	0.4919	20.95	20	5
2-Propanol	0.6167	0.6333	154.05	150	3
Carbon Disulfide	0.7994	0.8061	20.17	20	1
Allyl Chloride	0.4247	0.4190	19.73	20	-1
Methyl Acetate	0.3196	0.3498	21.89	20	9
Methylene Chloride	0.3157	0.3400	21.54	20	8
t-Butyl Alcohol	0.9883	1.0934	221.27	200	11
Acrylonitrile	0.1872	0.1752	93.61	100	-6
trans-1,2-Dichloroethene	0.3043	0.3234	21.26	20	6
Methyl Tertiary Butyl Ether	0.9987	1.0510	21.05	20	5
n-Hexane	0.4916	0.5137	20.90	20	4
1,2-Dichloroethene (total)	0.3190	0.3365	42.20	40	6
# 1,1-Dichloroethane	0.5710	0.5957	20.87	20	4 #
di-Isopropyl Ether	1.0931	1.1359	20.78	20	4
2-Chloro-1,3-Butadiene	0.4786	0.5186	21.67	20	8
Ethyl t-Butyl Ether	1.0541	1.1018	20.90	20	5
cis-1,2-Dichloroethene	0.3337	0.3495	20.95	20	5
2-Butanone	0.2278	0.2212	145.67	150	-3
2,2-Dichloropropane	0.4106	0.4220	20.55	20	3
Propionitrile	1.7987	1.9764	164.82	150	10
Methacrylonitrile	0.1838	0.1887	153.94	150	3
Bromochloromethane	0.1630	0.1677	20.58	20	3

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSW03 0089

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 09/27/11 Time: 18:23
 Lab File ID: ys27101.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Tetrahydrofuran	1.5597	1.7285	110.82	100	11
* Chloroform	0.5084	0.5274	20.75	20	4 *
1,1,1-Trichloroethane	0.4856	0.5021	20.68	20	3
Cyclohexane	0.5869	0.6311	21.51	20	8
1,1-Dichloropropene	0.4289	0.4518	21.07	20	5
Carbon Tetrachloride	0.3410	0.3510	20.59	20	3
Isobutyl Alcohol	0.3815	0.3996	523.69	500	5
Benzene	1.2993	1.3768	21.19	20	6
1,2-Dichloroethane	0.4195	0.4278	20.40	20	2
t-Amyl Methyl Ether	0.9740	1.0062	20.66	20	3
n-Heptane	0.5422	0.5368	19.80	20	-1
n-Butanol	0.3481	0.3624	1041.06	1000	4
Trichloroethene	0.3157	0.3258	20.64	20	3
* 1,2-Dichloropropane	0.3476	0.3546	20.41	20	2 *
Methylcyclohexane	0.6035	0.6273	20.79	20	4
Methyl Methacrylate	0.2883	0.3001	20.82	20	4
Dibromomethane	0.1990	0.2038	20.49	20	2
1,4-Dioxane	0.1239	0.1333	537.74	500	8
Bromodichloromethane	0.3611	0.3564	19.74	20	-1
2-Nitropropane	0.1010	0.0897	17.77	20	-11
2-Chloroethyl Vinyl Ether	0.1993	0.1934	19.41	20	-3
cis-1,3-Dichloropropene	0.4902	0.4836	19.73	20	-1
4-Methyl-2-Pentanone	0.4781	0.4776	99.89	100	0
* Toluene	1.1465	1.1955	20.85	20	4 *
trans-1,3-Dichloropropene	0.6256	0.6136	19.62	20	-2
Ethyl Methacrylate	0.6824	0.7564	22.17	20	11
1,1,2-Trichloroethane	0.4143	0.4284	20.68	20	3
Tetrachloroethene	0.4762	0.4992	20.97	20	5
1,3-Dichloropropane	0.7325	0.7526	20.55	20	3
2-Hexanone	0.4909	0.5001	101.87	100	2
Dibromochloromethane	0.3857	0.3708	19.23	20	-4
1,2-Dibromoethane	0.4261	0.4374	20.53	20	3
# Chlorobenzene	1.2579	1.3057	20.76	20	4 #
1,1,1,2-Tetrachloroethane	0.4004	0.4079	20.37	20	2
* Ethylbenzene	2.1530	2.2453	20.86	20	4 *
m+p-Xylene	0.8567	0.8953	41.80	40	5

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK63 8858
 Maximum %Drift for CCC(*)=20%

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 09/27/11 Time: 18:23
 Lab File ID: ys27101.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Xylene (Total)	0.8583	0.6274	62.66	60	4
o-Xylene	0.8615	0.8985	20.86	20	4
Styrene	1.3681	1.4263	20.85	20	4
# Bromoform	0.2509	0.2453	18.82	20	-6 #
Isopropylbenzene	2.1859	2.3150	21.18	20	6
Cyclohexanone	0.4378	0.4269	490.55	500	-2
# 1,1,2,2-Tetrachloroethane	1.1195	1.1184	19.98	20	0 #
trans-1,4-Dichloro-2-Butene	0.3292	0.3425	104.05	100	4
Bromobenzene	0.9024	0.9395	20.82	20	4
1,2,3-Trichloropropane	0.3203	0.3295	20.57	20	3
n-Propylbenzene	4.4393	4.6060	20.75	20	4
2-Chlorotoluene	0.8910	0.9089	20.40	20	2
1,3,5-Trimethylbenzene	3.1337	3.3407	21.32	20	7
4-Chlorotoluene	0.9243	0.9515	20.59	20	3
tert-Butylbenzene	0.7152	0.7404	20.70	20	4
Pentachloroethane	0.5340	0.5281	19.78	20	-1
1,2,4-Trimethylbenzene	3.2391	3.4399	21.24	20	6
sec-Butylbenzene	3.9457	4.2276	21.43	20	7
p-Isopropyltoluene	3.4938	3.7198	21.29	20	6
1,3-Dichlorobenzene	1.8035	1.8402	20.41	20	2
1,4-Dichlorobenzene	1.8706	1.9185	20.51	20	3
1,2,3-Trimethylbenzene	3.3466	3.5682	21.32	20	7
Benzyl Chloride	2.0642	2.3055	22.34	20	12
1,3-Diethylbenzene	2.1040	2.1824	20.75	20	4
1,4-Diethylbenzene	2.2360	2.2872	20.46	20	2
n-Butylbenzene	1.8129	1.8643	20.57	20	3
1,2-Dichlorobenzene	1.7997	1.8436	20.49	20	2
1,2-Diethylbenzene	1.8282	1.8700	20.46	20	2
1,2-Dibromo-3-Chloropropane	0.2330	0.2202	18.90	20	-5
1,3,5-Trichlorobenzene	1.4439	1.4460	20.03	20	0
1,2,4-Trichlorobenzene	1.3499	1.3237	19.61	20	-2
Hexachlorobutadiene	0.6324	0.5856	18.52	20	-7
Naphthalene	4.2570	4.0961	19.24	20	-4
1,2,3-Trichlorobenzene	1.3349	1.2883	19.30	20	-3
2-Methylnaphthalene	2.4858	2.3290	18.74	20	-6

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK03 8891
 Maximum %Drift for CCC(*)=20%

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 09/27/11 Time: 18:23
 Lab File ID: ys27101.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====

Average %Drift 5

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK03 0092
 Maximum %Drift for CCC(*)=20%

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03____
Lab File ID: yc28t02.d BFB Injection Date: 10/28/11
Instrument ID: HP09355 BFB Injection Time: 12:20
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.08
75	30.0 - 60.0% of mass 95	49.58
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.15 (0.18)1
174	Greater than 50.0% of mass 95	81.05
175	5.0 - 9.0% of mass 174	5.88 (7.26)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.99 (98.70)1
177	5.0 - 9.0% of mass 176	5.43 (6.78)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	yc28c05.d	10/28/11	12:27
02	VSTD50	yc28c06.d	10/28/11	12:48
03	VBLKY68	yc28b02.d	10/28/11	13:08
04	LCSY68	yc28l02.d	10/28/11	13:52
05	LCDY68	yc28l03.d	10/28/11	14:13
06	LCS1Y68	yc28l04.d	10/28/11	14:33
07	LCD1Y68	yc28l05.d	10/28/11	14:54
08	6444157	yc28s01.d	10/28/11	15:46
09	6444158	yc28s02.d	10/28/11	16:07
10	6444159	yc28s03.d	10/28/11	16:28
11	6444160	yc28s04.d	10/28/11	16:49
12	6447189	yc28s05.d	10/28/11	17:09
13	6447191	yc28s07.d	10/28/11	17:51
14	6447192	yc28s08.d	10/28/11	18:11
15	6448139	yc28s09.d	10/28/11	18:32
16	6449991	yc28s10.d	10/28/11	18:52
17	6449995	yc28s11.d	10/28/11	19:13
18	6451493	yc28s12.d	10/28/11	19:34
19	6451502	yc28s13.d	10/28/11	19:55
20	6446120	yc28s14.d	10/28/11	20:16
21	6450590	yc28s15.d	10/28/11	20:36
22	6450591	yc28s16.d	10/28/11	20:57

GSK03 0872

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03____
 Lab File ID: yc28t02.d BFB Injection Date: 10/28/11
 Instrument ID: HP09355 BFB Injection Time: 12:20
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.08
75	30.0 - 60.0% of mass 95	49.58
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.15 (0.18)1
174	Greater than 50.0% of mass 95	81.05
175	5.0 - 9.0% of mass 174	5.88 (7.26)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.99 (98.70)1
177	5.0 - 9.0% of mass 176	5.43 (6.78)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6450807	yc28s17.d	10/28/11	21:17
24	6450808	yc28s18.d	10/28/11	21:38
25	6450809	yc28s19.d	10/28/11	21:59
26	6452158	yc28s20.d	10/28/11	22:19

GSK03 0073

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 10/28/11 Time: 12:27
 Lab File ID: yc28c05.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4445	0.4840	54.44	50	9
# Chloromethane	0.4424	0.4621	52.22	50	4 #
* Vinyl Chloride	0.4274	0.4278	50.05	50	0 *
Bromomethane	0.2704	0.2697	49.87	50	0
Chloroethane	0.2251	0.2250	49.97	50	0
Dichlorofluoromethane	0.5471	0.5290	48.34	50	-3
Trichlorofluoromethane	0.4617	0.5143	55.69	50	11
Ethyl Ether	0.2684	0.2548	47.48	50	-5
Freon 123a	0.3397	0.3141	46.22	50	-8
Acrolein	2.0023	1.2125	302.78	500	-39 NTC
* 1,1-Dichloroethene	0.2547	0.2413	47.38	50	-5 *
Freon 113	0.2601	0.2700	51.90	50	4
Acetone	0.0415	0.0642	154.71	100	55 NTC
Methyl Iodide	0.4695	0.4552	48.48	50	-3
2-Propanol	0.6167	0.6796	275.49	250	10
Carbon Disulfide	0.7994	0.7839	49.03	50	-2
Allyl Chloride	0.4247	0.4901	57.70	50	15
Methyl Acetate	0.3196	0.4693	73.41	50	47 NTC
Methylene Chloride	0.3157	0.2913	46.14	50	-8
t-Butyl Alcohol	0.9883	1.0943	276.81	250	11
Acrylonitrile	0.1872	0.2265	60.51	50	21 NTC
trans-1,2-Dichloroethene	0.3043	0.2763	45.40	50	-9
Methyl Tertiary Butyl Ether	0.9987	0.9853	49.33	50	-1
n-Hexane	0.4916	0.4417	44.93	50	-10
1,2-Dichloroethene (total)	0.3190	0.2914	91.31	100	-9
# 1,1-Dichloroethane	0.5710	0.5494	48.11	50	-4 #
di-Isopropyl Ether	1.0931	1.0124	46.31	50	-7
2-Chloro-1,3-Butadiene	0.4786	0.4764	49.77	50	0
Ethyl t-Butyl Ether	1.0541	0.9751	46.25	50	-8
cis-1,2-Dichloroethene	0.3337	0.3064	45.91	50	-8
2-Butanone	0.2278	0.3182	139.69	100	40 NTC
2,2-Dichloropropane	0.4106	0.4378	53.31	50	7
Propionitrile	1.7987	1.2468	173.30	250	-31 NTC
Methacrylonitrile	0.1838	0.2107	143.25	125	15
Bromochloromethane	0.1630	0.1592	48.83	50	-2
Tetrahydrofuran	1.5597	1.0694	68.56	100	-31 NTC

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK63 0105

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 10/28/11 Time: 12:27
 Lab File ID: yc28c05.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.5084	0.5127	50.42	50	1 *
1,1,1-Trichloroethane	0.4856	0.4740	48.80	50	-2
Cyclohexane	0.5869	0.5361	45.67	50	-9
Cyclohexane(mz 84)	0.4755	0.4374	45.99	50	-8
Cyclohexane(mz 69)	0.1756	0.1597	45.47	50	-9
1,1-Dichloropropene	0.4289	0.4170	48.61	50	-3
Carbon Tetrachloride	0.3410	0.3784	55.48	50	11
Isobutyl Alcohol	0.3815	0.3762	616.24	625	-1
Benzene	1.2993	1.2002	46.19	50	-8
1,2-Dichloroethane	0.4195	0.4651	55.44	50	11
1,2-Dichloroethane(mz 98)	0.0397	0.0375	47.25	50	-5 NTC
t-Amyl Methyl Ether	0.9740	0.9048	46.45	50	-7
n-Heptane	0.5422	0.4852	44.74	50	-11
n-Butanol	0.3481	0.3202	1149.72	1250	-8
Trichloroethene	0.3157	0.3091	48.95	50	-2
* 1,2-Dichloropropane	0.3476	0.3302	47.50	50	-5 *
Methylcyclohexane(mz98)	0.2643	0.2478	46.87	50	-6
Methylcyclohexane	0.6035	0.5614	46.52	50	-7
Methyl Methacrylate	0.2883	0.3288	57.02	50	14
Dibromomethane	0.1990	0.2052	51.56	50	3
1,4-Dioxane	0.1239	0.0957	482.61	625	-23 NTC
Bromodichloromethane	0.3611	0.3860	53.46	50	7
2-Nitropropane	0.1010	0.1453	143.87	100	44 NTC
2-Chloroethyl Vinyl Ether	0.1993	0.2433	61.03	50	22 NTC
cis-1,3-Dichloropropene	0.4902	0.4951	50.49	50	1
4-Methyl-2-Pentanone	0.4781	0.5960	124.66	100	25 NTC
* Toluene	1.1465	1.0495	45.77	50	-8 *
trans-1,3-Dichloropropene	0.6256	0.6619	52.90	50	6
Ethyl Methacrylate	0.6824	0.6706	49.14	50	-2
1,1,2-Trichloroethane	0.4143	0.4016	48.46	50	-3
Tetrachloroethene	0.4762	0.4623	48.54	50	-3
1,3-Dichloropropane	0.7325	0.7278	49.68	50	-1
2-Hexanone	0.4909	0.6441	131.20	100	31 NTC
Dibromochloromethane	0.3857	0.4153	53.83	50	8
1,2-Dibromoethane	0.4261	0.4302	50.48	50	1
# Chlorobenzene	1.2579	1.1947	47.49	50	-5 #

6SK83 8186

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 10/28/11 Time: 12:27
 Lab File ID: yc28c05.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,1,1,2-Tetrachloroethane	0.4004	0.4124	51.49	50	3
* Ethylbenzene	2.1530	2.0919	48.58	50	-3 *
m+p-Xylene	0.8567	0.8177	95.44	100	-5
Xylene (Total)	0.8583	0.8169	142.76	150	-5
o-Xylene	0.8615	0.8153	47.32	50	-5
Styrene	1.3681	1.3302	48.61	50	-3
# Bromoform	0.2509	0.3119	53.72	50	7 #
Isopropylbenzene	2.1859	2.1520	49.22	50	-2
Cyclohexanone	0.4378	0.3625	514.95	625	-18
# 1,1,2,2-Tetrachloroethane	1.1195	1.1296	50.45	50	1 #
trans-1,4-Dichloro-2-Butene	0.3292	0.4123	156.56	125	25 NTC
Bromobenzene	0.9024	0.8384	46.45	50	-7
1,2,3-Trichloropropane	0.3203	0.3573	55.77	50	12
n-Propylbenzene	4.4393	4.1299	46.51	50	-7
2-Chlorotoluene	0.8910	0.8271	46.42	50	-7
1,3,5-Trimethylbenzene	3.1337	3.0717	49.01	50	-2
4-Chlorotoluene	0.9243	0.8799	47.60	50	-5
tert-Butylbenzene	0.7152	0.6735	47.09	50	-6
Pentachloroethane	0.5340	0.5244	49.10	50	-2
1,2,4-Trimethylbenzene	3.2391	3.1853	49.17	50	-2
sec-Butylbenzene	3.9457	3.8735	49.08	50	-2
p-Isopropyltoluene	3.4938	3.4758	49.74	50	-1
1,3-Dichlorobenzene	1.8035	1.7063	47.31	50	-5
1,4-Dichlorobenzene	1.8706	1.7709	47.34	50	-5
1,2,3-Trimethylbenzene	3.3466	3.2936	49.21	50	-2
Benzyl Chloride	2.0642	2.3651	57.29	50	15
1,3-Diethylbenzene	2.1040	2.0463	48.63	50	-3
1,4-Diethylbenzene	2.2360	2.1841	48.84	50	-2
n-Butylbenzene	1.8129	1.7761	48.98	50	-2
1,2-Dichlorobenzene	1.7997	1.7491	48.59	50	-3
1,2-Diethylbenzene	1.8282	1.7679	48.35	50	-3
1,2-Dibromo-3-Chloropropane	0.2330	0.3371	72.33	50	45 NTC
1,3,5-Trichlorobenzene	1.4439	1.3992	48.45	50	-3
1,2,4-Trichlorobenzene	1.3499	1.2992	48.12	50	-4
Hexachlorobutadiene	0.6324	0.5774	45.66	50	-9
Naphthalene	4.2570	4.5500	53.44	50	7

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK03 0107

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 10/28/11 Time: 12:27
 Lab File ID: yc28c05.d Init. Calib. Date(s): 09/27/11 09/27/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,2,3-Trichlorobenzene	1.3349	1.2871	48.21	50	-4
2-Methylnaphthalene	2.4858	2.6762	53.83	50	8
Dibromofluoromethane	0.2224	0.2324	52.27	50	5
Dibromofluoromethane(mz111)	0.2270	0.2394	52.74	50	5
1,2-Dichloroethane-d4	0.0607	0.0647	53.25	50	6
1,2-Dichloroethane-d4(mz104)	0.0384	0.0385	50.09	50	0
1,2-Dichloroethane-d4(mz65)	0.2839	0.3300	58.11	50	16
Toluene-d8(mz100)	0.9237	0.8931	48.35	50	-3
4-Bromofluorobenzene(mz174)	0.4159	0.4237	50.94	50	2
Toluene-d8	1.3975	1.3844	49.53	50	-1
4-Bromofluorobenzene	0.5041	0.5146	51.04	50	2

Average %Drift 9

GSK83 8188

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

```

/chem2/HP09355.i/11sep27c.b/ys27i06.d
/chem2/HP09355.i/11sep27c.b/ys27i05.d
/chem2/HP09355.i/11sep27c.b/ys27i04.d
/chem2/HP09355.i/11sep27c.b/ys27i03.d
/chem2/HP09355.i/11sep27c.b/ys27i02.d
/chem2/HP09355.i/11sep27c.b/ys27i01.d
  
```

File /chem2/HP09355.i/11sep27c.b/ys27i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

```

/chem2/HP09355.i/11oct28b.b/yc28c05.d
  
```

RT Summary

File ID:

=====

Internal Standard Name	yc28c05.d	ICAL RT	In Spec
-----	-----	-----	-----
n-Butyl Alcohol-d10	2.127	2.145	Yes
Fluorobenzene	4.262	4.269	Yes
Chlorobenzene-d5	7.438	7.444	Yes
1,4-Dichlorobenzene-d4	9.434	9.440	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	yc28c05.d	ICAL Area	Low Limit	High Limit	In Spec
-----	-----	-----	-----	-----	-----
n-Butyl Alcohol-d10	445809	229779	114890	459558	Yes
Fluorobenzene	1150787	1185917	592958	2371834	Yes
Chlorobenzene-d5	828579	834610	417305	1669220	Yes
1,4-Dichlorobenzene-d4	513699	496993	248496	993986	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

GSK03 11/11

Comments: _____

report generated on 10/28/2011 at 14:55

GSK03 0140

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03
 Lab File ID (Standard): yc28c05.d Date Analyzed: 10/28/11
 Instrument ID: HP09355 Time Analyzed: 12:27
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

		IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	12 HOUR STD	1150787	4.262	828579	7.438	513699	9.434	445809	2.127
	UPPER LIMIT	2301574	4.762	1657158	7.938	1027398	9.934	891618	2.627
	LOWER LIMIT	575394	3.762	414290	6.938	256850	8.934	222904	1.627
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	LAB SAMPLE ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
01	VBLKY68	1101294	4.256	774893	7.438	442255	9.440	382145	2.127
02	LCSY68	1072758	4.256	762296	7.438	461414	9.433	419812	2.133
03	LCDY68	1115772	4.256	794695	7.438	477286	9.434	447272	2.133
04	LCS1Y68	1109520	4.256	781321	7.438	444815	9.440	439613	2.127
05	LCD1Y68	1086173	4.262	766814	7.444	436293	9.439	414045	2.139
06	6444157	1061697	4.262	758753	7.444	441661	9.440	430051	2.133
07	6444158	1066756	4.256	756369	7.438	436650	9.440	406514	2.127
08	6444159	1037692	4.250	748523	7.438	431332	9.434	390415	2.127
09	6444160	1008377	4.256	722373	7.438	413470	9.434	387180	2.115
10	6447189	1008130	4.256	714397	7.444	414798	9.440	376856	2.121
11	6447191	951751	4.250	685384	7.438	402218	9.434	358268	2.115
12	6447192	933128	4.262	665027	7.438	387427	9.440	337916	2.133
13	6448139	959295	4.256	687740	7.438	400852	9.440	363206	2.121
14	6449991	925201	4.256	662266	7.444	387640	9.440	330906	2.127
15	6449995	900193	4.256	650337	7.444	379475	9.440	342827	2.127
16	6451493	909289	4.262	657225	7.444	386579	9.439	335671	2.127
17	6451502	891849	4.256	644644	7.438	373905	9.439	329366	2.127
18	6446120	872203	4.250	632177	7.438	368747	9.440	325632	2.121
19	6450590	887659	4.262	640345	7.444	376384	9.439		
20	6450591	881447	4.256	637201	7.438	376118	9.439		
21	6450807	846314	4.256	609650	7.444	357617	9.440		
22	6450808	846149	4.256	610536	7.438	356200	9.440		

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

GSK03 0114

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK03____
 Lab File ID (Standard): yc28c05.d Date Analyzed: 10/28/11
 Instrument ID: HP09355 Time Analyzed: 12:27
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

		IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
	=====	=====	=====	=====	=====	=====	=====	=====	=====
	12 HOUR STD	1150787	4.262	828579	7.438	513699	9.434	445809	2.127
	UPPER LIMIT	2301574	4.762	1657158	7.938	1027398	9.934	891618	2.627
	LOWER LIMIT	575394	3.762	414290	6.938	256850	8.934	222904	1.627
	=====	=====	=====	=====	=====	=====	=====	=====	=====
	LAB SAMPLE								
	ID								
	=====	=====	=====	=====	=====	=====	=====	=====	=====
23	6450809	851427	4.262	614339	7.444	361760	9.439		
24	6452158	839343	4.262	605276	7.444	358467	9.439		

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

VOA Prep Summary by SDG: GSK03

21 - GC/MS Volatiles

6776

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	% Moisture	Moisture vol (mL)	Final Extraction Vol (mL)	Problem Codes
6451483	169A	07578	11376379	N	10/26/11 09:25	10/27/11 14:48	28.84 g	34.05 g	5.21 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6451483	193A	08389	11376948	N	10/26/11 09:25	10/27/11 14:48	32.83 g	38.28 g	5.45 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451483	193B	08389	11376944	Y	10/26/11 09:25	10/27/11 14:49	32.80 g	38.07 g	5.27 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451484	169A	07578	11376380	N	10/26/11 09:37	10/27/11 14:50	28.97 g	35.09 g	6.12 g	4.50 g - 5.50 g	N	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6451484	193A	08389	11376939	Y	10/26/11 09:37	10/27/11 14:50	32.93 g	39.07 g	6.14 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451484	193B	08389	11376934	N	10/26/11 09:37	10/27/11 14:50	32.75 g	38.72 g	5.97 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451485	169A	07578	11376377	N	10/26/11 10:07	10/27/11 14:52	29.00 g	34.60 g	5.60 g	4.50 g - 5.50 g	N	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6451485	193A	08389	11376261	Y	10/26/11 10:07	10/27/11 14:52	32.69 g	38.34 g	5.65 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451485	193B	08389	11376309	N	10/26/11 10:07	10/27/11 14:52	32.62 g	38.29 g	5.67 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451486	169A	07578	11376381	N	10/26/11 10:21	10/27/11 14:53	28.75 g	34.39 g	5.64 g	4.50 g - 5.50 g	N	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6451486	193A	08389	11376260	N	10/26/11 10:21	10/27/11 14:54	32.71 g	38.69 g	5.98 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451486	193B	08389	11376254	Y	10/26/11 10:21	10/27/11 14:54	32.56 g	38.27 g	5.71 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451487	169A	07578	11376382	N	10/26/11 10:43	10/27/11 14:55	28.95 g	34.56 g	5.61 g	4.50 g - 5.50 g	N	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6451487	193A	08389	11376251	N	10/26/11 10:43	10/27/11 14:55	32.72 g	38.35 g	5.63 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451487	193B	08389	11376244	Y	10/26/11 10:43	10/27/11 14:56	32.63 g	38.18 g	5.55 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451488	169A	07578	11376383	N	10/26/11 11:07	10/27/11 14:57	28.82 g	34.76 g	5.94 g	4.50 g - 5.50 g	N	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6451488	193A	08389	11376293	N	10/26/11 11:07	10/27/11 14:57	32.62 g	38.58 g	5.96 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451488	193B	08389	11376298	Y	10/26/11 11:07	10/27/11 14:58	32.57 g	38.47 g	5.90 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451489	169A	07578	11376388	N	10/26/11 11:31	10/27/11 14:59	29.14 g	34.36 g	5.22 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6451489	193A	08389	11376253	N	10/26/11 11:31	10/27/11 15:00	32.55 g	37.92 g	5.37 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451489	193B	08389	11376259	Y	10/26/11 11:31	10/27/11 15:00	32.74 g	38.25 g	5.51 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451490	169A	07578	11376389	N	10/26/11 11:47	10/27/11 15:01	28.86 g	34.47 g	5.61 g	4.50 g - 5.50 g	N	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6451490	193A	08389	11376252	N	10/26/11 11:47	10/27/11 15:02	32.71 g	38.51 g	5.80 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451490	193B	08389	11376249	Y	10/26/11 11:47	10/27/11 15:02	32.58 g	38.06 g	5.48 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	

Moisture Vol (mL) = weight (g) x (% moisture/100)

Final Extraction Vol (mL) = Preservative Vol + Moisture Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements

B = vial leaked

C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)

D = sampler not full

E = effervescence observed

F = pH >= 2

G = headspace in container

VOA Prep Summary by SDG: GSK03

21 - GC/MS Volatiles

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	% Moisture	Moisture vol (mL)	Final Extraction Vol (mL)	Problem Codes
6451491	169A	07578	11376386	N	10/26/11 12:04	10/27/11 15:03	29.05 g	34.37 g	5.32 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6451491	193A	08389	11376294	N	10/26/11 12:04	10/27/11 15:03	32.64 g	38.40 g	5.76 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451491	193B	08389	11376308	Y	10/26/11 12:04	10/27/11 15:04	32.84 g	38.64 g	5.80 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451492	169A	07578	11376387	N	10/26/11 12:21	10/27/11 15:05	28.93 g	34.62 g	5.69 g	4.50 g - 5.50 g	N	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6451492	193A	08389	11376255	N	10/26/11 12:21	10/27/11 15:05	32.72 g	38.60 g	5.88 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451492	193B	08389	11376272	Y	10/26/11 12:21	10/27/11 15:05	32.58 g	38.36 g	5.78 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451494	169A	07578	11376375	N	10/26/11 14:04	10/27/11 15:08	28.97 g	34.04 g	5.07 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6451494	193A	08389	11376311	Y	10/26/11 14:04	10/27/11 15:08	32.75 g	37.82 g	5.07 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451494	193B	08389	11376248	N	10/26/11 14:04	10/27/11 15:08	32.64 g	37.80 g	5.16 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451495	169A	07578	11376376	N	10/26/11 14:21	10/27/11 15:10	28.87 g	33.83 g	4.96 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6451495	193A	08389	11376299	Y	10/26/11 14:21	10/27/11 15:10	32.55 g	37.50 g	4.95 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451495	193B	08389	11376295	N	10/26/11 14:21	10/27/11 15:10	32.56 g	37.30 g	4.74 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451496	169A	07578	11376378	N	10/26/11 14:31	10/27/11 15:13	29.08 g	33.76 g	4.68 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6451496	193A	08389	11376243	Y	10/26/11 14:31	10/27/11 15:13	32.60 g	37.29 g	4.69 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451496	193B	08389	11376247	N	10/26/11 14:31	10/27/11 15:14	32.63 g	37.19 g	4.56 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451497	169A	07578	11376385	N	10/26/11 14:57	10/27/11 15:15	28.90 g	33.90 g	5.00 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6451497	193A	08389	11376255	N	10/26/11 14:57	10/27/11 15:15	32.61 g	37.45 g	4.84 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451497	193B	08389	11376246	Y	10/26/11 14:57	10/27/11 15:15	32.48 g	37.50 g	5.02 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451498	169A	07578	11376384	N	10/26/11 15:10	10/27/11 15:16	28.91 g	34.31 g	5.40 g	4.50 g - 5.50 g	Y	112861	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6451498	193A	08389	11376245	N	10/26/11 15:10	10/27/11 15:17	32.71 g	38.18 g	5.47 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451498	193B	08389	11376250	Y	10/26/11 15:10	10/27/11 15:17	32.56 g	37.73 g	5.17 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451499	169A	07578	11376665	N	10/26/11 15:24	10/27/11 15:18	29.07 g	34.80 g	5.53 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6451499	193A	08389	11376955	Y	10/26/11 15:24	10/27/11 15:18	32.72 g	38.43 g	5.71 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451499	193B	08389	11376943	N	10/26/11 15:24	10/27/11 15:19	32.63 g	38.34 g	5.71 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A

Moisture Vol (mL) = weight (g) x (% moisture/100)
Final Extraction Vol (mL) = Preservative Vol + Moisture Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements B = vial leaked C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)
D = sampler not full E = effervescence observed F = pH >= 2 G = headspace in container



VOA Prep Summary by SDG: GSK03
21 - GC/MS Volatiles

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	% Moisture	Moisture vol (mL)	Final Extraction Vol (mL)	Problem Codes
6451500	169A	07578	11376643	N	10/26/11 15:55	10/27/11 15:20	29.03 g	34.02 g	4.99 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	NA	NA	5.000	
6451500	193A	08389	11376937	N	10/26/11 15:55	10/27/11 15:21	32.84 g	37.86 g	5.02 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451500	193B	08389	11376942	Y	10/26/11 15:55	10/27/11 15:21	32.90 g	38.01 g	5.11 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	NA	NA	5.000	
6451501	169A	07578	11376666	N	10/26/11 16:11	10/27/11 15:22	29.04 g	34.55 g	5.51 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	NA	NA	5.000	A
6451501	193A	08389	11376932	Y	10/26/11 16:11	10/27/11 15:22	32.58 g	38.34 g	5.76 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A
6451501	193B	08389	11376938	N	10/26/11 16:11	10/27/11 15:23	32.76 g	38.63 g	5.87 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	NA	NA	5.000	A

Moisture Vol (mL) = weight (g) x (% moisture/100)
Final Extraction Vol (mL) = Preservative Vol + Moisture Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements B = vial leaked C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)
D = sampler not full E = effervescence observed F = pH >= 2 G = headspace in container

Moisture Data



MOISTURE

CLIENT: Groundwater Science Co
SDG: GSK03

SAMPLE NUMBERS:

<u>Sample #</u>	<u>Sample Code</u>
6451483	3AB04
6451484	3AB13
6451485	3AA04
6451486	3AA13
6451487	3AE04
6451488	3AE13
6451489	3AD04
6451490	3AD13
6451491	3AC04
6451492	3AC14
6451494	04F04
6451495	04F13
6451496	04F25
6451497	04B04
6451498	04B13
6451499	04B25
6451500	03A04
6451501	03A13

COMMENTS:

Due to limitations of the data package software, Form I's are unavailable for wet chemistry data. Please refer to analysis reports for this information.

The moisture value calculation is:

$$\% \text{ moisture} = \frac{A - B}{C} \times 100$$

Where: A = weight of sample and container before drying
B = weight of sample and container after drying
C = weight of sample before drying

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>LCS</u> <u>%REC</u>	<u>LCSD</u> <u>%REC</u>	<u>LCS/LCSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 11305820002A					
Moisture					

Sample number(s): 6451483-6451492, 6451494-6451501
100 99-101

Sample Matrix Quality Control

<u>Analysis Name</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 11305820002A				
Moisture				

Sample number(s): 6451483-6451492, 6451494-6451501
8.6 8.3 4 15

GSK03 0780

* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.



MOISTURE

CLIENT: Groundwater Science Co
SDG: GSK03

Moisture Data Report

Batch #: 11305820002

<u>Sample ID</u>	<u>Batch ID</u>	<u>Analysis#</u>	<u>Tare Wt</u>	<u>Sample Wt</u>	<u>Dry Wt</u>	<u>%Moisture</u>	<u>Analysis Date (Emp#)</u>	<u>Verified Date (Emp#)</u>
LCS 89.5% Std.			1.1054	5.0174	1.6359	89.43	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451483	A	00111	1.0771	8.9977	7.8698	24.51	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451484	A	00111	1.0908	7.5421	7.5835	13.91	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451485	A	00111	1.0767	7.1254	6.9992	16.88	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451486	A	00111	1.0924	6.7572	7.0569	11.73	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451487	A	00111	1.0959	7.6790	7.6249	14.98	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451488	A	00111	1.0877	7.8554	8.2380	8.98	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451489	A	00111	1.0820	6.8795	6.8103	16.73	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451490	A	00111	1.0764	7.8914	8.0954	11.06	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451491	A	00111	1.1004	8.5264	8.2468	16.19	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451492	A	00111	1.1083	6.5925	7.1003	9.11	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451494	A	00111	1.0851	8.2013	8.5784	8.63	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451495	A	00111	1.0959	8.3314	8.9627	5.58	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451496	A	00111	1.0928	7.5556	8.2692	5.02	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451497	A	00111	1.0996	9.2146	9.3909	10.02	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451498	A	00111	1.0941	8.5644	9.0197	7.46	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451499BKG	A	00111	1.1124	8.6627	9.0276	8.63	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451499DUP	A	00111	1.1054	8.8437	9.2129	8.32	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451500	A	00111	1.1236	7.4371	7.4988	14.28	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	
6451501	A	00111	1.0955	7.0911	7.4378	10.56	11/ 1/11 (1201/SWF)11/ 2/11 (0236/CW)	

GSK03: 8781

Analysis Report



Page 1 of 2

Sample Description: TEQ11026SHVL Water
Tech City Surficial Soils

LLI Sample # WW 6451493
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 13:51 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

6SHVL SDG#: GSK03-11EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-B46 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK03 8838

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PO Box 12425
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*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TEQ11026SHVL Water
Tech City Surficial Soils

LLI Sample # WW 6451493
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011 13:51 by DAB

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

6SHVL SDG#: GSK03-11EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113011AA	10/28/2011 19:34	Nicholas R Rossi	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113011AA	10/28/2011 19:34	Nicholas R Rossi	1

GSK03 0031

Analysis Report



Page 1 of 2

Sample Description: TTBA10261026 Water
Tech City Surficial Soils

LLI Sample # WW 6451502
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011

Groundwater Science Co

560 Route 53

Submitted: 10/27/2011 09:25

Suite 202

Reported: 11/07/2011 15:19

Beacon NY 12508

-TTBA SDG#: GSK03-20TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-22-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.6	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

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717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result



Sample Description: TTBA10261026 Water
Tech City Surficial Soils

LLI Sample # WW 6451502
LLI Group # 1273428
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/26/2011

Groundwater Science Co

Submitted: 10/27/2011 09:25

560 Route 53

Reported: 11/07/2011 15:19

Suite 202

Beacon NY 12508

-TTBA SDG#: GSK03-20TB*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113011AA	10/28/2011 19:55	Nicholas R Rossi	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113011AA	10/28/2011 19:55	Nicholas R Rossi	1

GSK03 8849

ATTACHMENT E
PROJECT CORRESPONDENCE

No Project Correspondence associated with this SDG



"Truth through Science"

Veridian
Environmental, Inc

DATA VALIDATION REPORT

TECHCITY (FORMER IBM KINGSTON) GROUNDWATER CONTAMINATION SUPERFUND SITE

Lancaster Laboratories
SDG: **GSK04**

January 23, 2012

Prepared for:

GROUNDWATER SCIENCES CORPORATION
2601 Market Place Street, Suite 310
Harrisburg, Pennsylvania 17110

Prepared by:

VERIDIAN ENVIRONMENTAL, INC.
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Suite 2
Davis, California 95616

DATA VALIDATION REPORT

TECHCITY (FORMER IBM KINGSTON) GROUNDWATER CONTAMINATION SUPERFUND SITE

January 23, 2012

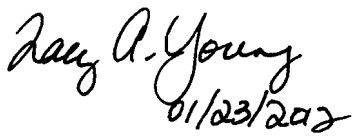
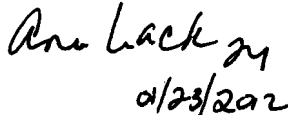
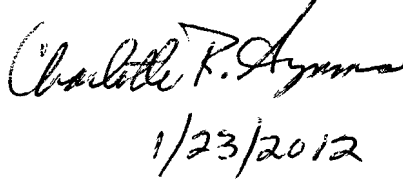
Name	Position	Signature/Date
Veridian Environmental, Inc.		
Prepared by:		
Tracy A. Young	Senior Quality Assurance Chemist	 01/23/2012
Ann Lack	Senior Quality Assurance Chemist	 01/23/2012
Reviewed and Approved by:		
Charlotte R. Symms	President	 1/23/2012

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ATTACHMENT D	DATA VALIDATION CHECKLIST AND SUPPORT DOCUMENTATION
ATTACHMENT E	PROJECT CORRESPONDENCE

ACRONYMS

<u>Acronym</u>	<u>Definition</u>
%D	Percent Difference
%REC	Percent Recovery
%RI	Percent Relative Intensity
%RPD	Percent Relative Percent Difference
%RSD	Percent Relative Standard Deviation
%S	Percent Solids
ARRF	Average Relative Response Factor
CCC	Calibration Check Analytes
CCV	Continuing Calibration Verification
CD	Correctable Deficiency
CF	Calibration Factor
CLP	Contract Laboratory Program
COC	Chain-of-Custody
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
DER	Division of Environmental Remediation
DF	Dilution Factor
DL	Dilution Limit
DO	Diluted Out
DOC	Date of Collection
DQO	Data Quality Objective
DVR	Data Validation Report
EDD	Electronic Data Deliverable
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
GSC	Groundwater Sciences Corporation
ICAL	Initial Calibration
ICV	Initial Calibration Verification
IS	Internal Standard
kg	Kilogram
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
l	Liter
LL	Lower Limit
LLI	Lancaster Laboratories, Inc.
MDL	Method Detection Limit
ml	Milliliter
MRL	Method Reporting Limit
MS	Matrix Spike

<u>Acronym</u>	<u>Definition</u>
MSD	Matrix Spike Duplicate
µg	Microgram
ND	Non-detect
NFG	National Functional Guidelines
NIST	National Institute of Standards and Technology
NQW	No Qualification Warranted
NTC	Non Target Compound
NYSDEC	New York State Department of Environmental Conservation
OERR	Office of Emergency and Remedial Response
OSWER	Office of Solid Waste and Emergency Response
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
RRF	Relative Response Factor
RRT	Relative Retention Time
RSD	Relative Standard Deviation
RT	Retention Time
SDG	Sample Delivery Group
SM	Standard Method
SOP	Standard Operating Procedure
SOW	Statement of Work
SPCC	System Performance Check Analytes
Surr	Surrogate
TAL	Target Analyte List
TCL	Target Analyte List
TIC	Tentatively Identified Analyte
UL	Upper Limit
U.S. EPA	United States Environmental Protection Agency
VEI	Veridian Environmental, Inc.
VOC	Volatile Organic Analyte

1.0 INTRODUCTION

This Data Validation Report (DVR) details the assessment and the Level IV data validation performed on the sample analyses from SDG GSK04 as summarized in Attachment A. These samples were collected on October 28, 2011, as part of the TechCity (Former IBM Kingston) Facility Superfund Site in Kingston, New York. The samples were shipped to and analyzed by Lancaster Laboratories, Inc., (LLI) in Lancaster, Pennsylvania.

Data validation of all sample results was performed by Tracy A. Young, Ann Lack, and Charlotte R. Symms of Veridian Environmental, Inc. (VEI). A review (Level III) of 100% of the data, which allows for complete independent data review without reconstruction of analytical data, was conducted. In addition, approximately 10% of the project data underwent a comprehensive or extensive review (Level IV) which allowed for the complete reconstruction of the chemical analyses. The comprehensive review included the recalculation of calibration curves and sample results. Samples **OU03B0411028**, **OU03B1311028**, **OU03D0411028**, **OU03D1311028**, **OU04H1311028**, **OU04H2511028**, **OU06C0411028**, and **OU06C1311028** from this SDG were selected for the comprehensive Level IV review. The data were validated in accordance with the analytical methods and the documents entitled: *RFI Management Plans, Former IBM Kingston Facility* (Golder Associates, 2009); *U.S. EPA Region 2 RCRA and CERCLA Data Validation Standard Operating Procedures* (U.S. EPA Region 2, 2006); and with guidance from *DER-10 / Technical Guidance for Site Investigation and Remediation* (NYSDEC DEC Program Policy, 2010), *Data Quality Assessment: A Reviewer's Guide* (U.S. EPA QA/G-9R 2006); *Data Quality Assessment: Statistical Tools for Practitioners* (U.S. EPA QA-G-9S, 2006); and *U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (U.S. EPA, 2008).

The data were examined to determine the usability of the analytical results and the compliance relative to requirements specified in the analytical methods and guidelines provided. Qualifier codes have been placed next to the results on the laboratory analytical result forms so the data user can quickly assess the qualitative and/or quantitative reliability of any result. The data qualifications allow the data end-user to best understand the usability of the analytical results. It should be understood that data that have not been qualified in this report should be considered valid based on the quality control (QC) criteria that have been reviewed. This report was prepared to provide a critical review of the laboratory analyses and the reported analytical results. Quality assurance (QA) reviews of laboratory-generated data routinely identify various problems associated with analytical measurements, even from the most experienced and capable laboratories.

The findings of this QA review are presented in Section 2.0 of this report, a summary is presented in Section 3.0, and the references are provided in Section 4.0. Attachment A summarizes the client sample identification, the analytical laboratory, laboratory sample identification, sample date, sample time, and the analyses requested for each sample in this SDG. Copies of the laboratory case narrative, the sample chain-of-custody (COC) record, and the sample receipt documentation log report forms for samples discussed in this DVR are included in Attachment B. The qualified analytical result forms for the samples are provided in Attachment C. The samples were analyzed for Volatile Organic Analytes (EPA Method 8260B) and Moisture (Standard Method 2540G). The data validation checklist and copies of all relevant documentation needed to support the

findings of the quality assurance review are presented in Attachment D. Project Correspondence is presented as Attachment E.

Several data validation flags are utilized in the validation process. The definitions of these qualifier flags are as follows:

- U The analyte was analyzed for, but was not detected at or above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected at or above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample result and/or analysis have been rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

All necessary flags have been incorporated into the data presented in this report (Attachment C). As per project-specific reporting requirements, all results reported at concentrations less than the sample-specific practical quantitation limits (adjusted for dilution factors, sample size, and percent solids) should be considered estimated (J).

2.0 FINDINGS

Copies of all relevant documentation needed to support the findings of the quality assurance review are presented in Attachment D of this report. Data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis do not require any corrective action by the laboratory. Accordingly, the following data usability issues should not necessarily be construed as an indication of laboratory performance. Data that warranted qualification are summarized in Section 3.0 of this report.

2.1 VOLATILE ORGANIC ANALYTES DATA VALIDATION

The samples analyzed for Volatile Organic Analytes (VOCs) by U.S. EPA Method 8260B were evaluated for the following data requirements.

	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable	Not Applicable
Sample Condition Upon Receipt	✓				
Analytical Holding Times	✓				
Blank Analyses	✓				
GC/MS Tuning and Mass Calibrations	✓				

	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable	Not Applicable
Initial Calibrations	✓				
Initial Calibration Verifications	✓				
Continuing Calibrations			✓		
Surrogate Spike Recoveries	✓				
LCS Analyses			✓		
MS/MSD Analyses					✓
Internal Standards			✓		
Verification of Sample Results	✓				
Field Duplicate Results					✓
Verification of the Client EDD	✓				
Moisture Content	✓				
Additional Findings		✓			

A comprehensive Level IV review was performed on ten percent (10%) of the project data. For this analysis, samples **OU03B0411028, OU03B1311028, OU03D0411028, OU03D1311028, OU04H1311028, OU04H2511028, OU06C0411028, and OU06C1311028** from SDG GSK04 were selected for the comprehensive Level IV review. Details of the data findings are presented following the summary of the data requirements.

2.1.1 Sample Condition Upon Receipt

All samples were received intact, with the proper preservation ($\text{pH} \leq 2$ and at $4^\circ \pm 2^\circ\text{C}$) by LLI.

2.1.2 Analytical Holding Times

All samples were prepared and analyzed within the project-specified holding time of 14 days from sample collection.

2.1.3 Blank Analyses

All associated field and laboratory blanks were free of target analyte contamination.

2.1.4 Gas Chromatograph/Mass Spectrometer Tuning and Mass Calibrations

All gas chromatograph/mass spectrometer (GC/MS) tuning and mass calibrations met project criteria (m/z ratios). All project samples were analyzed within the 12-hour tune windows.

2.1.5 Initial Calibrations

For the initial calibrations, all SPCC (min. RRFs) and CCC analytes ($\% \text{RSD} \leq 30\%$) met project criteria. In addition, all target analytes displayed acceptable calibrations (average RRF > 0.050 and $\% \text{RSD} \leq 20\%$).

2.1.6 Initial Calibration Verifications

All target analytes demonstrated acceptable percent differences in the Initial Calibration Verification (ICV).

2.1.7 Continuing Calibrations

For the continuing calibrations, all SPCC (min. RRFs) and CCC analytes (%D $\leq$ 20%) met project criteria. In addition, the percent differences and RRFs for all other target analytes were $\leq$ 20% and > 0.050 , respectively, except for the analytes listed in the following table.

High percent differences were noted for Freon 123a and bromoform in the following continuing calibrations. The associated non-detect results are estimated (UJ) in accordance with the project criteria.

<u>Instrument ID</u> <u>Date (Time)</u>	<u>Analyte(s)</u>	<u>Percent</u> <u>Difference</u>	<u>Associated</u> <u>Qualified Sample(s)</u>
HP09685 11/02/2011 (14:47)	Freon 123a	26%	OU03B0411028 OU03B1311028 OU03D0411028 OU03D1311028 OU03C0411028 OU03C1311028 OU04C0411028 OU04C1311028 OU04C2511028 OU04H0411028 OU04H1311028 OU04H2511028 OU06C0411028
HP09685 11/04/2011 (11:45)	Bromoform	25%	OU06C1311028

2.1.8 Surrogate Spike Recoveries

For all project analyses, the surrogate recoveries were within project criteria.

2.1.9 Laboratory Control Sample Analyses

For all LCS analyses, the recoveries for all target analytes met project criteria with the exception of cis-1,3-dichloropropene in the following table. Low percent recoveries were noted for cis-1,3-dichloropropene as listed below. Consequently, the associated results may be biased low (UJ).

<u>Lab Sample ID, Date (Time)</u>	<u>Analyte(s)</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Associated Qualified Sample(s)</u>
LCSA38, 11/02/2011 (18:02)	cis-1,3-Dichloropropene	75%	80-120%	OU03B0411028
LCDA38, 11/02/2011 (18:27)		76%		OU03B1311028
				OU03D0411028
				OU03D1311028
				OU03C0411028
				OU03C1311028
				OU04C0411028
				OU04C1311028
				OU04C2511028
				OU04H0411028
				OU04H1311028
				OU04H2511028
				OU06C0411028

2.1.10 Matrix Spike/Matrix Spike Duplicate Analyses

The laboratory did not prepare and analyze a Matrix Spike/Matrix Spike Duplicate (MS/MSD) for this analysis on any sample from SDG GSK04. Consequently, an assessment of matrix effects cannot be made for these samples.

2.1.11 Internal Standards

For all project sample analyses, the internal standards met project criteria (RT within ± 30 seconds of ICAL mid-point standard and internal standard area within -50% to + 100% of ICAL mid-point standard) except for the internal standard areas noted in the following table.

Low internal standard areas were reported in the samples (and their re-analyses) as listed below. All results quantitated with these internal standards are non-detect and considered estimated (UJ) in the associated samples. As all the reanalyzed samples were also outside the limits, the original samples were reported and the laboratory noted that this is confirmation of the matrix effect.

<u>Date of Analysis</u>	<u>Sample</u>	<u>Internal Standard</u>	<u>IS Area</u>	<u>12 Hour Standard</u>
11/02/2011	OU04H0411028	1,4-Dichlorobenzene-d4	331468	698371
11/02/2011	OU04H2511028	1,4-Dichlorobenzene-d4	275724	698371
11/04/2011	OU04H0411028 RE	1,4-Dichlorobenzene-d4	364639	762865
11/04/2011	OU04H2511028 RE	Fluorobenzene	651470	1600814
11/04/2011	OU04H2511028 RE	Chlorobenzene-d5	491546	1194801
11/04/2011	OU04H2511028 RE	1,4-Dichlorobenzene-d4	217600	762865

2.1.12 Verification of Sample Results

Samples **OU03B0411028**, **OU03B1311028**, **OU03D0411028**, **OU03D1311028**, **OU04H1311028**, **OU04H2511028**, **OU06C0411028**, and **OU06C1311028** from SDG GSK04 underwent Level IV validation including recalculation and compound identification. All results were verified as reported.

2.1.13 Field Duplicate Results

Field duplicates were not submitted for this analysis; consequently, an assessment of precision cannot be made.

2.1.14 Verification of the Client Electronic Data Deliverable

The database files provided in the laboratory's enhanced general format matched the data reported by the laboratory.

2.1.15 Moisture Content

The moisture content of the soil samples was analyzed by Standard Method 2540G. For all project samples, the moisture content was within project criteria.

2.1.16 Additional Findings

As noted on the VOA Prep Summary, samples **OU03B0411028**, **OU03B1311028**, **OU03D1311028**, **OU03C1311028**, and **OU06C1311028** were outside the weight requirements. Qualification of the data is not warranted on this basis.

2.2 FIELD DUPLICATES

Field duplicates were not submitted with SDG GSK04; consequently an assessment of precision cannot be made.

2.3 REPRESENTATIVENESS EVALUATION

Representativeness is a qualitative evaluation of whether the data represent actual environmental conditions. Representativeness was evaluated using holding time criteria, which reflect the length of time after sample collection that a sample or extract remains representative of environmental conditions. Depending on the analysis, either one or two holding times were evaluated. For those analyses that do not include a sample extraction, only one holding time was evaluated: the length of time between sample collection and analysis. For analyses that require sample extraction prior to analysis, two holding times were evaluated: the length of time from sampling until extraction and the length of time from extraction to analysis. Holding times were compared to standard method-specific holding times accepted by the U.S. EPA. All holding times that are within acceptance criteria are considered representative. Those holding times outside of U.S. EPA acceptance criteria are qualitatively evaluated to determine their effect on sample representativeness. Representativeness was also evaluated by analysis of laboratory method blanks, trip blanks, and equipment blanks that were used to identify sources of contamination not associated with environmental conditions. As summarized in the following sections, the samples appear to be representative of the environmental conditions on site.

2.3.1 Sample Condition Upon Receipt

All samples arrived at the laboratory intact, appropriately preserved and documented.

2.3.2 Analytical Holding Times

As previously noted, all holding times were met.

2.3.3 Blank Analyses

As previously discussed, all field and laboratory blanks were free of all target analytes.

2.4 USABILITY AND COMPARABILITY

Usability of data was evaluated by assuring that all the analytical requests were met, the samples were received in the proper condition, and all analyses were performed within the appropriate holding times with the exception of those noted in this report.

3.0 SUMMARY

This QA review has identified aspects of the analytical data that required qualification due to continuing calibrations, LCS recoveries, and internal standard recoveries. None of the VOC data were rejected. To confidently use any of the analytical data within this sample set, the data user should understand the qualifications and limitations of the results. SDG GSK04 met the project completeness goal of 90%. The percent completeness is summarized in the following table.

Fraction	Number of Results	Number of Rejected Results	Percent Completeness
VOCs	656	0	100%
Overall	656	0	100%

4.0 REFERENCES

Data Quality Assessment: A Reviewer's Guide, U.S. Environmental Protection Agency, EPA *Data Quality Assessment: A Reviewer's Guide*, U.S. Environmental Protection Agency, EPA QA/G-9R, February, 2006.

Data Quality Assessment: Statistical Tools for Practitioners, U.S. Environmental Protection Agency, EPA QA/G-9S, February, 2006.

DER-10 / Technical Guidance for Site Investigation and Remediation, Office of Remediation and Materials Management, DEC Program Policy, May 3, 2010.

RFI Management Plans, Former IBM Kingston Facility, Golder Associates, September 2005.

Standard Methods for the Examination of Water and Wastewater, 20th Edition, American Public Health Association, 1998.

Method 2540G Moisture Content

SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods Third Edition, U.S. Environmental Protection Agency, Office of Solid Waste, December 1994.

Method 8260B: Volatile Organic Analytes by Gas Chromatography/Mass Spectrometry

U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, EPA 540-R-08-01, June 2008.

U.S. EPA Region 2 RCRA and CERCLA Field and Data Validation Standard Operating Procedures

<u>SOP No.</u>	<u>Title</u>	<u>Date</u>
SOP HW-24 Revision 2	Validating Volatile Organic Analytes by SW-846 Method 8260B	October 2006

ATTACHMENT A

CHAIN-OF-CUSTODY SUMMARY TABLE

ATTACHMENT A
CHAIN-OF-CUSTODY SUMMARY TABLE
TechCity (Former IBM Kingston)
Kingston, New York

Client Sample ID	Laboratory	Laboratory SDG	Laboratory Sample ID	Collection Date	Matrix	Parameter(s) Analyzed
OU03B0411028	Lancaster Labs	GSK04	6454507	10/28/2011	Soil	V
OU03B1311028	Lancaster Labs	GSK04	6454508	10/28/2011	Soil	V
OU03D0411028	Lancaster Labs	GSK04	6454509	10/28/2011	Soil	V
OU03D1311028	Lancaster Labs	GSK04	6454510	10/28/2011	Soil	V
OU03C0411028	Lancaster Labs	GSK04	6454511	10/28/2011	Soil	V
OU03C1311028	Lancaster Labs	GSK04	6454512	10/28/2011	Soil	V
OU04C0411028	Lancaster Labs	GSK04	6454513	10/28/2011	Soil	V
OU04C1311028	Lancaster Labs	GSK04	6454514	10/28/2011	Soil	V
OU04C2511028	Lancaster Labs	GSK04	6454515	10/28/2011	Soil	V
TEQ11028SHVL (Equipment Rinsate)	Lancaster Labs	GSK04	6454516	10/28/2011	Water	V
TTBA10281028 (Trip Blank)	Lancaster Labs	GSK04	6454517	10/28/2011	Water	V
OU04H0411028	Lancaster Labs	GSK04	6454518	10/28/2011	Soil	V
OU04H1311028	Lancaster Labs	GSK04	6454519	10/28/2011	Soil	V
OU04H2511028	Lancaster Labs	GSK04	6454520	10/28/2011	Soil	V
OU06C0411028	Lancaster Labs	GSK04	6454521	10/28/2011	Soil	V
OU06C1311028	Lancaster Labs	GSK04	6454522	10/28/2011	Soil	V

Notes:

- SDG - Sample Delivery Group
V - Volatile Organic Compounds by U.S. EPA Method 8260B

ATTACHMENT B

CASE NARRATIVE AND CHAIN-OF-CUSTODY RECORDS



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

NYSDEC ASP Category B Data Package

Prepared for:

Groundwater Science Co
560 Route 53
Suite 202
Beacon NY 12508

Project: TechCity Surficial Soil
Soil and Water Samples
Collected on 10/28/11

SDG# GSK04

GROUP	SAMPLE NUMBERS
1273869	6454507-6454522

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:

Date: 11/22/2011

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Nicole Maljovec at Ext. 1537.

Total Number of Pages

662



CLIENT: Groundwater Science Co
SDG: GSK04

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Volatiles in Soil

Volatiles by 8260B

Sample #	Client ID	Matrix			Comments
		Liquid	Solid	DF	
6454507	OU03B0411028		X	0.85	
6454508	OU03B1311028		X	0.88	
6454509	OU03D0411028		X	0.91	
6454510	OU03D1311028		X	0.87	
6454511	OU03C0411028		X	0.96	
6454512	OU03C1311028		X	0.9	
6454513	OU04C0411028		X	0.98	
6454514	OU04C1311028		X	0.92	
6454515	OU04C2511028		X	1.11	
6454516	TEQ11028SHVL	X		1	Equipment Blank
6454517	TTBA10281028	X		1	Trip Blank
6454518	OU04H0411028		X	0.97	
6454519	OU04H1311028		X	0.93	
6454520	OU04H2511028		X	0.92	
6454521	OU06C0411028		X	0.96	
6454522	OU06C1311028		X	0.87	

See QC Reference List for Associated Batch QC Samples

SAMPLE PREPARATION:

The weight for several samples was found to be outside the weight requirement when these samples were re-weighed at the laboratory. Please see the VOA Prep Summary sheets in the Preparations Log section for more information.

ANALYSIS:

No problems were encountered with the analysis of the samples.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Site specific matrix QC samples were not submitted for this SDG. The batch matrix QC was performed on samples from another project. Therefore the matrix effects would not be relevant and matrix QC is not provided in the data package. Laboratory spike data (LCS) are provided.

Sample number(s): 6454507-6454515, 6454518-6454521: Analysis: 10949)

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

GSK04 0044



CLIENT: Groundwater Science Co
SDG: GSK04

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Sample number(s): 6454518, 6454520: Analysis: 10949
The GC/MS volatile internal standard peak areas were outside the QC limits. A re-analysis was performed, and the matrix effect was confirmed.

DATA INTERPRETATION:

No further interpretation is necessary for the data submitted.

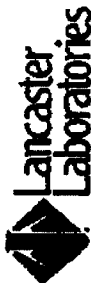
Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E = out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Narrative Reviewed and Approved 11/18/11 by 
(Date) Kathy J. Fair
Specialist

GSK04. 6645

IBM Chain of Custody



For Lancaster Laboratories use only

Acct. #: 6911 Group #: 1273869 Sample #: 6454507-22 **COC #** 01298

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Groundwater Sciences Corp</u> Acct. #: <u>06911</u> Project Name: <u>Technical Surface Soils</u> Project Name/ID (cont.): <u>93002.37</u> Sampler: <u>Debra Gorman/CE/Stone</u> Project State: <u>NY</u> P.O. #: <u>93002.37</u> IBM PM: <u>DEBRA GORMAN</u> Check one: ☐ Routine Lab GW ☐ Routine GTF O&M ☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs OU: _____ (Endicott Non-Routine only)		5 Analyses Requested Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other		For Lab Use Only FSC: _____ SCR #: _____	
2 Sample Identification		4 Matrix		5 Analyses Requested	
Date Collected Time Collected		Total # of Containers		Preservation Codes	
0403B0411020 10/20/2011 1045		4		H O O	
0403B1311020 10/20/2011 1102		4		H O O	
0403D0411020 10/20/2011 1110		4		H O O	
0403D1311020 10/20/2011 1132		4		H O O	
0403C0411020 10/20/2011 1205		4		H O O	
0403C1311020 10/20/2011 1215		4		H O O	
0404C0411020 10/20/2011 1240		4		H O O	
0404C1311020 10/20/2011 1300		4		H O O	
0404C2511020 10/20/2011 1319		4		H O O	
TEQ11020SHVL 10/20/2011 1340		3		H O O	
3 Grab Composites		Soil Water NPDES Applicable		Remarks/SSOW	
Date Collected Time Collected		Total # of Containers		Preservation Codes	
10/20/2011 1045		4		H O O	
10/20/2011 1102		4		H O O	
10/20/2011 1110		4		H O O	
10/20/2011 1132		4		H O O	
10/20/2011 1205		4		H O O	
10/20/2011 1215		4		H O O	
10/20/2011 1240		4		H O O	
10/20/2011 1300		4		H O O	
10/20/2011 1319		4		H O O	
10/20/2011 1340		3		H O O	
7 Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please check): ☐ Phone ☐ E-mail Phone #: _____ E-mail: _____		Relinquished by: <u>DEBRA GORMAN</u>		Received by: _____	
8 Data Package Options (please check if required) ☐ Type I (Validation/NJ Reg) ☐ TX TRRP-13 ☐ Type II (Reduced NJ) ☐ MA MCP ☐ Type III (Raw Data Only) ☐ CT RCP ☐ NY ASP A ☐ Site-specific QC (MS/MSD/Dup)? ☐ Yes ☐ No ☐ NY ASP B (If yes, indicate QC sample and submit replicate volume)		Relinquished by: _____		Received by: _____	
SDG Complete? ☒ Yes ☐ No COC # <u>1298 and</u> COC # <u>1299</u>		Relinquished by: _____		Received by: _____	
Relinquished by: _____		Relinquished by: _____		Received by: _____	

Lancaster Laboratories, Inc. 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766
 Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

**Lancaster
Laboratories**

Acct. #: 6911

COC # 01299

Please print. Instructions on reverse side correspond with circled numbers.

[illegible]

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6786



Environmental Sample Administration Receipt Documentation Log

Client/Project: Groundwater Science

Shipping Container Sealed: YES NO

Date of Receipt: 6/28/14

Custody Seal Present * : YES NO

Time of Receipt: 0915

* Custody seal was intact unless otherwise noted in the discrepancy section

Source Code: SU-1

Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	429951	2.7	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody. 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: [Signature] 224 Date/Time: 6/29/14 0950

Issued by Dept. 6042 Management

2174.06

ATTACHMENT C

QUALIFIED LABORATORY TEST RESULT FORMS

Analysis Report



ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Groundwater Science Co
560 Route 53
Suite 202
Beacon NY 12508

November 10, 2011

Project: TechCity Surficial Soil

Submittal Date: 10/29/2011

Group Number: 1273869

SDG: GSK04

PO Number: DB93002.37

State of Sample Origin: NY

Client Sample Description

OU03B0411028 Grab Soil
OU03B1311028 Grab Soil
OU03D0411028 Grab Soil
OU03D1311028 Grab Soil
OU03C0411028 Grab Soil
OU03C1311028 Grab Soil
OU04C0411028 Grab Soil
OU04C1311028 Grab Soil
OU04C2511028 Grab Soil
TEQ11028SHVL Grab Water
TTBA10281028 Water
OU04H0411028 Grab Soil
OU04H1311028 Grab Soil
OU04H2511028 Grab Soil
OU06C0411028 Grab Soil
OU06C1311028 Grab Soil

Lancaster Labs (LLI)

6454507
6454508
6454509
6454510
6454511
6454512
6454513
6454514
6454515
6454516
6454517
6454518
6454519
6454520
6454521
6454522

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC

Groundwater Science Co

Attn: Dorothy Bergmann

COPY TO

1 COPY TO

Data Package Group

GSK04 0007

Analysis Report



Questions? Contact your Client Services Representative
Nicole L. Maljovec at (717) 656-2300 Ext. 1537

Respectfully Submitted,

Robin C. Runkle
Senior Specialist

GSKB-1 0000

Analysis Report



Page 1 of 2

Sample Description: OU03B0411028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454507
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 10:45 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

O3B04 SDG#: GSK04-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		DVQ
10949	Benzene	71-43-2	N.D.	0.5	5	0.85	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.85	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.85	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.85	
10949	Bromoform	75-25-2	N.D.	1	5	0.85	
10949	Bromomethane	74-83-9	N.D.	2	5	0.85	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.85	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.85	
10949	Chloroethane	75-00-3	N.D.	2	5	0.85	
10949	Chloroform	67-66-3	N.D.	1	5	0.85	
10949	Chloromethane	74-87-3	N.D.	2	5	0.85	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.85	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.85	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.85	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.85	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.85	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.85	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.85	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.85	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.85	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.85	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.85	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.85	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.85	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.85	5
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.85	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.85	
10949	Freon 113	76-13-1	N.D.	2	10	0.85	
10949	Freon 123a	354-23-4	N.D.	2	5	0.85	5
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.85	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.85	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.85	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.85	
10949	Toluene	108-88-3	N.D.	1	5	0.85	
10949	1,1,1-Trichloroethane	71-55-6	6	1	5	0.85	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.85	
10949	Trichloroethene	79-01-6	10	1	5	0.85	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.85	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.85	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.85	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.85	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry	SM20 2540 G	%	%	%	%
00111 Moisture	n.a.	14.6	0.50	0.50	0.50
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU03B0411028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454507
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 10:45 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O3B04 SDG#: GSK04-01

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10549	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/02/2011 19:20	Chelsea B Eastep	0.85
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:15	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:15	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:14	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307820002A	11/03/2011 10:02	William C Schwebel	1

GSK04 2011

Analysis Report



Page 1 of 2

Sample Description: OU03B1311028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454508
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 11:02 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

03B13 SDG#: GSK04-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		DVQ
10949	Benzene	71-43-2	N.D.	0.5	5	0.88	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.88	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.88	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.88	
10949	Bromoform	75-25-2	N.D.	1	5	0.88	
10949	Bromomethane	74-83-9	N.D.	2	5	0.88	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.88	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.88	
10949	Chloroethane	75-00-3	N.D.	2	5	0.88	
10949	Chloroform	67-66-3	N.D.	1	5	0.88	
10949	Chloromethane	74-87-3	N.D.	2	5	0.88	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.88	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.88	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.88	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.88	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.88	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.88	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.88	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.88	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.88	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.88	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.88	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.88	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.88	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.88	uJ
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.88	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.88	
10949	Freon 113	76-13-1	N.D.	2	10	0.88	
10949	Freon 123a	354-23-4	N.D.	2	5	0.88	uJ
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.88	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.88	
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.88	
10949	Tetrachloroethene	127-18-4	3	1	5	0.88	J
10949	Toluene	108-88-3	N.D.	1	5	0.88	
10949	1,1,1-Trichloroethane	71-55-6	24	1	5	0.88	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.88	
10949	Trichloroethene	79-01-6	33	1	5	0.88	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.88	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.88	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.88	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.88	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAP Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry	SM20 2540 G	%	%	%	
00111	Moisture	n.a.	9.9	0.50	0.50
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

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*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU03B1311028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454508
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 11:02 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O3B13 SDG#: GSK04-02

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/02/2011 19:43	Chelsea B Eastep	0.88
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:17	Stephanie A Sanchez	n.a.
06389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:17	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:16	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307820002A	11/03/2011 10:02	William C Schwebel	1

GSK04 0813

Analysis Report



Page 1 of 2

Sample Description: OU03D0411028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454509
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 11:18 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

Q3D04 SDG#: GSK04-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		D/O
10949	Benzene	71-43-2	N.D.	0.6	6	0.91	
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.91	
10949	Bromobenzene	108-86-1	N.D.	1	6	0.91	
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.91	
10949	Bromoform	75-25-2	N.D.	1	6	0.91	
10949	Bromomethane	74-83-9	N.D.	2	6	0.91	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.91	
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.91	
10949	Chloroethane	75-00-3	N.D.	2	6	0.91	
10949	Chloroform	67-66-3	N.D.	1	6	0.91	
10949	Chloromethane	74-87-3	N.D.	2	6	0.91	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.91	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.91	
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.91	
10949	Dibromomethane	74-95-3	N.D.	1	6	0.91	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.91	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.91	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.91	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.91	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.91	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.91	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.91	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.91	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.91	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.91	UT
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.91	
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.91	
10949	Freon 113	76-13-1	N.D.	2	11	0.91	
10949	Freon 123a	354-23-4	N.D.	2	6	0.91	UT
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.91	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.91	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.91	
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.91	
10949	Toluene	106-88-3	N.D.	1	6	0.91	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.91	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.91	
10949	Trichloroethene	79-01-6	N.D.	1	6	0.91	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.91	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.91	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.91	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.91	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry	SM20 2540 G	%	%	%	
00111	Moisture	n.a.	19.8	0.50	0.50
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

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*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU03D0411028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454509
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 11:18 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O3D04 SDG#: GSK04-03

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/02/2011 20:05	Chelsea B Eastep	0.91
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:18	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:19	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:18	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307820002A	11/03/2011 10:02	William C Schwebel	1

GSK04 0815

Analysis Report



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Sample Description: OU03D1311028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454510
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 11:32 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O3D13 SDG#: GSK04-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	0.87	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.87	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.87	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.87	
10949	Bromoform	75-25-2	N.D.	1	5	0.87	
10949	Bromomethane	74-83-9	N.D.	2	5	0.87	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.87	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.87	
10949	Chloroethane	75-00-3	N.D.	2	5	0.87	
10949	Chloroform	67-66-3	N.D.	1	5	0.87	
10949	Chloromethane	74-87-3	N.D.	2	5	0.87	
10949	2-Chlorotoluene	55-49-8	N.D.	1	5	0.87	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.87	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.87	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.87	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.87	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.87	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.87	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.87	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.87	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.87	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.87	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.87	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.87	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.87	ut
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.87	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.87	
10949	Freon 113	76-13-1	N.D.	2	10	0.87	
10949	Freon 123a	354-23-4	N.D.	2	5	0.87	ut
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.87	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.87	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.87	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.87	
10949	Toluene	108-88-3	N.D.	1	5	0.87	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.87	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.87	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.87	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.87	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.87	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.87	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.87	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry	SM20 2540 G	%	%	%	%
00111	Moisture	n.a.	11.9	0.50	0.50
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

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*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU03D1311028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454510
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 11:32 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/29/2011 09:15

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

O3D13 SDG#: GSK04-04

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/02/2011 20:28	Chelsea B Eastep	0.97
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:22	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:22	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:22	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307820002A	11/03/2011 10:02	William C Schwebel	1

GSK04-06817

Analysis Report



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Sample Description: OU03C0411028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454511
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 12:05 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O3C04 SDG#: GSK04-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		D/Q
10949	Benzene	71-43-2	N.D.	0.5	5	0.96	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.96	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.96	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.96	
10949	Bromoform	75-25-2	N.D.	1	5	0.96	
10949	Bromomethane	74-83-9	N.D.	2	5	0.96	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.96	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.96	
10949	Chloroethane	75-00-3	N.D.	2	5	0.96	
10949	Chloroform	67-66-3	N.D.	1	5	0.96	
10949	Chloromethane	74-87-3	N.D.	2	5	0.96	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.96	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.96	
10949	Dibromochloromethane	124-46-1	N.D.	1	5	0.96	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.96	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.96	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.96	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.96	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.96	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.96	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.96	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.96	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.96	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.96	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.96	4J
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.96	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.96	
10949	Freon 113	76-13-1	N.D.	2	11	0.96	
10949	Freon 123a	354-23-4	N.D.	2	5	0.96	4J
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.96	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.96	
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.96	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.96	
10949	Toluene	108-88-3	N.D.	1	5	0.96	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.96	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.96	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.96	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.96	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.96	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.96	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.96	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry	SM20 2540 G	%	%	%	
06111 Moisture	n.a.	9.7	0.50	0.50	0.50
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

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Analysis Report



Page 2 of 2

Sample Description: OU03C0411028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454511
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 12:05 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O3C04 SDG#: GSK04-05

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/02/2011 20:51	Chelsea B Eastep	0.96
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:24	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:24	Stephanie A Sanchez	n.a.
07576	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:23	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307620002A	11/03/2011 10:02	William C Schwebel	1

GSK04 0019

Analysis Report



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Sample Description: OU03C1311028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454512
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 12:15 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O3C13 SDG#: GSK04-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.9
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.9
10949	Bromobenzene	108-86-1	N.D.	1	5	0.9
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.9
10949	Bromoform	75-25-2	N.D.	1	5	0.9
10949	Bromomethane	74-83-9	N.D.	2	5	0.9
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.9
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.9
10949	Chloroethane	75-00-3	N.D.	2	5	0.9
10949	Chloroform	67-66-3	N.D.	1	5	0.9
10949	Chloromethane	74-87-3	N.D.	2	5	0.9
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.9
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.9
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.9
10949	Dibromomethane	74-95-3	N.D.	1	5	0.9
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.9
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.9
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.9
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.9
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.9
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.9
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.9
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.9
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.9
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.9
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.9
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.9
10949	Freon 113	76-13-1	N.D.	2	10	0.9
10949	Freon 123a	354-23-4	N.D.	2	5	0.9
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.9
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.9
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.9
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.9
10949	Toluene	108-88-3	N.D.	1	5	0.9
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.9
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.9
10949	Trichloroethene	79-01-6	N.D.	1	5	0.9
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.9
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.9
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.9
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.9

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry	SM20 2540 G	%	%	%	
00111	Moisture	n.a.	10.9	0.50	0.50
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

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Sample Description: OU03C1311028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454512
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 12:15 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O3C13 SDG#: GSK04-06

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/02/2011 21:13	Chelsea B Eastep	0.9
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:25	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:26	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:25	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307820002A	11/03/2011 10:02	William C Schwebel	1

GSK04 0621

Analysis Report



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Sample Description: OU04C0411028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454513
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 12:40 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O4C04 SDG#: GSK04-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
				ug/kg	ug/kg		
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	0.98	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.98	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.98	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.98	
10949	Bromoform	75-25-2	N.D.	1	5	0.98	
10949	Bromomethane	74-83-9	N.D.	2	5	0.98	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.98	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.98	
10949	Chloroethane	75-00-3	N.D.	2	5	0.98	
10949	Chloroform	67-66-3	N.D.	1	5	0.98	
10949	Chloromethane	74-87-3	N.D.	2	5	0.98	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.98	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.98	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.98	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.98	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.98	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.98	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.98	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.98	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.98	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.98	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.98	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.98	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.98	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.98	UT
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.98	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.98	
10949	Freon 113	76-13-1	N.D.	2	11	0.98	
10949	Freon 123a	354-23-4	N.D.	2	5	0.98	UT
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.98	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.98	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.98	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.98	
10949	Toluene	108-88-3	N.D.	1	5	0.98	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.98	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.98	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.98	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.98	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.98	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.98	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.98	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry	SM20 2540 G	%	%	%	
00111 Moisture	n.a.	10.7	0.50	0.50	CSK84 8822
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

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Analysis Report



Page 2 of 2

Sample Description: OU04C0411028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454513
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 12:40 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/29/2011 09:15

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

O4C04 SDG#: GSK04-07

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/02/2011 21:36	Chelsea B Eastep	0.98
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:27	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:27	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:26	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307E20002A	11/03/2011 10:02	William C Schwebel	1

GSK04 0823

Analysis Report



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Sample Description: OU04C1311028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454514
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 13:00 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/29/2011 09:15

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

O4C13 SDG#: GSK04-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	0.92	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.92	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.92	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.92	
10949	Bromoform	75-25-2	N.D.	1	5	0.92	
10949	Bromomethane	74-83-9	N.D.	2	5	0.92	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.92	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.92	
10949	Chloroethane	75-00-3	N.D.	2	5	0.92	
10949	Chloroform	67-66-3	N.D.	1	5	0.92	
10949	Chloromethane	74-87-3	N.D.	2	5	0.92	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.92	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.92	
10949	Dibromochloromethane	124-46-1	N.D.	1	5	0.92	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.92	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.92	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.92	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.92	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.92	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.92	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.92	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.92	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.92	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.92	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.92	UT
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.92	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.92	
10949	Freon 113	76-13-1	N.D.	2	10	0.92	
10949	Freon 123a	354-23-4	N.D.	2	5	0.92	UT
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.92	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.92	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.92	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.92	
10949	Toluene	108-88-3	N.D.	1	5	0.92	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.92	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.92	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.92	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.92	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.92	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.92	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.92	

The LCS and/or LCSd recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry	SM20 2540 G	%	%	%	
00111 Moisture	n.a.	8.9	0.50	0.50	GSK04-8024
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

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Analysis Report



Page 2 of 2

Sample Description: OU04C1311028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454514
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 13:00 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/29/2011 09:15

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

O4C13 SDG#: GSK04-08

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	All3062AA	11/02/2011 21:58	Chelsea B Eastep	0.92
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:28	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:29	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:28	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307820002A	11/03/2011 10:02	William C Schwebel	1

GSK04 0025

Analysis Report



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Sample Description: OU04C2511028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454515
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 13:19 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O4C25 SDG#: GSK04-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.6	6	1.11
10949	Benzyl Chloride	100-44-7	N.D.	1	5	1.11
10949	Bromobenzene	108-86-1	N.D.	1	6	1.11
10949	Bromodichloromethane	75-27-4	N.D.	1	6	1.11
10949	Bromoform	75-25-2	N.D.	1	6	1.11
10949	Bromomethane	74-83-9	N.D.	2	6	1.11
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	1.11
10949	Chlorobenzene	108-90-7	N.D.	1	6	1.11
10949	Chloroethane	75-00-3	N.D.	2	6	1.11
10949	Chloroform	67-66-3	N.D.	1	6	1.11
10949	Chloromethane	74-87-3	N.D.	2	6	1.11
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	1.11
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	1.11
10949	Dibromochloromethane	124-46-1	N.D.	1	6	1.11
10949	Dibromomethane	74-95-3	N.D.	1	6	1.11
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	1.11
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	1.11
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	1.11
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	1.11
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	1.11
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	1.11
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	1.11
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	1.11
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	1.11
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	1.11
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	1.11
10949	Ethylbenzene	100-41-4	N.D.	1	6	1.11
10949	Freon 113	76-13-1	N.D.	2	12	1.11
10949	Freon 123a	354-23-4	N.D.	2	6	1.11
10949	Methylene Chloride	75-09-2	N.D.	2	6	1.11
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	1.11
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	1.11
10949	Tetrachloroethene	127-18-4	N.D.	1	6	1.11
10949	Toluene	108-88-3	N.D.	1	6	1.11
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	1.11
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	1.11
10949	Trichloroethene	79-01-6	N.D.	1	6	1.11
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	1.11
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	1.11
10949	Vinyl Chloride	75-01-4	N.D.	1	6	1.11
10949	Xylene (Total)	1330-20-7	N.D.	1	6	1.11

The LCS and/or LCS/D recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry	SM20 2540 G	%	%	%	
00111	Moisture	n.a.	5.6	0.50	0.50
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU04C2511028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454515
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 13:19 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/29/2011 09:15

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

O4C25 SDG#: GSK04-09

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/02/2011 22:21	Chelsea B Eastep	1.11
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:30	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:30	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:29	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307820002A	11/03/2011 10:02	William C Schwebel	1

GSK04 0827

Analysis Report



Page 1 of 2

Sample Description: TEQ11028SHVL Grab Water
TechCity Surficial Soil

LLI Sample # WW 6454516
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 13:40 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/29/2011 09:15

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

KTEQ1 SDG#: GSK04-10EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.5	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.6	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.5	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK04-8826

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TEQ11028SHVL Grab Water
TechCity Surficial Soil

LLI Sample # WW 6454516
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 13:40 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

KTEQ1 SDG#: GSK04-10EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	L113121AA	11/08/2011 11:06	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-646 5030B	1	L113121AA	11/08/2011 11:08	Kerri E Legerlotz	1

GSK04 0029

Analysis Report



Page 1 of 2

Sample Description: TTBA10281028 Water
TechCity Surficial Soil

LLI Sample # WW 6454517
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

KTBA SDG#: GSK04-11TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-46-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-6	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.5	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK04-0033

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TTBA10281028 Water
TechCity Surficial Soil

LLI Sample # WW 6454517
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

KTBA , SDG#: GSK04-11TB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	L113121AA	11/08/2011 11:30	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L113121AA	11/08/2011 11:30	Kerri E Legerlotz	1

GSK04 0031

Analysis Report



Page 1 of 2

Sample Description: OU04H0411028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454518
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 13:53 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O4H04 SDG#: GSK04-12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.6	6	0.97	
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.97	5J
10949	Bromobenzene	108-86-1	N.D.	1	6	0.97	5J
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.97	
10949	Bromoform	75-25-2	N.D.	1	6	0.97	
10949	Bromomethane	74-83-9	N.D.	2	6	0.97	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.97	
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.97	
10949	Chloroethane	75-00-3	N.D.	2	6	0.97	
10949	Chloroform	67-66-3	N.D.	1	6	0.97	
10949	Chloromethane	74-87-3	N.D.	2	6	0.97	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.97	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.97	5J
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.97	5J
10949	Dibromomethane	74-95-3	N.D.	1	6	0.97	5J
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.97	5J
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.97	5J
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.97	5J
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.97	
10949	1,1-Dichloroethane	75-34-3	N.D.	2	6	0.97	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.97	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.97	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.97	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.97	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.97	5J
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.97	
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.97	
10949	Freon 113	76-13-1	N.D.	2	12	0.97	
10949	Freon 123a	354-23-4	N.D.	2	6	0.97	5J
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.97	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.97	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.97	5J
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.97	
10949	Toluene	108-88-3	N.D.	1	6	0.97	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.97	
10949	1,1,2-Trichloroethane	79-06-5	N.D.	1	6	0.97	
10949	Trichloroethene	79-01-6	N.D.	1	6	0.97	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.97	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.97	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.97	5J
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.97	

The LCS and/or ECSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAP Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

The GC/MS volatile internal standard peak areas were outside the QC limits. A re-analysis was performed, and the matrix effect was confirmed.

GSK04-0832

Wet Chemistry

SM20 2540 G

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU04H0411028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454518
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 13:53 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

O4H04 SDG#: GSK04-12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	SM20 2540 G		%	%	%	
00111	Moisture	n.a.	15.6	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/02/2011 22:44	Chelsea B Eastep	0.97
06389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:31	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:32	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:31	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307820002B	11/03/2011 10:02	William C Schwebel	1

GSK04 0633

Analysis Report



Page 1 of 2

Sample Description: OU04H1311028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454519
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 14:09 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O4H13 SDG#: GSK04-13

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	0.6 J	0.5	5	0.93	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.93	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.93	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.93	
10949	Bromoform	75-25-2	N.D.	1	5	0.93	
10949	Bromomethane	74-83-9	N.D.	2	5	0.93	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.93	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.93	
10949	Chloroethane	75-00-3	N.D.	2	5	0.93	
10949	Chloroform	67-66-3	N.D.	1	5	0.93	
10949	Chloromethane	74-87-3	N.D.	2	5	0.93	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.93	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.93	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.93	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.93	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.93	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.93	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.93	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.93	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.93	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.93	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.93	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.93	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.93	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.93	UT
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.93	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.93	
10949	Freon 113	76-13-1	N.D.	2	10	0.93	
10949	Freon 123a	354-23-4	N.D.	2	5	0.93	UT
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.93	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.93	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.93	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.93	
10949	Toluene	108-88-3	N.D.	1	5	0.93	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.93	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.93	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.93	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.93	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.93	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.93	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.93	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAP Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry	SM20 2540 G	%	%	%	
00111 Moisture	n.a.	10	0.50	0.50	GSK04 8834
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

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Analysis Report



Page 2 of 2

Sample Description: OU04H1311028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454519
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 14:09 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/29/2011 09:15

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

O4H13 SDG#: GSK04-13

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/02/2011 23:06	Chelsea B Eastep	0.93
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:33	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:33	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:32	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307820002B	11/03/2011 10:02	William C Schwebel	1

GSK04 0835

Analysis Report



Page 1 of 2

Sample Description: OU04H2511028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454520
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 14:40 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O4H25 SDG#: GSK04-14

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	3 J	0.5	5	0.92
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.92
10949	Bromobenzene	108-86-1	N.D.	1	5	0.92
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.92
10949	Bromoform	75-25-2	N.D.	1	5	0.92
10949	Bromomethane	74-83-9	N.D.	2	5	0.92
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.92
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.92
10949	Chloroethane	75-00-3	N.D.	2	5	0.92
10949	Chloroform	67-66-3	N.D.	1	5	0.92
10949	Chloromethane	74-87-3	N.D.	2	5	0.92
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.92
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.92
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.92
10949	Dibromomethane	74-95-3	N.D.	1	5	0.92
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.92
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.92
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.92
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.92
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.92
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.92
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.92
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.92
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.92
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.92
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.92
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.92
10949	Freon 113	76-13-1	N.D.	2	10	0.92
10949	Freon 123a	354-23-4	N.D.	2	5	0.92
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.92
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	3	5	0.92
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.92
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.92
10949	Toluene	108-88-3	1 J	1	5	0.92
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.92
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.92
10949	Trichloroethene	79-01-6	N.D.	1	5	0.92
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.92
10949	1,2,3-Trichloropropane	96-16-4	N.D.	1	5	0.92
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.92
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.92

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAP Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

The GC/MS volatile internal standard peak areas were outside the QC limits. A re-analysis was performed, and the matrix effect was confirmed.

GSK04-0036

Wet Chemistry

SM20 2540 G

Lancaster Laboratories, Inc.
2425 New Holland Pike
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Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU04H2511028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454520
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 14:40 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O4H25 SDG#: GSK04-14

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	SM20 2540 G		%	%	%	
00111	Moisture	n.a.	8.6	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/02/2011 23:29	Chelsea B Eastep	0.92
06369	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:35	Stephanie A Sanchez	n.a.
06369	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:35	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:34	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307820002B	11/03/2011 10:02	William C Schwebel	1

GSK04 0437

Analysis Report



Page 1 of 2

Sample Description: OU06C0411028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454521
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 15:42 by DAB

Groundwater Science Co

560 Route 53

Suite 202

Beacon NY 12508

Submitted: 10/29/2011 09:15

Reported: 11/10/2011 16:54

O6C04 SDG#: GSK04-15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.6	6	0.96	
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.96	
10949	Bromobenzene	108-86-1	N.D.	1	6	0.96	
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.96	
10949	Bromoform	75-25-2	N.D.	1	6	0.96	
10949	Bromomethane	74-83-9	N.D.	2	6	0.96	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.96	
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.96	
10949	Chloroethane	75-00-3	N.D.	2	6	0.96	
10949	Chloroform	67-66-3	N.D.	1	6	0.96	
10949	Chloromethane	74-87-3	N.D.	2	6	0.96	
10949	2-Chlorotoluene	95-49-6	N.D.	1	6	0.96	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.96	
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.96	
10949	Dibromomethane	74-95-3	N.D.	1	6	0.96	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.96	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.96	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.96	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.96	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.96	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.96	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.96	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.96	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.96	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.96	US
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.96	
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.96	
10949	Freon 113	76-13-1	N.D.	2	12	0.96	
10949	Freon 123a	354-23-4	N.D.	2	6	0.96	US
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.96	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.96	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.96	
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.96	
10949	Toluene	108-88-3	N.D.	1	6	0.96	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.96	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.96	
10949	Trichloroethene	79-01-6	N.D.	1	6	0.96	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.96	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.96	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.96	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.96	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene.

Wet Chemistry	SM20 2540 G	%	%	%	
00111 Moisture	n.a.	21.1	0.50	0.50	CS 1111 00111
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

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*=This limit was used in the evaluation of the final result



Sample Description: OU06C0411028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454521
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 15:42 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/29/2011 09:15

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

O6C04 SDG#: GSK04-15

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trials#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113062AA	11/02/2011 23:51	Chelsea B Eastep	0.96
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:36	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:37	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:36	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307820002B	11/03/2011 10:02	William C Schwebel	1

GSK04-15-19

Analysis Report



Page 1 of 2

Sample Description: OU06C1311028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454522
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 15:55 by DAB

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

O6C13 SDG#: GSK04-16*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	0.87	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.87	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.87	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.87	
10949	Bromoform	75-25-2	N.D.	1	5	0.87	
10949	Bromomethane	74-83-9	N.D.	2	5	0.87	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.87	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.87	
10949	Chloroethane	75-00-3	N.D.	2	5	0.87	
10949	Chloroform	67-66-3	N.D.	1	5	0.87	
10949	Chloromethane	74-87-3	N.D.	2	5	0.87	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.87	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.87	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.87	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.87	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.87	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.87	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.87	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.87	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.87	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.87	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.87	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.87	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.87	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.87	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.87	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.87	
10949	Freon 113	76-13-1	N.D.	2	11	0.87	
10949	Freon 123a	354-23-4	N.D.	2	5	0.87	
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.87	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.87	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.87	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.87	
10949	Toluene	108-88-3	N.D.	1	5	0.87	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.87	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.87	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.87	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.87	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.87	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.87	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.87	

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n.a.

19.3

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK04 0548

Analysis Report



Page 2 of 2

Sample Description: OU06C1311028 Grab Soil
TechCity Surficial Soil

LLI Sample # SW 6454522
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 15:55 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/29/2011 09:15

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

O6C13 SDG#: GSK04-16*

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113081AA	11/04/2011 17:42	Chelsae B Eastep	0.87
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201130226016	10/29/2011 14:38	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201130226016	10/29/2011 14:38	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201130226016	10/29/2011 14:38	Stephanie A Sanchez	n.a.
00111	Moisture	SM20 2540 G	1	11307820002B	11/03/2011 10:02	William C Schwebel	1

GSK04 0841

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
ug	microgram(s)	mg	milligram(s)
ml	milliliter(s)	l	liter(s)
m3	cubic meter(s)	ul	microliter(s)
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value - The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ DL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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ATTACHMENT D

**DATA VALIDATION CHECKLIST
AND SUPPORT DOCUMENTATION**

SOP # HW-24
Revision # 2
August 2008

USEPA
Hazardous Waste Support Branch
Validating Volatile Organic Compounds
By Gas Chromatography/Mass Spectrometry
SW-846 Method 8260B

Prepared by: George Karas Date: 8/22/08
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Name

Reviewed by: _____ Date: _____
Name

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the USEPA SW-846, Method 8260B December 1996. The validation methods and actions discussed in this document are based on the requirements set forth in USEPA SW-846, Method 8260B and Method 8000C, Rev 3, March 2003; and "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," January, 2005. This document covers technical as well as method specific problems; however situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are defined on page 4.

The reviewer must prepare a detailed data assessment to be submitted along with the complete SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data, and contract non-compliance.

DEFINITIONS

Acronyms

BNA - base neutral acid(another name for Semi Volatiles)
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
CF - calibration factor
%D - percent difference
DCB -decachlorobiphenyl
DDD - dichlorodiphenyldichloroethane
DDE - dichlorodiphenylethane
DDT - dichlorodiphenyltrichloroethane
DoC - Date of Collection
GC - gas chromatography
GC/ECD - gas chromatography/electron capture detector
GC/MS - gas chromatography/mass spectrometer
GPC - gel permeation chromatography
IS - internal standard
kg - kilogram
µg - microgram
MS - matrix spike
MSD - matrix spike duplicate
l - liter
ml - milliliter
PCB - Polychlorinated biphenyl
PE - performance evaluation
PEM - Performance Evaluation Mixture
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SMC - system monitoring compound
SOP - standard operating procedure
SOW - Statement of Work
SVOA - semivolatile organic acid
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TCX -tetrachloro-m-xylene
TIC - tentatively identified compound

TOPO - Task Order Project Officer
TPO - Technical Project Officer
VOA - Volatile organic
VTSR - Validated Time of Sample Receipt

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

LAB QUALIFIERS:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

YES NO N/A

I. PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: SDG GSK04 LAB: Lancaster Laboratories

SITE NAME: TechCity (Former IBM Kingston)

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable
format or CLP Forms Equivalent?

ACTION: If not, note the effect on review of the data in
the Data Assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative, and/or cover letter
signed release present?

2.2 Are case number and SDG number(s) contained
in the narrative or cover letter?

ACTION: If not, note the effect on review of the data in
the Data Assessment narrative.

II. VOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Reports, and/or Chain of Custodies
from the field samplers present for all samples
sign release present?

ACTION: If no, contact the laboratory/sampling team for replacement
of missing or illegible copies.

1.2 Is a sampling trip report present (if required)?

1.3 Sample Conditions/Problems

YES NO N/A

- 1.3.1 Do the Traffic Reports, Chain of Custodies, or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data?

— ☒ —

ACTION: If all the VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, flag all positive results "J" and all non-detects "R".

ACTION: If samples were not iced or if the ice was melted upon receipt at the laboratory and the temperature of the cooler was elevated ($>10^{\circ}\text{C}$), flag all positive results "J" and all non-detects non"UJ".

2.0 Holding Times

- 2.1 Have any volatile holding times, determined from date of collection to date of analysis, been exceeded?

— ☒ —

The maximum holding time for aqueous samples is 14 days.

The maximum holding time for soils non aqueous samples is 14 days.

NOTE: If unpreserved, aqueous samples maintained at 4°C for aromatic hydrocarbons analysis must be analyzed within 7 days. If preserved with HCL acid to a $\text{pH}<2$ and stored at 4°C , then aqueous samples must be analyzed within 14 days from time of collection. For non-aqueous samples for volatile components that are frozen (less than 7°C) or are properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and perserved with NaHSO_4 , the maximum holding time is 14 days from sample collection. If

YES NO N/A

uncertain about preservation, contact the laboratory /sampling team to determine whether or not samples were preserved.

ACTION: Qualify sample results according to Table 1:

Table 1. Holding Time Actions for Trace Volatile Analysis

Matrix	Preserved	Criteria	Action	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 days	No qualifications	
	No	> 7 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes	> 14 days	J	R
Non Aqueous	No	≤ 14 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes/No	> 14 days	J	R

3.0 Surrogate Recovery (CLP Form II Equivalent)

3.1 Have the volatile surrogate recoveries been listed on Surrogate Recovery forms for each of the following matrices:

- a. Water 14 ☒ ☐ ☐
- b. Soil 14 ☒ ☐ ☐

3.2 If so, are all the samples listed on the appropriate Surrogate Recovery forms for each matrix:

- a. Water 14 ☒ ☐ ☐
- b. Soil 14 ☒ ☐ ☐

ACTION: If large errors exist, deliverables are unavailable or information is missing, document the effect(s) in Data

YES NO N/A

Assessments and contact the laboratory/project officer/appropriate official for an explanation /resubmittal, make any necessary corrections and document effect in the Data Assessment.

- 3.3 Were the surrogate recovery limits followed per Table 2. If Table 2 criteria were not followed, the laboratory may use in-house performance criteria (per SW-846, Method 8000C, section 9.7). Other compounds may be used as surrogates, depending upon the analysis requirements.

☐ ☐ ☒ ☐

In-house limits

Table 2. Surrogate Spike Recovery Limits for Water and Soil/Sediments

DMC	Recovery Limits (%)Water	Recovery Limits Soil/Sediment
4-Bromofluorobenzene	80-120	70-130
Dibromofluoromethane	80-120	70-130
Toluene-d ₈	80-120	70-130
Dichloroethane-d ₄	80-120	70-130

Note: Use above table if laboratory did not provide in house recovery criteria.

Note: Other compounds may be used as surrogated depending upon the analysis requirements.

- 3.4 Were outliers marked correctly with an asterisk?

☐ ☐ ☐ ☒

ACTION: Circle all outliers with a red pencil.

- 3.5 Were one or more volatile surrogate recoveries out of specification for any sample or method blank. Table 2.

☐ ☐ ☒ ☐

If yes, were samples reanalyzed?

☐ ☐ ☐ ☒

Were method blanks reanalyzed?

☐ ☐ ☐ ☒

YES NO N/A

ACTION: If all surrogate recoveries are > 10% but 1 or more compounds do not meet method specifications:

1. Flag all positive results as estimated ("J").
2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.
3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects, but qualify positive results as estimated "J".

If any surrogate has a recovery of < 10%:

1. Positive results are qualified with ("J").
2. Non-detects for that should be qualified as unusable ("R").

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. The basic concern is whether the blank problems represent an isolated problem with the blank alone or whether there is a fundamental problem with the analytical process. If one or more samples in the batch show acceptable surrogate recoveries, the reviewer may choose the blank problem to be an isolated occurrence.

3.6 Are there any transcription/calculation errors between raw data and reported data?

11 ☒

ACTION: If large errors exist, take action as specified in section 3.2 above.

4.0 Laboratory Control Sample (Form III/Equivalent)

4.1 Is the LCS prepared, extracted, analyzed, and reported once for every 20 field samples of a similar matrix, per SDG.

11 ☒

YES NO N/A

Note: LCS consists of an aliquot of a clean (control) matrix similar to the sample matrix and of the same weight or volume.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation /resubmittals. Make note in the data assessment.

4.2 Were the Laboratory Control Samples analyzed at the required frequency for each of the following matrices:

A. Water	☒	☐	☐
B. Soil	☒	☐	☐
C. Med Soil	☐	☐	☒

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

4.3 Have in house LCS recovery limits been developed (Method 8000C, Sect 9.7). ☒ ☐ ☐

4.4 If in house limits are not developed, are LCS acceptance recovery limits between 70 - 130% (Method 8000c Sect 9.5)? ☐ ☐ ☒

4.5 Were one or more of the volatile LCS recoveries outside the in house laboratory recovery criteria for spiked analytes? If in house limits are not present use 70 - 130% recovery limits.

☒ ☐ ☐

YES NO N/A

Table 3. LCS Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit $\leq$ %R	No Qualifications	

5.0 Matrix Spikes (Form III or equivalent)

5.1 Are all data for matrix spike and matrix duplicate or matrix spike duplicate (MS/MD or MS/MSD) present and complete for each matrix?

MS/MSD not collected for this Sda

11 — ☒

NOTE: The laboratory should use one matrix spike and a duplicate analysis of an unspiked field sample if target analytes are expected in the sample. If the sample is not expected to contain target analytes, a MS/MSD should be analyzed (SW-846, Method 8260B, Sect 8.4.2).

5.2 Have MS/MD or MS/MSD results been summarized on modified CLP Form III?

11 — ☒

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency for each of the following matrices? (One MS/MD, MS/MSD or laboratory replicate must be performed for every 20 samples)

YES NO N/A

of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month [page 8000C, section 9.5.]

- | | | | | |
|----|------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a. | Water (Not in this SDA) | ☒ | ☐ | ☐ |
| b. | Waste | ☐ | ☐ | ☒ |
| c. | Soil/Solid (Not in this SDA) | ☒ | ☐ | ☐ |

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene. The concentration of the LCS should be determined as described SW-Method 8000C Section 9.5.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

5.4 Have in house MS recovery limits been developed (Method 8000C, Sect 9.7) for each matrix. ☐ ☐ ☒

5.5 Were one or more of the volatile MS/MSD recoveries outside of the in-house laboratory recovery criteria for spiked analytes? If none are present, then use 70-130% recovery as per SW-846, 8000C, Sect. 9.5.4. ☐ ☐ ☒

ACTION: Circle all outliers with a red pencil.

NOTE: If any individual % recovery in the MS (or MSD) falls outside the designated range for recovery the reviewer should determine if there is a matrix effect. A matrix effect is indicated if the LCS data are within limits but the MS data exceeds the limits.

YES NO N/A

NOTE: No qualification of data is necessary on MS and MSD data alone. However, using informed professional judgement, the data reviewer may use MS and MSD results in conjunction with other QC criteria to determine the need for some qualification.

Note: The data reviewer should first try to determine to what extent the results of the MS and MSD affect the associated data. This determination should be made with regard to the MS and MSD sample itself, as well as specific analytes for all samples associated with the MS and MSD.

Note: In those instances where it can be determined that the results of the MS and MSD affect only the sample spiked, limit qualification to this sample only. However, it may be determined through the MS and MSD results that a laboratory is having a systematic problem in the analysis of one or more analytes that affect all associated samples, and the reviewer must use professional judgement to qualify the data from all associated samples.

Note: The reviewer must use professional judgement to determine the need for qualification of non-spiked compounds.

ACTION: Follow criteria in Table 4 when professional judgement deems qualification of sample.

Table 4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit ≤ %R	No Qualifications	

YES NO N/A

6.0 Blank (CLP Form IV Equivalent)

6.1 Is the Method Blank Summary form present? ☒ ☐ ☐

6.2 Frequency of Analysis: Has a method blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch? ☒ ☐ ☐

6.3 Has a method blank been analyzed for each GC/MS system used ? ☒ ☐ ☐

ACTION: If any blank data are missing, take action as specified above (section 3.2). If blank data is not available, reject @ all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

6.4 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for volatile organic compounds?

☒ ☐ ☐

7.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

7.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary.

☐ ☒ ☐

YES NO N/A

7.2 Do any field/rinse blanks have positive
volatile organic compound results?

(TB+EQ)

— ☒ —

ACTION: Prepare a list of the samples associated with each
of the contaminated blanks. (Attach a separate
sheet.)

NOTE: All field blank results associated to a particular
group of samples (may exceed one per case or one
per day) may be used to qualify data. Blanks may
not be qualified because of contamination in
another blank. Field blanks must be qualified for
surrogate, or calibration QC problems.

ACTION: Follow the directions in Table 5 below to qualify
sample results due to contamination. Use the
largest value from all the associated blanks.

Table 5. Volatile Organic Analysis Blank Contamination Criteria

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Storage, Field, Trip, Instrument**	Detects	Not detected	No qualification
	< CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	> CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report the concentration for the sample with a U, or qualify the data as unusable R
		≥ CRQL and ≥ blank contamination	Use professional judgement
	= CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	Gross contamination	Detects	Qualify results as unusable R

* 2x the CRQL for methylene chloride, 2-butanone, and acetone

** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: If gross blank contamination exists(e.g., saturated peaks, "hump-o-grams," "junk" peaks), all affected positive compounds in the associated samples should be qualified as unusable "R", due to interference. Non-detected volatile organic target compounds do not require qualification unless the contamination is so high that it interferes with the analyses of non-detected compounds.

YES NO N/A

- 7.3 Are there field/rinse/equipment blanks associated with every sample?

☒ ☐ ☐

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

8.0 GC/MS Apparatus and Materials

- 8.1 Did the lab use the proper gas chromatographic column(s) for analysis of volatiles by Method 8260B? Check raw data, instrument logs or contact the lab to determine what type of column(s) was (were) used.

☒ ☐ ☐

NOTE: For the analysis of volatiles, the method requires the use of 60 m. x 0.75 mm capillary column, coated with VOCOL(Supelco) or equivalent column. (see SW-846, page 8260B-7, section 4.9.2)

ACTION: If the specified column, or equivalent, was not used, document the effects in the Data Assessment. Use professional judgement to determine the acceptability of the data.

9.0 GC/MS Instrument Performance Check (CLP Form V Equivalent)

- 9.1 Are the GC/MS Instrument Performance Check forms present for Bromofluorobenzene (BFB), and do these forms list the associated samples with date/time analyzed?

☒ ☐ ☐

- 9.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?

☒ ☐ ☐

- 9.3 Has an instrument performance check solution (BFB)

YES NO N/A

been analyzed for every twelve hours of sample analysis per instrument?(see Table 4, SW-846, page 8260B-36)

☒ — —

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS GC/MS tuning data are available.

ACTION: If the laboratory/project officer cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable, "R".

9.4 Have the ion abundances been normalized to m/z 95?

☒ — —

9.5 Have the ion abundance criteria been met for each instrument used?

☒ — —

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, take action as specified in section 3.2.

9.6 Are there any transcription/calculation errors between mass lists and reported values? (Check at least two values but if errors are found, check more.)

— ☒ —

9.7 Have the appropriate number of significant figures (two) been reported?

☒ — —

ACTION: If large errors exist, take action as specified in section 3.2.

9.8 Are the spectra of the mass calibration compounds acceptable.

☒ — —

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

YES NO N/A

10.0 Target Analytes (CLP Form I Equivalent)

10.1 Are the Organic Analysis reporting forms present with required header information on each page, for each of the following:

- | | | | | |
|----|---|-------------------------------------|-----|-------------------------------------|
| a. | Samples and/or fractions as appropriate | ☒ | ___ | ___ |
| b. | Matrix spikes and matrix spike duplicates | ☐ | ___ | ☒ |
| c. | Blanks | ☒ | ___ | ___ |
| d. | Laboratory Control Samples | ☒ | ___ | ___ |

10.2 Are the reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

- | | | | | |
|----|--|-------------------------------------|-----|-------------------------------------|
| a. | Samples and/or fractions as appropriate | ☒ | ___ | ___ |
| b. | Matrix spikes and matrix spike duplicates
(Mass spectra not required) | ☐ | ___ | ☒ |
| c. | Blanks | ☒ | ___ | ___ |
| d. | Laboratory Control Samples | ☒ | ___ | ___ |

ACTION: If any data are missing, take action specified in 3.2 above.

10.3 Is chromatographic performance acceptable with respect to:

Baseline stability?	☒	___	___
---------------------	-------------------------------------	-----	-----

YES NO N/A

Resolution?

☒ — —

Peak shape?

☒ — —

Full-scale graph (attenuation)?

☒ — —

Other: _____

ACTION: Use professional judgement to determine the acceptability of the data.

10.4 Are the lab-generated standard mass spectra of identified volatile compounds present for each sample? ☒ — —

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the Data Assessment. If spectra are missing, contact the lab for missing spectra.

10.5 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration? ☒ — —

10.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? ☒ — —

10.7 Do the relative intensities of the characteristic ions in the sample agree within $\pm 30\%$ of the corresponding relative intensities in the reference spectrum? ☒ — —

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected ("R"), flagged ("N") - Presumptive evidence of the presence of the compound) or changed to non detected ("U") at the calculated detection limit. In order to be

YES NO N/A

positively identified, the data must comply with the criteria listed in 9.6, 9.7, and 9.8.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

11.0 Tentatively Identified Compounds (TIC) (CLP Form I/TIC Equivalent)

11.1 If Tentatively Identified Compound were required for this project, are all Tentatively Identified Compound reporting forms present; and do listed TICs include scan number or retention time, estimated concentration and a qualifier? ☐ ☐ ☒

NOTE: Add "N" qualifier to all TICs which have CAS number, if missing.

NOTE: Have the project officer/appropriate official check the project plan to determine if lab was required to identify non-target analytes (SW-846, page 8260B-23, Sect. 7.6.2).

11.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:

a. Samples and/or fractions as appropriate ☐ ☐ ☒

b. Blanks ☐ ☐ ☒

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by a CAS#.

NOTE: If TICs are present in the associated blanks take action as specified in section 3.2 above.

YES NO N/A

11.3 Are any priority pollutants listed as TIC compounds (i.e., an BNA compound listed as a VOA TIC)? ☐ ☐ ☒

ACTION: 1. Flag with "R" any target compound listed as a TIC.
2. Make sure all rejected compounds are properly reported if they are target compounds.

11.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? ☐ ☐ ☒

11.5 Do TIC and "best match" standard relative ion intensities agree within $\pm 20\%$? ☐ ☐ ☒

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate. Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R". (Common lab contaminants: CO₂ (M/E 44), Siloxanes (M/E 73), Hexane, Aldol Condensation Products, Solvent Preservatives, and related byproducts).

12.0 Compound Quantitation and Reported Detection Limits

12.1 Are there any transcription/calculation errors in organic analysis reporting form results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and average initial RRF/CF were used to calculate organic analysis reporting form result. Were any errors found? ☐ ☒ ☐

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks > 25%) should be

YES NO N/A

reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

12.2 Are the method CRQL's adjusted to reflect sample dilutions and, for soils, sample moisture?

☒ ☐ ☐

ACTION: If errors are large, take action as specified in section 3.2 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC accedence dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original reporting form (if present) and substituting the data from the analysis of the diluted sample. Specify which organic analysis reporting form is to be used, then draw a red "X" across the entire page of all reporting forms that should not be used, including any in the summary package.

13.0 Standards Data (GC/MS)

13.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant Reports) present for initial and continuing calibration?

☒ ☐ ☐

ACTION: If any calibration standard data are missing, take action specified in section 3.2 above.

14.0 GC/MS Initial Calibration (CLP Form VI Equivalent)

YES NO N/A

14.1 Are the Initial Calibration reporting forms present and complete for the volatile fraction? ☒ ☐ ☐

ACTION: If any calibration forms or standard raw data are missing, take action specified in section 3.2 above.

ACTION: If the percent relative standard deviation (% RSD) is > 20%, (8000C-39) qualify positive results for that analyte "J". When % RSD > 90%, . Qualify all positive results for that analyte "J" and all non-detects results for that analyte "R".

14.2 Are all average RRFs > 0.050? ☒ ☐ ☐

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be $\geq$ the values in the following list. If individual RRF values reported are below the listed values document in the Data Assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with red pencil.

ACTION: For any target analyte with average RRF < 0.05, or for the requirements for the 5 compounds in 14.2 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

14.3 Are response factors stable over the concentration range of the calibration. ☒ ☐ ☐

NOTE: (Method Requirement) For the following CCC compounds, the %RSD values must be $\leq$ 30.0%. If %RSD values reported are > 30.0% document in the Data Assessment.

YES NO N/A

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

ACTION: Circle all outliers with a red pencil.

ACTION: If the % RSD is > 20.0%, or > 30% for the 6 compounds in 14.3 above, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

14.4 Was the % RSD determined using RRF or CF?

☒ ☐ ☐

If no, what method was used to determine the linearity of the initial calibration? Document any effects to the case in the Data Assessment.

14.5 Are there any transcription/calculation errors in the reporting of RRF or % RSD? (Check at least two values but if errors are found, check more.)

☐ ☒ ☐

ACTION: Circle errors with a red pencil.

ACTION: If errors are large, take action as specified in section 3.2 above.

15.0 GC/MS Calibration Verification (CLP Form VII Equivalent)

YES NO N/A

15.1 Are the Calibration Verification reporting forms present and complete for all compounds of interest? ☒ ☐ ☐

15.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument? ☒ ☐ ☐

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

ACTION: If any forms are missing or no calibration verification standard has been analyzed twelve hours prior to sample analysis, take action as specified in section 3.2 above. If calibration verification data are not available, flag all associated sample data as unusable ("R").

15.3 Was the % D determined from the calibration verification determined using RRF or CF? ☒ ☐ ☐

If no, what method was used to determine the calibration verification? Document any effects to the case in the Data Assessment.

15.4 Do any volatile compounds have a % D (difference or drift) between the initial and continuing RRF or CF which exceeds 20% (SW-846, page 8260B-19, section 7.4.5.2). ☒ ☐ ☐

NOTE: (Method Requirement) For the following CCC compounds, the %D values must be $\leq 20.0\%$. If %D values reported are $> 20.0\%$ document in the Data Assessment.

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

YES NO N/A

ACTION: Circle all outliers with a red pencil.

ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated, "J". When %D is above 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

15.5 Do any volatile compounds have a RRF < 0.05? ☐ ☒ ☐

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be $\geq$ the values in the following list for each calibration verification. If average RRF values reported are below the listed values document in the data assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with a red pencil.

ACTION: If RRF < 0.05, or < the requirements for the 5 compounds in section 15.5 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

16.0 Internal Standards (CLP Form VIII Equivalent)

16.1 Are the internal standard (IS) areas on the internal standard reporting forms of every sample and blank within the upper and lower limits (-50% to + 100%) for each initial mid-point calibration (SW-846, 8260B-20, Sect. 7.4.7)? ☐ ☒ ☐

YES NO N/A

ACTION: If errors are large or information is missing, take action as specified in section 3.2 above.

ACTION: List each outlying internal standard below.

See Attached Sheet

Sample ID	IS #	Area Lower Limit	Area Upper Limit
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Attach additional sheets if necessary.)

- ACTION:
1. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results quantitated with this internal standard.
 2. Do not qualify non-detects when the associated IS are counts area > + 100%.
 3. If the IS area is below the lower limit (< - 50%), qualify all associated non-detects (U-values) "J".
 4. If extremely low area counts are reported (< - 25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable "R" and positive results as estimated "J".

16.2 Are the retention times of all internal standards within 30 seconds of the associated initial mid-point calibration standard (SW-846, 8260B-20, Sect. 7.4.6)? ✓ _____

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

YES NO N/A

17.0 Field Duplicates

17.1 Were any field duplicates submitted for
volatile analysis?

11 ☒

ACTION: Compare the reported results for field duplicates and
calculate the relative percent difference.

ACTION: Any gross variation between field duplicate
results must be addressed in the Data Assessment.
However, if large differences exist, take action
specified in section 3.2 above.

TechCity (Former IBM Kingston) Site
Method 8260B, Internal Standard Area Outliers
SDG GSK04

<u>Sample</u>	<u>Internal Standard</u>	<u>IS Area</u>	<u>Area Lower Limit</u>	<u>Area Upper Limit</u>
OU04H0411028	1,4-Dichlorobenzene-d ₄	331468	349186	1396742
OU04H2511028	1,4-Dichlorobenzene-d ₄	275724	349186	1396742
OU04H0411028 RE	1,4-Dichlorobenzene-d ₄	364639	381432	1525730
OU04H2511028 RE	Fluorobenzene	651470	800407	3201628
OU04H2511028 RE	Chlorobenzene-d ₅	491546	597400	2389602
OU04H2511028 RE	1,4-Dichlorobenzene-d ₄	217600	381432	1525730



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**Sample Reference List for SDG Number GSK04
with a Data Package Type of NYSDEC B
06911 - Groundwater Science Co
Project: TechCity Surficial Soil**

Lab Sample Number	Lab Sample Code	<u>Client Sample Description</u>
6454507	O3B04	OU03B0411028 Grab Soil
6454508	O3B13	OU03B1311028 Grab Soil
6454509	O3D04	OU03D0411028 Grab Soil
6454510	O3D13	OU03D1311028 Grab Soil
6454511	O3C04	OU03C0411028 Grab Soil
6454512	O3C13	OU03C1311028 Grab Soil
6454513	O4C04	OU04C0411028 Grab Soil
6454514	O4C13	OU04C1311028 Grab Soil
6454515	O4C25	OU04C2511028 Grab Soil
6454516	KTEQ1	TEQ11028SHVL Grab Water
6454517	KTTBA	TTBA10281028 Water
6454518	O4H04	OU04H0411028 Grab Soil
6454519	O4H13	OU04H1311028 Grab Soil
6454520	O4H25	OU04H2511028 Grab Soil
6454521	O6C04	OU06C0411028 Grab Soil
6454522	O6C13	OU06C1311028 Grab Soil

GSK04 06911

01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030B, December 1996.

10904 8260 Ext. Water Master

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

10949 8260 Ext. Soil Master

The soil sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

00111 Moisture

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2540 G.

08389 GC/MS - LL Encore Prep

Two EnCore samples are collected per sample. The vials used for preparation are pre-preserved and pre-weighed. Two aliquots are extruded into a sodium bisulfate solution. The vials are re-weighed and the weight of the sample should be 5-g +/- .5 g. The prepared samples are then delivered to the lab for analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5035, November 2004.

07578 GC/MS-HL Encore Prep-NC

The sample is collected in an EnCore sampler and is submitted to the laboratory. A vial containing 5-ml methanol is prepared for each sample and weighed prior to adding the sample. After the sample is added to the vial, the vial is reweighed and the weight of sample is determined by difference. The weight of the sample should be 5-g +/- .5 g. The sample vial is then delivered to the lab for analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5035, November 2004.

GC/MS VOLATILES CALCULATIONS:

1. Relative response factor (RRF)

$$RRF = \frac{A_x}{A_{is}} \times \frac{C_{is}}{C_x}$$

Where :

A_x = Area of the characteristic ion for the compound to be measured.

A_{is} = Area of the characteristic ion for the specific internal standard to be measured.

C_{is} = Concentration of the internal standard.

C_x = Concentration of the compound to be measured.

2. % Relative Standard Deviation (%RSD)

$$\%RSD = \frac{\text{Standard deviation}}{\text{mean}} \times 100$$

3. % Difference (%D)

$$\%D = \frac{RRF_c - RRF_i}{RRF_i} \times 100$$

Where:

RRF_c = Relative response factor from continuing calibration standard.

RRF_i = Mean relative response factor from the initial calibration.

4. Concentration

$$\text{Concentration (ug/l)} = \frac{(A_x) (I_s) (D_f)}{(A_{is}) (RRF)}$$

Where:

A_x, A_{is}, RRF are as given in 1. above.

I_s = Concentration of internal standard added in parts per billion (ug/l)

D_f = Dilution factor

5. % Recovery (%Rec)

$$\%Rec = \frac{SSR - SR}{SA} \times 100$$

Where:

SSR = Spiked sample result

SR = Sample result

SA = Spike added

6. Relative Percent Difference (RPD)

$$RPD = \frac{|MSR - MSDR|}{(1/2) (MSR + MSDR)} \times 100$$

Where:

MSR = Matrix spike recovery

MSDR = Matrix spike duplicate recovery

GSK04 0046



Quality Control Reference List
GC/MS Volatiles

CLIENT: Groundwater Science Co
SDG: GSK04

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
Volatiles by 8260B	L113121AA	VBLKL30	11/08/2011 09:01:00
		LCSL30	11/08/2011 09:23:00
		LCDL30	11/08/2011 10:28:00
		6454516	11/08/2011 11:08:00
		6454517	11/08/2011 11:30:00
Volatiles in Soil	A113062AA	VBLKA38	11/02/2011 15:56:00
		LCSA38	11/02/2011 18:02:00
		LCDA38	11/02/2011 18:27:00
		6454507	11/02/2011 19:20:00
		6454508	11/02/2011 19:43:00
		6454509	11/02/2011 20:05:00
		6454510	11/02/2011 20:28:00
		6454511	11/02/2011 20:51:00
		6454512	11/02/2011 21:13:00
		6454513	11/02/2011 21:36:00
		6454514	11/02/2011 21:58:00
		6454515	11/02/2011 22:21:00
		6454518	11/02/2011 22:44:00
		6454519	11/02/2011 23:06:00
		6454520	11/02/2011 23:29:00
		6454521	11/02/2011 23:51:00
Volatiles in Soil	A113081AA	VBLKA40	11/04/2011 12:54:00
		LCSA40	11/04/2011 13:19:00
		6454518RE	11/04/2011 16:56:00
		6454520RE	11/04/2011 17:19:00
		6454522	11/04/2011 17:42:00

GSK04 8849



Quality Control Summary
 Surrogates
 GC/MS Volatiles
 SDG: GSK04
 Matrix: SOLID

Fraction: Volatiles by GC/MS

A113062AA	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg
	%		%		%		%	
	Recovery	Limits	Recovery	Limits	Recovery	Limits	Recovery	Limits
VBLKA38	102	71 - 114	103	70 - 109	104	70 - 123	90	70 - 111
LCSA38	99	71 - 114	100	70 - 109	108	70 - 123	100	70 - 111
LCDA38	100	71 - 114	102	70 - 109	106	70 - 123	99	70 - 111
6454507	99	71 - 114	100	70 - 109	110	70 - 123	81	70 - 111
6454508	101	71 - 114	103	70 - 109	111	70 - 123	81	70 - 111
6454509	99	71 - 114	99	70 - 109	111	70 - 123	82	70 - 111
6454510	101	71 - 114	104	70 - 109	105	70 - 123	84	70 - 111
6454511	100	71 - 114	102	70 - 109	105	70 - 123	87	70 - 111
6454512	101	71 - 114	104	70 - 109	107	70 - 123	83	70 - 111
6454513	101	71 - 114	103	70 - 109	111	70 - 123	79	70 - 111
6454514	102	71 - 114	105	70 - 109	104	70 - 123	87	70 - 111
6454515	103	71 - 114	103	70 - 109	104	70 - 123	88	70 - 111
6454518	103	71 - 114	104	70 - 109	116	70 - 123	78	70 - 111
6454519	101	71 - 114	104	70 - 109	107	70 - 123	82	70 - 111
6454520	97	71 - 114	104	70 - 109	106	70 - 123	73	70 - 111
6454521	103	71 - 114	102	70 - 109	107	70 - 123	83	70 - 111

A113081AA	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg
	%		%		%		%	
	Recovery	Limits	Recovery	Limits	Recovery	Limits	Recovery	Limits
VBLKA40	102	71 - 114	101	70 - 109	103	70 - 123	90	70 - 111
LCSA40	100	71 - 114	101	70 - 109	105	70 - 123	99	70 - 111
6454522	105	71 - 114	105	70 - 109	103	70 - 123	86	70 - 111

GSK04 0052



Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: GSK04
Matrix: SOLID

Fraction: Volatiles by GC/MS

A113062AA / VBLKA38 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	11/02/11	N.D.	ug/kg	2	5
Chloromethane	11/02/11	N.D.	ug/kg	2	5
Vinyl Chloride	11/02/11	N.D.	ug/kg	1	5
Bromomethane	11/02/11	N.D.	ug/kg	2	5
Chloroethane	11/02/11	N.D.	ug/kg	2	5
Trichlorofluoromethane	11/02/11	N.D.	ug/kg	2	5
1,1-Dichloroethene	11/02/11	N.D.	ug/kg	1	5
Freon 113	11/02/11	N.D.	ug/kg	2	10
Benzene	11/02/11	N.D.	ug/kg	0.5	5
Bromodichloromethane	11/02/11	N.D.	ug/kg	1	5
Carbon Tetrachloride	11/02/11	N.D.	ug/kg	1	5
Chloroform	11/02/11	N.D.	ug/kg	1	5
Dibromomethane	11/02/11	N.D.	ug/kg	1	5
1,1-Dichloroethane	11/02/11	N.D.	ug/kg	1	5
1,2-Dichloroethane	11/02/11	N.D.	ug/kg	1	5
1,2-Dichloroethene (Total)	11/02/11	N.D.	ug/kg	1	5
1,2-Dichloropropane	11/02/11	N.D.	ug/kg	1	5
cis-1,3-Dichloropropene	11/02/11	N.D.	ug/kg	1	5
Freon 123a	11/02/11	N.D.	ug/kg	2	5
Methylene Chloride	11/02/11	N.D.	ug/kg	2	5
Toluene	11/02/11	N.D.	ug/kg	1	5
1,1,1-Trichloroethane	11/02/11	N.D.	ug/kg	1	5
Trichloroethene	11/02/11	N.D.	ug/kg	1	5
Benzyl Chloride	11/02/11	N.D.	ug/kg	1	4
Bromobenzene	11/02/11	N.D.	ug/kg	1	5
Bromoform	11/02/11	N.D.	ug/kg	1	5
Chlorobenzene	11/02/11	N.D.	ug/kg	1	5
2-Chlorotoluene	11/02/11	N.D.	ug/kg	1	5
4-Chlorotoluene	11/02/11	N.D.	ug/kg	1	5
Dibromochloromethane	11/02/11	N.D.	ug/kg	1	5
1,2-Dichlorobenzene	11/02/11	N.D.	ug/kg	1	5
1,3-Dichlorobenzene	11/02/11	N.D.	ug/kg	1	5
1,4-Dichlorobenzene	11/02/11	N.D.	ug/kg	1	5
trans-1,3-Dichloropropene	11/02/11	N.D.	ug/kg	1	5
Ethylbenzene	11/02/11	N.D.	ug/kg	1	5
1,1,1,2-Tetrachloroethane	11/02/11	N.D.	ug/kg	1	5
1,1,2,2-Tetrachloroethane	11/02/11	N.D.	ug/kg	1	5
Tetrachloroethene	11/02/11	N.D.	ug/kg	1	5
1,1,2-Trichloroethane	11/02/11	N.D.	ug/kg	1	5
1,2,3-Trichloropropane	11/02/11	N.D.	ug/kg	1	5
Xylene (Total)	11/02/11	N.D.	ug/kg	1	5

A113081AA / VBLKA40 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	11/04/11	N.D.	ug/kg	2	5



Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: GSK04
Matrix: SOLID

Fraction: Volatiles by GC/MS

A113081AA / VBLKA40 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Chloromethane	11/04/11	N.D.	ug/kg	2	5
Vinyl Chloride	11/04/11	N.D.	ug/kg	1	5
Bromomethane	11/04/11	N.D.	ug/kg	2	5
Chloroethane	11/04/11	N.D.	ug/kg	2	5
Trichlorofluoromethane	11/04/11	N.D.	ug/kg	2	5
1,1-Dichloroethene	11/04/11	N.D.	ug/kg	1	5
Freon 113	11/04/11	N.D.	ug/kg	2	10
Benzene	11/04/11	N.D.	ug/kg	0.5	5
Bromodichloromethane	11/04/11	N.D.	ug/kg	1	5
Carbon Tetrachloride	11/04/11	N.D.	ug/kg	1	5
Chloroform	11/04/11	N.D.	ug/kg	1	5
Dibromomethane	11/04/11	N.D.	ug/kg	1	5
1,1-Dichloroethane	11/04/11	N.D.	ug/kg	1	5
1,2-Dichloroethane	11/04/11	N.D.	ug/kg	1	5
1,2-Dichloroethene (Total)	11/04/11	N.D.	ug/kg	1	5
1,2-Dichloropropane	11/04/11	N.D.	ug/kg	1	5
cis-1,3-Dichloropropene	11/04/11	N.D.	ug/kg	1	5
Freon 123a	11/04/11	N.D.	ug/kg	2	5
Methylene Chloride	11/04/11	N.D.	ug/kg	2	5
Toluene	11/04/11	N.D.	ug/kg	1	5
1,1,1-Trichloroethane	11/04/11	N.D.	ug/kg	1	5
Trichloroethene	11/04/11	N.D.	ug/kg	1	5
Benzyl Chloride	11/04/11	N.D.	ug/kg	1	4
Bromobenzene	11/04/11	N.D.	ug/kg	1	5
Bromoform	11/04/11	N.D.	ug/kg	1	5
Chlorobenzene	11/04/11	N.D.	ug/kg	1	5
2-Chlorotoluene	11/04/11	N.D.	ug/kg	1	5
4-Chlorotoluene	11/04/11	N.D.	ug/kg	1	5
Dibromochloromethane	11/04/11	N.D.	ug/kg	1	5
1,2-Dichlorobenzene	11/04/11	N.D.	ug/kg	1	5
1,3-Dichlorobenzene	11/04/11	N.D.	ug/kg	1	5
1,4-Dichlorobenzene	11/04/11	N.D.	ug/kg	1	5
trans-1,3-Dichloropropene	11/04/11	N.D.	ug/kg	1	5
Ethylbenzene	11/04/11	N.D.	ug/kg	1	5
1,1,1,2-Tetrachloroethane	11/04/11	N.D.	ug/kg	1	5
1,1,2,2-Tetrachloroethane	11/04/11	N.D.	ug/kg	1	5
Tetrachloroethene	11/04/11	N.D.	ug/kg	1	5
1,1,2-Trichloroethane	11/04/11	N.D.	ug/kg	1	5
1,2,3-Trichloropropane	11/04/11	N.D.	ug/kg	1	5
Xylene (Total)	11/04/11	N.D.	ug/kg	1	5

GSK04 0058



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK04
Matrix: SOLID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSA38 LCSD: LCDA38		Batch: A113062AA (Sample number(s): 6454507-6454515, 6454518-6454521)						
Analyte	Spike Added ug/kg	LCS Conc ug/kg	LCSD Conc ug/kg	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	17.05	16.35	85	82	20-120	4	30
Chloromethane	20	21.29	19.42	106	97	54-132	9	30
Vinyl Chloride	20	19.02	17.26	95	86	53-120	10	30
Bromomethane	20	16.94	16.91	85	85	32-162	0	30
Chloroethane	20	17.2	17.36	86	87	37-154	1	30
Trichlorofluoromethane	20	19.66	18.78	98	94	58-133	5	30
1,1-Dichloroethene	20	17.86	17.61	89	88	73-123	1	30
Freon 113	20	18.91	18.12	95	91	61-126	4	30
1,1,1-Trichloroethane	20	17.18	16.69	86	83	71-125	3	30
1,1-Dichloroethane	20	18.32	17.92	92	90	80-120	2	30
1,2-Dichloroethane	20	17.57	17.21	88	86	71-129	2	30
1,2-Dichloroethene (Total)	40	33.75	33.23	84	83	80-120	2	30
1,2-Dichloropropane	20	17.67	17.51	88	88	80-120	1	30
Benzene	20	17.75	17.4	89	87	80-120	2	30
Bromodichloromethane	20	15.94	16.13	80	81	78-120	1	30
Carbon Tetrachloride	20	17.27	16.82	86	84	69-122	3	30
Chloroform	20	17.2	16.61	86	83	80-120	3	30
cis-1,3-Dichloropropene	20	15.07	15.11	75 *	76 *	80-120	0	30
Dibromomethane	20	16.41	16.43	82	82	80-120	0	30
Freon 123a	20	24.66	24.92	123	125	61-127	1	30
Methylene Chloride	20	17.28	17.22	86	86	76-124	0	30
Toluene	20	18.43	17.65	92	88	80-120	4	30
Trichloroethene	20	16.55	16.11	83	81	80-120	3	30
1,1,1,2-Tetrachloroethane	20	18.1	17.85	91	89	80-120	1	30
1,1,2,2-Tetrachloroethane	20	17.19	16.82	86	84	71-123	2	30
1,1,2-Trichloroethane	20	17.61	17.42	88	87	80-120	1	30
1,2,3-Trichloropropane	20	17.28	16.51	86	83	71-123	5	30
1,2-Dichlorobenzene	20	17.82	17.78	89	89	79-120	0	30
1,3-Dichlorobenzene	20	18.21	17.86	91	89	78-120	2	30
1,4-Dichlorobenzene	20	18.04	17.88	90	89	79-120	1	30
2-Chlorotoluene	20	17.51	17.34	88	87	78-120	1	30
4-Chlorotoluene	20	18.09	17.82	90	89	79-120	1	30
Benzyl Chloride	20	15.78	15.7	79	78	66-120	1	30
Bromobenzene	20	17.83	17.77	89	89	79-120	0	30
Bromoform	20	16.08	16.51	80	83	70-120	3	30
Chlorobenzene	20	18.42	18.13	92	91	80-120	2	30
Dibromochloromethane	20	17.23	17.22	86	86	77-120	0	30
Ethylbenzene	20	18.32	17.99	92	90	80-120	2	30
Tetrachloroethene	20	19	18.65	95	93	77-120	2	30
trans-1,3-Dichloropropene	20	16.61	16.21	83	81	77-120	2	30
Xylene (Total)	60	55.96	54.84	93	91	80-120	2	30

CS204 4854



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK04
Matrix: SOLID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSA40		Batch: A113081AA (Sample number(s): 6454518, 6454520, 6454522)						
Analyte	Spike Added ug/kg	LCS Conc ug/kg	LCSD Conc ug/kg	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	17.95		90		20-120		
Chloromethane	20	21.09		105		54-132		
Vinyl Chloride	20	18.84		94		53-120		
Bromomethane	20	14.7		74		32-162		
Chloroethane	20	18.21		91		37-154		
Trichlorofluoromethane	20	20.98		105		58-133		
1,1-Dichloroethene	20	17.88		89		73-123		
Freon 113	20	18.79		94		61-126		
1,1,1-Trichloroethane	20	17.19		86		71-125		
1,1-Dichloroethane	20	18.52		93		80-120		
1,2-Dichloroethane	20	17.92		90		71-129		
1,2-Dichloroethene (Total)	40	35.06		88		80-120		
1,2-Dichloropropane	20	18.22		91		80-120		
Benzene	20	18.1		91		80-120		
Bromodichloromethane	20	17.05		85		78-120		
Carbon Tetrachloride	20	18.18		91		69-122		
Chloroform	20	17.77		89		80-120		
cis-1,3-Dichloropropene	20	16.03		80		80-120		
Dibromomethane	20	17.31		87		80-120		
Freon 123a	20	20.27		101		61-127		
Methylene Chloride	20	18.22		91		76-124		
Toluene	20	18.29		91		80-120		
Trichloroethene	20	17.32		87		80-120		
1,1,1,2-Tetrachloroethane	20	19.13		96		80-120		
1,1,1,2,2-Tetrachloroethane	20	18.32		92		71-123		
1,1,2-Trichloroethane	20	18.07		90		80-120		
1,2,3-Trichloropropane	20	18.22		91		71-123		
1,2-Dichlorobenzene	20	18.98		95		79-120		
1,3-Dichlorobenzene	20	19.21		96		78-120		
1,4-Dichlorobenzene	20	19.29		96		79-120		
2-Chlorotoluene	20	19.05		95		78-120		
4-Chlorotoluene	20	19.58		98		79-120		
Benzyl Chloride	20	17.17		86		66-120		
Bromobenzene	20	19.24		96		79-120		
Bromoform	20	17.89		89		70-120		
Chlorobenzene	20	19.31		97		80-120		
Dibromochloromethane	20	18.23		91		77-120		
Ethylbenzene	20	19.04		95		80-120		
Tetrachloroethene	20	20.1		100		77-120		
trans-1,3-Dichloropropene	20	16.93		85		77-120		
Xylene (Total)	60	58.05		97		80-120		

GSK04 6455

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK04____
Lab File ID: ag05t01.d BFB Injection Date: 08/05/11
Instrument ID: HP09685 BFB Injection Time: 16:24
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.65
75	30.0 - 60.0% of mass 95	47.62
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.92
173	Less than 2.0% of mass 174	0.50 (0.60)1
174	Greater than 50.0% of mass 95	83.83
175	5.0 - 9.0% of mass 174	5.89 (7.02)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.23 (96.90)1
177	5.0 - 9.0% of mass 176	5.36 (6.60)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	ag05i01.d	08/05/11	16:46
02	VSTD100	ag05i02.d	08/05/11	17:09
03	VSTD50	ag05i03.d	08/05/11	17:31
04	VSTD20	ag05i04.d	08/05/11	17:54
05	VSTD10	ag05i05.d	08/05/11	18:16
06	VSTD4	ag05i06.d	08/05/11	18:39
07	VSTD0001	ag05m01.d	08/05/11	19:01
08	VSTD300	ag05i11.d	08/05/11	19:24
09	VSTD100	ag05i12.d	08/05/11	19:46
10	VSTD50	ag05i13.d	08/05/11	20:09
11	VSTD20	ag05i14.d	08/05/11	20:31
12	VSTD10	ag05i15.d	08/05/11	20:54
13	VSTD4	ag05i16.d	08/05/11	21:17
14	VSTD0001	ag05m11.d	08/05/11	21:39
15	VBLKA00	ag05b01.d	08/05/11	22:02
16	LCS1A00	ag05l02.d	08/05/11	22:47
17	6355784RE	ag05s01.d	08/05/11	23:09
18	LCSA00	ag05l03.d	08/05/11	23:53
19	LCDA00	ag05l04.d	08/06/11	00:18
20	LCD1A00	ag05l05.d	08/06/11	00:41
21	6364612	ag05s02.d	08/06/11	01:34
22	6364610	ag05s03.d	08/06/11	01:56

GSK04 8057

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK04____
 Lab File ID: ag05t01.d BFB Injection Date: 08/05/11
 Instrument ID: HP09685 BFB Injection Time: 16:24
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.65
75	30.0 - 60.0% of mass 95	47.62
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.92
173	Less than 2.0% of mass 174	0.50 (0.60)1
174	Greater than 50.0% of mass 95	83.83
175	5.0 - 9.0% of mass 174	5.89 (7.02)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.23 (96.90)1
177	5.0 - 9.0% of mass 176	5.36 (6.60)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6365515	ag05s05.d	08/06/11	02:41
24	6365516	ag05s06.d	08/06/11	03:03
25	6365519	ag05s07.d	08/06/11	03:25
26	6365520	ag05s08.d	08/06/11	03:48
27	6365518	ag05s09.d	08/06/11	04:11

GSK04 0805

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09685 Calibration Date(s): 08/05/11 08/05/11
Heated Purge: (Y/N) Y Calibration Times: 16:46 18:39
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: 25

LAB FILE ID: RRF 4 = ag05i06.d RRF 10= ag05i05.d RRF 20= ag05i04.d
RRF 50= ag05i03.d RRF100= ag05i02.d RRF300= ag05i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.4002	0.3760	0.3842	0.4671	0.4416	0.3969		0.4110	9	AVG
Chloromethane	#0.3802	0.3704	0.3795	0.4270	0.4007	0.3664		0.3874	6	AVG
Vinyl Chloride	*0.4000	0.3727	0.3795	0.4384	0.4054	0.3734		0.3949	6	AVG
Bromomethane	0.2817	0.2727	0.2527	0.2727	0.2502	N/A		0.2660	5	AVG
Chloroethane	0.2170	0.2137	0.2131	0.2265	0.2272	0.1444		0.2070	15	AVG
Trichlorofluoromethane	0.4774	0.4452	0.4506	0.5253	0.5001	0.4289		0.4712	8	AVG
Ethanol	0.1380	0.1249	0.1123	0.1192	0.1029	0.1139		0.1185	10	AVG
Freon 123a	0.3489	0.3454	0.3458	0.3411	0.3423	0.3103		0.3390	4	AVG
Acrolein	1.5457	1.7705	1.6582	1.9737	2.2793	1.8750		1.8504	14	AVG
1,1-Dichloroethene	*0.2531	0.2489	0.2567	0.2566	0.2644	0.2388		0.2531	3	AVG
Dichlorofluoromethane	0.5932	0.5823	0.5781	0.5530	0.5418	0.4541		0.5504	9	AVG
Freon 113	0.2717	0.2619	0.2648	0.2770	0.2857	0.2538		0.2691	4	AVG
Acetone	0.0333	0.0266	0.0280	0.0334	0.0291	0.0264		0.0295	11	AVG
Methyl Iodide	0.4626	0.4847	0.4984	0.4917	0.5047	0.4584		0.4834	4	AVG
2-Propanol	0.7445	0.7607	0.7236	0.7004	0.6938	0.7118		0.7225	4	AVG
Carbon Disulfide	0.8279	0.8424	0.8717	0.8706	0.9053	0.7976		0.8526	4	AVG
Allyl Chloride	0.3826	0.3487	0.3538	0.3764	0.3859	0.3559		0.3672	4	AVG
Methyl Acetate	0.2347	0.1852	0.1928	0.2013	0.1906	0.1780		0.1971	10	AVG
Methylene Chloride	0.3516	0.3239	0.3166	0.3026	0.3045	0.2757		0.3125	8	AVG
t-Butyl Alcohol	1.2757	1.3904	1.3817	1.3347	1.3260	1.1543		1.3104	7	AVG
Acrylonitrile	0.1113	0.0926	0.1019	0.1176	0.1052	0.0955		0.1040	9	AVG
trans-1,2-Dichloroethene	0.2799	0.2933	0.3018	0.2967	0.3064	0.2788		0.2928	4	AVG
Methyl Tertiary Butyl Ether	0.8152	0.8311	0.8795	0.8723	0.8511	0.7991		0.8414	4	AVG
n-Hexane	0.3765	0.3707	0.3749	0.3921	0.4028	0.3779		0.3825	3	AVG
1,1-Dichloroethane	#0.4903	0.5134	0.5221	0.5149	0.5237	0.4711		0.5059	4	AVG
2-Chloro-1,3-Butadiene	0.3755	0.3923	0.4117	0.4264	0.4446	0.4014		0.4086	6	AVG
di-Isopropyl Ether	0.7989	0.8430	0.8641	0.8629	0.8660	0.7856		0.8368	4	AVG
Ethyl t-Butyl Ether	0.8081	0.8504	0.8841	0.8906	0.8891	0.8223		0.8574	4	AVG
cis-1,2-Dichloroethene	0.3194	0.3282	0.3326	0.3294	0.3369	0.3117		0.3264	3	AVG
1,2-Dichloroethene (total)	0.2997	0.3107	0.3172	0.3130	0.3217	0.2952		0.3096	3	AVG
2,2-Dichloropropane	0.4113	0.4270	0.4424	0.4501	0.4678	0.4236		0.4370	5	AVG
2-Butanone	0.1437	0.1213	0.1403	0.1687	0.1493	0.1320		0.1426	11	AVG
Propionitrile	1.3079	1.5768	1.4690	1.4129	1.4976	1.3322		1.4327	7	AVG
Methacrylonitrile	0.1343	0.1300	0.1445	0.1467	0.1324	0.1295		0.1362	6	AVG
Bromochloromethane	0.1590	0.1563	0.1581	0.1671	0.1657	0.1629		0.1615	3	AVG
Tetrahydrofuran	1.1957	1.3235	1.2617	1.4254	1.5396	1.3267		1.3454	9	AVG
Chloroform	*0.5068	0.5224	0.5322	0.5251	0.5302	0.4824		0.5165	4	AVG
1,1,1-Trichloroethane	0.5546	0.5085	0.5209	0.4854	0.4945	0.4518		0.5026	7	AVG
Cyclohexane	0.4634	0.4589	0.4586	0.4779	0.4864	0.4414		0.4644	3	AVG
Cyclohexane(mz84)	0.4303	0.4256	0.4187	0.4432	0.4447	0.4117		0.4290	3	AVG
Cyclohexane(mz69)	0.1496	0.1491	0.1491	0.1546	0.1585	0.1446		0.1509	3	AVG
1,1-Dichloropropene	0.3893	0.3979	0.4079	0.4087	0.4225	0.3863		0.4021	3	AVG
Carbon Tetrachloride	0.3767	0.3851	0.3964	0.4035	0.4190	0.3866		0.3945	4	AVG
Benzene	1.1762	1.2101	1.2149	1.1869	1.1999	1.0864		1.1791	4	AVG
Isobutyl Alcohol	0.3775	0.4286	0.4260	0.4031	0.4012	0.3613		0.3996	7	AVG
1,2-Dichloroethane	0.4157	0.4202	0.4289	0.4215	0.4174	0.3854		0.4148	4	AVG
1,2-Dichloroethane(mz98)	0.0360	0.0378	0.0384	0.0378	0.0376	0.0360		0.0373	3	AVG
t-Amyl Methyl Ether	0.7419	0.7733	0.8150	0.8246	0.8202	0.7781		0.7922	4	AVG
n-Heptane	0.3681	0.3809	0.3895	0.3920	0.4032	0.3906		0.3874	3	AVG
n-Butanol	0.3194	0.3728	0.3857	0.3832	0.3905	0.3596		0.3685	7	AVG
Trichloroethene	0.3132	0.3192	0.3231	0.3206	0.3301	0.3041		0.3184	3	AVG
Methylcyclohexane	0.5067	0.4504	0.4786	0.5390	0.5554	0.5382		0.5114	8	AVG

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

GSK04 8865

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SOG No.: _____
 Instrument ID: HP09685 Calibration Date(s): 08/05/11 08/05/11
 Heated Purge: (Y/N) Y Calibration Times: 16:46 18:39
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID:	RRF 4 = ag05i06.d	RRF 10 = ag05i05.d	RRF 20 = ag05i04.d	RRF 50 = ag05i03.d	RRF100 = ag05i02.d	RRF300 = ag05i01.d	RRF =	RRF	% RSD	CAL. METHOD
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,2-Dichloropropane	0.2987	0.3124	0.3170	0.3167	0.3231	0.3044		0.3121	3	AVG
Dibromomethane	0.1961	0.1998	0.2075	0.2075	0.2042	0.1959		0.2018	3	AVG
1,4-Dioxane	0.1310	0.1450	0.1409	0.1513	0.1462	0.1407		0.1425	5	AVG
Methyl Methacrylate	0.2156	0.2086	0.2402	0.2508	0.2393	0.2365		0.2318	7	AVG
Bromodichloromethane	0.3635	0.3721	0.3918	0.3992	0.4078	0.3848		0.3832	6	AVG
2-Nitropropane	1.8434	2.2727	2.3055	2.8015	3.2583	N/A		2.4963	22	1STDEG
cis-1,3-Dichloropropene	0.4163	0.4572	0.4864	0.4999	0.5096	0.4812		0.4751	7	AVG
4-Methyl-2-Pentanone	0.2824	0.2570	0.3058	0.3808	0.3604	0.3012		0.3146	15	AVG
Toluene	1.0026	0.9895	1.0002	0.9703	0.9911	0.8950		0.9748	4	AVG
trans-1,3-Dichloropropene	0.5064	0.5572	0.5959	0.6148	0.6257	0.5931		0.5822	8	AVG
Ethyl Methacrylate	0.4164	0.4523	0.5229	0.5590	0.5526	0.5332		0.5060	11	AVG
1,1,2-Trichloroethane	0.3508	0.3546	0.3644	0.3598	0.3519	0.3329		0.3524	3	AVG
Tetrachloroethene	0.4310	0.4413	0.4384	0.4392	0.4550	0.4170		0.4370	3	AVG
1,3-Dichloropropane	0.5970	0.5975	0.6216	0.6202	0.6178	0.5828		0.6061	3	AVG
2-Hexanone	0.2748	0.2403	0.2908	0.3637	0.3414	N/A		0.3022	17	1STDEG
Dibromochloromethane	0.3318	0.3572	0.3898	0.4075	0.4170	0.4043		0.3846	9	AVG
1,2-Dibromoethane	0.3481	0.3568	0.3797	0.3773	0.3687	0.3521		0.3638	4	AVG
Chlorobenzene	1.1258	1.1585	1.1582	1.1310	1.1523	1.0423		1.1280	4	AVG
1,1,1,2-Tetrachloroethane	0.3635	0.3754	0.3909	0.3933	0.4059	0.3887		0.3829	6	AVG
Ethylbenzene	1.8022	1.8905	1.8915	1.8690	1.9138	1.6258		1.8321	6	AVG
m,p-Xylene	0.7071	0.7486	0.7451	0.7453	0.7721	0.6211		0.7232	7	AVG
Xylene (Total)	0.7017	0.7464	0.7450	0.7460	0.7718	0.6267		0.7229	7	AVG
o-Xylene	0.6909	0.7418	0.7447	0.7474	0.7713	0.6381		0.7223	7	AVG
Styrene	0.9897	1.1117	1.1913	1.2306	1.2779	1.0527		1.1422	10	AVG
Bromoform	0.2262	0.2449	0.2765	0.2995	0.3041	0.3036		0.2758	12	AVG
Isopropylbenzene	1.7089	1.8260	1.8499	1.8465	1.9076	1.6170		1.7926	6	AVG
Cyclohexanone	0.3847	0.4284	0.4200	0.4384	0.4430	0.4332		0.4246	5	AVG
Bromobenzene	0.8569	0.8749	0.8692	0.8577	0.8786	0.7767		0.8523	4	AVG
1,1,2,2-Tetrachloroethane	0.9233	0.8713	0.9367	0.9288	0.8827	0.8138		0.8928	5	AVG
1,2,3-Trichloropropane	0.3261	0.2749	0.2908	0.2823	0.2654	0.2355		0.2792	11	AVG
trans-1,4-Dichloro-2-Butene	0.2646	0.2709	0.2991	0.2891	0.2727	0.2319		0.2714	9	AVG
n-Propylbenzene	3.8059	3.9038	3.8472	3.7686	3.8029	2.9230		3.6752	10	AVG
2-Chlorotoluene	0.7983	0.8303	0.8145	0.8005	0.8262	0.7469		0.8028	4	AVG
1,3,5-Trimethylbenzene	2.5633	2.7366	2.7148	2.7150	2.8440	2.3211		2.6491	7	AVG
4-Chlorotoluene	0.8282	0.8602	0.8442	0.8356	0.8687	0.7451		0.8303	5	AVG
tert-Butylbenzene	0.5981	0.6304	0.6460	0.6489	0.6773	0.5793		0.6300	6	AVG
Pentachloroethane	0.4867	0.4874	0.5215	0.5589	0.5795	0.5089		0.5238	7	AVG
1,2,4-Trimethylbenzene	2.7858	2.9321	2.9291	2.9069	3.0183	2.4471		2.8366	7	AVG
sec-Butylbenzene	3.3243	3.4797	3.5079	3.5068	3.5900	2.8416		3.3751	8	AVG
1,3-Dichlorobenzene	1.6906	1.6950	1.6589	1.6469	1.6947	1.4122		1.6330	7	AVG
p-Isopropyltoluene	2.9352	3.1134	3.1546	3.1696	3.2735	2.5366		3.0305	9	AVG
1,4-Dichlorobenzene	1.7624	1.7494	1.7115	1.6685	1.7074	1.4919		1.6819	6	AVG
1,2,3-Trimethylbenzene	2.8786	2.7433	2.8234	2.9020	2.9903	2.5109		2.8081	6	AVG
Benzyl Chloride	0.3464	0.3669	0.4277	0.4465	0.4475	0.4332		0.4114	11	AVG
1,2-Dichlorobenzene	1.6598	1.6703	1.6403	1.6020	1.6346	1.4334		1.6067	5	AVG
n-Butylbenzene	1.5377	1.5876	1.6220	1.6133	1.6717	1.3990		1.5719	6	AVG
1,3-Diethylbenzene	1.7207	1.6420	1.7472	1.8440	1.9080	1.6494		1.7519	6	AVG
1,4-Diethylbenzene	1.8094	1.7602	1.8468	1.9346	2.0179	1.6705		1.8399	7	AVG
1,2-Diethylbenzene	1.5474	1.4719	1.5343	1.5770	1.6474	1.4258		1.5340	5	AVG
1,2-Dibromo-3-Chloropropane	0.1895	0.1639	0.1956	0.2019	0.1887	0.1863		0.1877	7	AVG
1,3,5-Trichlorobenzene	1.4093	1.3392	1.3486	1.3242	1.3718	1.2078		1.3335	5	AVG
1,2,4-Trichlorobenzene	1.4287	1.2922	1.3016	1.2941	1.3268	1.1463		1.2983	7	AVG

Minimum RRF for SPEC(%) = 0.10
 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %RSD for CCC(%) = 30%

CSK 4 8866

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09685 Calibration Date(s): 08/05/11 08/05/11
Heated Purge: (Y/N) Y Calibration Times: 16:46 18:39
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = ag05i06.d RRF 10= ag05i05.d RRF 20= ag05i04.d
RRF 50= ag05i03.d RRF100= ag05i02.d RRF300= ag05i01.d RRF =

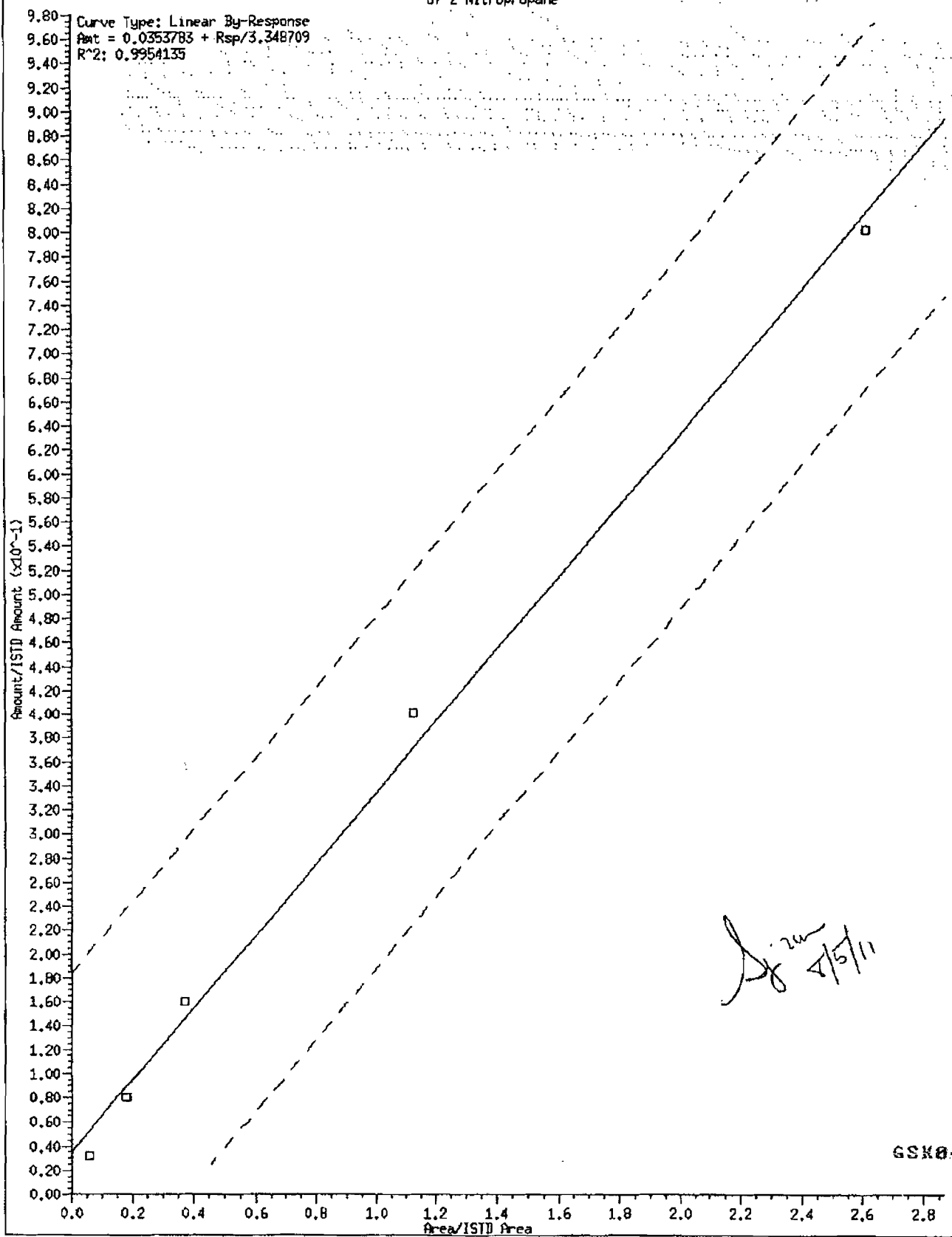
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Hexachlorobutadiene	0.6734	0.6805	0.6972	0.6913	0.7219	0.6320		0.6827	4	AVG
Naphthalene	3.6958	3.2673	3.5174	3.4855	3.3253	2.6341		3.3209	11	AVG
1,2,3-Trichlorobenzene	1.3899	1.2388	1.2585	1.2227	1.2336	1.0627		1.2343	8	AVG
2-Methylnaphthalene	2.4273	1.9061	2.2215	2.3318	2.2521	1.8183		2.1595	11	AVG
Dibromofluoromethane	0.2424	0.2435	0.2437	0.2454	0.2418	0.2403		0.2428	1	AVG
Dibromofluoromethane(mz111)	0.2475	0.2491	0.2497	0.2507	0.2480	0.2457		0.2484	1	AVG
1,2-Dichloroethane-d4	0.0580	0.0572	0.0584	0.0573	0.0571	0.0568		0.0575	1	AVG
1,2-Dichloroethane-d4(mz65)	0.2858	0.2859	0.2853	0.2883	0.2777	0.2773		0.2834	2	AVG
1,2-Dichloroethane-d4(mz104)	0.0372	0.0359	0.0365	0.0367	0.0356	0.0362		0.0364	2	AVG
Toluene-d8	1.2710	1.2712	1.2732	1.2743	1.2715	1.2545		1.2693	1	AVG
Toluene-d8(mz100)	0.8234	0.8243	0.8261	0.8297	0.8310	0.8172		0.8253	1	AVG
4-Bromofluorobenzene	0.5074	0.5071	0.5106	0.5131	0.5132	0.5190		0.5117	1	AVG
4-Bromofluorobenzene(mz174)	0.4306	0.4308	0.4334	0.4299	0.4275	0.4340		0.4310	1	AVG

Average %RSD 6

Minimum RRF for SPCC(4) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

GSK04. 8867

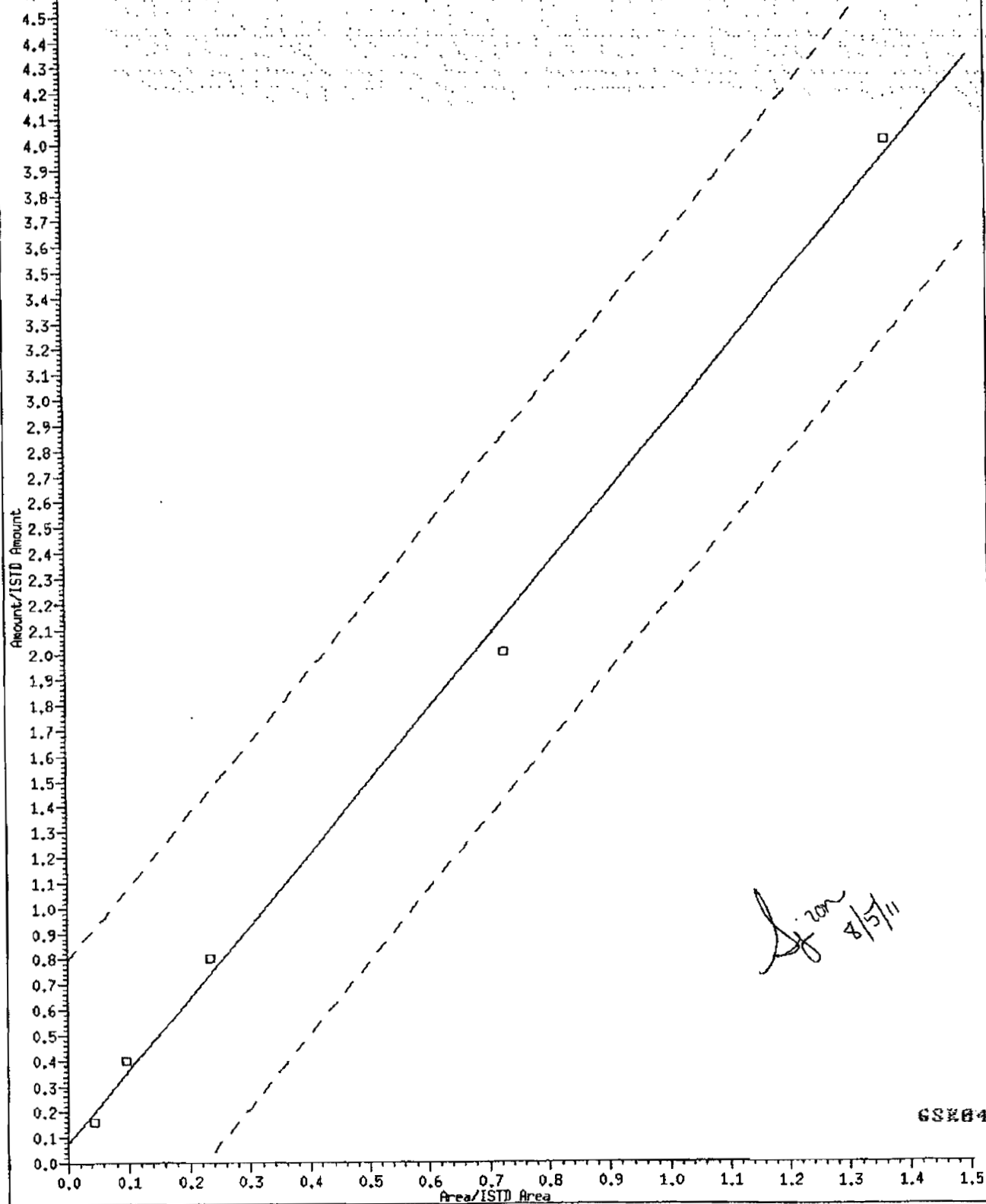
87 2-Nitropropane



GSK04 8868

102 2-Hexanone

Curve Type: Linear By-Response
 Amt = $0.0761622 + \text{Resp}/0.3532997$
 $R^2 = 0.9969673$



St. von
 8/5/11

63284 8869

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP09685.i/11aug05a.b/ag05i01.d VSTD300
/chem2/HP09685.i/11aug05a.b/ag05i02.d VSTD100
/chem2/HP09685.i/11aug05a.b/ag05i03.d VSTD050
/chem2/HP09685.i/11aug05a.b/ag05i04.d VSTD020
/chem2/HP09685.i/11aug05a.b/ag05i05.d VSTD010
/chem2/HP09685.i/11aug05a.b/ag05i06.d VSTD004

Area Summary

File ID:

Internal Standard Name	ag05i01.d	ag05i02.d	ag05i03.d	ag05i04.d	ag05i05.d	ag05i06.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	226314	212391	256942	240095	196900	254796	231240	10	Yes
Fluorobenzene	1511470	1500041	1477258	1458586	1427546	1407953	1463809	3	Yes
Chlorobenzene-d5	1213175	1196725	1179094	1162981	1138664	1119047	1168281	3	Yes
1,4-Dichlorobenzene-d4	743497	710985	695398	686229	668690	653961	693127	5	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	ag05i01.d	ag05i02.d	ag05i03.d	ag05i04.d	ag05i05.d	ag05i06.d	Avg. RT
t-Butyl Alcohol-d10	3.958	3.945	3.958	3.951	3.952	3.952	3.953
Fluorobenzene	7.413	7.407	7.413	7.413	7.407	7.413	7.411
Chlorobenzene-d5	10.960	10.954	10.954	10.960	10.954	10.954	10.956
1,4-Dichlorobenzene-d4	12.858	12.852	12.852	12.852	12.852	12.852	12.853

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 08/05/2011 at 20:26.

GSK24 8878

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 ICV Date: 08/05/11 Time: 23:53
 Lab File ID: ag05103.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4110	0.3893	18.94	20	-5
# Chloromethane	0.3874	0.4223	21.80	20	9 #
* Vinyl Chloride	0.3949	0.4258	21.56	20	8 *
Bromomethane	0.2660	0.2237	16.82	20	-16
Chloroethane	0.2070	0.1928	18.63	20	-7
Trichlorofluoromethane	0.4712	0.5130	21.77	20	9
Ethanol	0.1185	0.1260	1062.90	1000	6
Freon 123a	0.3390	0.3378	19.93	20	0
Acrolein	1.8504	1.5375	124.64	150	-17
* 1,1-Dichloroethene	0.2531	0.2553	20.17	20	1 *
Dichlorofluoromethane	0.5504	0.5645	20.51	20	3
Freon 113	0.2691	0.2486	18.47	20	-8
Acetone	0.0295	0.0372	189.52	150	26 NTC
Methyl Iodide	0.4834	0.4327	17.90	20	-10
2-Propanol	0.7225	0.7201	149.51	150	0
Carbon Disulfide	0.8526	0.7227	16.95	20	-15
Allyl Chloride	0.3672	0.3470	18.90	20	-5
Methyl Acetate	0.1971	0.2651	26.90	20	34 NTC
Methylene Chloride	0.3125	0.3145	20.13	20	1
t-Butyl Alcohol	1.3104	1.5839	241.73	200	21 NTC
Acrylonitrile	0.1040	0.1173	112.74	100	13
trans-1,2-Dichloroethene	0.2928	0.2868	19.59	20	-2
Methyl Tertiary Butyl Ether	0.8414	0.7886	18.75	20	-6
n-Hexane	0.3825	0.3317	17.34	20	-13
# 1,1-Dichloroethane	0.5059	0.4891	19.33	20	-3 #
2-Chloro-1,3-Butadiene	0.4086	0.3671	17.96	20	-10
di-Isopropyl Ether	0.8368	0.7625	18.23	20	-9
Ethyl t-Butyl Ether	0.8574	0.7520	17.54	20	-12
cis-1,2-Dichloroethene	0.3264	0.3124	19.15	20	-4
1,2-Dichloroethene (total)	0.3096	0.2996	38.74	40	-3
2,2-Dichloropropane	0.4370	0.3974	18.18	20	-9
2-Butanone	0.1426	0.1557	163.84	150	9
Propionitrile	1.4327	1.5166	158.78	150	6
Methacrylonitrile	0.1362	0.1500	165.18	150	10
Bromochloromethane	0.1615	0.1598	19.79	20	-1
Tetrahydrofuran	1.3454	1.3826	102.76	100	3

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSR#4 2871

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP09685 ICV Date: 08/05/11 Time: 23:53

Lab File ID: ag05103.d Init. Calib. Date(s): 08/05/11 08/05/11

Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.5165	0.4957	19.19	20	-4 *
1,1,1-Trichloroethane	0.5026	0.4678	18.61	20	-7
Cyclohexane	0.4644	0.4127	17.77	20	-11
1,1-Dichloropropene	0.4021	0.3815	18.97	20	-5
Carbon Tetrachloride	0.3945	0.3656	18.53	20	-7
Benzene	1.1791	1.1647	19.76	20	-1
Isobutyl Alcohol	0.3996	0.4438	555.24	500	11
1,2-Dichloroethane	0.4148	0.4123	19.88	20	-1
t-Amyl Methyl Ether	0.7922	0.6996	17.66	20	-12
n-Heptane	0.3874	0.3339	17.24	20	-14
n-Butanol	0.3685	0.3888	1054.90	1000	5
Trichloroethene	0.3184	0.2983	18.74	20	-6
Methylcyclohexane	0.5114	0.4978	19.47	20	-3
* 1,2-Dichloropropane	0.3121	0.2923	18.73	20	-6 *
Dibromomethane	0.2018	0.1961	19.44	20	-3
1,4-Dioxane	0.1425	0.1500	526.31	500	5
Methyl Methacrylate	0.2318	0.2164	18.67	20	-7
Bromodichloromethane	0.3832	0.3480	18.16	20	-9
2-Nitropropane	2.4963	2.0897	21.33	20	7
cis-1,3-Dichloropropene	0.4751	0.4211	17.73	20	-11
4-Methyl-2-Pentanone	0.3146	0.3320	105.52	100	6
* Toluene	0.9748	0.9137	18.75	20	-6 *
trans-1,3-Dichloropropene	0.5822	0.5007	17.20	20	-14
Ethyl Methacrylate	0.5060	0.4604	18.19	20	-9
1,1,2-Trichloroethane	0.3524	0.3359	19.06	20	-5
Tetrachloroethene	0.4370	0.4130	18.90	20	-5
1,3-Dichloropropane	0.6061	0.5776	19.06	20	-5
2-Hexanone	0.3022	0.3063	90.50	100	-10
Dibromochloromethane	0.3846	0.3436	17.87	20	-11
1,2-Dibromoethane	0.3638	0.3524	19.37	20	-3
# Chlorobenzene	1.1280	1.0489	18.60	20	-7 #
1,1,1,2-Tetrachloroethane	0.3829	0.3480	18.17	20	-9
* Ethylbenzene	1.8321	1.7339	18.93	20	-5 *
m+p-Xylene	0.7232	0.6954	38.46	40	-4
Xylene (Total)	0.7229	0.5531	57.45	60	-4
o-Xylene	0.7223	0.6859	18.99	20	-5

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

GSK04 18272

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP09685 ICV Date: 08/05/11 Time: 23:53

Lab File ID: ag05103.d Init. Calib. Date(s): 08/05/11 08/05/11

Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Styrene	1.1422	1.0660	18.66	20	-7
# Bromoform	0.2758	0.2375	17.22	20	-14 #
Isopropylbenzene	1.7926	1.7232	19.23	20	-4
Cyclohexanone	0.4246	0.3623	426.57	500	-15
Bromobenzene	0.8523	0.7988	18.74	20	-6
# 1,1,2,2-Tetrachloroethane	0.8928	0.8712	19.52	20	-2 #
1,2,3-Trichloropropane	0.2792	0.2739	19.62	20	-2
trans-1,4-Dichloro-2-Butene	0.2714	0.2976	109.67	100	10
n-Propylbenzene	3.6752	3.5842	19.50	20	-2
2-Chlorotoluene	0.8028	0.7531	18.76	20	-6
1,3,5-Trimethylbenzene	2.6491	2.5915	19.57	20	-2
4-Chlorotoluene	0.8303	0.7903	19.04	20	-5
tert-Butylbenzene	0.6300	0.5941	18.86	20	-6
Pentachloroethane	0.5238	0.4770	18.21	20	-9
1,2,4-Trimethylbenzene	2.8366	2.6984	19.03	20	-5
sec-Butylbenzene	3.3751	3.2703	19.38	20	-3
1,3-Dichlorobenzene	1.6330	1.5103	18.50	20	-8
p-Isopropyltoluene	3.0305	2.9271	19.32	20	-3
1,4-Dichlorobenzene	1.6819	1.5619	18.57	20	-7
1,2,3-Trimethylbenzene	2.8081	2.7468	19.56	20	-2
Benzyl Chloride	0.4114	0.3490	16.97	20	-15
1,2-Dichlorobenzene	1.6067	1.4932	18.59	20	-7
n-Butylbenzene	1.5719	1.5214	19.36	20	-3
1,3-Diethylbenzene	1.7519	1.7218	19.66	20	-2
1,4-Diethylbenzene	1.8399	1.8117	19.69	20	-2
1,2-Diethylbenzene	1.5340	1.4673	19.13	20	-4
1,2-Dibromo-3-Chloropropane	0.1877	0.1803	19.22	20	-4
1,3,5-Trichlorobenzene	1.3335	1.2326	18.49	20	-8
1,2,4-Trichlorobenzene	1.2983	1.1275	17.37	20	-13
Hexachlorobutadiene	0.6827	0.6074	17.79	20	-11
Naphthalene	3.3209	3.1311	18.86	20	-6
1,2,3-Trichlorobenzene	1.2343	1.1280	18.28	20	-9
2-Methylnaphthalene	2.1595	1.8004	16.67	20	-17

Average %Drift 7

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

GSK24 5873

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK04
Lab File ID: an02t03.d BFB Injection Date: 11/02/11
Instrument ID: HP09685 BFB Injection Time: 14:16
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.31
75	30.0 - 60.0% of mass 95	50.02
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.97
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	85.43
175	5.0 - 9.0% of mass 174	6.26 (7.33)1
176	Greater than 95.0%, but less than 101.0% of mass 174	82.63 (96.73)1
177	5.0 - 9.0% of mass 176	5.60 (6.78)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	an02c03.d	11/02/11	14:47
02	VLKA38	an02b04.d	11/02/11	15:56
03	LCSA38	an02l09.d	11/02/11	18:02
04	LCDA38	an02l10.d	11/02/11	18:27
05	6454507	an02s36.d	11/02/11	19:20
06	6454508	an02s37.d	11/02/11	19:43
07	6454509	an02s38.d	11/02/11	20:05
08	6454510	an02s39.d	11/02/11	20:28
09	6454511	an02s40.d	11/02/11	20:51
10	6454512	an02s41.d	11/02/11	21:13
11	6454513	an02s42.d	11/02/11	21:36
12	6454514	an02s43.d	11/02/11	21:58
13	6454515	an02s44.d	11/02/11	22:21
14	6454518	an02s45.d	11/02/11	22:44
15	6454519	an02s46.d	11/02/11	23:06
16	6454520	an02s47.d	11/02/11	23:29
17	6454521	an02s48.d	11/02/11	23:51
18	6451491	an02s50.d	11/03/11	00:36
19	6451494RE	an02s51.d	11/03/11	00:59
20	6451497RE	an02s52.d	11/03/11	01:21
21	6451500	an02s53.d	11/03/11	01:44
22	6451501RE	an02s54.d	11/03/11	02:07

GSK04 5059

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/02/11 Time: 14:47
 Lab File ID: an02c03.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4110	0.4225	51.40	50	3
# Chloromethane	0.3874	0.3819	49.30	50	-1 #
* Vinyl Chloride	0.3949	0.3516	44.51	50	-11 *
Bromomethane	0.2660	0.2478	46.58	50	-7
Chloroethane	0.2070	0.2085	50.35	50	1
Trichlorofluoromethane	0.4712	0.4913	52.13	50	4
Ethanol	0.1185	0.1173	2474.68	2500	-1
Freon 123a	0.3390	0.4274	63.04	50	26
Acrolein	1.8504	2.7075	731.59	500	46 NTC
* 1,1-Dichloroethene	0.2531	0.2417	47.74	50	-5 *
Dichlorofluoromethane	0.5504	0.4274	38.82	50	-22 NTC
Freon 113	0.2691	0.2674	49.68	50	-1
Acetone	0.0295	0.0286	96.86	100	-3 NTC
Methyl Iodide	0.4834	0.4565	47.22	50	-6
2-Propanol	0.7225	1.0957	379.16	250	52 NTC
Carbon Disulfide	0.8526	0.8409	49.31	50	-1
Allyl Chloride	0.3672	0.4105	55.89	50	12
Methyl Acetate	0.1971	0.2366	60.01	50	20
Methylene Chloride	0.3125	0.2880	46.07	50	-8
t-Butyl Alcohol	1.3104	1.4263	272.10	250	9
Acrylonitrile	0.1040	0.1053	50.61	50	1
trans-1,2-Dichloroethene	0.2928	0.2801	47.83	50	-4
Methyl Tertiary Butyl Ether	0.8414	0.7181	42.67	50	-15
n-Hexane	0.3825	0.4046	52.89	50	6
# 1,1-Dichloroethane	0.5059	0.5166	51.06	50	2 #
2-Chloro-1,3-Butadiene	0.4086	0.4217	51.60	50	3
di-Isopropyl Ether	0.8368	0.8979	53.65	50	7
Ethyl t-Butyl Ether	0.8574	0.5990	34.93	50	-30 NTC
cis-1,2-Dichloroethene	0.3264	0.3045	46.67	50	-7
1,2-Dichloroethene (total)	0.3096	0.2923	94.50	100	-6
2,2-Dichloropropane	0.4370	0.4083	46.71	50	-7
2-Butanone	0.1426	0.1594	111.78	100	12
Propionitrile	1.4327	2.3272	406.08	250	62 NTC
Methacrylonitrile	0.1362	0.1288	118.21	125	-5
Bromochloromethane	0.1615	0.1598	49.48	50	-1
Tetrahydrofuran	1.3454	1.9918	148.04	100	48 NTC

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

63484 8822

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/02/11 Time: 14:47
 Lab File ID: an02c03.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
* Chloroform	0.5165	0.5038	48.77	50	-2	*
1,1,1-Trichloroethane	0.5026	0.4635	46.11	50	-8	
Cyclohexane	0.4644	0.4796	51.63	50	3	
Cyclohexane (mz84)	0.4290	0.4103	47.82	50	-4	
Cyclohexane (mz69)	0.1509	0.1453	48.14	50	-4	
1,1-Dichloropropene	0.4021	0.3946	49.06	50	-2	
Carbon Tetrachloride	0.3945	0.3991	50.58	50	1	
Benzene	1.1791	1.1561	49.02	50	-2	
Isobutyl Alcohol	0.3996	0.6200	969.73	625	55	NTC
1,2-Dichloroethane	0.4148	0.4131	49.79	50	0	
1,2-Dichloroethane (mz98)	0.0373	0.0354	47.50	50	-5	
t-Amyl Methyl Ether	0.7922	0.4837	30.53	50	-39	NTC
n-Heptane	0.3874	0.4590	59.24	50	18	
n-Butanol	0.3685	0.5182	1757.77	1250	41	NTC
Trichloroethene	0.3184	0.3003	47.15	50	-6	
Methylcyclohexane	0.5114	0.4929	48.19	50	-4	
* 1,2-Dichloropropane	0.3121	0.3131	50.16	50	0	*
Dibromomethane	0.2018	0.1910	47.33	50	-5	
1,4-Dioxane	0.1425	0.1860	815.55	625	30	NTC
Methyl Methacrylate	0.2318	0.2274	49.04	50	-2	
Bromodichloromethane	0.3832	0.3752	48.96	50	-2	
2-Nitropropane	2.4963	4.3684	139.30	100	39	NTC
cis-1,3-Dichloropropene	0.4751	0.4603	48.44	50	-3	
4-Methyl-2-Pentanone	0.3146	0.3637	115.61	100	16	
* Toluene	0.9748	1.0026	51.43	50	3	*
trans-1,3-Dichloropropene	0.5822	0.6080	52.21	50	4	
Ethyl Methacrylate	0.5060	0.5121	50.59	50	1	
1,1,2-Trichloroethane	0.3524	0.3567	50.61	50	1	
Tetrachloroethene	0.4370	0.4810	55.03	50	10	
1,3-Dichloropropane	0.6061	0.6448	53.19	50	6	
2-Hexanone	0.3022	0.3839	112.46	100	12	
Dibromochloromethane	0.3846	0.4255	55.31	50	11	
1,2-Dibromoethane	0.3638	0.3777	51.91	50	4	
# Chlorobenzene	1.1280	1.1817	52.38	50	5	#
1,1,1,2-Tetrachloroethane	0.3829	0.4170	54.45	50	9	
* Ethylbenzene	1.8321	1.9694	53.75	50	7	*

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(=)=20%

QSK#1 5833

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/02/11 Time: 14:47
 Lab File ID: an02c03.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
m+p-Xylene	0.7232	0.7950	109.93	100	10
Xylene (Total)	0.7229	0.7856	163.01	150	9
o-Xylene	0.7223	0.7669	53.08	50	6
Styrene	1.1422	1.2569	55.02	50	10
# Bromoform	0.2758	0.3073	55.72	50	11 #
Isopropylbenzene	1.7926	1.9701	54.95	50	10
Cyclohexanone	0.4246	0.5778	850.53	625	36 NTC
Bromobenzene	0.8523	0.8701	51.04	50	2
# 1,1,2,2-Tetrachloroethane	0.8928	0.8492	47.56	50	-5 #
1,2,3-Trichloropropane	0.2792	0.2605	46.66	50	-7
trans-1,4-Dichloro-2-Butene	0.2714	0.2788	128.41	125	3
n-Propylbenzene	3.6752	3.7669	51.25	50	2
2-Chlorotoluene	0.8028	0.7992	49.78	50	0
1,3,5-Trimethylbenzene	2.6491	2.7655	52.20	50	4
4-Chlorotoluene	0.8303	0.8519	51.30	50	3
tert-Butylbenzene	0.6300	0.6555	52.02	50	4
Pentachloroethane	0.5238	0.6482	61.88	50	24 NTC
1,2,4-Trimethylbenzene	2.8366	2.9108	51.31	50	3
sec-Butylbenzene	3.3751	3.6313	53.80	50	8
1,3-Dichlorobenzene	1.6330	1.7128	52.44	50	5
p-Isopropyltoluene	3.0305	3.2850	54.20	50	8
1,4-Dichlorobenzene	1.6819	1.7395	51.71	50	3
1,2,3-Trimethylbenzene	2.8081	3.2557	57.97	50	16
Benzyl Chloride	0.4114	0.3976	48.32	50	-3
1,2-Dichlorobenzene	1.6067	1.6369	50.94	50	2
n-Butylbenzene	1.5719	1.6857	53.62	50	7
1,3-Diethylbenzene	1.7519	2.0723	59.14	50	18
1,4-Diethylbenzene	1.8399	2.1805	59.25	50	19
1,2-Diethylbenzene	1.5340	1.7884	58.29	50	17
1,2-Dibromo-3-Chloropropane	0.1877	0.1830	48.75	50	-2
1,3,5-Trichlorobenzene	1.3335	1.3673	51.27	50	3
1,2,4-Trichlorobenzene	1.2983	1.2225	47.08	50	-6
Hexachlorobutadiene	0.6827	0.7278	53.30	50	7
Naphthalene	3.3209	3.3009	49.70	50	-1
1,2,3-Trichlorobenzene	1.2343	1.2306	49.85	50	0
2-Methylnaphthalene	2.1595	3.0407	70.40	50	41 NTC

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSX04 0004

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/02/11 Time: 14:47
 Lab File ID: an02c03.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dibromofluoromethane	0.2428	0.2445	50.34	50	1
Dibromofluoromethane (mz111)	0.2484	0.2510	50.52	50	1
1,2-Dichloroethane-d4	0.0575	0.0583	50.72	50	1
1,2-Dichloroethane-d4 (mz65)	0.2834	0.2986	52.69	50	5
1,2-Dichloroethane-d4 (mz104)	0.0364	0.0373	51.27	50	3
Toluene-d8	1.2693	1.3650	53.77	50	8
Toluene-d8 (mz100)	0.8253	0.8883	53.82	50	8
4-Bromofluorobenzene	0.5117	0.5076	49.59	50	-1
4-Bromofluorobenzene (mz174)	0.4310	0.4657	54.02	50	8

Average %Drift 10

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK84 8885.
 Maximum %Drift for CCC(*)=20%

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP09685.i/11aug05a.b/ag05i06.d
/chem2/HP09685.i/11aug05a.b/ag05i05.d
/chem2/HP09685.i/11aug05a.b/ag05i04.d
/chem2/HP09685.i/11aug05a.b/ag05i03.d
/chem2/HP09685.i/11aug05a.b/ag05i02.d
/chem2/HP09685.i/11aug05a.b/ag05i01.d

File /chem2/HP09685.i/11aug05a.b/ag05i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09685.i/11nov02c.b/an02c03.d

RT Summary

File ID:

=====

Internal Standard Name	an02c03.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	3.958	3.958	Yes
Fluorobenzene	7.413	7.413	Yes
Chlorobenzene-d5	10.954	10.954	Yes
1,4-Dichlorobenzene-d4	12.852	12.852	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	an02c03.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	148375	256942	128471	513884	Yes
Fluorobenzene	1530769	1477258	738629	2954516	Yes
Chlorobenzene-d5	1108695	1179094	589547	2358188	Yes
1,4-Dichlorobenzene-d4	698371	695398	347699	1390796	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

*GSK04 0000

Comments: _____

report generated on 11/02/2011 at 15:13

CSK04.0007

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK04
Lab File ID: an04t01.d BFB Injection Date: 11/04/11
Instrument ID: HP09685 BFB Injection Time: 11:20
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.59
75	30.0 - 60.0% of mass 95	48.13
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.05
173	Less than 2.0% of mass 174	0.23 (0.26)1
174	Greater than 50.0% of mass 95	87.96
175	5.0 - 9.0% of mass 174	6.25 (7.11)1
176	Greater than 95.0%, but less than 101.0% of mass 174	85.59 (97.31)1
177	5.0 - 9.0% of mass 176	5.80 (6.77)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD150	an04c01.d	11/04/11	11:45
02	VSTD150	an04c02.d	11/04/11	12:08
03	VBLKA40	an04b02.d	11/04/11	12:54
04	LCSA40	an04l01.d	11/04/11	13:19
05	LCS1A40	an04l02.d	11/04/11	13:49
06	LCD1A40	an04l03.d	11/04/11	14:13
07	6450112	an04s01.d	11/04/11	15:03
08	6450113MS	an04s02.d	11/04/11	15:26
09	6450114MSD	an04s03.d	11/04/11	15:48
10	6452921	an04s04.d	11/04/11	16:11
11	6452922	an04s05.d	11/04/11	16:34
12	6454518RE	an04s06.d	11/04/11	16:56
13	6454520RE	an04s07.d	11/04/11	17:19
14	6454522	an04s08.d	11/04/11	17:42
15	6458175	an04s09.d	11/04/11	18:04
16	6458176	an04s10.d	11/04/11	18:27
17	6458177	an04s11.d	11/04/11	18:49
18	6458178	an04s12.d	11/04/11	19:12
19	6458179	an04s13.d	11/04/11	19:35
20	6458180	an04s14.d	11/04/11	19:58
21	6457172	an04s15.d	11/04/11	20:21
22	6457173	an04s16.d	11/04/11	20:44

GSK04 8868

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK04____
 Lab File ID: an04t01.d BFB Injection Date: 11/04/11
 Instrument ID: HP09685 BFB Injection Time: 11:20
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.59
75	30.0 - 60.0% of mass 95	48.13
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.05
173	Less than 2.0% of mass 174	0.23 (0.26)1
174	Greater than 50.0% of mass 95	87.96
175	5.0 - 9.0% of mass 174	6.25 (7.11)1
176	Greater than 95.0%, but less than 101.0% of mass 174	85.59 (97.31)1
177	5.0 - 9.0% of mass 176	5.80 (6.77)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6456821	an04s17.d	11/04/11	21:07
24	6456822	an04s18.d	11/04/11	21:30
25	6456726	an04s19.d	11/04/11	21:52
26	6452920	an04s20.d	11/04/11	22:15
27	6455554	an04s22.d	11/04/11	23:01

GSK04 0861

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/04/11 Time: 11:45
 Lab File ID: an04c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4110	0.4064	148.33	150	-1
# Chloromethane	0.3874	0.3622	140.27	150	-6 #
* Vinyl Chloride	0.3949	0.3611	137.16	150	-9 *
Bromomethane	0.2660	0.2210	124.62	150	-17
Chloroethane	0.2070	0.1910	138.37	150	-8
Trichlorofluoromethane	0.4712	0.5009	159.46	150	6
Ethanol	0.1185	0.1366	8646.19	7500	15
Freon 123a	0.3390	0.3406	150.70	150	0
Acrolein	1.8504	1.7388	1409.53	1500	-6
* 1,1-Dichloroethene	0.2531	0.2356	139.65	150	-7 *
Dichlorofluoromethane	0.5504	0.5560	151.51	150	1
Freon 113	0.2691	0.2574	143.44	150	-4
Acetone	0.0295	0.0286	290.58	300	-3
Methyl Iodide	0.4834	0.4525	140.39	150	-6
2-Propanol	0.7225	0.8668	899.87	750	20
Carbon Disulfide	0.8526	0.8073	142.03	150	-5
Allyl Chloride	0.3672	0.4177	170.61	150	14
Methyl Acetate	0.1971	0.2362	179.76	150	20
Methylene Chloride	0.3125	0.2784	133.62	150	-11
t-Butyl Alcohol	1.3104	1.3339	763.40	750	2
Acrylonitrile	0.1040	0.1175	169.44	150	13
trans-1,2-Dichloroethene	0.2928	0.2735	140.13	150	-7
Methyl Tertiary Butyl Ether	0.8414	0.7633	136.08	150	-9
n-Hexane	0.3825	0.4045	158.63	150	6
# 1,1-Dichloroethane	0.5059	0.5011	148.57	150	-1 #
2-Chloro-1,3-Butadiene	0.4086	0.4173	153.19	150	2
di-Isopropyl Ether	0.8368	0.8747	156.79	150	5
Ethyl t-Butyl Ether	0.8574	0.6617	115.75	150	-23
cis-1,2-Dichloroethene	0.3264	0.3019	138.78	150	-7
1,2-Dichloroethene (total)	0.3096	0.2877	278.91	300	-7
2,2-Dichloropropane	0.4370	0.4120	141.39	150	-6
2-Butanone	0.1426	0.1645	346.22	300	15
Propionitrile	1.4327	1.7091	894.69	750	19
Methacrylonitrile	0.1362	0.1378	379.26	375	1
Bromochloromethane	0.1615	0.1583	147.05	150	-2
Tetrahydrofuran	1.3454	1.5013	334.75	300	12

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(=)=20%

63K04 2008

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/04/11 Time: 11:45
 Lab File ID: an04c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
=====	=====	=====	=====	=====	=====	
* Chloroform	0.5165	0.4903	142.37	150	-5	*
1,1,1-Trichloroethane	0.5026	0.4606	137.48	150	-8	
Cyclohexane	0.4644	0.4798	154.96	150	3	
Cyclohexane(mz84)	0.4290	0.4213	147.31	150	-2	
Cyclohexane(mz69)	0.1509	0.1485	147.62	150	-2	
1,1-Dichloropropene	0.4021	0.3960	147.73	150	-2	
Carbon Tetrachloride	0.3945	0.4045	153.79	150	3	
Benzene	1.1791	1.1202	142.51	150	-5	
Isobutyl Alcohol	0.3996	0.5103	2394.29	1875	28	NTC
1,2-Dichloroethane	0.4148	0.4014	145.13	150	-3	
1,2-Dichloroethane(mz98)	0.0373	0.0356	143.39	150	-4	
t-Amyl Methyl Ether	0.7922	0.5601	106.05	150	-29	NTC
n-Heptane	0.3874	0.4433	171.65	150	14	
n-Butanol	0.3685	0.4360	4435.97	3750	18	
Trichloroethene	0.3184	0.2989	140.84	150	-6	
Methylcyclohexane	0.5114	0.5429	159.24	150	6	
* 1,2-Dichloropropane	0.3121	0.3116	149.78	150	0	*
Dibromomethane	0.2018	0.1986	147.62	150	-2	
1,4-Dioxane	0.1425	0.1422	1870.64	1875	0	
Methyl Methacrylate	0.2318	0.2674	172.99	150	15	
Bromodichloromethane	0.3832	0.3951	154.67	150	3	
2-Nitropropane	2.4963	3.4512	318.03	300	6	
cis-1,3-Dichloropropene	0.4751	0.5103	161.10	150	7	
4-Methyl-2-Pentanone	0.3146	0.4062	387.33	300	29	NTC
* Toluene	0.9748	1.0084	155.17	150	3	*
trans-1,3-Dichloropropene	0.5822	0.6475	166.83	150	11	
Ethyl Methacrylate	0.5060	0.5804	172.04	150	15	
1,1,2-Trichloroethane	0.3524	0.3644	155.11	150	3	
Tetrachloroethene	0.4370	0.4842	166.21	150	11	
1,3-Dichloropropane	0.6061	0.6427	159.05	150	6	
2-Hexanone	0.3022	0.4000	343.42	300	14	
Dibromochloromethane	0.3846	0.4473	174.46	150	16	
1,2-Dibromoethane	0.3638	0.3959	163.23	150	9	
# Chlorobenzene	1.1280	1.1257	149.70	150	0	#
1,1,1,2-Tetrachloroethane	0.3829	0.4171	163.38	150	9	
* Ethylbenzene	1.8321	1.8560	151.95	150	1	*

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK84 8889

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/04/11 Time: 11:45
 Lab File ID: an04c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
m+p-Xylene	0.7232	0.7183	297.95	300	-1
Xylene (Total)	0.7229	0.7136	444.22	450	-1
o-Xylene	0.7223	0.7044	146.27	150	-2
Styrene	1.1422	1.1740	154.18	150	3
# Bromoform	0.2758	0.3448	187.51	150	25 #
Isopropylbenzene	1.7926	1.9343	161.85	150	8
Cyclohexanone	0.4246	0.4928	2176.15	1875	16
Bromobenzene	0.8523	0.8754	154.05	150	3
# 1,1,2,2-Tetrachloroethane	0.8928	0.9049	152.03	150	1 #
1,2,3-Trichloropropane	0.2792	0.2740	147.22	150	-2
trans-1,4-Dichloro-2-Butene	0.2714	0.2950	407.56	375	9
n-Propylbenzene	3.6752	3.6124	147.44	150	-2
2-Chlorotoluene	0.8028	0.8119	151.70	150	1
1,3,5-Trimethylbenzene	2.6491	2.7716	156.93	150	5
4-Chlorotoluene	0.8303	0.8505	153.64	150	2
tert-Butylbenzene	0.6300	0.6594	157.00	150	5
Pentachloroethane	0.5238	0.5777	165.43	150	10
1,2,4-Trimethylbenzene	2.8366	2.8805	152.32	150	2
sec-Butylbenzene	3.3751	3.4384	152.81	150	2
1,3-Dichlorobenzene	1.6330	1.6535	151.88	150	1
p-Isopropyltoluene	3.0305	3.1098	153.92	150	3
1,4-Dichlorobenzene	1.6819	1.6773	149.59	150	0
1,2,3-Trimethylbenzene	2.8081	2.8357	151.47	150	1
Benzyl Chloride	0.4114	0.4425	161.35	150	8
1,2-Dichlorobenzene	1.6067	1.5755	147.09	150	-2
n-Butylbenzene	1.5719	1.5192	144.97	150	-3
1,3-Diethylbenzene	1.7519	1.8128	155.21	150	3
1,4-Diethylbenzene	1.8399	1.8743	152.80	150	2
1,2-Diethylbenzene	1.5340	1.5454	151.11	150	1
1,2-Dibromo-3-Chloropropane	0.1877	0.2090	167.09	150	11
1,3,5-Trichlorobenzene	1.3335	1.3880	156.13	150	4
1,2,4-Trichlorobenzene	1.2983	1.2723	147.00	150	-2
Hexachlorobutadiene	0.6827	0.7421	163.05	150	9
Naphthalene	3.3209	3.3695	152.20	150	1
1,2,3-Trichlorobenzene	1.2343	1.2484	151.71	150	1
2-Methylnaphthalene	2.1595	2.2472	156.09	150	4

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK24 0850
 Maximum %Drift for CCC(*)=20%

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/04/11 Time: 11:45
 Lab File ID: an04c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dibromofluoromethane	0.2428	0.2456	50.58	50	1
Dibromofluoromethane (mz111)	0.2484	0.2504	50.40	50	1
1,2-Dichloroethane-d4	0.0575	0.0592	51.49	50	3
1,2-Dichloroethane-d4 (mz65)	0.2834	0.2958	52.20	50	4
1,2-Dichloroethane-d4 (mz104)	0.0364	0.0377	51.78	50	4
Toluene-d8	1.2693	1.3754	54.18	50	8
Toluene-d8 (mz100)	0.8253	0.8933	54.12	50	8
4-Bromofluorobenzene	0.5117	0.5200	50.81	50	2
4-Bromofluorobenzene (mz174)	0.4310	0.4720	54.75	50	10

Average %Drift 7

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK04 0891

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP09685.i/11aug05a.b/ag05i06.d
/chem2/HP09685.i/11aug05a.b/ag05i05.d
/chem2/HP09685.i/11aug05a.b/ag05i04.d
/chem2/HP09685.i/11aug05a.b/ag05i03.d
/chem2/HP09685.i/11aug05a.b/ag05i02.d
/chem2/HP09685.i/11aug05a.b/ag05i01.d

File /chem2/HP09685.i/11aug05a.b/ag05i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09685.i/11nov04a.b/an04c01.d

RT Summary

File ID:

=====

Internal Standard Name	an04c01.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	3.970	3.958	Yes
Fluorobenzene	7.419	7.413	Yes
Chlorobenzene-d5	10.960	10.954	Yes
1,4-Dichlorobenzene-d4	12.852	12.852	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	an04c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	227971	256942	128471	513884	Yes
Fluorobenzene	1600814	1477258	738629	2954516	Yes
Chlorobenzene-d5	1194801	1179094	589547	2358188	Yes
1,4-Dichlorobenzene-d4	762865	695398	347699	1390796	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

GSK94 2892

report generated on 11/04/2011 at 12:08

GSK84 0053

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK04____
 Lab File ID (Standard): an02c03.d Date Analyzed: 11/02/11
 Instrument ID: HP09585 Time Analyzed: 14:47
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

		IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD		1530769	7.413	1108695	10.954	698371	12.852	148375	3.958
UPPER LIMIT		3061538	7.913	2217390	11.454	1396742	13.352	296750	4.458
LOWER LIMIT		765384	6.913	554348	10.454	349186	12.352	74188	3.458
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE									
ID									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
01	VBLKA38	1453040	7.413	1044542	10.954	610961	12.852	173544	3.946
02	LCSA38	1634806	7.407	1171641	10.954	705678	12.852	194933	3.946
03	LCDA38	1621073	7.413	1184820	10.954	718028	12.852	206172	3.951
04	6454507	1571880	7.401	1037640	10.954	432645	12.852		
05	6454508	1541733	7.413	1033555	10.954	459039	12.852		
06	6454509	1501324	7.407	995083	10.954	425127	12.852		
07	6454510	1508956	7.413	1067711	10.954	521262	12.852		
08	6454511	1495251	7.413	1055505	10.954	544357	12.852		
09	6454512	1453137	7.407	1011583	10.954	469939	12.852		
10	6454513	1399748	7.407	924748	10.954	372107	12.852		
11	6454514	1383324	7.413	990149	10.954	529999	12.852		
12	6454515	1381643	7.413	994470	10.954	549937	12.852		
13	6454518	1301971	7.413	825942	10.954	331468 *	12.852		
14	6454519	1276197	7.413	886248	10.954	415931	12.852		
15	6454520	923835	7.407	647421	10.954	275724 *	12.852		
16	6454521	1260448	7.407	873639	10.954	413159	12.852		
17	6451491	1270620	7.407	939761	10.960	538264	12.852		
18	6451494RE	1180597	7.413	758583	10.960	321268 *	12.852		
19	6451497RE	1225863	7.407	804705	10.954	322238 *	12.852		
20	6451500	1234896	7.413	866650	10.960	446391	12.852		
21	6451501RE	1234619	7.413	809176	10.954	319564 *	12.852		

Not in SDG
Not in SDG
Not in SDG

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

GSK04 8899

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK04
 Lab File ID (Standard): an04c01.d Date Analyzed: 11/04/11
 Instrument ID: HP09685 Time Analyzed: 11:45
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

		IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD		1600814	7.419	1194801	10.960	762865	12.852	227971	3.970
UPPER LIMIT		3201628	7.919	2389602	11.460	1525730	13.352	455942	4.470
LOWER LIMIT		800407	6.919	597400	10.460	381432	12.352	113986	3.470
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE									
ID									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
01	VBLKA40	1503076	7.419	1108715	10.960	648296	12.852	172730	3.964
02	LCSA40	1535353	7.419	1154957	10.954	691924	12.852	173479	3.964
03	LCS1A40	1519866	7.413	1128073	10.960	651563	12.852	174273	3.964
04	LCD1A40	1492199	7.413	1097444	10.954	635453	12.852	173731	3.952
05	6450112	1416959	7.419	1038429	10.960	545592	12.852	200266	3.958
06	6450113MS	1439409	7.413	995160	10.954	440045	12.852	192213	3.958
07	6450114MSD	1473727	7.419	1026641	10.960	481251	12.852	226022	3.970
08	6452921	1488654	7.419	1122551	10.960	638097	12.852	172195	3.958
09	6452922	1462109	7.419	1088633	10.960	644625	12.852	162183	3.964
10	6454518RE	1355377	7.419	881460	10.960	364639	12.852		
11	6454520RE	651470 *	7.407	491546 *	10.954	217600 *	12.852		
12	6454522	1327861	7.419	962586	10.960	508353	12.852		
13	6458175	1243172	7.419	928690	10.960	518896	12.852	190912	3.958
14	6458176	1267980	7.419	920135	10.960	446508	12.852	142534	3.970
15	6458177	1131876	7.413	838164	10.960	475909	12.852	146984	3.958
16	6458178	1226634	7.413	911097	10.960	516304	12.852	126859	3.945
17	6458179	1189609	7.413	876727	10.960	516045	12.852	115280	3.958
18	6458180	1248935	7.419	837538	10.960	393564	12.858	156025	3.958
19	6457172	879617	7.413	682848	10.960	395836	12.852		
20	6457173	1037770	7.419	806495	10.960	484936	12.852		
21	6456821	1176828	7.419	890077	10.960	540235	12.852	144624	3.958
22	6456822	1195052	7.419	906027	10.960	544688	12.852	181358	3.964

○ All samples reported from original analysis

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

GSK04 8188

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK04____
 Lab File ID (Standard): an04c01.d Date Analyzed: 11/04/11
 Instrument ID: HP09685 Time Analyzed: 11:45
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

		IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====		=====	=====	=====	=====	=====	=====	=====	=====
	12 HOUR STD	1600814	7.419	1194801	10.960	762865	12.852	227971	3.970
	UPPER LIMIT	3201628	7.919	2389602	11.460	1525730	13.352	455942	4.470
	LOWER LIMIT	800407	6.919	597400	10.460	381432	12.352	113986	3.470
=====		=====	=====	=====	=====	=====	=====	=====	=====
	LAB SAMPLE ID								
=====		=====	=====	=====	=====	=====	=====	=====	=====
23	6456726	1156838	7.419	862262	10.960	466282	12.852	137159	3.951
24	6452920	636364 *	7.419	194982 *	10.960	38339 *	12.852	78277 *	3.958
25	6455554	1154999	7.419	919922	10.960	505981	12.852	110404 *	3.970

not in this sdh

* No target analytes quantitated with this internal standard

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

GSK04 3181

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.



Quality Control Summary
 Surrogates
 GC/MS Volatiles
 SDG: GSK04
 Matrix: LIQUID

Fraction: Volatiles by GC/MS

L113121AA	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
	%		%		%		%	
	Recovery	Limits	Recovery	Limits	Recovery	Limits	Recovery	Limits
VBLKL30	94	80 - 116	100	77 - 113	99	80 - 113	94	78 - 113
LCSL30	95	80 - 116	100	77 - 113	100	80 - 113	97	78 - 113
LCDL30	94	80 - 116	98	77 - 113	99	80 - 113	96	78 - 113
6454516	92	80 - 116	99	77 - 113	99	80 - 113	95	78 - 113
6454517	93	80 - 116	100	77 - 113	99	80 - 113	95	78 - 113

GSK04. 0053

Fraction: Volatiles by GC/MS

L113121AA / VBLKL30 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	11/08/11	N.D.	ug/l	2	5
Chloromethane	11/08/11	N.D.	ug/l	1	5
Vinyl Chloride	11/08/11	N.D.	ug/l	1	5
Bromomethane	11/08/11	N.D.	ug/l	1	5
Chloroethane	11/08/11	N.D.	ug/l	1	5
Freon 123a	11/08/11	N.D.	ug/l	2	5
Freon 113	11/08/11	N.D.	ug/l	2	10
Trichlorofluoromethane	11/08/11	N.D.	ug/l	2	5
1,1-Dichloroethene	11/08/11	N.D.	ug/l	0.8	5
Ethylbenzene	11/08/11	N.D.	ug/l	0.8	5
1,1,1,2-Tetrachloroethane	11/08/11	N.D.	ug/l	1	5
Methylene Chloride	11/08/11	N.D.	ug/l	2	5
Bromoform	11/08/11	N.D.	ug/l	1	5
1,1-Dichloroethane	11/08/11	N.D.	ug/l	1	5
1,1,2,2-Tetrachloroethane	11/08/11	N.D.	ug/l	1	5
Bromobenzene	11/08/11	N.D.	ug/l	1	5
1,2-Dichloroethene (Total)	11/08/11	N.D.	ug/l	0.8	5
1,2,3-Trichloropropane	11/08/11	N.D.	ug/l	1	5
Chloroform	11/08/11	N.D.	ug/l	0.8	5
2-Chlorotoluene	11/08/11	N.D.	ug/l	1	5
1,1,1-Trichloroethane	11/08/11	N.D.	ug/l	0.8	5
4-Chlorotoluene	11/08/11	N.D.	ug/l	1	5
Benzene	11/08/11	N.D.	ug/l	0.5	5
Carbon Tetrachloride	11/08/11	N.D.	ug/l	1	5
1,2-Dichloroethane	11/08/11	N.D.	ug/l	1	5
Trichloroethene	11/08/11	N.D.	ug/l	1	5
1,2-Dichloropropane	11/08/11	N.D.	ug/l	1	5
Dibromomethane	11/08/11	N.D.	ug/l	1	5
Bromodichloromethane	11/08/11	N.D.	ug/l	1	5
1,3-Dichlorobenzene	11/08/11	N.D.	ug/l	1	5
cis-1,3-Dichloropropene	11/08/11	N.D.	ug/l	1	5
1,4-Dichlorobenzene	11/08/11	N.D.	ug/l	1	5
Toluene	11/08/11	N.D.	ug/l	0.7	5
trans-1,3-Dichloropropene	11/08/11	N.D.	ug/l	1	5
Benzyl Chloride	11/08/11	N.D.	ug/l	1	5
1,2-Dichlorobenzene	11/08/11	N.D.	ug/l	1	5
1,1,2-Trichloroethane	11/08/11	N.D.	ug/l	0.8	5
Tetrachloroethene	11/08/11	N.D.	ug/l	0.8	5
Dibromochloromethane	11/08/11	N.D.	ug/l	1	5
Chlorobenzene	11/08/11	N.D.	ug/l	0.8	5
Xylene (Total)	11/08/11	N.D.	ug/l	0.8	5

GSK04 2051



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK04
Matrix: LIQUID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSL30 LCSD: LCDL30	Batch: L113121AA (Sample number(s): 6454516-6454517)							
	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Analyte								
Dichlorodifluoromethane	20	15.44	15.31	77	77	47-120	1	30
Chloromethane	20	17.16	17.34	86	87	60-129	1	30
Vinyl Chloride	20	17.29	17.19	86	86	65-125	1	30
Bromomethane	20	16.06	15.7	80	79	44-120	2	30
Chloroethane	20	17.64	17.08	88	85	49-129	3	30
Freon 123a	20	19.45	18.84	97	94	63-125	3	30
Freon 113	20	21.1	20.7	105	104	69-128	2	30
Trichlorofluoromethane	20	18.56	18.11	93	91	64-129	2	30
1,1-Dichloroethene	20	20.48	20.12	102	101	74-123	2	30
1,1,1,2-Tetrachloroethane	20	17.43	17.5	87	87	80-120	0	30
Ethylbenzene	20	19.74	19.28	99	96	79-120	2	30
Methylene Chloride	20	20.45	19.72	102	99	80-120	4	30
1,1-Dichloroethane	20	20.12	19.93	101	100	79-120	1	30
Bromoform	20	15.43	15.55	77	78	61-120	1	30
1,1,2,2-Tetrachloroethane	20	20.25	20.79	101	104	71-120	3	30
Bromobenzene	20	19.08	19.12	95	96	80-120	0	30
1,2-Dichloroethene (Total)	40	40.06	38.85	100	97	80-120	3	30
1,2,3-Trichloropropane	20	19.38	19.87	97	99	80-120	2	30
2-Chlorotoluene	20	20.04	19.49	100	97	80-120	3	30
Chloroform	20	19	18.73	95	94	77-122	1	30
1,1,1-Trichloroethane	20	17.35	17.07	87	85	75-127	2	30
4-Chlorotoluene	20	19.89	19.47	99	97	80-120	2	30
1,2-Dichloroethane	20	18.56	18.63	93	93	70-130	0	30
Benzene	20	20.41	20.11	102	101	79-120	1	30
Carbon Tetrachloride	20	17.41	17.08	87	85	75-123	2	30
Trichloroethene	20	19.2	18.98	96	95	80-120	1	30
1,2-Dichloropropane	20	19.74	19.82	99	99	78-120	0	30
Dibromomethane	20	18.78	18.6	94	93	80-120	1	30
1,3-Dichlorobenzene	20	19.25	18.97	96	95	80-120	1	30
Bromodichloromethane	20	17.67	17.33	88	87	80-120	2	30
cis-1,3-Dichloropropene	20	18.39	18.54	92	93	80-120	1	30
1,4-Dichlorobenzene	20	19.29	19.23	96	96	80-120	0	30
Toluene	20	19.74	19.52	99	98	79-120	1	30
trans-1,3-Dichloropropene	20	18.24	18.1	91	90	79-120	1	30
1,1,2-Trichloroethane	20	19.82	19.92	99	100	80-120	0	30
1,2-Dichlorobenzene	20	19.04	18.85	95	94	80-120	1	30
Benzyl Chloride	20	17.8	18.33	89	92	69-120	3	30
Tetrachloroethene	20	18.9	18.39	94	92	80-121	3	30
Dibromochloromethane	20	16.89	16.9	84	85	80-120	0	30
Chlorobenzene	20	19.49	19.12	97	96	80-120	2	30
Xylene (Total)	60	57.18	55.85	95	93	80-120	2	30

CSK04-9956

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK04____
 Lab File ID: lc20t01.d BFB Injection Date: 10/20/11
 Instrument ID: HP09915 BFB Injection Time: 18:20
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.75
75	30.0 - 60.0% of mass 95	47.60
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.52
173	Less than 2.0% of mass 174	0.63 (0.74)1
174	Greater than 50.0% of mass 95	85.51
175	5.0 - 9.0% of mass 174	6.22 (7.28)1
176	Greater than 95.0%, but less than 101.0% of mass 174	83.63 (97.80)1
177	5.0 - 9.0% of mass 176	5.37 (6.42)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	lc20i01.d	10/20/11	18:41
02	VSTD100	lc20i02.d	10/20/11	19:03
03	VSTD50	lc20i03.d	10/20/11	19:24
04	VSTD20	lc20i04.d	10/20/11	19:46
05	VSTD10	lc20i05.d	10/20/11	20:09
06	VSTD4	lc20i06.d	10/20/11	20:31
07	1PPBMDL - 1PPBMDL	lc20m01.d	10/20/11	20:52
08	VBLKL00	lc20b01.d	10/20/11	21:14
09	LCSL00	lc20l01.d	10/20/11	21:36
10	6438777	lc20s01.d	10/20/11	22:29
11	6438778	lc20s02.d	10/20/11	22:51
12	6438763	lc20s03.d	10/20/11	23:13
13	6438764	lc20s04.d	10/20/11	23:35
14	6438765	lc20s05.d	10/20/11	23:57
15	6438766	lc20s06.d	10/21/11	00:19
16	6438767MS	lc20s07.d	10/21/11	00:40
17	6438768MSD	lc20s08.d	10/21/11	01:02
18	6438769	lc20s09.d	10/21/11	01:24
19	6438770	lc20s10.d	10/21/11	01:46
20	6438771	lc20s11.d	10/21/11	02:08
21	6438772	lc20s12.d	10/21/11	02:30
22	6438773	lc20s13.d	10/21/11	02:52

GSK04 0002.

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK04____
Lab File ID: lc20t01.d BFB Injection Date: 10/20/11
Instrument ID: HP09915 BFB Injection Time: 18:20
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.75
75	30.0 - 60.0% of mass 95	47.60
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.52
173	Less than 2.0% of mass 174	0.63 (0.74)1
174	Greater than 50.0% of mass 95	85.51
175	5.0 - 9.0% of mass 174	6.22 (7.28)1
176	Greater than 95.0%, but less than 101.0% of mass 174	83.63 (97.80)1
177	5.0 - 9.0% of mass 176	5.37 (6.42)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6438774	lc20s14.d	10/21/11	03:13
24	6438775	lc20s15.d	10/21/11	03:35
25	6438776	lc20s16.d	10/21/11	03:57
26	6437210	lc20s17.d	10/21/11	04:19
27	6437212	lc20s18.d	10/21/11	04:41
28	6437213	lc20s19.d	10/21/11	05:03

GSK04 0063

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09915 Calibration Date(s): 10/20/11 10/20/11
Heated Purge: (Y/N) Y Calibration Times: 18:41 20:31
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID:	RRF 4 = lc20i06.d	RRF 10= lc20i05.d	RRF 20= lc20i04.d	RRF 50= lc20i03.d	RRF100= lc20i02.d	RRF300= lc20i01.d	RRF	RRF	% RSD	CAL. METHOD
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.4456	0.3164	0.3168	0.3957	0.3752	0.3434		0.3655	14	AVG
Chloromethane	#0.4319	0.3857	0.3409	0.4083	0.4021	0.3623		0.3885	8	AVG
Vinyl Chloride	*0.4123	0.3687	0.3324	0.3914	0.3829	0.3443		0.3720	8	AVG
Bromomethane	0.3207	0.2714	0.2368	0.2809	0.2704	0.2397		0.2700	11	AVG
Chloroethane	0.2475	0.2189	0.1873	0.2197	0.2141	0.1899		0.2129	10	AVG
Dichlorofluoromethane	0.5358	0.4905	0.5196	0.5139	0.4992	0.4625		0.5036	5	AVG
Trichlorofluoromethane	0.5102	0.3991	0.3769	0.4691	0.4489	0.4070		0.4352	11	AVG
Ethyl Ether	0.2745	0.2520	0.2745	0.2662	0.2547	0.2664		0.2647	4	AVG
Freon 123a	0.3341	0.2801	0.3127	0.3188	0.3124	0.2985		0.3094	6	AVG
Acrolein	1.6202	1.5847	1.6213	1.9729	1.8415	1.7092		1.7250	9	AVG
1,1-Dichloroethene	*0.2196	0.1976	0.2184	0.2210	0.2159	0.2096		0.2137	4	AVG
Freon 113	0.2390	0.1768	0.2268	0.2367	0.2258	0.2212		0.2211	10	AVG
Acetone	0.1249	0.1235	0.1213	0.1362	0.1379	0.1298		0.1289	5	AVG
2-Propanol	0.7053	0.6732	0.7320	0.6968	0.6563	0.6469		0.6851	5	AVG
Methyl Iodide	0.3983	0.3816	0.4342	0.4388	0.4289	0.4150		0.4161	5	AVG
Carbon Disulfide	0.7093	0.6620	0.7394	0.7456	0.7224	0.6865		0.7109	5	AVG
Allyl Chloride	0.4913	0.4403	0.4893	0.4893	0.4867	0.4542		0.4752	5	AVG
Methyl Acetate	0.3592	0.3326	0.3606	0.3572	0.3685	0.3610		0.3565	3	AVG
Methylene Chloride	0.2729	0.2549	0.2721	0.2735	0.2692	0.2542		0.2661	3	AVG
t-Butyl Alcohol	1.2100	1.0999	1.3090	1.2435	1.1816	1.1339		1.1963	6	AVG
Acrylonitrile	0.1741	0.1739	0.1638	0.1883	0.1898	0.1799		0.1783	6	AVG
trans-1,2-Dichloroethene	0.2496	0.2359	0.2645	0.2664	0.2598	0.2511		0.2546	4	AVG
Methyl Tertiary Butyl Ether	0.8460	0.7969	0.9099	0.8819	0.8688	0.8455		0.8582	4	AVG
n-Hexane	0.4251	0.2858	0.4043	0.3997	0.3777	0.3757		0.3780	13	AVG
1,2-Dichloroethene (total)	0.2671	0.2488	0.2818	0.2832	0.2776	0.2692		0.2713	5	AVG
1,1-Dichloroethane	#0.4741	0.4433	0.4991	0.5075	0.4913	0.4639		0.4799	5	AVG
di-Isopropyl Ether	0.9658	0.9029	1.0315	1.0032	0.9816	0.9150		0.9667	5	AVG
2-Chloro-1,3-Butadiene	0.4280	0.3909	0.4363	0.4396	0.4222	0.3989		0.4193	5	AVG
Ethyl t-Butyl Ether	0.8644	0.8220	0.9458	0.9208	0.9018	0.8411		0.8827	5	AVG
cis-1,2-Dichloroethene	0.2845	0.2617	0.2991	0.3000	0.2954	0.2872		0.2880	5	AVG
2-Butanone	0.2544	0.2459	0.2274	0.2722	0.2664	0.2557		0.2537	6	AVG
2,2-Dichloropropane	0.4087	0.3678	0.4175	0.4186	0.4058	0.3817		0.4000	5	AVG
Propionitrile	1.5100	1.4351	1.6359	1.6729	1.5472	1.5663		1.5612	5	AVG
Methacrylonitrile	0.1699	0.1707	0.1889	0.1828	0.1850	0.1829		0.1800	4	AVG
Bromochloromethane	0.1604	0.1449	0.1601	0.1623	0.1644	0.1639		0.1593	5	AVG
Tetrahydrofuran	1.2107	1.2429	1.1981	1.4599	1.3853	1.3378		1.3058	8	AVG
Chloroform	*0.4541	0.4285	0.4914	0.4832	0.4733	0.4516		0.4637	5	AVG
1,1,1-Trichloroethane	0.5197	0.4177	0.4754	0.4415	0.4359	0.4126		0.4505	9	AVG
Cyclohexane	0.5133	0.3658	0.4849	0.4927	0.4671	0.4507		0.4624	11	AVG
Cyclohexane(mz 84)	0.3901	0.2861	0.3867	0.3946	0.3761	0.3671		0.3668	11	AVG
Cyclohexane(mz 69)	0.1492	0.1034	0.1391	0.1406	0.1358	0.1315		0.1333	12	AVG
1,1-Dichloropropene	0.3691	0.3356	0.3832	0.3869	0.3735	0.3655		0.3690	5	AVG
Carbon Tetrachloride	0.3523	0.3163	0.3679	0.3774	0.3672	0.3613		0.3571	6	AVG
Isobutyl Alcohol	0.4495	0.4080	0.5097	0.4645	0.4312	0.4323		0.4492	8	AVG
Benzene	1.0473	0.9892	1.1131	1.1163	1.0967	1.0683		1.0718	5	AVG
1,2-Dichloroethane	0.3832	0.3653	0.4156	0.4105	0.4057	0.3854		0.3943	5	AVG
1,2-Dichloroethane(mz 98)	0.0361	0.0333	0.0379	0.0373	0.0367	0.0372		0.0364	4	AVG
t-Amyl Methyl Ether	0.8444	0.7958	0.9239	0.8843	0.8728	0.8259		0.8579	5	AVG
n-Heptane	0.4892	0.3107	0.4746	0.4751	0.4528	0.4565		0.4432	15	AVG
n-Butanol	0.4170	0.3410	0.4294	0.3846	0.3708	0.3716		0.3857	8	AVG
Trichloroethene	0.2820	0.2543	0.2950	0.2940	0.2884	0.2839		0.2829	5	AVG
Methylcyclohexane	0.5292	0.4058	0.5101	0.5140	0.5028	0.5018		0.4940	9	AVG

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

GSK04 0074

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LAMCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09915 Calibration Date(s): 10/20/11 10/20/11
 Heated Purge: (Y/N) Y Calibration Times: 18:41 20:31
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = 1c20i06.d RRF 10= 1c20i05.d RRF 20= 1c20i04.d
 RRF 50= 1c20i03.d RRF100= 1c20i02.d RRF300= 1c20i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Methylcyclohexane(mz98)	0.2388	0.1812	0.2290	0.2331	0.2279	0.2297		0.2233	9	AVG
1,2-Dichloropropane	*0.3006	0.2839	0.3226	0.3206	0.3176	0.3094		0.3091	5	AVG
Dibromomethane	0.1991	0.1854	0.2154	0.2110	0.2103	0.2068		0.2047	5	AVG
Methyl Methacrylate	0.3026	0.2752	0.3249	0.3101	0.3132	0.3140		0.3067	6	AVG
1,4-Dioxane	0.0956	0.0888	0.1038	0.0968	0.0921	0.0888		0.0943	6	AVG
Bromodichloromethane	0.3422	0.3319	0.3897	0.3843	0.3814	0.3724		0.3670	7	AVG
2-Nitropropane	0.1173	0.1257	0.1264	0.1453	0.1535	0.1341		0.1337	10	AVG
2-Chloroethyl Vinyl Ether	0.2307	0.2210	0.2486	0.2378	0.2375	0.2381		0.2356	4	AVG
cis-1,3-Dichloropropene	0.4307	0.4183	0.4984	0.4927	0.4891	0.4842		0.4689	7	AVG
4-Methyl-2-Pentanone	0.4522	0.4899	0.5037	0.5775	0.6173	0.5170		0.5263	12	AVG
Toluene	*0.9164	0.8653	0.9843	0.9854	0.9874	0.9514		0.9450	5	AVG
trans-1,3-Dichloropropene	0.5577	0.5372	0.6485	0.6448	0.6456	0.6340		0.6113	8	AVG
Ethyl Methacrylate	0.6096	0.5839	0.6866	0.6566	0.6545	0.6408		0.6386	6	AVG
1,1,2-Trichloroethane	0.3542	0.3386	0.3943	0.3789	0.3757	0.3732		0.3692	5	AVG
Tetrachloroethene	0.4135	0.3606	0.4384	0.4424	0.4394	0.4720		0.4277	9	AVG
1,3-Dichloropropane	0.6072	0.5888	0.6903	0.6669	0.6653	0.6624		0.6468	6	AVG
2-Hexanone	0.4680	0.5102	0.5211	0.6051	0.6433	0.5211		0.5448	12	AVG
Dibromochloromethane	0.3913	0.3833	0.4623	0.4549	0.4604	0.4666		0.4365	9	AVG
1,2-Dibromoethane	0.3947	0.3807	0.4424	0.4318	0.4273	0.4233		0.4167	6	AVG
Chlorobenzene	#1.0587	0.9967	1.1657	1.1475	1.1319	1.1379		1.1064	6	AVG
1,1,1,2-Tetrachloroethane	0.3644	0.3509	0.4213	0.4132	0.4101	0.4221		0.3970	8	AVG
Ethylbenzene	*1.7692	1.6269	1.9330	1.9124	1.8758	1.8405		1.8263	6	AVG
m+p-Xylene	0.6963	0.6477	0.7733	0.7760	0.7755	0.7802		0.7415	8	AVG
Xylene (Total)	0.6891	0.6454	0.7703	0.7735	0.7744	0.7790		0.7386	8	AVG
o-Xylene	0.6747	0.6409	0.7642	0.7685	0.7721	0.7764		0.7328	8	AVG
Styrene	1.1404	1.0920	1.3151	1.3217	1.3302	1.3319		1.2552	9	AVG
Bromoform	#0.2977	0.2972	0.3719	0.3699	0.3781	0.4005		0.3525	12	AVG
Isopropylbenzene	1.8286	1.6068	1.9883	1.9788	1.9468	1.8961		1.8742	8	AVG
Cyclohexanone	0.3944	0.3590	0.4030	0.3987	0.3912	0.3885		0.3891	4	AVG
1,1,2,2-Tetrachloroethane	#1.0735	1.0016	1.1826	1.1105	1.1040	1.0427		1.0858	6	AVG
Bromobenzene	0.8123	0.7503	0.8843	0.8717	0.8795	0.9264		0.8541	7	AVG
1,2,3-Trichloropropane	0.3112	0.2954	0.3488	0.3301	0.3304	0.3270		0.3238	6	AVG
trans-1,4-Dichloro-2-Butene	0.2102	0.2395	0.3028	0.3020	0.3225	0.3059		0.2805	16	1STDEG
n-Propylbenzene	0.8658	0.7851	0.9494	0.9355	0.9206	0.9123		0.8948	7	AVG
2-Chlorotoluene	0.7507	0.6791	0.8170	0.8046	0.7912	0.7742		0.7695	6	AVG
1,3,5-Trimethylbenzene	1.3017	1.1916	1.4394	1.4520	1.4585	1.4329		1.3794	8	AVG
4-Chlorotoluene	0.7918	0.7179	0.8625	0.8587	0.8549	0.8497		0.8226	7	AVG
tert-Butylbenzene	0.6018	0.5248	0.6493	0.6536	0.6606	0.6707		0.6268	9	AVG
Pentachloroethane	0.5030	0.4715	0.5573	0.5767	0.6087	0.6526		0.5616	12	AVG
1,2,4-Trimethylbenzene	2.7397	2.4595	2.9663	2.9483	2.9085	2.7106		2.7888	7	AVG
sec-Butylbenzene	0.6891	0.5910	0.7426	0.7463	0.7393	0.7430		0.7085	9	AVG
1,3-Dichlorobenzene	1.5475	1.4138	1.6880	1.6786	1.6947	1.7160		1.6231	7	AVG
p-Isopropyltoluene	0.7900	0.6926	0.8616	0.8834	0.8864	0.8893		0.8339	9	AVG
1,4-Dichlorobenzene	1.6327	1.4969	1.7650	1.7398	1.7187	1.7080		1.6768	6	AVG
1,2,3-Trimethylbenzene	1.2177	1.1382	1.2968	1.3033	1.3135	1.2683		1.2563	5	AVG
Benzyl Chloride	1.9458	1.9474	2.3457	2.3080	2.3110	2.1635		2.1702	8	AVG
1,3-Diethylbenzene	1.8013	1.6363	1.8486	1.8741	1.8768	1.7630		1.8000	5	AVG
1,4-Diethylbenzene	1.9056	1.7240	1.9631	1.9882	1.9962	1.8825		1.9099	5	AVG
n-Butylbenzene	1.5270	1.3019	1.6103	1.5924	1.5511	1.4347		1.5029	8	AVG
1,2-Dichlorobenzene	1.5344	1.4165	1.6748	1.6575	1.6548	1.6503		1.5980	6	AVG
1,2-Diethylbenzene	1.5288	1.4052	1.5958	1.6089	1.6317	1.5301		1.5501	5	AVG
1,2-Dibromo-3-Chloropropane	0.2598	0.2362	0.2865	0.2711	0.2731	0.2547		0.2636	7	AVG

Minimum RRF for SPECC# = 0.10
 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %RSD for CCC(*) = 30%

GSK84 8875

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09915 Calibration Date(s): 10/20/11 10/20/11
Heated Purge: (Y/N) Y Calibration Times: 18:41 20:31
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = lc20i06.d RRF 10= lc20i05.d RRF 20= lc20i04.d
RRF 50= lc20i03.d RRF100= lc20i02.d RRF300= lc20i01.d RRF =

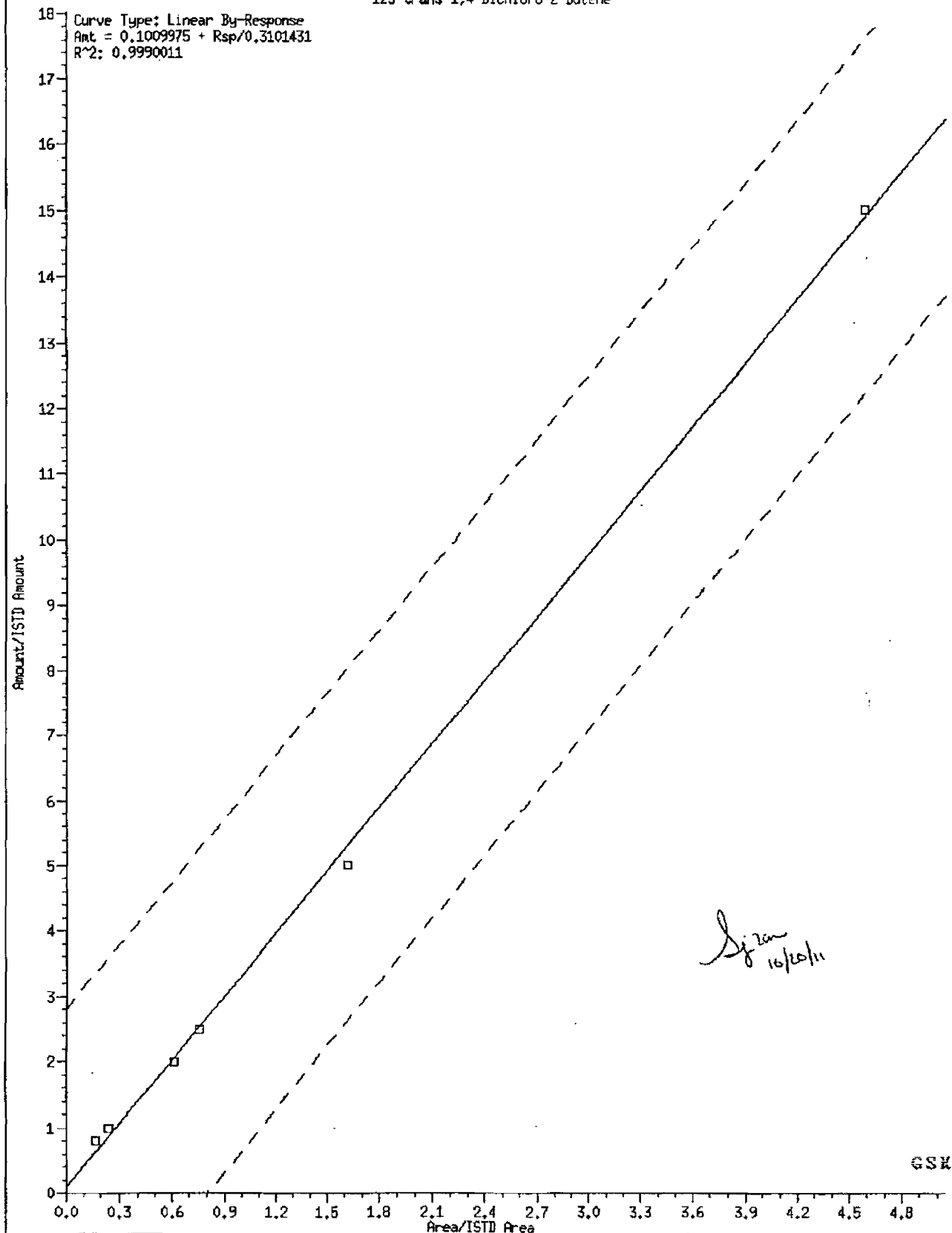
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,3,5-Trichlorobenzene	1.2613	1.1254	1.3398	1.3162	1.3187	1.2655		1.2712	6	AVG
1,2,4-Trichlorobenzene	1.1871	1.0772	1.2555	1.2208	1.2357	1.1666		1.1905	5	AVG
Hexachlorobutadiene	0.5821	0.4761	0.5833	0.5555	0.5530	0.5038		0.5423	8	AVG
Naphthalene	3.8540	3.4720	4.1508	3.9550	4.0213	3.3351		3.7980	9	AVG
1,2,3-Trichlorobenzene	1.2012	1.0513	1.2592	1.2055	1.2180	1.1180		1.1755	6	AVG
2-Methylnaphthalene	2.4788	2.1505	2.5072	2.4463	2.6030	2.0154		2.3669	10	AVG
Dibromofluoromethane	0.2534	0.2543	0.2548	0.2536	0.2530	0.2479		0.2528	1	AVG
Dibromofluoromethane(mz111)	0.2580	0.2602	0.2583	0.2604	0.2574	0.2529		0.2579	1	AVG
1,2-Dichloroethane-d4	0.0623	0.0608	0.0604	0.0608	0.0606	0.0598		0.0608	1	AVG
1,2-Dichloroethane-d4(mz65)	0.3025	0.3064	0.2991	0.3017	0.2968	0.2892		0.2993	2	AVG
1,2-Dichloroethane-d4(mz104)	0.0378	0.0393	0.0395	0.0391	0.0392	0.0394		0.0390	2	AVG
Toluene-d8	1.3478	1.3441	1.3530	1.3535	1.3466	1.3193		1.3440	1	AVG
Toluene-d8(mz100)	0.8793	0.8809	0.8813	0.8875	0.8903	0.8755		0.8825	1	AVG
4-Bromofluorobenzene	0.4893	0.4953	0.4958	0.4968	0.4946	0.4891		0.4935	1	AVG
4-Bromofluorobenzene(mz174)	0.4242	0.4286	0.4316	0.4317	0.4300	0.4273		0.4289	1	AVG

Average %RSD 7

Minimum RRF for SPCC(1) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

GSX84 0076

125 trans-1,4-Dichloro-2-Butene



GSK04 8877

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP09915.i/11oct20a.b/lc20i01.d VSTD300
/chem/HP09915.i/11oct20a.b/lc20i02.d VSTD100
/chem/HP09915.i/11oct20a.b/lc20i03.d VSTD050
/chem/HP09915.i/11oct20a.b/lc20i04.d VSTD020
/chem/HP09915.i/11oct20a.b/lc20i05.d VSTD010
/chem/HP09915.i/11oct20a.b/lc20i06.d VSTD004

Area Summary

File ID:

Internal Standard Name	lc20i01.d	lc20i02.d	lc20i03.d	lc20i04.d	lc20i05.d	lc20i06.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	291303	286754	258924	268825	275764	253427	272500	6	Yes
Fluorobenzene	1244134	1204077	1192068	1167620	1161406	1137018	1184387	3	Yes
Chlorobenzene-d5	928814	894969	880304	863219	859723	841087	878019	4	Yes
1,4-Dichlorobenzene-d4	592480	537343	523382	510227	499232	488458	525187	7	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	lc20i01.d	lc20i02.d	lc20i03.d	lc20i04.d	lc20i05.d	lc20i06.d	Avg. RT
t-Butyl Alcohol-d10	3.678	3.675	3.681	3.678	3.668	3.681	3.677
Fluorobenzene	7.147	7.150	7.147	7.141	7.147	7.147	7.147
Chlorobenzene-d5	10.758	10.758	10.758	10.758	10.758	10.758	10.758
1,4-Dichlorobenzene-d4	12.668	12.668	12.668	12.665	12.668	12.665	12.667

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 10/20/2011 at 21:49.

65X04 0070

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09915 ICV Date: 10/20/11 Time: 21:36
 Lab File ID: lc20101.d Init. Calib. Date(s): 10/20/11 10/20/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.3655	0.3384	18.52	20	-7
# Chloromethane	0.3885	0.3730	19.20	20	-4 #
* Vinyl Chloride	0.3720	0.3605	19.38	20	-3 *
Bromomethane	0.2700	0.2657	19.69	20	-2
Chloroethane	0.2129	0.1988	18.68	20	-7
Dichlorofluoromethane	0.5036	0.4783	19.00	20	-5
Trichlorofluoromethane	0.4352	0.4375	20.11	20	1
Ethyl Ether	0.2647	0.2133	16.11	20	-19
Freon 123a	0.3094	0.3094	20.00	20	0
Acrolein	1.7250	1.5871	138.01	150	-8
* 1,1-Dichloroethene	0.2137	0.2251	21.07	20	5 *
Freon 113	0.2211	0.2407	21.78	20	9
Acetone	0.1289	0.1695	197.18	150	31
2-Propanol	0.6851	0.6399	140.10	150	-7
Methyl Iodide	0.4161	0.4326	20.79	20	4
Carbon Disulfide	0.7109	0.7272	20.46	20	2
Allyl Chloride	0.4752	0.4651	19.57	20	-2
Methyl Acetate	0.3565	0.4225	23.70	20	19
Methylene Chloride	0.2661	0.2770	20.82	20	4
t-Butyl Alcohol	1.1963	1.1056	184.83	200	-8
Acrylonitrile	0.1783	0.1731	97.08	100	-3
trans-1,2-Dichloroethene	0.2546	0.2673	21.00	20	5
Methyl Tertiary Butyl Ether	0.8582	0.8867	20.66	20	3
n-Hexane	0.3780	0.3975	21.03	20	5
1,2-Dichloroethene (total)	0.2713	0.2824	41.66	40	4
# 1,1-Dichloroethane	0.4799	0.5009	20.88	20	4 #
di-Isopropyl Ether	0.9667	0.9985	20.66	20	3
2-Chloro-1,3-Butadiene	0.4193	0.4451	21.23	20	6
Ethyl t-Butyl Ether	0.8827	0.9031	20.46	20	2
cis-1,2-Dichloroethene	0.2880	0.2975	20.66	20	3
2-Butanone	0.2537	0.3047	180.20	150	20
2,2-Dichloropropane	0.4000	0.4103	20.52	20	3
Propionitrile	1.5612	1.4887	143.03	150	-5
Methacrylonitrile	0.1800	0.1821	151.75	150	1
Bromochloromethane	0.1593	0.1599	20.07	20	0
Tetrahydrofuran	1.3058	1.2738	97.55	100	-2

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

6SK04 0079

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09915 ICV Date: 10/20/11 Time: 21:36
 Lab File ID: lc20101.d Init. Calib. Date(s): 10/20/11 10/20/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.4637	0.4782	20.63	20	3 *
1,1,1-Trichloroethane	0.4505	0.4570	20.29	20	1
Cyclohexane	0.4624	0.4848	20.97	20	5
1,1-Dichloropropene	0.3690	0.3844	20.84	20	4
Carbon Tetrachloride	0.3571	0.3641	20.39	20	2
Isobutyl Alcohol	0.4492	0.4150	461.89	500	-8
Benzene	1.0718	1.1040	20.60	20	3
1,2-Dichloroethane	0.3943	0.4072	20.66	20	3
t-Amyl Methyl Ether	0.8579	0.8717	20.32	20	2
n-Heptane	0.4432	0.4585	20.69	20	3
n-Butanol	0.3857	0.3437	891.07	1000	-11
Trichloroethene	0.2829	0.2862	20.23	20	1
Methylcyclohexane	0.4940	0.5073	20.54	20	3
* 1,2-Dichloropropane	0.3091	0.3099	20.05	20	0 *
Dibromomethane	0.2047	0.2056	20.09	20	0
Methyl Methacrylate	0.3067	0.2890	18.85	20	-6
1,4-Dioxane	0.0943	0.0857	454.32	500	-9
Bromodichloromethane	0.3670	0.3669	19.99	20	0
2-Nitropropane	0.1337	0.1272	19.03	20	-5
2-Chloroethyl Vinyl Ether	0.2356	0.2308	19.59	20	-2
cis-1,3-Dichloropropene	0.4689	0.4654	19.85	20	-1
4-Methyl-2-Pentanone	0.5263	0.5201	98.82	100	-1
* Toluene	0.9450	0.9674	20.47	20	2 *
trans-1,3-Dichloropropene	0.6113	0.6066	19.85	20	-1
Ethyl Methacrylate	0.6386	0.6540	20.48	20	2
1,1,2-Trichloroethane	0.3692	0.3688	19.98	20	0
Tetrachloroethene	0.4277	0.4284	20.03	20	0
1,3-Dichloropropane	0.6468	0.6533	20.20	20	1
2-Hexanone	0.5448	0.6131	112.54	100	13
Dibromochloromethane	0.4365	0.4284	19.63	20	-2
1,2-Dibromoethane	0.4167	0.4201	20.16	20	1
# Chlorobenzene	1.1064	1.1210	20.26	20	1 #
1,1,1,2-Tetrachloroethane	0.3970	0.3911	19.71	20	-1
* Ethylbenzene	1.8263	1.8326	20.07	20	0 *
m+p-Xylene	0.7415	0.7366	39.73	40	-1
Xylene (Total)	0.7386	0.5439	59.67	60	-1

Minimum RRF for SPCC(=)0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

65884 6888

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09915 ICV Date: 10/20/11 Time: 21:36
 Lab File ID: lc20101.d Init. Calib. Date(s): 10/20/11 10/20/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
o-Xylene	0.7328	0.7304	19.93	20	0
Styrene	1.2552	1.2357	19.69	20	-2
# Bromoform	0.3525	0.3375	19.15	20	-4 #
Isopropylbenzene	1.8742	1.8856	20.12	20	1
Cyclohexanone	0.3891	0.3506	450.45	500	-10
# 1,1,2,2-Tetrachloroethane	1.0858	1.0699	19.71	20	-1 #
Bromobenzene	0.8541	0.8377	19.62	20	-2
1,2,3-Trichloropropane	0.3238	0.3205	19.80	20	-1
trans-1,4-Dichloro-2-Butene	0.2805	0.2615	89.38	100	-11
n-Propylbenzene	0.8948	0.8916	19.93	20	0
2-Chlorotoluene	0.7695	0.7756	20.16	20	1
1,3,5-Trimethylbenzene	1.3794	1.3592	19.71	20	-1
4-Chlorotoluene	0.8226	0.8071	19.62	20	-2
tert-Butylbenzene	0.6268	0.6080	19.40	20	-3
Pentachloroethane	0.5616	0.5226	18.61	20	-7
1,2,4-Trimethylbenzene	2.7888	2.7834	19.96	20	0
sec-Butylbenzene	0.7085	0.7003	19.77	20	-1
1,3-Dichlorobenzene	1.6231	1.5761	19.42	20	-3
p-Isopropyltoluene	0.8339	0.8067	19.35	20	-3
1,4-Dichlorobenzene	1.6768	1.6274	19.41	20	-3
1,2,3-Trimethylbenzene	1.2563	1.2666	20.16	20	1
Benzyl Chloride	2.1702	2.1146	19.49	20	-3
1,3-Diethylbenzene	1.8000	1.7954	19.95	20	0
1,4-Diethylbenzene	1.9099	1.8688	19.57	20	-2
n-Butylbenzene	1.5029	1.4644	19.49	20	-3
1,2-Dichlorobenzene	1.5980	1.5462	19.35	20	-3
1,2-Diethylbenzene	1.5501	1.5393	19.86	20	-1
1,2-Dibromo-3-Chloropropane	0.2636	0.2458	18.65	20	-7
1,3,5-Trichlorobenzene	1.2712	1.1919	18.75	20	-6
1,2,4-Trichlorobenzene	1.1905	1.1077	18.61	20	-7
Hexachlorobutadiene	0.5423	0.4831	17.81	20	-11
Naphthalene	3.7980	3.6157	19.04	20	-5
1,2,3-Trichlorobenzene	1.1755	1.0845	18.45	20	-8
2-Methylnaphthalene	2.3669	2.1053	17.79	20	-11

Average %Drift 4

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK04 8881

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK04____
Lab File ID: ln08t01.d BFB Injection Date: 11/08/11
Instrument ID: HP09915 BFB Injection Time: 07:54
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.04
75	30.0 - 60.0% of mass 95	46.57
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.43
173	Less than 2.0% of mass 174	0.83 (0.93)1
174	Greater than 50.0% of mass 95	89.82
175	5.0 - 9.0% of mass 174	6.52 (7.26)1
176	Greater than 95.0%, but less than 101.0% of mass 174	85.55 (95.24)1
177	5.0 - 9.0% of mass 176	5.72 (6.69)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD150	ln08c01.d	11/08/11	08:17
02	VBLKL30	ln08b02.d	11/08/11	09:01
03	LCSL30	ln08l01.d	11/08/11	09:23
04	LCDL30	ln08l02.d	11/08/11	10:28
05	6454516	ln08s01.d	11/08/11	11:08
06	6454517	ln08s02.d	11/08/11	11:30
07	6459759	ln08s03.d	11/08/11	11:52
08	6459760	ln08s04.d	11/08/11	12:15
09	6461310	ln08s05.d	11/08/11	12:37
10	6461311	ln08s06.d	11/08/11	12:59
11	6458105	ln08s07.d	11/08/11	13:21
12	6458106	ln08s08.d	11/08/11	13:43
13	6458102	ln08s09.d	11/08/11	14:05
14	6458103	ln08s10.d	11/08/11	14:27
15	6458104	ln08s11.d	11/08/11	14:49
16	6458104DL	ln08s12.d	11/08/11	15:11
17	6459707	ln08s13.d	11/08/11	15:33
18	6459708	ln08s14.d	11/08/11	15:55

GSK04. 886.4

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09915 Calibration Date: 11/08/11 Time: 08:17
 Lab File ID: ln08c01.d Init. Calib. Date(s): 10/20/11 10/20/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.3655	0.3704	152.01	150	1
# Chloromethane	0.3885	0.3845	148.43	150	-1 #
* Vinyl Chloride	0.3720	0.3503	141.24	150	-6 *
Bromomethane	0.2700	0.2476	137.60	150	-8
Chloroethane	0.2129	0.1967	138.63	150	-8
Dichlorofluoromethane	0.5036	0.4711	140.31	150	-6
Trichlorofluoromethane	0.4352	0.4238	146.06	150	-3
Ethyl Ether	0.2647	0.1442	81.69	150	-46 NTL
Freon 123a	0.3094	0.3043	147.51	150	-2
Acrolein	1.7250	2.1058	1831.16	1500	22 NTL
* 1,1-Dichloroethene	0.2137	0.2222	155.96	150	4 *
Freon 113	0.2211	0.2400	162.88	150	9
Acetone	0.1289	0.1402	326.12	300	9
2-Propanol	0.6851	0.7248	793.45	750	6
Methyl Iodide	0.4161	0.4242	152.91	150	2
Carbon Disulfide	0.7109	0.7625	160.89	150	7
Allyl Chloride	0.4752	0.3282	103.59	150	-31 NTL
Methyl Acetate	0.3565	0.3166	133.21	150	-11
Methylene Chloride	0.2661	0.2617	147.51	150	-2
t-Butyl Alcohol	1.1963	1.1882	744.92	750	-1
Acrylonitrile	0.1783	0.1768	148.77	150	-1
trans-1,2-Dichloroethene	0.2546	0.2558	150.75	150	1
Methyl Tertiary Butyl Ether	0.8582	0.8084	141.30	150	-6
n-Hexane	0.3780	0.4085	162.08	150	8
1,2-Dichloroethene (total)	0.2713	0.2682	296.88	300	-1
# 1,1-Dichloroethane	0.4799	0.4691	146.64	150	-2 #
di-Isopropyl Ether	0.9667	0.9193	142.65	150	-5
2-Chloro-1,3-Butadiene	0.4193	0.3971	142.05	150	-5
Ethyl t-Butyl Ether	0.8827	0.7950	135.11	150	-10
cis-1,2-Dichloroethene	0.2880	0.2806	146.13	150	-3
2-Butanone	0.2537	0.2482	293.50	300	-2
2,2-Dichloropropane	0.4000	0.3480	130.51	150	-13
Propionitrile	1.5612	1.6185	777.51	750	4
Methacrylonitrile	0.1800	0.1787	372.16	375	-1
Bromochloromethane	0.1593	0.1332	125.40	150	-16
Tetrahydrofuran	1.3058	1.3181	302.82	300	1

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSR04 8894

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09915 Calibration Date: 11/08/11 Time: 08:17
 Lab File ID: ln08c01.d Init. Calib. Date(s): 10/20/11 10/20/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====					
* Chloroform	0.4637	0.4357	140.95	150	-6 *
1,1,1-Trichloroethane	0.4505	0.3705	123.36	150	-18
Cyclohexane	0.4624	0.4741	153.77	150	3
Cyclohexane(mz 84)	0.3668	0.3885	158.89	150	6
Cyclohexane(mz 69)	0.1333	0.1358	152.82	150	2
1,1-Dichloropropene	0.3690	0.3646	148.24	150	-1
Carbon Tetrachloride	0.3571	0.3312	139.12	150	-7
Isobutyl Alcohol	0.4492	0.4467	1864.43	1875	-1
Benzene	1.0718	1.0622	148.65	150	-1
1,2-Dichloroethane	0.3943	0.3640	138.50	150	-8
1,2-Dichloroethane(mz 98)	0.0364	0.0347	143.07	150	-5
t-Amyl Methyl Ether	0.8579	0.7667	134.05	150	-11
n-Heptane	0.4432	0.4477	151.53	150	1
n-Butanol	0.3857	0.3678	3575.52	3750	-5
Trichloroethene	0.2829	0.2702	143.25	150	-5
Methylcyclohexane	0.4940	0.4144	125.85	150	-16
Methylcyclohexane(mz98)	0.2233	0.1885	126.65	150	-16
* 1,2-Dichloropropane	0.3091	0.3026	146.86	150	-2 *
Dibromomethane	0.2047	0.1960	143.63	150	-4
Methyl Methacrylate	0.3067	0.3041	148.77	150	-1
1,4-Dioxane	0.0943	0.0969	1927.31	1875	3
Bromodichloromethane	0.3670	0.3476	142.08	150	-5
2-Nitropropane	0.1337	0.1193	267.70	300	-11
2-Chloroethyl Vinyl Ether	0.2356	0.2467	157.05	150	5
cis-1,3-Dichloropropene	0.4689	0.4599	147.12	150	-2
4-Methyl-2-Pentanone	0.5263	0.4969	283.26	300	-6
* Toluene	0.9450	0.9037	143.45	150	-4 *
trans-1,3-Dichloropropene	0.6113	0.5921	145.28	150	-3
Ethyl Methacrylate	0.6386	0.6062	142.39	150	-5
1,1,2-Trichloroethane	0.3692	0.3562	144.73	150	-4
Tetrachloroethene	0.4277	0.4110	144.15	150	-4
1,3-Dichloropropane	0.6468	0.6432	149.17	150	-1
2-Hexanone	0.5448	0.5137	282.90	300	-6
Dibromochloromethane	0.4365	0.4121	141.63	150	-6
1,2-Dibromoethane	0.4167	0.4093	147.33	150	-2
# Chlorobenzene	1.1064	1.0642	144.28	150	-4 #

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(=)=20%

GSK04 8895

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09915 Calibration Date: 11/08/11 Time: 08:17
 Lab File ID: ln08c01.d Init. Calib. Date(s): 10/20/11 10/20/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====
1,1,1,2-Tetrachloroethane	0.3970	0.3715	140.37	150	-6
* Ethylbenzene	1.8263	1.7830	146.45	150	-2 *
m+p-Xylene	0.7415	0.7296	295.19	300	-2
Xylene (Total)	0.7386	0.7223	440.06	450	-2
o-Xylene	0.7328	0.7077	144.87	150	-3
Styrene	1.2552	1.2199	145.78	150	-3
# Bromoform	0.3525	0.3323	141.41	150	-6 #
Isopropylbenzene	1.8742	1.7985	143.94	150	-4
Cyclohexanone	0.3891	0.3921	1889.32	1875	1
# 1,1,2,2-Tetrachloroethane	1.0858	1.0840	149.75	150	0 #
Bromobenzene	0.8541	0.8320	146.12	150	-3
1,2,3-Trichloropropane	0.3238	0.3143	145.61	150	-3
trans-1,4-Dichloro-2-Butene	0.2805	0.3277	401.25	375	7
n-Propylbenzene	0.8948	0.8895	149.11	150	-1
2-Chlorotoluene	0.7695	0.7505	146.30	150	-2
1,3,5-Trimethylbenzene	1.3794	1.3677	148.74	150	-1
4-Chlorotoluene	0.8226	0.8162	148.85	150	-1
tert-Butylbenzene	0.6268	0.6211	148.65	150	-1
Pentachloroethane	0.5616	0.5218	139.36	150	-7
1,2,4-Trimethylbenzene	2.7888	2.7220	146.40	150	-2
sec-Butylbenzene	0.7085	0.7046	149.17	150	-1
1,3-Dichlorobenzene	1.6231	1.5873	146.69	150	-2
p-Isopropyltoluene	0.8339	0.8378	150.70	150	0
1,4-Dichlorobenzene	1.6768	1.6047	143.54	150	-4
1,2,3-Trimethylbenzene	1.2563	1.1770	140.54	150	-6
Benzyl Chloride	2.1702	2.0991	145.08	150	-3
1,3-Diethylbenzene	1.8000	1.6966	141.38	150	-6
1,4-Diethylbenzene	1.9099	1.8081	142.00	150	-5
n-Butylbenzene	1.5029	1.4741	147.12	150	-2
1,2-Dichlorobenzene	1.5980	1.5147	142.18	150	-5
1,2-Diethylbenzene	1.5501	1.4524	140.55	150	-6
1,2-Dibromo-3-Chloropropane	0.2636	0.2437	138.71	150	-8
1,3,5-Trichlorobenzene	1.2712	1.2203	144.00	150	-4
1,2,4-Trichlorobenzene	1.1905	1.1326	142.71	150	-5
Hexachlorobutadiene	0.5423	0.4948	136.85	150	-9
Naphthalene	3.7980	3.6618	144.62	150	-4

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK84 8896

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09915 Calibration Date: 11/08/11 Time: 08:17
 Lab File ID: 1n08c01.d Init. Calib. Date(s): 10/20/11 10/20/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,2,3-Trichlorobenzene	1.1755	1.1129	142.00	150	-5
2-Methylnaphthalene	2.3669	2.1446	135.91	150	-9
Dibromofluoromethane	0.2528	0.2407	47.59	50	-5
Dibromofluoromethane(mz111)	0.2579	0.2454	47.59	50	-5
1,2-Dichloroethane-d4	0.0608	0.0606	49.85	50	0
1,2-Dichloroethane-d4(mz65)	0.2993	0.2805	46.86	50	-6
1,2-Dichloroethane-d4(mz104)	0.0390	0.0383	49.05	50	-2
Toluene-d8	1.3440	1.3119	48.81	50	-2
Toluene-d8(mz100)	0.8825	0.8561	48.50	50	-3
4-Bromofluorobenzene	0.4935	0.4734	47.97	50	-4
4-Bromofluorobenzene(mz174)	0.4289	0.4155	48.44	50	-3

Average %Drift 5

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

03K04 8897

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem/HP09915.i/11oct20a.b/lc20i06.d
/chem/HP09915.i/11oct20a.b/lc20i05.d
/chem/HP09915.i/11oct20a.b/lc20i04.d
/chem/HP09915.i/11oct20a.b/lc20i03.d
/chem/HP09915.i/11oct20a.b/lc20i02.d
/chem/HP09915.i/11oct20a.b/lc20i01.d

File /chem/HP09915.i/11oct20a.b/lc20i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem/HP09915.i/11nov08a.b/ln08c01.d

RT Summary

File ID:

=====

Internal Standard Name	ln08c01.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	3.662	3.681	Yes
Fluorobenzene	7.137	7.147	Yes
Chlorobenzene-d5	10.758	10.758	Yes
1,4-Dichlorobenzene-d4	12.668	12.668	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	ln08c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	296736	258924	129462	517848	Yes
Fluorobenzene	1302732	1192068	596034	2384136	Yes
Chlorobenzene-d5	971843	880304	440152	1760608	Yes
1,4-Dichlorobenzene-d4	572683	523382	261691	1046764	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

CSK04 0098

Comments: _____

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK04____
 Lab File ID (Standard): ln08c01.d Date Analyzed: 11/08/11
 Instrument ID: HP09915 Time Analyzed: 08:17
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1302732	7.137	971843	10.758	572683	12.668	296736	3.662
UPPER LIMIT	2605464	7.637	1943686	11.258	1145366	13.168	593472	4.162
LOWER LIMIT	651366	6.637	485922	10.258	286342	12.168	148368	3.162
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
01 VBLKL30	1284640	7.140	936246	10.758	514555	12.664	286147	3.681
02 LCLSL30	1280922	7.138	934327	10.755	528439	12.665	266147	3.681
03 LCDL30	1326061	7.134	971321	10.754	546274	12.664	309046	3.671
04 6454516	1310450	7.137	948828	10.754	521240	12.664	314546	3.678
05 6454517	1284902	7.144	921452	10.758	514412	12.665	287743	3.678
06 6459759	1282328	7.141	931158	10.755	512230	12.665	279436	3.668
07 6459760	1250367	7.140	909376	10.754	498400	12.664	268045	3.671
08 6461310	1233953	7.141	893782	10.758	497894	12.665	261983	3.675
09 6461311	1235514	7.144	905393	10.758	495188	12.664	261294	3.691
10 6458105	1218744	7.141	882951	10.758	489872	12.664	261247	3.681
11 6458106	1214393	7.141	880758	10.755	493190	12.664	257552	3.678
12 6458102	1207657	7.137	879594	10.754	489651	12.664	270515	3.671
13 6458103	1187489	7.137	859371	10.758	478909	12.664	255038	3.674
14 6458104	1213443	7.141	889396	10.758	496602	12.664	264741	3.674
15 6458104DL	1207669	7.137	873595	10.758	484750	12.664	256155	3.671
16 6459707	1222498	7.147	875946	10.758	488361	12.664	286553	3.700
17 6459708	1207304	7.140	877582	10.758	489678	12.664	258620	3.668

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.



VOA Prep Summary by SDG: GSK04 21 - GC/MS Volatiles

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	Final Extraction Vol (mL)	Problem Codes
6454507	169A	07578	11376614	N	10/28/11 10:45	10/29/11 14:14	28.90 g	34.96 g	6.06 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6454507	193A	08389	11376982	N	10/28/11 10:45	10/29/11 14:15	32.90 g	38.92 g	6.02 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454507	193B	08389	11376999	Y	10/28/11 10:45	10/29/11 14:15	33.08 g	38.91 g	5.85 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454508	169A	07578	11376662	N	10/28/11 11:02	10/29/11 14:16	29.05 g	34.79 g	5.74 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6454508	193A	08389	11376933	Y	10/28/11 11:02	10/29/11 14:17	32.92 g	38.60 g	5.68 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454508	193B	08389	11376952	N	10/28/11 11:02	10/29/11 14:17	32.78 g	38.49 g	5.71 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454509	169A	07578	11376653	N	10/28/11 11:18	10/29/11 14:18	29.03 g	34.54 g	5.51 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6454509	193A	08389	11376946	Y	10/28/11 11:18	10/29/11 14:18	32.94 g	38.42 g	5.48 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454509	193B	08389	11376995	N	10/28/11 11:18	10/29/11 14:19	32.99 g	38.69 g	5.70 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454510	169A	07578	11376859	N	10/28/11 11:32	10/29/11 14:22	28.94 g	34.68 g	5.74 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6454510	193A	08389	11376941	N	10/28/11 11:32	10/29/11 14:22	32.68 g	38.60 g	5.92 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454510	193B	08389	11376940	Y	10/28/11 11:32	10/29/11 14:22	33.04 g	38.79 g	5.75 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454511	169A	07578	11376595	N	10/28/11 12:05	10/29/11 14:23	28.86 g	34.39 g	5.53 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6454511	193A	08389	11376945	Y	10/28/11 12:05	10/29/11 14:24	32.97 g	38.20 g	5.23 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454511	193B	08389	11376950	N	10/28/11 12:05	10/29/11 14:24	32.82 g	38.17 g	5.35 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454512	169A	07578	11376655	N	10/28/11 12:15	10/29/11 14:25	29.02 g	34.70 g	5.68 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6454512	193A	08389	11376947	Y	10/28/11 12:15	10/29/11 14:25	32.63 g	38.16 g	5.53 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454512	193B	08389	11376949	N	10/28/11 12:15	10/29/11 14:26	32.97 g	38.65 g	5.68 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454513	169A	07578	11376645	N	10/28/11 12:40	10/29/11 14:26	29.10 g	38.65 g	9.55 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6454513	193A	08389	11376953	N	10/28/11 12:40	10/29/11 14:27	33.01 g	38.14 g	5.13 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454513	193B	08389	11376851	Y	10/28/11 12:40	10/29/11 14:27	32.75 g	37.84 g	5.09 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454514	169A	07578	11376645	N	10/28/11 13:00	10/29/11 14:28	29.08 g	33.86 g	4.78 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6454514	193A	08389	11376936	Y	10/28/11 13:00	10/29/11 14:28	32.93 g	38.39 g	5.46 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454514	193B	08389	11376935	N	10/28/11 13:00	10/29/11 14:29	32.50 g	38.00 g	5.50 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	

Final Extraction Vol (mL) = Preservative Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements
D = sampler not full

B = vial leaked
E = effervescence observed
C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)
F = pH >= 2
G = headspace in container

VOA Prep Summary by SDG: GSK04 21 - GC/MS Volatiles

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	Final Extraction Vol (mL)	Problem Codes
6454515	169A	07578	11376650	N	10/28/11 13:19	10/29/11 14:29	28.98 g	33.57 g	4.59 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6454515	193A	08389	11376954	N	10/28/11 13:19	10/29/11 14:30	32.92 g	37.34 g	4.42 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454515	193B	08389	11377003	Y	10/28/11 13:19	10/29/11 14:30	32.85 g	37.36 g	4.51 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454518	169A	07578	11376625	N	10/28/11 13:53	10/29/11 14:31	29.01 g	34.34 g	5.33 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6454518	193A	08389	11376993	N	10/28/11 13:53	10/29/11 14:31	32.81 g	38.35 g	5.54 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454518	193B	08389	11377002	Y	10/28/11 13:53	10/29/11 14:32	32.99 g	38.12 g	5.13 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454519	169A	07578	11376628	N	10/28/11 14:09	10/29/11 14:32	28.98 g	34.53 g	5.55 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6454519	193A	08389	11376985	N	10/28/11 14:09	10/29/11 14:33	32.84 g	38.42 g	5.58 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454519	193B	08389	11376992	Y	10/28/11 14:09	10/29/11 14:33	32.83 g	38.21 g	5.38 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454520	169A	07578	11376651	N	10/28/11 14:40	10/29/11 14:34	29.06 g	34.73 g	5.67 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6454520	193A	08389	11376998	N	10/28/11 14:40	10/29/11 14:35	32.79 g	38.23 g	5.44 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454520	193B	08389	11376994	Y	10/28/11 14:40	10/29/11 14:35	32.99 g	38.42 g	5.43 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454521	169A	07578	11376654	N	10/28/11 15:42	10/29/11 14:36	28.94 g	34.35 g	5.42 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6454521	193A	08389	11377000	N	10/28/11 15:42	10/29/11 14:36	33.08 g	38.46 g	5.38 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454521	193B	08389	11377001	Y	10/28/11 15:42	10/29/11 14:37	32.90 g	38.13 g	5.23 g	4.50 g - 5.50 g	Y	1129501	NaHSO4 (5 mL)	5.000	
6454522	169A	07578	11376661	N	10/28/11 15:55	10/29/11 14:38	29.17 g	34.93 g	5.76 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6454522	193A	08389	11376996	N	10/28/11 15:55	10/29/11 14:38	32.79 g	38.49 g	5.70 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6454522	193B	08389	11376993	Y	10/28/11 15:55	10/29/11 14:38	32.94 g	38.71 g	5.77 g	4.50 g - 5.50 g	N	1129501	NaHSO4 (5 mL)	5.000	A
6450112	014A	07579	11355973	N	10/24/11 12:20	10/24/11 12:20	29.29 g	34.91 g	5.62 g	4.50 g - 5.50 g	N	107361	MeOH (5 mL)	5.000	A
6450112	093A	02392	11357754	Y	10/24/11 12:20	10/24/11 12:20	32.49 g	38.50 g	6.01 g	4.50 g - 5.50 g	N	1120201	NaHSO4 (5 mL)	5.000	A
6450112	093B	02392	11357757	N	10/24/11 12:20	10/24/11 12:20	32.61 g	38.75 g	6.15 g	4.50 g - 5.50 g	N	1120201	NaHSO4 (5 mL)	5.000	A
6450113	014A	07579	11355980	N	10/24/11 12:20	10/24/11 12:20	29.46 g	34.79 g	5.33 g	4.50 g - 5.50 g	Y	107361	MeOH (5 mL)	5.000	
6450113	093A	02392	11357759	Y	10/24/11 12:20	10/24/11 12:20	32.58 g	37.86 g	5.28 g	4.50 g - 5.50 g	Y	1120201	NaHSO4 (5 mL)	5.000	
6450113	093B	02392	11357734	N	10/24/11 12:20	10/24/11 12:20	32.85 g	38.59 g	5.74 g	4.50 g - 5.50 g	N	1120201	NaHSO4 (5 mL)	5.000	A
6450114	014A	07579	11355979	N	10/24/11 12:20	10/24/11 12:20	29.59 g	34.90 g	5.31 g	4.50 g - 5.50 g	Y	107361	MeOH (5 mL)	5.000	
6450114	093A	02392	11357763	N	10/24/11 12:20	10/24/11 12:20	32.51 g	38.17 g	5.66 g	4.50 g - 5.50 g	N	1120201	NaHSO4 (5 mL)	5.000	A

Final Extraction Vol (mL) = Preservative Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements
D = sampler not full

B = vial leaked
E = effervescence observed

C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)
F = pH >= 2
G = headspace in container



VOA Prep Summary by SDG: GSK04
21 - GC/MS Volatiles

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	Final Extraction Vol (mL)	Problem Codes
6450114	093B	02392	11357728	Y	10/24/11 12:20	10/24/11 12:20	32.77 g	38.04 g	5.27 g	4.50 g - 5.50 g	Y	1120201	NaHSO4 (5 mL)	5.000	

Final Extraction Vol (mL) = Preservative Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements
B = vial leaked
C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)
D = sampler not full
E = effervescence observed
F = pH >= 2
G = headspace in container

Moisture Data



MOISTURE

CLIENT: Groundwater Science Co
SDG: GSK04

SAMPLE NUMBERS:

<u>Sample #</u>	<u>Sample Code</u>
6454507	O3B04
6454508	O3B13
6454509	O3D04
6454510	O3D13
6454511	O3C04
6454512	O3C13
6454513	O4C04
6454514	O4C13
6454515	O4C25
6454518	O4H04
6454519	O4H13
6454520	O4H25
6454521	O6C04
6454522	O6C13

COMMENTS:

Due to limitations of the data package software, Form I's are unavailable for wet chemistry data. Please refer to analysis reports for this information.

The moisture value calculation is:

$$\% \text{ moisture} = \frac{A - B}{C} \times 100$$

Where: A = weight of sample and container before drying
B = weight of sample and container after drying
C = weight of sample before drying

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>LCS</u> <u>%REC</u>	<u>LCSD</u> <u>%REC</u>	<u>LCS/LCSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 11307820002A Moisture					
	100		99-101		
Batch number: 11307820002B Moisture					
	100		99-101		

GSK04 0661



CLIENT: Groundwater Science Co
SDG: GSK04

MOISTURE

Sample Matrix Quality Control

<u>Analysis Name</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 11307820002A Moisture	Sample number(s): 6454507-6454515 5.6	5.6	1	15
Batch number: 11307820002B Moisture	Sample number(s): 6454518-6454522 8.6	8.3	3	15

* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.

Moisture Data Report

Batch #: 11307820002

<u>Sample ID</u>	<u>Batch ID</u>	<u>Analysis#</u>	<u>Tare Wt</u>	<u>Sample</u> <u>Wt</u>	<u>Dry Wt</u>	<u>%Moisture</u>	<u>Analysis</u> <u>Date (Emp#)</u>	<u>Verified</u> <u>Date (Emp#)</u>
LCS 89.5% Std.			1.0885	5.0054	1.6183	89.42	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454507	A	00111	1.0910	6.8592	6.9460	14.64	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454508	A	00111	1.0749	5.4720	6.0072	9.86	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454509	A	00111	1.0852	5.9167	5.8316	19.78	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454510	A	00111	1.1009	6.7847	7.0785	11.90	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454511	A	00111	1.1308	5.3688	5.9778	9.72	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454512	A	00111	1.1055	6.1355	6.5713	10.92	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454513	A	00111	1.0669	8.2748	8.4554	10.71	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454514	A	00111	1.1038	6.4997	7.0224	8.94	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454515BKG	A	00111	1.1039	6.7495	7.4726	5.64	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454515DUP	A	00111	1.0842	6.0066	6.7553	5.59	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454518	B	00111	1.0760	5.3699	5.6081	15.60	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454519	B	00111	1.0915	5.7886	6.3027	9.97	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454520BKG	B	00111	1.0801	6.7749	7.2721	8.60	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454520DUP	B	00111	1.0945	6.8216	7.3492	8.31	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454521	B	00111	1.0839	6.9613	6.5740	21.13	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	
6454522	B	00111	1.1100	5.4073	5.4734	19.31	11/ 3/11 (0189/WCS;11/ 4/11 (0236/CW)	

GSK04 06662

Analysis Report



Page 1 of 2

Sample Description: TEQ11028SHVL Grab Water
TechCity Surficial Soil

LLI Sample # WW 6454516
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 13:40 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/29/2011 09:15

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

KTEQ1 SDG#: GSK04-10EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK04-10EB20

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

2216 Rev 3/27/06

Analysis Report



Page 2 of 2

Sample Description: TEQ11028SHVL Grab Water
TechCity Surficial Soil

LLI Sample # WW 6454516
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011 13:40 by DAB

Groundwater Science Co

560 Route 53

Submitted: 10/29/2011 09:15

Suite 202

Reported: 11/10/2011 16:54

Beacon NY 12508

KTEQ1 SDG#: GSK04-10EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	L113121AA	11/08/2011 11:08	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L113121AA	11/08/2011 11:08	Kerri E Legerlotz	1

GSK04 0029

Analysis Report



Page 1 of 2

Sample Description: TTBA10281028 Water
TechCity Surficial Soil

LLI Sample # WW 6454517
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

KTBA SDG#: GSK04-11TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-46-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK04-0033

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TTBA10281028 Water
TechCity Surficial Soil

LLI Sample # WW 6454517
LLI Group # 1273869
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 10/28/2011

Groundwater Science Co

Submitted: 10/29/2011 09:15

560 Route 53

Reported: 11/10/2011 16:54

Suite 202

Beacon NY 12508

KTBA , SDG#: GSK04-11TB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	L113121AA	11/08/2011 11:30	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L113121AA	11/08/2011 11:30	Kerri E Legerlotz	1

GSK04 0831

ICAL - VOCs by SW8260B

8/5/2011

HP09685

Level	Compound	Concentration	Area	Area of IS	Concentration of IS	Calculated RRF	Reported RRF	Check
1	Trichlorofluoromethane	4	53772	1407953	50	0.4774	0.4774	Ok
	1,1-Dichloroethene	4	28509	1407953	50	0.2531	0.2531	Ok
	Chloroform	4	57084	1407953	50	0.5068	0.5068	Ok
	1,1,1-Trichloroethane	4	62465	1407953	50	0.5546	0.5546	Ok
	Benzene	4	132483	1407953	50	1.1762	1.1762	Ok
	Trichloroethene	4	35277	1407953	50	0.3132	0.3132	Ok
	Toluene	4	89760	1119047	50	1.0026	1.0026	Ok
	Tetrachloroethene	4	38586	1119047	50	0.4310	0.4310	Ok
	Bromofom	4	20251	1119047	50	0.2262	0.2262	Ok
	1,4-Dichlorobenzene	4	92204	1119047	50	1.7624	1.7624	Ok
	Dibromofluoromethane	50	341295	1407953	50	0.2424	0.2424	Ok
	1,2-Dichloroethane-d4	50	81731	1407953	50	0.0580	0.0580	Ok
	Toluene-d8	50	1422337	1119047	50	1.2710	1.2710	Ok
	4-Bromofluorobenzene	50	567798	1119047	50	0.5074	0.5074	Ok
	Trichlorofluoromethane	10	127098	1427546	50	0.4452	0.4452	Ok
	1,1-Dichloroethene	10	71065	1427546	50	0.2489	0.2489	Ok
	Chloroform	10	149150	1427546	50	0.5224	0.5224	Ok
	1,1,1-Trichloroethane	10	145178	1427546	50	0.5085	0.5085	Ok
	Benzene	10	345505	1427546	50	1.2101	1.2101	Ok
	Trichloroethene	10	91131	1427546	50	0.3192	0.3192	Ok
2	Toluene	10	225331	1138664	50	0.9695	0.9695	Ok
	Tetrachloroethene	10	100496	1138664	50	0.4413	0.4413	Ok
	Bromofom	10	55781	1138664	50	0.2449	0.2449	Ok
	1,4-Dichlorobenzene	10	233967	668690	50	1.7494	1.7494	Ok
	Dibromofluoromethane	50	347669	1427546	50	0.2435	0.2435	Ok
	1,2-Dichloroethane-d4	50	81671	1427546	50	0.0572	0.0572	Ok
	Toluene-d8	50	1447421	1138664	50	1.2712	1.2712	Ok
	4-Bromofluorobenzene	50	577369	1138664	50	0.5071	0.5071	Ok
	Trichlorofluoromethane	20	262889	1458586	50	0.4506	0.4506	Ok
	1,1-Dichloroethene	20	149756	1458586	50	0.2567	0.2567	Ok
	Chloroform	20	310511	1458586	50	0.5322	0.5322	Ok
	1,1,1-Trichloroethane	20	303889	1458586	50	0.5209	0.5209	Ok
	Benzene	20	708812	1458586	50	1.2149	1.2149	Ok
	Trichloroethene	20	188520	1458586	50	0.3231	0.3231	Ok
	Toluene	20	465270	1162981	50	1.0002	1.0002	Ok
	Tetrachloroethene	20	203961	1162981	50	0.4384	0.4384	Ok
	Bromofom	20	126623	1162981	50	0.2765	0.2765	Ok
	1,4-Dichlorobenzene	20	469802	68623	50	1.7115	1.7115	Ok
	Dibromofluoromethane	50	355471	1458586	50	0.2437	0.2437	Ok
	1,2-Dichloroethane-d4	50	85225	1458586	50	0.0584	0.0584	Ok
4	Toluene-d8	50	1480715	1162981	50	1.2732	1.2732	Ok
	4-Bromofluorobenzene	50	593854	1162981	50	0.5106	0.5106	Ok
	Trichlorofluoromethane	50	775945	1477258	50	0.5253	0.5253	Ok
	1,1-Dichloroethene	50	379130	1477258	50	0.2566	0.2566	Ok
	Chloroform	50	775687	1477258	50	0.5251	0.5251	Ok
	1,1,1-Trichloroethane	50	717018	1477258	50	0.4854	0.4854	Ok
	Benzene	50	1753348	1477258	50	1.1869	1.1869	Ok
	Toluene	50	473561	1477258	50	0.3206	0.3206	Ok
	Tetrachloroethene	50	1144081	1179094	50	0.9703	0.9703	Ok
	Bromofom	50	517875	1179094	50	0.4392	0.4392	Ok
	1,4-Dichlorobenzene	50	353158	1179094	50	0.2995	0.2995	Ok
	Dibromofluoromethane	50	1160279	695398	50	1.6885	1.6885	Ok
	1,2-Dichloroethane-d4	50	362446	1477258	50	0.2454	0.2454	Ok
	Toluene-d8	50	84685	1477258	50	0.0573	0.0573	Ok
	4-Bromofluorobenzene	50	1502466	1179094	50	1.2743	1.2743	Ok
	Trichlorofluoromethane	100	604987	1179094	50	0.5131	0.5131	Ok
	1,1-Dichloroethene	100	1500376	1500041	50	0.5001	0.5001	Ok
	Chloroform	100	793309	1500041	50	0.2644	0.2644	Ok
	1,1,1-Trichloroethane	100	1590786	1500041	50	0.5302	0.5302	Ok
	Benzene	100	3599921	1500041	50	0.4945	0.4945	Ok
5	Toluene	100	990407	1500041	50	1.1999	1.1999	Ok
	Trichloroethene	100	2372072	1196725	50	0.3301	0.3301	Ok
	Tetrachloroethene	100	1088997	1196725	50	0.9911	0.9911	Ok
	Bromofom	100	727863	1196725	50	0.4550	0.4550	Ok
	1,4-Dichlorobenzene	100	2427852	710985	50	0.3041	0.3041	Ok
	Dibromofluoromethane	50	362637	1500941	50	1.7074	1.7074	Ok
	1,2-Dichloroethane-d4	50	85606	1500941	50	0.2418	0.2418	Ok
	Toluene-d8	50	1521632	1196725	50	0.0571	0.0571	Ok
	4-Bromofluorobenzene	50	614172	1196725	50	1.2715	1.2715	Ok
						0.5132	0.5132	Ok

Vendian Environmental, Inc.												
HP09685												
Compound	Concentration	Area	Area of IS	Concentration of IS	Calculated RRF	Reported RRF	Check	Calculated %RSD	Reported %RSD	Check		
Trichlorofluoromethane	300	3889887	1511470	50	0.4289	0.4289	Ok	7.76	8	Ok		
1,1-Dichloroethene	300	2165935	1511470	50	0.2388	0.2388	Ok	3.42	3	Ok		
Chloroform	300	4374994	1511470	50	0.4824	0.4824	Ok	3.67	4	Ok		
1,1,1-Trichloroethane	300	4097586	1511470	50	0.4518	0.4518	Ok	6.90	7	Ok		
Benzene	300	9852812	1511470	50	1.0864	1.0864	Ok	4.04	4	Ok		
Trichloroethene	300	2757829	1511470	50	0.3041	0.3041	Ok	2.80	3	Ok		
Toluene	300	6514450	1213175	50	0.8950	0.8950	Ok	4.18	4	Ok		
Tetrachloroethene	300	3035004	1213175	50	0.4170	0.4170	Ok	2.87	3	Ok		
Bromoform	300	2209676	1213175	50	0.3036	0.3036	Ok	12.08	12	Ok		
1,4-Dichlorobenzene	300	6655222	743497	50	1.4919	1.4919	Ok	5.88	6	Ok		
Dibromofluoromethane	50	363150	1511470	50	0.2403	0.2403	Ok	0.73	1	Ok		
1,2-Dichloroethane-d4	50	85866	1511470	50	0.0568	0.0568	Ok	1.08	1	Ok		
Toluene-d8	50	1521877	1213175	50	1.2545	1.2545	Ok	0.58	1	Ok		
4-Bromofluorobenzene	50	629675	1213175	50	0.5190	0.5190	Ok	0.87	1	Ok		
Compound	Concentration	Area	Area of IS	Concentration of IS	Calculated RRF	Reported RRF	Check	Calculated %RSD	Reported %RSD	Check		
Trichlorofluoromethane					0.4712	0.4712	Ok	7.76	8	Ok		
1,1-Dichloroethene					0.2531	0.2531	Ok	3.42	3	Ok		
Chloroform					0.5165	0.5165	Ok	3.67	4	Ok		
1,1,1-Trichloroethane					0.5026	0.5026	Ok	6.90	7	Ok		
Benzene					1.1791	1.1791	Ok	4.04	4	Ok		
Trichloroethene					0.3184	0.3184	Ok	2.80	3	Ok		
Toluene					0.9748	0.9748	Ok	4.18	4	Ok		
Tetrachloroethene					0.4370	0.4370	Ok	2.87	3	Ok		
Bromoform					0.2758	0.2758	Ok	12.08	12	Ok		
1,4-Dichlorobenzene					1.6819	1.6819	Ok	5.88	6	Ok		
Dibromofluoromethane					0.2428	0.2428	Ok	0.73	1	Ok		
1,2-Dichloroethane-d4					0.0575	0.0575	Ok	1.08	1	Ok		
Toluene-d8					1.2693	1.2693	Ok	0.58	1	Ok		
4-Bromofluorobenzene					0.5117	0.5117	Ok	0.87	1	Ok		
Compound	Concentration	Area	Area of IS	Concentration of IS	Calculated RRF	Reported RRF	Check	Calculated %D	Reported %D	Check		
Trichlorofluoromethane	267223	0.471241	1302237	50	21.7726	21.773	Ok	8.86	9	Ok		
1,1-Dichloroethene	132961	0.253100	1302237	50	20.1703	20.170	Ok	0.85	1	Ok		
Chloroform	258219	0.516528	1302237	50	19.1944	19.194	Ok	-4.03	-4	Ok		
1,1,1-Trichloroethane	243660	0.502602	1302237	50	18.6140	18.614	Ok	-6.93	-7	Ok		
Benzene	606709	1.179086	1302237	50	19.7567	19.757	Ok	-1.22	-1	Ok		
Trichloroethene	155371	0.318383	1302237	50	18.7370	18.737	Ok	-6.31	-6	Ok		
Toluene	380303	0.974765	1040516	50	18.7478	18.748	Ok	-6.26	-6	Ok		
Tetrachloroethene	171885	0.436984	1040516	50	18.9014	18.901	Ok	-5.49	-5	Ok		
Bromoform	98843	0.275805	1040516	50	17.2212	17.221	Ok	-13.89	-14	Ok		
1,4-Dichlorobenzene	384228	1.681860	615006	50	18.5733	18.573	Ok	-7.13	-7	Ok		
Compound	Concentration	Area	Area of IS	Concentration of IS	Calculated RRF	Reported RRF	Check	Calculated %D	Reported %D	Check		
Trichlorofluoromethane	752136	0.471241	1530769	50	52.1331	52.133	Ok	4.27	4	Ok		
1,1-Dichloroethene	369952	0.253100	1530769	50	47.7434	47.743	Ok	-4.51	-5	Ok		
Chloroform	771171	0.516528	1530769	50	48.7660	48.766	Ok	-2.47	-2	Ok		
1,1,1-Trichloroethane	709499	0.502602	1530769	50	46.1092	46.109	Ok	-7.78	-8	Ok		
Benzene	1769654	1.179086	1530769	50	49.0234	49.023	Ok	-1.95	-2	Ok		
Trichloroethene	459620	0.318383	1530769	50	47.1530	47.153	Ok	-5.69	-6	Ok		
Toluene	1111563	0.974765	1108695	50	51.4260	51.428	Ok	2.86	3	Ok		
Tetrachloroethene	533254	0.436984	1108695	50	55.0334	55.033	Ok	10.07	10	Ok		
Bromoform	340745	0.275805	1108695	50	55.7166	55.717	Ok	11.43	11	Ok		
1,4-Dichlorobenzene	1214822	1.681860	698371	50	51.7138	51.714	Ok	3.43	3	Ok		
Dibromofluoromethane	374230	0.242837	1530769	50	50.3366	50.337	Ok	0.67	1	Ok		
1,2-Dichloroethane-d4	89265	0.057482	1530769	50	50.7232	50.723	Ok	1.45	1	Ok		
Toluene-d8	1513365	1.269280	1108695	50	53.7705	53.771	Ok	7.54	8	Ok		
4-Bromofluorobenzene	562748	0.511737	1108695	50	49.5936	49.594	Ok	-0.81	-1	Ok		

Samples	Compound	Area of Sample	Ave. RRF	Area of IS	Concentration of IS	Calculated On-Column Concentration	Reported On-Column Concentration	Volume Purged	Sample Weight (g)	% Dry Weight	Calculated Concentration/% Recovery	Reported Concentration/% Recovery	Check
OU03B0411028	1,1,1-trichloroethane	92904	0.502600	1571860	50	5.8798	5.880	5	5.85	85	5.85	6	Ok
	Trichloroethene	95759	0.318400	1571860	50	9.5666	9.567	5	5.85	85	9.62	10	Ok
	Dibromofluoromethane	376689	0.242800	1571860	50	49.3497	49.342	5	5.85	85	98.70	99	Ok
	1,2-Dichloroethane-d4	90678	0.057500	1571860	50	50.1631	50.178	5	5.85	85	100.33	100	Ok
	Toluene-d8	1453350	1.269300	1037640	50	55.1733	55.174	5	5.85	85	110.35	110	Ok
	4-Bromofluorobenzene	428258	0.511700	1037640	50	40.3286	40.326	5	5.85	85	80.66	81	Ok
	Tetrachloroethene	23650	0.437000	1033555	50	2.6181	2.618	5	5.68	90	2.56	3	Ok
	1,1,1-Trichloroethane	387976	0.502600	1541733	50	25.0347	25.035	5	5.68	90	24.49	24	Ok
OU03B1311028	Trichloroethene	315507	0.318400	1541733	50	32.1364	32.138	5	5.68	90	31.43	31	Ok
	Dibromofluoromethane	377380	0.242800	1541733	50	50.4070	50.399	5	5.68	90	100.81	101	Ok
	1,2-Dichloroethane-d4	91211	0.057500	1541733	50	51.4446	51.460	5	5.68	90	102.89	103	Ok
	Toluene-d8	1456863	1.269300	1033555	50	55.5253	55.526	5	5.68	90	111.05	111	Ok
	Dibromofluorobenzene	429143	0.511700	1033555	50	40.5717	40.569	5	5.68	90	81.14	81	Ok
	Dibromofluoromethane	361341	0.242800	1501324	50	49.5637	49.556	5	5.48	80	99.13	99	Ok
	1,2-Dichloroethane-d4	85029	0.057500	1501324	50	49.2487	49.264	5	5.48	80	98.50	98	Ok
	Toluene-d8	1399612	1.269300	995083	50	55.4057	55.407	5	5.48	80	110.81	111	Ok
OU03D1311028	4-Bromofluorobenzene	416384	0.511700	995083	50	40.8874	40.884	5	5.48	80	81.77	82	Ok
	Dibromofluoromethane	368836	0.242800	1508956	50	50.3359	50.328	5	5.75	88	100.67	101	Ok
	1,2-Dichloroethane-d4	90125	0.057500	1508956	50	51.9383	51.952	5	5.75	88	103.87	104	Ok
	Toluene-d8	1425548	1.269300	1067711	50	52.5937	52.595	5	5.75	88	105.19	105	Ok
	4-Bromofluorobenzene	461096	0.511700	1067711	50	42.1980	42.195	5	5.75	88	84.40	84	Ok
	Benzene	18440	1.179100	1276197	50	0.6127	0.613	5	5.38	90	0.63	0.6	Ok
	Dibromofluoromethane	313664	0.242800	1276197	50	50.6137	50.606	5	5.38	90	101.23	101	Ok
	1,2-Dichloroethane-d4	75951	0.057500	1276197	50	51.7509	51.767	5	5.38	90	103.50	104	Ok
OU04H1311028	Toluene-d8	1202581	1.269300	886248	50	53.4521	53.453	5	5.38	90	106.90	107	Ok
	4-Bromofluorobenzene	373784	0.511700	886248	50	41.2117	41.209	5	5.38	90	82.42	82	Ok
	Benzene	70457	1.179100	923835	50	3.2341	3.234	5	5.43	91	3.27	3	Ok
	Toluene	15880	0.974800	647421	50	1.2581	1.258	5	5.43	91	1.27	1	Ok
	Dibromofluoromethane	218441	0.242800	923835	50	48.6924	48.685	5	5.43	91	97.38	97	Ok
	1,2-Dichloroethane-d4	55073	0.057500	923835	50	51.8378	51.854	5	5.43	91	103.68	104	Ok
	Toluene-d8	872469	1.269300	647421	50	53.0846	53.085	5	5.43	91	106.17	106	Ok
	4-Bromofluorobenzene	242574	0.511700	647421	50	36.6110	36.608	5	5.43	91	73.22	73	Ok
OU06C0411028	Dibromofluoromethane	316243	0.242800	1260448	50	51.6675	51.660	5	5.23	79	103.33	103	Ok
	1,2-Dichloroethane-d4	73795	0.057500	1260448	50	50.9101	50.926	5	5.23	79	101.82	102	Ok
	Toluene-d8	1184868	1.269300	873639	50	53.4249	53.426	5	5.23	79	106.85	107	Ok
	4-Bromofluorobenzene	371269	0.511700	1327861	50	41.5252	41.522	5	5.23	79	83.05	83	Ok
	Dibromofluoromethane	337563	0.242800	1327861	50	52.3508	52.343	5	5.77	81	104.70	105	Ok
	1,2-Dichloroethane-d4	80203	0.057500	1327861	50	52.5219	52.538	5	5.77	81	105.04	105	Ok
	Toluene-d8	1257762	1.269300	962586	50	51.4712	51.472	5	5.77	81	102.94	103	Ok
	4-Bromofluorobenzene	421336	0.511700	962586	50	42.7704	42.767	5	5.77	81	85.54	86	Ok

	Area of Sample	Area of IS	Concentration of IS	Calculated On-Column Concentration	Reported On-Column Concentration	Amount Spiked	Calculated Concentration/% Recovery	Reported Concentration/% Recovery	Check	Calculated RPD	Reported RPD
MB(VBLKA38)	359427	1453040	50	50.9395	50.932	50.00	101.86	102	Ok	5	5
	85791	1453040	50	51.3412	51.357	50.00	102.71	103	Ok	1	1
	1377378	1044542	50	51.9437	51.945	50.00	103.89	104	Ok	3	3
	482027	1044542	50	45.0921	45.089	50.00	90.18	90	Ok	3	3
									Ok		
LCS (LCSA38)	302842	1634806	50	19.6552	19.655	20.00	98.28	98	Ok	5	5
	147766	1634806	50	17.8561	17.856	20.00	89.28	89	Ok	1	1
	290467	1634806	50	17.1991	17.199	20.00	86.00	86	Ok	3	3
	282389	1634806	50	17.1841	17.184	20.00	85.92	86	Ok	3	3
	684378	1634806	50	17.7523	17.752	20.00	88.76	89	Ok	3	3
	172320	1634806	50	16.5535	16.553	20.00	82.77	83	Ok	3	3
	318383	1634806	50	16.4275	16.428	20.00	92.14	92	Ok	3	3
	420912	1171641	50	19.0037	19.004	20.00	95.02	95	Ok	3	3
	194593	1171641	50	16.0820	16.082	20.00	80.41	80	Ok	3	3
	103936	1171641	50	18.0349	18.035	20.00	90.17	90	Ok	3	3
	428094	705678	50	49.5967	49.597	50.00	98.19	99	Ok	3	3
	393789	1634806	50	50.2146	50.215	50.00	100.43	100	Ok	3	3
	94376	1634806	50	54.2452	54.245	50.00	108.48	108	Ok	3	3
	1613405	1171641	50	49.8973	49.897	50.00	99.79	100	Ok	3	3
	596340	1171641	50	18.7808	18.781	20.00	93.90	94	Ok	3	3
	286940	1621073	50	17.6070	17.607	20.00	88.04	88	Ok	3	3
	144481	1621073	50	16.6140	16.614	20.00	83.07	83	Ok	3	3
	278228	1621073	50	16.6940	16.694	20.00	83.47	83	Ok	3	3
	272031	1621073	50	17.4050	17.405	20.00	87.02	87	Ok	3	3
	665353	1621073	50	16.1115	16.112	20.00	80.56	81	Ok	3	3
	166310	1621073	50	17.6460	17.646	20.00	88.23	88	Ok	3	3
	407595	1184820	50	18.6526	18.653	20.00	93.26	93	Ok	3	3
	193147	1184820	50	16.5064	16.506	20.00	82.53	83	Ok	3	3
LCSD (LCDA38)	107879	1184820	50	17.8788	17.879	20.00	89.39	89	Ok	3	3
	431817	718028	50	49.9674	49.967	50.00	99.93	100	Ok	3	3
	393400	1621073	50	50.7623	50.762	50.00	101.52	102	Ok	3	3
	94604	1621073	50	53.0771	53.077	50.00	106.15	106	Ok	3	3
	1596420	1184820	50	49.3947	49.395	50.00	98.79	99	Ok	3	3
	596976	1184820	50			50.00			Ok		

ATTACHMENT E
PROJECT CORRESPONDENCE

No Project Correspondence associated with this SDG



"Truth through Science"

Veridian
Environmental, Inc

DATA VALIDATION REPORT

TECHCITY (FORMER IBM KINGSTON) GROUNDWATER CONTAMINATION SUPERFUND SITE

Lancaster Laboratories
SDG: **GSK05**

January 20, 2012

Prepared for:

GROUNDWATER SCIENCES CORPORATION
2601 Market Place Street, Suite 310
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Prepared by:

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DATA VALIDATION REPORT

TECHCITY (FORMER IBM KINGSTON)
GROUNDWATER CONTAMINATION
SUPERFUND SITE

January 20, 2012

Name	Position	Signature/Date
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Prepared by:		
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ATTACHMENTS

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ACRONYMS

<u>Acronym</u>	<u>Definition</u>
%D	Percent Difference
%REC	Percent Recovery
%RI	Percent Relative Intensity
%RPD	Percent Relative Percent Difference
%RSD	Percent Relative Standard Deviation
%S	Percent Solids
ARRF	Average Relative Response Factor
CCC	Calibration Check Analytes
CCV	Continuing Calibration Verification
CD	Correctable Deficiency
CF	Calibration Factor
CLP	Contract Laboratory Program
COC	Chain-of-Custody
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
DER	Division of Environmental Remediation
DF	Dilution Factor
DL	Dilution Limit
DO	Diluted Out
DOC	Date of Collection
DQO	Data Quality Objective
DVR	Data Validation Report
EDD	Electronic Data Deliverable
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
GSC	Groundwater Sciences Corporation
ICAL	Initial Calibration
ICV	Initial Calibration Verification
IS	Internal Standard
kg	Kilogram
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
l	Liter
LL	Lower Limit
LLI	Lancaster Laboratories, Inc.
MDL	Method Detection Limit
ml	Milliliter
MRL	Method Reporting Limit
MS	Matrix Spike

<u>Acronym</u>	<u>Definition</u>
MSD	Matrix Spike Duplicate
µg	Microgram
ND	Non-detect
NFG	National Functional Guidelines
NIST	National Institute of Standards and Technology
NQW	No Qualification Warranted
NTC	Non Target Compound
NYSDEC	New York State Department of Environmental Conservation
OERR	Office of Emergency and Remedial Response
OSWER	Office of Solid Waste and Emergency Response
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
RRF	Relative Response Factor
RRT	Relative Retention Time
RSD	Relative Standard Deviation
RT	Retention Time
SDG	Sample Delivery Group
SM	Standard Method
SOP	Standard Operating Procedure
SOW	Statement of Work
SPCC	System Performance Check Analytes
Surr	Surrogate
TAL	Target Analyte List
TCL	Target Analyte List
TIC	Tentatively Identified Analyte
UL	Upper Limit
U.S. EPA	United States Environmental Protection Agency
VEI	Veridian Environmental, Inc.
VOC	Volatile Organic Analyte

1.0 INTRODUCTION

This Data Validation Report (DVR) details the assessment and the Level IV data validation performed on the sample analyses from SDG GSK05 as summarized in Attachment A. These samples were collected on November 8, 2011, as part of the TechCity (Former IBM Kingston) Facility Superfund Site in Kingston, New York. The samples were shipped to and analyzed by Lancaster Laboratories, Inc., (LLI) in Lancaster, Pennsylvania.

Data validation of all sample results was performed by Tracy A. Young, Ann Lack, and Charlotte R. Symms of Veridian Environmental, Inc. (VEI). A review (Level III) of 100% of the data, which allows for complete independent data review without reconstruction of analytical data, was conducted. In addition, approximately 10% of the project data underwent a comprehensive or extensive review (Level IV) which allowed for the complete reconstruction of the chemical analyses. The comprehensive review included the recalculation of calibration curves and sample results. None of the samples from this report were selected for the comprehensive Level IV review. The data were validated in accordance with the analytical methods and the documents entitled: *RFI Management Plans, Former IBM Kingston Facility* (Golder Associates, 2009); *U.S. EPA Region 2 RCRA and CERCLA Data Validation Standard Operating Procedures* (U.S. EPA Region 2, 2006); and with guidance from *DER-10 / Technical Guidance for Site Investigation and Remediation* (NYSDEC DEC Program Policy, 2010), *Data Quality Assessment: A Reviewer's Guide* (U.S. EPA QA/G-9R 2006); *Data Quality Assessment: Statistical Tools for Practitioners* (U.S. EPA QA-G-9S, 2006); and *U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (U.S. EPA, 2008).

The data were examined to determine the usability of the analytical results and the compliance relative to requirements specified in the analytical methods and guidelines provided. Qualifier codes have been placed next to the results on the laboratory analytical result forms so the data user can quickly assess the qualitative and/or quantitative reliability of any result. The data qualifications allow the data end-user to best understand the usability of the analytical results. It should be understood that data that have not been qualified in this report should be considered valid based on the quality control (QC) criteria that have been reviewed. This report was prepared to provide a critical review of the laboratory analyses and the reported analytical results. Quality assurance (QA) reviews of laboratory-generated data routinely identify various problems associated with analytical measurements, even from the most experienced and capable laboratories.

The findings of this QA review are presented in Section 2.0 of this report, a summary is presented in Section 3.0, and the references are provided in Section 4.0. Attachment A summarizes the client sample identification, the analytical laboratory, laboratory sample identification, sample date, sample time, and the analyses requested for each sample in this SDG. Copies of the laboratory case narrative, the sample chain-of-custody (COC) record, and the sample receipt documentation log report forms for samples discussed in this DVR are included in Attachment B. The qualified analytical result forms for the samples are provided in Attachment C. The samples were analyzed for Volatile Organic Analytes (EPA Method 8260B) and Moisture (Standard Method 2540G). The data validation checklist and copies of all relevant documentation needed to support the findings of the quality assurance review are presented in Attachment D. Project Correspondence is presented as Attachment E.

Several data validation flags are utilized in the validation process. The definitions of these qualifier flags are as follows:

- U The analyte was analyzed for, but was not detected at or above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected at or above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample result and/or analysis have been rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

All necessary flags have been incorporated into the data presented in this report (Attachment C). As per project-specific reporting requirements, all results reported at concentrations less than the sample-specific practical quantitation limits (adjusted for dilution factors, sample size, and percent solids) should be considered estimated (J).

2.0 FINDINGS

Copies of all relevant documentation needed to support the findings of the quality assurance review are presented in Attachment D of this report. Data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis do not require any corrective action by the laboratory. Accordingly, the following data usability issues should not necessarily be construed as an indication of laboratory performance. Data that warranted qualification are summarized in Section 3.0 of this report.

2.1 VOLATILE ORGANIC ANALYTES DATA VALIDATION

The samples analyzed for Volatile Organic Analytes (VOCs) by U.S. EPA Method 8260B were evaluated for the following data requirements.

	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable	Not Applicable
Sample Condition Upon Receipt		✓			
Analytical Holding Times	✓				
Blank Analyses	✓				
GC/MS Tuning and Mass Calibrations	✓				
Initial Calibrations	✓				
Initial Calibration Verifications			✓		

	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable	Not Applicable
Continuing Calibrations	✓				
Surrogate Spike Recoveries	✓				
LCS Analyses			✓		
MS/MSD Analyses					✓
Internal Standards			✓		
Verification of Sample Results					✓
Field Duplicate Results					✓
Verification of the Client EDD	✓				
Moisture Content	✓				
Additional Findings		✓			

A comprehensive Level IV review was performed on ten percent (10%) of the project data. None of the samples from SDG GSK05 were selected for the comprehensive Level IV review. Details of the data findings are presented following the summary of the data requirements.

2.1.1 Sample Condition Upon Receipt

All samples were received intact and with the proper preservation ($\text{pH} \leq 2$) by LLI. The temperature of the cooler was 1.2°C upon receipt by the laboratory. Since the samples were not frozen, qualification of the data is not warranted.

2.1.2 Analytical Holding Times

All samples were prepared and analyzed within the project-specified holding time of 14 days from sample collection.

2.1.3 Blank Analyses

All associated field and laboratory blanks were free of target analyte contamination.

2.1.4 Gas Chromatograph/Mass Spectrometer Tuning and Mass Calibrations

All gas chromatograph/mass spectrometer (GC/MS) tuning and mass calibrations met project criteria (m/z ratios). All project samples were analyzed within the 12-hour tune windows.

2.1.5 Initial Calibrations

For the initial calibrations, all SPCC (min. RRFs) and CCC analytes ($\% \text{RSD} \leq 30\%$) met project criteria. In addition, all target analytes displayed acceptable calibrations (average RRF > 0.050 and $\% \text{RSD} \leq 20\%$).

2.1.6 Initial Calibration Verifications

All target compounds demonstrated acceptable percent differences in the Initial Calibration Verifications (ICVs) except for chloroethane listed in the following table. A low percent difference was observed for chloroethane. The associated non-detect results are biased low (UJ).

<u>Lab Sample ID</u> <u>Date (Time)</u>	<u>Analyte(s)</u>	<u>Percent</u> <u>Difference</u>	<u>Associated</u> <u>Qualified Sample(s)</u>
ICV 11/01/2011 (00:10)	Chloroethane	-22%	TTBA11081108 TEQ11108SHVL

2.1.7 Continuing Calibrations

For the continuing calibrations, all SPCC (min. RRFs) and CCC analytes (%D $\leq$ 20%) met project criteria. In addition, the percent differences and RRFs for all other target analytes were $\leq$ 20% and > 0.050 , respectively.

2.1.8 Surrogate Spike Recoveries

For all project analyses, the surrogate recoveries were within project criteria.

2.1.9 Laboratory Control Sample Analyses

For all LCS analyses, the recoveries for all target analytes met project criteria with the exception of cis-1,3-dichloropropene and bromoform in the following table. Low percent recoveries were noted for cis-1,3-dichloropropene and bromoform as listed below. Consequently, the associated results may be biased low (UJ).

<u>Lab Sample ID, Date (Time)</u>	<u>Analyte(s)</u>	<u>Percent</u> <u>Recovery</u>	<u>Limits</u>	<u>Associated</u> <u>Qualified Sample(s)</u>
LCSX58, 11/12/2011 (16:11)	cis-1,3-Dichloropropene	79%	80-120%	OU06B1311108
LCDX58, 11/12/2011 (16:36)		77%		OU06D0411108
				OU06D1311108
				OU06A1311108
				OU06E0411108
				OU06E0811108
LCSX58, 11/12/2011 (16:11)	Bromoform	65%	70-120%	OU06B1311108
LCDX58, 11/12/2011 (16:36)		67%		OU06D0411108
				OU06D1311108
				OU06A1311108
				OU06E0411108
				OU06E0811108

2.1.10 Matrix Spike/Matrix Spike Duplicate Analyses

The laboratory did not prepare and analyze a Matrix Spike/Matrix Spike Duplicate (MS/MSD) for this analysis on any sample from SDG GSK05. Consequently, an assessment of matrix effects cannot be made for these samples.

2.1.11 Internal Standards

For all project sample analyses, the internal standards met project criteria (RT within ± 30 seconds of ICAL mid-point standard and internal standard area within -50% to + 100% of ICAL mid-point standard) except for the internal standard areas noted in the following table.

Low internal standard areas were reported in the samples (and their re-analysis) as listed below. All results quantitated with this internal standard are non-detect and considered estimated (UJ) in the associated samples. As all the reanalyzed samples were also outside the limits, the original samples were reported and the laboratory noted that this is confirmation of the matrix effect.

<u>Date of Analysis</u>	<u>Sample</u>	<u>Internal Standard</u>	<u>IS Area</u>	<u>12 Hour Standard</u>
11/12/2011	OU06B1311108	1,4-Dichlorobenzene-d4	176588	553227
11/17/2011	OU06B1311108 RE	1,4-Dichlorobenzene-d4	222751	508009

2.1.12 Verification of Sample Results

None of the samples from SDG GSK05 were selected for a comprehensive Level IV review.

2.1.13 Field Duplicate Results

Field duplicates were not submitted for this analysis; consequently, an assessment of precision cannot be made.

2.1.14 Verification of the Client Electronic Data Deliverable

The database files provided in the laboratory's enhanced general format matched the data reported by the laboratory.

2.1.15 Moisture Content

The moisture content of the soil samples was analyzed by Standard Method 2540G. For all project samples, the moisture content was within project criteria.

2.1.16 Additional Findings

As noted on the VOA Prep Summary, samples **OU06B1311108**, **OU06D1311108**, and **OU06E0811108** were outside the weight requirements. Qualification of the data is not warranted on this basis.

The supporting documentation for the initial calibration and ICV performed on 10/31/2011 on Instrument HP09355 were not provided in the original data package. On request by the data reviewer (see Attachment E) the laboratory provided the missing data.

2.2 FIELD DUPLICATES

Field duplicates were not submitted with SDG GSK05; consequently an assessment of precision cannot be made.

2.3 REPRESENTATIVENESS EVALUATION

Representativeness is a qualitative evaluation of whether the data represent actual environmental conditions. Representativeness was evaluated using holding time criteria, which reflect the length of time after sample collection that a sample or extract remains representative of environmental conditions. Depending on the analysis, either one or two holding times were evaluated. For those analyses that do not include a sample extraction, only one holding time was evaluated: the length of time between sample collection and analysis. For analyses that require sample extraction prior to analysis, two holding times were evaluated: the length of time from sampling until extraction and the length of time from extraction to analysis. Holding times were compared to standard method-specific holding times accepted by the U.S. EPA. All holding times that are within acceptance criteria are considered representative. Those holding times outside of U.S. EPA acceptance criteria are qualitatively evaluated to determine their effect on sample representativeness. Representativeness was also evaluated by analysis of laboratory method blanks, trip blanks, and equipment blanks that were used to identify sources of contamination not associated with environmental conditions. As summarized in the following sections, the samples appear to be representative of the environmental conditions on site.

2.3.1 Sample Condition Upon Receipt

All samples arrived at the laboratory intact, appropriately preserved and documented except as previously noted. The cooler was received by LLI $< 2.0^{\circ}\text{C}$. Since the samples were not frozen, qualification of the data is not warranted.

2.3.2 Analytical Holding Times

As previously noted, all holding times were met.

2.3.3 Blank Analyses

As previously discussed, all field and laboratory blanks were free of all target analytes.

2.4 USABILITY AND COMPARABILITY

Usability of data was evaluated by assuring that all the analytical requests were met, the samples were received in the proper condition, and all analyses were performed within the appropriate holding times with the exception of those noted in this report.

3.0 SUMMARY

This QA review has identified aspects of the analytical data that required qualification due to initial calibration verifications, LCS recoveries, and internal standard recoveries. None of the VOC data were rejected. To confidently use any of the analytical data within this sample set, the data user should understand the qualifications and limitations of the results. SDG GSK05 met the project completeness goal of 90%. The percent completeness is summarized in the following table.

Fraction	Number of Results	Number of Rejected Results	Percent Completeness
VOCs	410	0	100%
Overall	410	0	100%

4.0 REFERENCES

Data Quality Assessment: A Reviewer's Guide, U.S. Environmental Protection Agency, EPA *Data Quality Assessment: A Reviewer's Guide*, U.S. Environmental Protection Agency, EPA QA/G-9R, February, 2006.

Data Quality Assessment: Statistical Tools for Practitioners, U.S. Environmental Protection Agency, EPA QA/G-9S, February, 2006.

DER-10 / Technical Guidance for Site Investigation and Remediation, Office of Remediation and Materials Management, DEC Program Policy, May 3, 2010.

RFI Management Plans, Former IBM Kingston Facility, Golder Associates, September 2005.

Standard Methods for the Examination of Water and Wastewater, 20th Edition, American Public Health Association, 1998.

Method 2540G Moisture Content

SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods Third Edition, U.S. Environmental Protection Agency, Office of Solid Waste, December 1994.

Method 8260B: Volatile Organic Analytes by Gas Chromatography/Mass Spectrometry

U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, EPA 540-R-08-01, June 2008.

U.S EPA Region 2 RCRA and CERCLA Field and Data Validation Standard Operating Procedures

<u>SOP No.</u>	<u>Title</u>	<u>Date</u>
SOP HW-24 Revision 2	Validating Volatile Organic Analytes by SW-846 Method 8260B	October 2006

ATTACHMENT A

CHAIN-OF-CUSTODY SUMMARY TABLE

ATTACHMENT A
CHAIN-OF-CUSTODY SUMMARY TABLE
TechCity (Former IBM Kingston)
Kingston, New York

Client Sample ID	Laboratory	Laboratory SDG	Laboratory Sample ID	Collection Date	Matrix	Parameter(s) Analyzed
TTBA11081108 (Trip Blank)	Lancaster Labs	GSK05	6463885	11/08/2011	Water	V
OU06B0411108	Lancaster Labs	GSK05	6463886	11/08/2011	Soil	V
OU06B1311108	Lancaster Labs	GSK05	6463887	11/08/2011	Soil	V
OU06D0411108	Lancaster Labs	GSK05	6463888	11/08/2011	Soil	V
OU06D1311108	Lancaster Labs	GSK05	6463889	11/08/2011	Soil	V
OU06A0411108	Lancaster Labs	GSK05	6463890	11/08/2011	Soil	V
OU06A1311108	Lancaster Labs	GSK05	6463891	11/08/2011	Soil	V
OU06E0411108	Lancaster Labs	GSK05	6463892	11/08/2011	Soil	V
OU06E0811108	Lancaster Labs	GSK05	6463893	11/08/2011	Soil	V
TEQ11108SHVL (Equipment Rinsate)	Lancaster Labs	GSK05	6463894	11/08/2011	Water	V

Notes:

- SDG - Sample Delivery Group
V - Volatile Organic Compounds by U.S. EPA Method 8260B

ATTACHMENT B

CASE NARRATIVE AND CHAIN-OF-CUSTODY RECORDS



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

NYSDEC ASP Category B Data Package

Prepared for:

Groundwater Science Co
560 Route 53
Suite 202
Beacon NY 12508

Project: TechCity Surficial Soil
Water and Soil Samples
Collected on 11/08/11

SDG# GSK05

GROUP	SAMPLE NUMBERS
1275473	6463885-6463894

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:

Date: 12/06/2011

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Nicole Maljovec at Ext. 1537.

Total Number of Pages 823



CLIENT: Groundwater Science Co
SDG: GSK05

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Volatiles in Soil
Volatiles by 8260B

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
6463885	TTBA11081108	X		1	Trip Blank
6463886	OU06B0411108		X	0.94	
6463887	OU06B1311108		X	0.88	
6463888	OU06D0411108		X	0.92	
6463889	OU06D1311108		X	0.81	
6463890	OU06A0411108		X	0.99	
6463891	OU06A1311108		X	1.05	
6463892	OU06E0411108		X	0.95	
6463893	OU06E0811108		X	0.86	
6463894	TEQ11108SHVL	X		1	Equipment Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE PREPARATION:

The weight for several samples was found to be outside the weight requirement when these samples were re-weighed at the laboratory. Please see the VOA Prep Summary sheets in the Preparations Log section for more information.

ANALYSIS:

No problems were encountered with the analysis of the samples.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Site specific matrix QC samples were not submitted for this SDG. The batch matrix QC was performed on samples from another project. Therefore the matrix effects would not be relevant and matrix QC is not provided in the data package. Laboratory spike data (LCS) are provided.

Sample number(s): 6463887-6463889, 6463891-6463893: Analysis: 10949

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene and bromoform.

Sample number(s): 6463887: Analysis: 10949

The GC/MS volatile internal standard peak areas were outside the QC limits. A re-analysis was performed, and the matrix effect

GSK05 0031



CLIENT: Groundwater Science Co
SDG: GSK05

GC/MS Volatiles

Fraction: Volatiles by GC/MS

DATA INTERPRETATION:

No further interpretation is necessary for the data submitted.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E = out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Narrative Reviewed and Approved 11/30/11 by
(Date)


Kathy J. Fair
Specialist

GSK05 0022



**Lancaster
Laboratories**

For Lancaster Laboratories use only

Acct. #: 6811

Group #: 1275473

Sample #: 6463885-94

COC # 01367

IBM Chain of Custody

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: Growth Water Sciences Corp Acct. #: 06911
Project Name: Technical Surface Soil
Project Name/ID (cont.): 93002.37
Sampler: Daniel Mann/Muchin/Esther Project State: NY
P.O.#: 93002.37 IBM PM: Daniel Mann
Check one: ☐ Routine Lab GW ☒ Routine GTF O&M
☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Initials
OU: _____ (Endcott Non-Routine only)

2

Sample Identification	Date Collected	Time Collected	Grab	Composite
TTBA11081108	11/8/2011	—	—	—
OU0608041108	11/8/2011	1014	X	X
OU0608131108	11/8/2011	1041	X	X
OU0608041108	11/8/2011	1113	X	X
OU0608131108	11/8/2011	1130	X	X
OU0608041108	11/8/2011	1155	X	X
OU0608131108	11/8/2011	1214	X	X
OU0608041108	11/8/2011	1400	X	X
OU0608081108	11/8/2011	1425	X	X
TEQ11108SHVL	11/8/2011	1530	X	X

7 Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed: _____
Rush results requested by (please check): ☐ Phone ☐ E-mail
Phone #: _____ E-mail: _____

8 Data Package Options (please check if required)

☐ Type I (Validation/NJ Reg)	☐ TX TRRP-13	SDG Complete?
☐ Type II (Reduced NJ)	☐ MA MCP	☒ Yes ☐ No
☐ Type III (Raw Data Only)	☐ CT RCP	
☒ NY ASP A	Site-specific QC (MS/MSD/Dup)?	☐ Yes ☐ No
☒ NY ASP B	(If yes, indicate QC sample and submit triplicate volume.)	

5 Analyses Requested

Matrix	Soil	Water	Other	Total # of Containers	Preservation Codes	Preservation Codes	Remarks/SSOW
Soil	☒	☐	☐	2	X	B260B SH water	B260B SH soil
	☒	☐	☐	4	X	X	3-en core samplers
	☒	☐	☐	4	X	X	
	☒	☐	☐	4	X	X	
	☒	☐	☐	4	X	X	
	☒	☐	☐	4	X	X	
	☒	☐	☐	4	X	X	
	☒	☐	☐	4	X	X	
	☒	☐	☐	4	X	X	
	☒	☐	☐	4	X	X	

6 Temperature of samples (if requested) upon receipt (if requested)

9

Date	Time	Received by:	Date	Time	Received by:
11/8/2011	1600	Daniel Mann	11/8/2011	1600	
		Relinquished by:			Relinquished by:
		Relinquished by:			Relinquished by:
		Relinquished by:			Relinquished by:
		Relinquished by:			Relinquished by:



Environmental Sample Administration Receipt Documentation Log

Client/Project: TBM

Shipping Container Sealed: YES NO

Date of Receipt: 11/9/11

Custody Seal Present * : YES NO

Time of Receipt: 0935

* Custody seal was intact unless otherwise noted in the discrepancy section

Source Code: 50-1

Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	9422	1.2	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems

Unpacker Signature/Emp#:

Suzette Lehman 1677

Date/Time:

11/9/11 10:40

GSK05 0003

Issued by Dept. 6042 Management

2174.06

ATTACHMENT C

QUALIFIED LABORATORY TEST RESULT FORMS

Analysis Report



ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Groundwater Science Co
560 Route 53
Suite 202
Beacon NY 12508

November 18, 2011

Project: TechCity Surficial Soil

Submittal Date: 11/09/2011

Group Number: 1275473

SDG: GSK05

PO Number: DC93002.37

State of Sample Origin: NY

Client Sample Description

TTBA11081108 Water
OU06B0411108 Grab Soil
OU06B1311108 Grab Soil
OU06D0411108 Grab Soil
OU06D1311108 Grab Soil
OU06A0411108 Grab Soil
OU06A1311108 Grab Soil
OU06E0411108 Grab Soil
OU06E0811108 Grab Soil
TEQ11108SHVL Water

Lancaster Labs (LLI)

6463885
6463886
6463887
6463888
6463889
6463890
6463891
6463892
6463893
6463894

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Groundwater Science Co
COPY TO
1 COPY TO Data Package Group

Attn: Dorothy Bergmann

62885 0006

Analysis Report



Page 1 of 2

Sample Description: TTBA11081108 Water
Tech City Surficial Soils

LLI Sample # WW 6463885
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011

Groundwater Science Co

Submitted: 11/09/2011 09:35

560 Route 53

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TCTB8 SDG#: GSK05-01TB

DVQ

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

W

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK05-0000

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TTBA11081108 Water
Tech City Surficial Soils

LLI Sample # WW 6463885
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011

Groundwater Science Co

Submitted: 11/09/2011 09:35

560 Route 53

Reported: 11/18/2011 13:37

Suite 202

Beacon NY 12508

TCTB8 SDG#: GSK05-01TB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113142AA	11/10/2011 20:01	Frank A Valla, Jr	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113142AA	11/10/2011 20:01	Frank A Valla, Jr	1

GSK05 0018

Analysis Report



Page 1 of 2

Sample Description: OU06B0411108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463886
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 10:14 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6B0 SDG#: GSK05-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	DWQ
10949	Benzene	71-43-2	N.D.	0.6	6	0.94
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.94
10949	Bromobenzene	108-86-1	N.D.	1	6	0.94
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.94
10949	Bromoform	75-25-2	N.D.	1	6	0.94
10949	Bromomethane	74-83-9	N.D.	2	6	0.94
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.94
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.94
10949	Chloroethane	75-00-3	N.D.	2	6	0.94
10949	Chloroform	67-66-3	N.D.	1	6	0.94
10949	Chloromethane	74-87-3	N.D.	2	6	0.94
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.94
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.94
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.94
10949	Dibromomethane	74-95-3	N.D.	1	6	0.94
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.94
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.94
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.94
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.94
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.94
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.94
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.94
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.94
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.94
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.94
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.94
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.94
10949	Freon 113	76-13-1	N.D.	2	12	0.94
10949	Freon 123a	354-23-4	N.D.	2	6	0.94
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.94
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.94
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.94
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.94
10949	Toluene	106-88-3	2	1	6	0.94
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.94
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.94
10949	Trichloroethene	79-01-6	N.D.	1	6	0.94
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.94
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.94
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.94
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.94

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	19.9	0.50	0.50	1
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK05 0811

Analysis Report



Page 2 of 2

Sample Description: OU06B0411108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463886
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 10:14 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6B0 SDG#: GSK05-02

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113211AA	11/17/2011 13:43	Chelsea B Eastep	0.94
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131326139	11/09/2011 16:31	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131326139	11/09/2011 16:32	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131326139	11/09/2011 16:31	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11315820007B	11/11/2011 20:47	Scott W Freisher	1

GSK05 0812

Analysis Report



Page 1 of 2

Sample Description: OU06B1311108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463887
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 10:41 by DAB

Groundwater Science Co

Submitted: 11/09/2011 09:35

560 Route 53

Reported: 11/18/2011 13:37

Suite 202

Beacon NY 12508

TC6B1 SDG#: GSK05-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	0.88	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.88	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.88	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.88	
10949	Bromoform	75-25-2	N.D.	1	5	0.88	
10949	Bromomethane	74-83-9	N.D.	2	5	0.88	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.88	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.88	
10949	Chloroethane	75-00-3	N.D.	2	5	0.88	
10949	Chloroform	67-66-3	N.D.	1	5	0.88	
10949	Chloromethane	74-67-3	N.D.	2	5	0.88	
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.88	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.88	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.88	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.88	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.88	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.88	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.88	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.88	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.88	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.88	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.88	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.88	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.88	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.88	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.88	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.88	
10949	Freon 113	76-13-1	N.D.	2	10	0.88	
10949	Freon 123a	354-23-4	N.D.	2	5	0.88	
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.88	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.88	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.88	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.88	
10949	Toluene	108-88-3	N.D.	1	5	0.88	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.88	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.88	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.88	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.88	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.88	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.88	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.88	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene and bromoform.

The GC/MS volatile internal standard peak areas were outside the QC limits. A re-analysis was performed, and the matrix effect was confirmed.

65585, 65513

Analysis Report



Page 2 of 2

Sample Description: OU06B1311108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463887
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 10:41 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6B1 SDG#: GSK05-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	SM20 2540 G		%	%	%	
00111	Moisture	n.s.	9.5	0.50	0.50	1
*Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113161AA	11/12/2011 19:33	Andrea E Lando	0.88
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131326139	11/09/2011 16:34	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131326139	11/09/2011 16:35	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131326139	11/09/2011 16:33	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11315820007B	11/11/2011 20:47	Scott W Freisher	1

GSK05 8814

Analysis Report



Page 1 of 2

Sample Description: OU06D0411108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463888
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 11:13 by DAB

Groundwater Science Co

Submitted: 11/09/2011 09:35

560 Route 53

Reported: 11/18/2011 13:37

Suite 202

Beacon NY 12508

TC6D0 SDG#: GSK05-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.6	6	0.92	
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.92	
10949	Bromobenzene	108-86-1	N.D.	1	6	0.92	
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.92	
10949	Bromoform	75-25-2	N.D.	1	6	0.92	UT
10949	Bromomethane	74-83-9	N.D.	2	6	0.92	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.92	
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.92	
10949	Chloroethane	75-00-3	N.D.	2	6	0.92	
10949	Chloroform	67-66-3	N.D.	1	6	0.92	
10949	Chloromethane	74-87-3	N.D.	2	6	0.92	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.92	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.92	
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.92	
10949	Dibromomethane	74-95-3	N.D.	1	6	0.92	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.92	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.92	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.92	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.92	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.92	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.92	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.92	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.92	
10949	1,2-Dichloropropane	75-57-5	N.D.	1	6	0.92	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.92	UT
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.92	
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.92	
10949	Freon 113	76-13-1	N.D.	2	12	0.92	
10949	Freon 123a	354-23-4	N.D.	2	6	0.92	
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.92	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.92	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.92	
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.92	
10949	Toluene	108-88-3	N.D.	1	6	0.92	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.92	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.92	
10949	Trichloroethene	79-01-6	N.D.	1	6	0.92	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.92	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.92	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.92	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.92	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene and bromoform.

Wet Chemistry	SM20 2540 G	%	%	%	CSK05 0015
00111 Moisture	n.a.	24.8	0.50	0.50	1

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU06D0411108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463888
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 11:13 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6D0 SDG#: GSK05-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	SM20 2540 G		%	%	%	
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X11316LAA	11/12/2011 19:56	Andrea E Lando	0.92
06389	GC/MS - LL Encore Prep	SW-846 5035	1	201131326139	11/09/2011 16:37	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131326139	11/09/2011 16:38	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131326139	11/09/2011 16:36	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11315820007E	11/11/2011 20:47	Scott W Freisher	1

GSK05: 0816

Analysis Report



Page 1 of 2

Sample Description: OU06D1311108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463889
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 11:30 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6D1 SDG#: GSK05-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.5	5	0.81	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.81	
10949	Bromobenzene	108-86-1	N.D.	1	5	0.81	
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.81	
10949	Bromoform	75-25-2	N.D.	1	5	0.81	
10949	Bromomethane	74-83-9	N.D.	2	5	0.81	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.81	
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.81	
10949	Chloroethane	75-00-3	N.D.	2	5	0.81	
10949	Chloroform	67-66-3	N.D.	1	5	0.81	
10949	Chloromethane	74-87-3	N.D.	2	5	0.81	
10949	2-Chlorotoluene	95-49-6	N.D.	1	5	0.81	
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.81	
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.81	
10949	Dibromomethane	74-95-3	N.D.	1	5	0.81	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.81	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.81	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.81	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.81	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.81	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.81	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.81	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.81	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.81	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.81	
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.81	
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.81	
10949	Freon 113	76-13-1	N.D.	2	10	0.81	
10949	Freon 123a	354-23-4	N.D.	2	5	0.81	
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.81	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.81	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.81	
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.81	
10949	Toluene	108-88-3	N.D.	1	5	0.81	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.81	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.81	
10949	Trichloroethene	79-01-6	N.D.	1	5	0.81	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.81	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.81	
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.81	
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.81	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene and bromoform.

Wet Chemistry	SM20 2540 G	%	%	%	0.8155 0.817
00111 Moisture	n.a.	15.4	0.50	0.50	1

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2425 New Holland Pike
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Analysis Report



Page 2 of 2

Sample Description: 0006D1311108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463889
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 11:30 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6D1 SDG#: GSK05-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	SM20 2540 G		%	%	%	
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113161AA	11/12/2011 20:18	Andrea E Lando	0.81
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131326139	11/09/2011 16:40	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131326139	11/09/2011 16:41	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131326139	11/09/2011 16:39	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11315820007B	11/11/2011 20:47	Scott W Freisher	1

GSK05-0618

Analysis Report



Page 1 of 2

Sample Description: OU06A0411108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463890
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 11:55 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6A0 SDG#: GSK05-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 82608	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.7	7	0.99
10949	Benzyl Chloride	100-44-7	N.D.	1	6	0.99
10949	Bromobenzene	108-86-1	N.D.	1	7	0.99
10949	Bromodichloromethane	75-27-4	N.D.	1	7	0.99
10949	Bromoform	75-25-2	N.D.	1	7	0.99
10949	Bromomethane	74-83-9	N.D.	3	7	0.99
10949	Carbon Tetrachloride	56-23-5	N.D.	1	7	0.99
10949	Chlorobenzene	108-90-7	N.D.	1	7	0.99
10949	Chloroethane	75-00-3	N.D.	3	7	0.99
10949	Chloroform	67-66-3	N.D.	1	7	0.99
10949	Chloromethane	74-87-3	N.D.	3	7	0.99
10949	2-Chlorotoluene	95-49-8	N.D.	1	7	0.99
10949	4-Chlorotoluene	106-43-4	N.D.	1	7	0.99
10949	Dibromochloromethane	124-48-1	N.D.	1	7	0.99
10949	Dibromomethane	74-95-3	N.D.	1	7	0.99
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	7	0.99
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	7	0.99
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	7	0.99
10949	Dichlorodifluoromethane	75-71-8	N.D.	3	7	0.99
10949	1,1-Dichloroethane	75-34-3	N.D.	1	7	0.99
10949	1,2-Dichloroethane	107-06-2	N.D.	1	7	0.99
10949	1,1-Dichloroethene	75-35-4	N.D.	1	7	0.99
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	7	0.99
10949	1,2-Dichloropropane	78-87-5	N.D.	1	7	0.99
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	7	0.99
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	7	0.99
10949	Ethylbenzene	100-41-4	N.D.	1	7	0.99
10949	Freon 113	76-13-1	N.D.	3	14	0.99
10949	Freon 123a	354-23-4	N.D.	3	7	0.99
10949	Methylene Chloride	75-09-2	N.D.	3	7	0.99
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	7	0.99
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	7	0.99
10949	Tetrachloroethene	127-18-4	N.D.	1	7	0.99
10949	Toluene	108-88-3	N.D.	1	7	0.99
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	7	0.99
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	7	0.99
10949	Trichloroethene	79-01-6	N.D.	1	7	0.99
10949	Trichlorofluoromethane	75-69-4	N.D.	3	7	0.99
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	7	0.99
10949	Vinyl Chloride	75-01-4	N.D.	1	7	0.99
10949	Xylene (Total)	1330-20-7	N.D.	1	7	0.99

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	28.8	0.50	0.50	1
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK05 0019

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: 0006A0411108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463890
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 11:55 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6A0 SDG#: GSK05-06

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	A113211AA	11/17/2011 14:28	Chelsea B Eastep	0.99
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131326139	11/09/2011 16:43	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131326139	11/09/2011 16:44	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131326139	11/09/2011 16:42	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11315820007B	11/11/2011 20:47	Scott W Freisher	1

GSX85 9828

Analysis Report



Page 1 of 2

Sample Description: OU06A1311108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463891
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 12:14 by DAB

Groundwater Science Co

Submitted: 11/09/2011 09:35

560 Route 53

Reported: 11/18/2011 13:37

Suite 202

Beacon NY 12508

TC6A1 SDG#: GSK05-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.6	6	1.05	
10949	Benzyl Chloride	100-44-7	N.D.	1	4	1.05	
10949	Bromobenzene	108-86-1	N.D.	1	6	1.05	
10949	Bromodichloromethane	75-27-4	N.D.	1	6	1.05	
10949	Bromoform	75-25-2	N.D.	1	6	1.05	us
10949	Bromomethane	74-83-9	N.D.	2	6	1.05	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	1.05	
10949	Chlorobenzene	108-90-7	N.D.	1	6	1.05	
10949	Chloroethane	75-00-3	N.D.	2	6	1.05	
10949	Chloroform	67-66-3	N.D.	1	6	1.05	
10949	Chloromethane	74-87-3	N.D.	2	6	1.05	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	1.05	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	1.05	
10949	Dibromochloromethane	124-46-1	N.D.	1	6	1.05	
10949	Dibromomethane	74-95-3	N.D.	1	6	1.05	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	1.05	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	1.05	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	1.05	
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	1.05	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	1.05	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	1.05	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	1.05	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	1.05	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	1.05	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	1.05	us
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	1.05	
10949	Ethylbenzene	100-41-4	N.D.	1	6	1.05	
10949	Freon 113	76-13-1	N.D.	2	11	1.05	
10949	Freon 123a	354-23-4	N.D.	2	6	1.05	
10949	Methylene Chloride	75-09-2	N.D.	2	6	1.05	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	1.05	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	1.05	
10949	Tetrachloroethene	127-18-4	N.D.	1	6	1.05	
10949	Toluene	108-88-3	N.D.	1	6	1.05	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	1.05	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	1.05	
10949	Trichloroethene	79-01-6	N.D.	1	6	1.05	
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	1.05	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	1.05	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	1.05	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	1.05	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAP Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene and bromoform.

Wet Chemistry	SM20 2540 G	%	%	%	GSK05 8821
00111 Moisture	n.a.	6.4	0.50	0.50	1

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*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU06A1311108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463891
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 12:14 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6A1 SDG#: GSK05-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	SM20 2540 G		%	%	%	
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113161AA	11/12/2011 21:03	Andrea E Lando	1.05
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131326139	11/09/2011 16:46	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131326139	11/09/2011 16:47	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131326139	11/09/2011 16:45	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11315820007B	11/11/2011 20:47	Scott W Freisher	1

GSK05 0622

Analysis Report



Page 1 of 2

Sample Description: OU06E0411108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463892
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 14:00 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6E0 SDG#: GSK05-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg		
10949	Benzene	71-43-2	N.D.	0.6	6	0.95	
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.95	
10949	Bromobenzene	108-86-1	N.D.	1	6	0.95	
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.95	
10949	Bromoform	75-25-2	N.D.	1	6	0.95	UT
10949	Bromomethane	74-83-9	N.D.	3	6	0.95	
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.95	
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.95	
10949	Chloroethane	75-00-3	N.D.	3	6	0.95	
10949	Chloroform	67-66-3	N.D.	1	6	0.95	
10949	Chloromethane	74-87-3	N.D.	3	6	0.95	
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.95	
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.95	
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.95	
10949	Dibromomethane	74-95-3	N.D.	1	6	0.95	
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.95	
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.95	
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.95	
10949	Dichlorodifluoromethane	75-71-8	N.D.	3	6	0.95	
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.95	
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.95	
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.95	
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.95	
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.95	
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.95	UT
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.95	
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.95	
10949	Freon 113	76-13-1	N.D.	3	13	0.95	
10949	Freon 123a	354-23-4	N.D.	3	6	0.95	
10949	Methylene Chloride	75-09-2	N.D.	3	6	0.95	
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.95	
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.95	
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.95	
10949	Toluene	108-88-3	N.D.	1	6	0.95	
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.95	
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.95	
10949	Trichloroethene	79-01-6	N.D.	1	6	0.95	
10949	Trichlorofluoromethane	75-69-4	N.D.	3	6	0.95	
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.95	
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.95	
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.95	

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene and bromoform.

Wet Chemistry	SM20 2540 G	%	%	%	GSK05 5823
00111 Moisture	n.a.	25.9	0.50	0.50	1

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*=This limit was used in the evaluation of the final result

2216 Rev. 3/27/06

Analysis Report



Page 2 of 2

Sample Description: OU06E0411108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463892
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 14:00 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6E0 SDG#: GSK05-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
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Wet Chemistry

SM20 2540 G

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113161AA	11/12/2011 21:25	Andrea E Lando	0.95
06389	GC/MS - LL Encore Prep	SW-846 5035	1	201131326139	11/09/2011 16:49	Lois E Hiltz	n.a.
06389	GC/MS - LL Encore Prep	SW-846 5035	2	201131326139	11/09/2011 16:50	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131326139	11/09/2011 16:48	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11315820007B	11/11/2011 20:47	Scott W Freisher	1

GSK05. 9824.

Analysis Report



Page 1 of 2

Sample Description: OU06E0811108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463893
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 14:25 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6E1 SDG#: GSK05-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.86
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.86
10949	Bromobenzene	108-86-1	N.D.	1	5	0.86
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.86
10949	Bromoform	75-25-2	N.D.	1	5	0.86
10949	Bromomethane	74-83-9	N.D.	2	5	0.86
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.86
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.86
10949	Chloroethane	75-00-3	N.D.	2	5	0.86
10949	Chloroform	67-66-3	N.D.	1	5	0.86
10949	Chloromethane	74-87-3	N.D.	2	5	0.86
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.86
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.86
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.86
10949	Dibromomethane	74-95-3	N.D.	1	5	0.86
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.86
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.86
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.86
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.86
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.86
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.86
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.86
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.86
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.86
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.86
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.86
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.86
10949	Freon 113	76-13-1	N.D.	2	10	0.86
10949	Freon 123a	354-23-4	N.D.	2	5	0.86
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.86
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.86
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.86
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.86
10949	Toluene	108-88-3	N.D.	1	5	0.86
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.86
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.86
10949	Trichloroethene	79-01-6	N.D.	1	5	0.86
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.86
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.86
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.86
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.86

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAP Standards. The following analytes are accepted based on this allowance: cis-1,3-dichloropropene and bromoform.

Wet Chemistry	SM20 2540 G	%	%	%	GSK05: 8825
00111 Moisture	n.a.	15.7	0.50	0.50	1

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU06E0811108 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6463893
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 14:25 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TC6E1 SDG#: GSK05-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry	SM20 2540 G					
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113161AA	11/12/2011 21:48	Andrea E Lando	0.86
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131326139	11/09/2011 16:52	Lois E Hiltz	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131326139	11/09/2011 16:53	Lois E Hiltz	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131326139	11/09/2011 16:51	Lois E Hiltz	n.a.
00111	Moisture	SM20 2540 G	1	11315820007B	11/11/2011 20:47	Scott W Freisher	1

GSK05 0026

Analysis Report



Page 1 of 2

Sample Description: TEQ11108SHVL Water
Tech city Surficial Soils

LLI Sample # WW 6463894
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 15:30 by DAB

Groundwater Science Co

Submitted: 11/09/2011 09:35

560 Route 53

Reported: 11/18/2011 13:37

Suite 202

Beacon NY 12508

TCEB1 SDG#: GSK05-10EB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor	
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l		
10904	Benzene	71-43-2	N.D.	0.5	5	1	
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1	
10904	Bromobenzene	108-86-1	N.D.	1	5	1	
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1	
10904	Bromoform	75-25-2	N.D.	1	5	1	
10904	Bromomethane	74-83-9	N.D.	1	5	1	
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1	
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1	
10904	Chloroethane	75-00-3	N.D.	1	5	1	
10904	Chloroform	67-66-3	N.D.	0.8	5	1	WJ
10904	Chloromethane	74-87-3	N.D.	1	5	1	
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1	
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1	
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1	
10904	Dibromomethane	74-95-3	N.D.	1	5	1	
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1	
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1	
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1	
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1	
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1	
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1	
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1	
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1	
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1	
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1	
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1	
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1	
10904	Freon 113	76-13-1	N.D.	2	10	1	
10904	Freon 123a	354-23-4	N.D.	2	5	1	
10904	Methylene Chloride	75-09-2	N.D.	2	5	1	
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1	
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1	
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1	
10904	Toluene	108-88-3	N.D.	0.7	5	1	
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1	
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1	
10904	Trichloroethene	79-01-6	N.D.	1	5	1	
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1	
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1	
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1	
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1	

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK05 8827

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TEQ11108SHVL Water
Tech City Surficial Soils

LLI Sample # WW 6463894
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 15:30 by DAB

Groundwater Science Co

Submitted: 11/09/2011 09:35

560 Route 53

Reported: 11/18/2011 13:37

Suite 202

Beacon NY 12508

TCEB1 SDG#: GSK05-10EB*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113142AA	11/10/2011 20:22	Frank A Valla, Jr	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113142AA	11/10/2011 20:22	Frank A Valla, Jr	1

GSK05 0028



Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
ug	microgram(s)	mg	milligram(s)
ml	milliliter(s)	l	liter(s)
m3	cubic meter(s)	ul	microliter(s)
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value - The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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03X05 0000

ATTACHMENT D

DATA VALIDATION CHECKLIST AND SUPPORT DOCUMENTATION

SOP # HW-24

Revision # 2

August 2008

USEPA
Hazardous Waste Support Branch
Validating Volatile Organic Compounds
By Gas Chromatography/Mass Spectrometry
SW-846 Method 8260B

Prepared by: George Kapras Date: 5/12/08
George Kapras, Chemist
Hazardous Waste Support Section

Prepared by: Russell Arnone Date: 8/20/08
Russell Arnone, Chemist
Hazardous Waste Support Section

Concurred by: Linda Mauel Date: 8/20/08
Linda Mauel, Chief
Hazardous Waste Support Section

Approved by: Robert Ronson Date: 8/24/08
Robert Ronson, Chief
Hazardous Waste Support Branch

Annual Review

Reviewed by: Russell Arnone Date: 8/11/08
Name

Reviewed by: _____ Date: _____
Name

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the USEPA SW-846, Method 8260B December 1996. The validation methods and actions discussed in this document are based on the requirements set forth in USEPA SW-846, Method 8260B and Method 8000C, Rev 3, March 2003; and "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," January, 2005. This document covers technical as well as method specific problems; however situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are defined on page 4.

The reviewer must prepare a detailed data assessment to be submitted along with the complete SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data, and contract non-compliance.

DEFINITIONS

Acronyms

BNA - base neutral acid(another name for Semi Volatiles)
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
CF - calibration factor
%D - percent difference
DCB -decachlorobiphenyl
DDD - dichlorodiphenyldichloroethane
DDE - dichlorodiphenylethane
DDT - dichlorodiphenyltrichloroethane
DoC - Date of Collection
GC - gas chromatography
GC/ECD - gas chromatography/electron capture detector
GC/MS - gas chromatography/mass spectrometer
GPC - gel permeation chromatography
IS - internal standard
kg - kilogram
µg - microgram
MS - matrix spike
MSD - matrix spike duplicate
l - liter
ml - milliliter
PCB - Polychlorinated biphenyl
PE - performance evaluation
PEM - Performance Evaluation Mixture
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SMC - system monitoring compound
SOP - standard operating procedure
SOW - Statement of Work
SVOA - semivolatile organic acid
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TCX -tetrachloro-m-xylene
TIC - tentatively identified compound

TOPO - Task Order Project Officer
TPO - Technical Project Officer
VOA - Volatile organic
VTSR - Validated Time of Sample Receipt

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

LAB QUALIFIERS:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

YES NO N/A

I. PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: SDG GSK05 LAB: Lancaster Laboratories

SITE NAME: TechCity (Former IBM Kingston)

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable
format or CLP Forms Equivalent? ☒

ACTION: If not, note the effect on review of the data in
the Data Assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative, and/or cover letter
signed release present? ☒

2.2 Are case number and SDG number(s) contained
in the narrative or cover letter? ☒

ACTION: If not, note the effect on review of the data in
the Data Assessment narrative.

II. VOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Reports, and/or Chain of Custodies
from the field samplers present for all samples
sign release present? ☒

ACTION: If no, contact the laboratory/sampling team for replacement
of missing or illegible copies.

1.2 Is a sampling trip report present (if required)? ☐ ☒

1.3 Sample Conditions/Problems

YES NO N/A

- 1.3.1 Do the Traffic Reports, Chain of Custodies, or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? *✓*

ACTION: If all the VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, flag all positive results "J" and all non-detects "R".

ACTION: If samples were not iced or if the ice was melted upon receipt at the laboratory and the temperature of the cooler was elevated ($>10^{\circ}\text{C}$), flag all positive results "J" and all non-detects non"UJ".

2.0 Holding Times

- 2.1 Have any volatile holding times, determined from date of collection to date of analysis, been exceeded? *✓*

The maximum holding time for aqueous samples is 14 days.

The maximum holding time for soils non aqueous samples is 14 days.

NOTE: If unpreserved, aqueous samples maintained at 4°C for aromatic hydrocarbons analysis must be analyzed within 7 days. If preserved with HCL acid to a $\text{pH}<2$ and stored at 4°C , then aqueous samples must be analyzed within 14 days from time of collection. For non-aqueous samples for volatile components that are frozen (less than 7°C) or are properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and perserved with NaHSO_4 , the maximum holding time is 14 days from sample collection. If

YES NO N/A

uncertain about preservation, contact the laboratory /sampling team to determine whether or not samples were preserved.

ACTION: Qualify sample results according to Table 1:

Table 1. Holding Time Actions for Trace Volatile Analysis

Matrix	Preserved	Criteria	Action	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 days	No qualifications	
	No	> 7 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes	> 14 days	J	R
Non Aqueous	No	≤ 14 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes/No	> 14 days	J	R

3.0 Surrogate Recovery (CLP Form II Equivalent)

3.1 Have the volatile surrogate recoveries been listed on Surrogate Recovery forms for each of the following matrices:

a. Water ✓

b. Soil ✓

3.2 If so, are all the samples listed on the appropriate Surrogate Recovery forms for each matrix:

a. Water ✓

b. Soil ✓

ACTION: If large errors exist, deliverables are unavailable or information is missing, document the effect(s) in Data

YES NO N/A

Assessments and contact the laboratory/project officer/appropriate official for an explanation /resubmittal, make any necessary corrections and document effect in the Data Assessment.

- 3.3 Were the surrogate recovery limits followed per Table 2. If Table 2 criteria were not followed, the laboratory may use in-house performance criteria (per SW-846, Method 8000C, section 9.7). Other compounds may be used as surrogates, depending upon the analysis requirements.

(In-house limits used)

☐ ☒ ☐

Table 2. Surrogate Spike Recovery Limits for Water and Soil/Sediments

DMC	Recovery Limits (%)Water	Recovery Limits Soil/Sediment
4-Bromofluorobenzene	80-120	70-130
Dibromofluoromethane	80-120	70-130
Toluene-d ₈	80-120	70-130
Dichloroethane-d ₄	80-120	70-130

Note: Use above table if laboratory did not provide in house recovery criteria.

Note: Other compounds may be used as surrogated depending upon the analysis requirements.

- 3.4 Were outliers marked correctly with an asterisk?

☐ ☐ ☒

ACTION: Circle all outliers with a red pencil.

- 3.5 Were one or more volatile surrogate recoveries out of specification for any sample or method blank. Table 2.

☐ ☒ ☐

If yes, were samples reanalyzed?

☐ ☐ ☒

Were method blanks reanalyzed?

☐ ☐ ☒

YES NO N/A

ACTION: If all surrogate recoveries are > 10% but 1 or more compounds do not meet method specifications:

1. Flag all positive results as estimated ("J").
2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.
3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects, but qualify positive results as estimated "J".

If any surrogate has a recovery of < 10%:

1. Positive results are qualified with ("J").
2. Non-detects for that should be qualified as unusable ("R").

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. The basic concern is whether the blank problems represent an isolated problem with the blank alone or whether there is a fundamental problem with the analytical process. If one or more samples in the batch show acceptable surrogate recoveries, the reviewer may choose the blank problem to be an isolated occurrence.

3.6 Are there any transcription/calculation errors between raw data and reported data?

Level IV not performed on this SDG

11 — ✓

ACTION: If large errors exist, take action as specified in section 3.2 above.

4.0 Laboratory Control Sample (Form III/Equivalent)

4.1 Is the LCS prepared, extracted, analyzed, and reported once for every 20 field samples of a similar matrix, per SDG.

14 —

YES NO N/A

Note: LCS consists of an aliquot of a clean (control) matrix similar to the sample matrix and of the same weight or volume.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation /resubmittals. Make note in the data assessment.

4.2 Were the Laboratory Control Samples analyzed at the required frequency for each of the following matrices:

A. Water	☒	☐	☐
B. Soil	☒	☐	☐
C. Med Soil	☐	☐	☒

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

4.3 Have in house LCS recovery limits been developed (Method 8000C, Sect 9.7). ☒ ☐ ☐

4.4 If in house limits are not developed, are LCS acceptance recovery limits between 70 - 130% (Method 8000c Sect 9.5)? ☐ ☐ ☒

4.5 Were one or more of the volatile LCS recoveries outside the in house laboratory recovery criteria for spiked analytes? If in house limits are not present use 70 - 130% recovery limits.

☒ ☐ ☐

YES NO N/A

Table 3. LCS Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit ≤ %R	No Qualifications	

5.0 Matrix Spikes (Form III or equivalent)

5.1 Are all data for matrix spike and matrix duplicate or matrix spike duplicate (MS/MD or MS/MSD) present and complete for each matrix?

MS/MSD not performed on this SDH

11 — ☒

NOTE: The laboratory should use one matrix spike and a duplicate analysis of an unspiked field sample if target analytes are expected in the sample. If the sample is not expected to contain target analytes, a MS/MSD should be analyzed (SW-846, Method 8260B, Sect 8.4.2).

5.2 Have MS/MD or MS/MSD results been summarized on modified CLP Form III?

11 — ☒

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency for each of the following matrices? (One MS/MD, MS/MSD or laboratory replicate must be performed for every 20 samples)

YES NO N/A

of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month [page 8000C, section 9.5.]]

- | | | | | | |
|----|------------|-------------------|-------------------------------------|--------------------------|-------------------------------------|
| a. | Water | (Not in this SQA) | ☒ | ☐ | ☐ |
| b. | Waste | | ☐ | ☐ | ☒ |
| c. | Soil/Solid | (Not in this SQA) | ☒ | ☐ | ☐ |

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene. The concentration of the LCS should be determined as described SW-Method 8000C Section 9.5.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

5.4 Have in house MS recovery limits been developed (Method 8000C, Sect 9.7) for each matrix. ☐ ☐ ☒

5.5 Were one or more of the volatile MS/MSD recoveries outside of the in-house laboratory recovery criteria for spiked analytes? If none are present, then use 70-130% recovery as per SW-846, 8000C, Sect. 9.5.4. ☐ ☐ ☒

ACTION: Circle all outliers with a red pencil.

NOTE: If any individual % recovery in the MS (or MSD) falls outside the designated range for recovery the reviewer should determine if there is a matrix effect. A matrix effect is indicated if the LCS data are within limits but the MS data exceeds the limits.

YES NO N/A

NOTE: No qualification of data is necessary on MS and MSD data alone. However, using informed professional judgement, the data reviewer may use MS and MSD results in conjunction with other QC criteria to determine the need for some qualification.

Note: The data reviewer should first try to determine to what extent the results of the MS and MSD affect the associated data. This determination should be made with regard to the MS and MSD sample itself, as well as specific analytes for all samples associated with the MS and MSD.

Note: In those instances where it can be determined that the results of the MS and MSD affect only the sample spiked, limit qualification to this sample only. However, it may be determined through the MS and MSD results that a laboratory is having a systematic problem in the analysis of one or more analytes that affect all associated samples, and the reviewer must use professional judgement to qualify the data from all associated samples.

Note: The reviewer must use professional judgement to determine the need for qualification of non-spiked compounds.

ACTION: Follow criteria in Table 4 when professional judgement deems qualification of sample.

Table 4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit ≤ %R	No Qualifications	

YES NO N/A

6.0 Blank (CLP Form IV Equivalent)

6.1 Is the Method Blank Summary form present? ☒ ☐ ☐

6.2 Frequency of Analysis: Has a method blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch? ☒ ☐ ☐

6.3 Has a method blank been analyzed for each GC/MS system used ? ☒ ☐ ☐

ACTION: If any blank data are missing, take action as specified above (section 3.2). If blank data is not available, reject @ all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

6.4 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for volatile organic compounds? ☒ ☐ ☐

7.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

7.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary.

☐ ☒ ☐

YES NO N/A

7.2 Do any field/rinse blanks have positive
volatile organic compound results?

— ☒ —

(TB and EQ)

ACTION: Prepare a list of the samples associated with each
of the contaminated blanks. (Attach a separate
sheet.)

NOTE: All field blank results associated to a particular
group of samples (may exceed one per case or one
per day) may be used to qualify data. Blanks may
not be qualified because of contamination in
another blank. Field blanks must be qualified for
surrogate, or calibration QC problems.

ACTION: Follow the directions in Table 5 below to qualify
sample results due to contamination. Use the
largest value from all the associated blanks.

Table 5. Volatile Organic Analysis Blank Contamination Criteria

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Storage, Field, Trip, Instrument**	Detects	Not detected	No qualification
	< CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	> CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report the concentration for the sample with a U, or qualify the data as unusable R
		≥ CRQL and ≥ blank contamination	Use professional judgement
	= CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	Gross contamination	Detects	Qualify results as unusable R

* 2x the CRQL for methylene chloride, 2-butanone, and acetone

** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: If gross blank contamination exists(e.g., saturated peaks, "hump-o-grams," "junk" peaks), all affected positive compounds in the associated samples should be qualified as unusable "R", due to interference. Non-detected volatile organic target compounds do not require qualification unless the contamination is so high that it interferes with the analyses of non-detected compounds.

YES NO N/A

- 7.3 Are there field/rinse/equipment blanks associated with every sample?

☒ ☐ ☐

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

8.0 GC/MS Apparatus and Materials

- 8.1 Did the lab use the proper gas chromatographic column(s) for analysis of volatiles by Method 8260B? Check raw data, instrument logs or contact the lab to determine what type of column(s) was (were) used.

☒ ☐ ☐

NOTE: For the analysis of volatiles, the method requires the use of 60 m. x 0.75 mm capillary column, coated with VOCOL(Supelco) or equivalent column. (see SW-846, page 8260B-7, section 4.9.2)

ACTION: If the specified column, or equivalent, was not used, document the effects in the Data Assessment. Use professional judgement to determine the acceptability of the data.

9.0 GC/MS Instrument Performance Check (CLP Form V Equivalent)

- 9.1 Are the GC/MS Instrument Performance Check forms present for Bromofluorobenzene (BFB), and do these forms list the associated samples with date/time analyzed?

☒ ☐ ☐

- 9.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?

☒ ☐ ☐

- 9.3 Has an instrument performance check solution (BFB)

YES NO N/A

been analyzed for every twelve hours of sample analysis per instrument?(see Table 4, SW-846, page 8260B-36)

☒ ☐ ☐

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS GC/MS tuning data are available.

ACTION: If the laboratory/project officer cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable, "R".

9.4 Have the ion abundances been normalized to m/z 95?

☒ ☐ ☐

9.5 Have the ion abundance criteria been met for each instrument used?

☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, take action as specified in section 3.2.

9.6 Are there any transcription/calculation errors between mass lists and reported values? (Check at least two values but if errors are found, check more.)

☐ ☐ ☒

(level IV not performed on this SDA)

9.7 Have the appropriate number of significant figures (two) been reported?

☒ ☐ ☐

ACTION: If large errors exist, take action as specified in section 3.2.

9.8 Are the spectra of the mass calibration compounds acceptable.

☒ ☐ ☐

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

YES NO N/A

10.0 Target Analytes (CLP Form I Equivalent)

10.1 Are the Organic Analysis reporting forms present with required header information on each page, for each of the following:

- | | | | | |
|----|---|-------------------------------------|-----|-------------------------------------|
| a. | Samples and/or fractions as appropriate | ☒ | ___ | ___ |
| b. | Matrix spikes and matrix spike duplicates | ☐ | ___ | ☒ |
| c. | Blanks | ☒ | ___ | ___ |
| d. | Laboratory Control Samples | ☒ | ___ | ___ |

10.2 Are the reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

- | | | | | |
|----|--|-------------------------------------|-----|-------------------------------------|
| a. | Samples and/or fractions as appropriate | ☒ | ___ | ___ |
| b. | Matrix spikes and matrix spike duplicates
(Mass spectra not required) | ☐ | ___ | ☒ |
| c. | Blanks | ☒ | ___ | ___ |
| d. | Laboratory Control Samples | ☒ | ___ | ___ |

ACTION: If any data are missing, take action specified in 3.2 above.

10.3 Is chromatographic performance acceptable with respect to:

Baseline stability?

☒ ___ ___

YES NO N/A

Resolution?

☒ ☐ ☐

Peak shape?

☒ ☐ ☐

Full-scale graph (attenuation)?

☒ ☐ ☐

Other: _____

ACTION: Use professional judgement to determine the acceptability of the data.

10.4 Are the lab-generated standard mass spectra of identified volatile compounds present for each sample? ☒ ☐ ☐

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the Data Assessment. If spectra are missing, contact the lab for missing spectra.

10.5 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration? ☒ ☐ ☐

10.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? ☒ ☐ ☐

10.7 Do the relative intensities of the characteristic ions in the sample agree within $\pm 30\%$ of the corresponding relative intensities in the reference spectrum? ☒ ☐ ☐

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected ("R"), flagged ("N") - Presumptive evidence of the presence of the compound) or changed to non detected ("U") at the calculated detection limit. In order to be

YES NO N/A

positively identified, the data must comply with the criteria listed in 9.6, 9.7, and 9.8.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

11.0 Tentatively Identified Compounds (TIC) (CLP Form I/TIC Equivalent)

11.1 If Tentatively Identified Compound were required for this project, are all Tentatively Identified Compound reporting forms present; and do listed TICs include scan number or retention time, estimated concentration and a qualifier? ☐ ☐ ☒

NOTE: Add "N" qualifier to all TICs which have CAS number, if missing.

NOTE: Have the project officer/appropriate official check the project plan to determine if lab was required to identify non-target analytes (SW-846, page 8260B-23, Sect. 7.6.2).

11.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:

a. Samples and/or fractions as appropriate ☐ ☐ ☒

b. Blanks ☐ ☐ ☒

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by a CAS#.

NOTE: If TICs are present in the associated blanks take action as specified in section 3.2 above.

YES NO N/A

11.3 Are any priority pollutants listed as TIC compounds (i.e., an BNA compound listed as a VOA TIC)? ☐ ☐ ☒

ACTION: 1. Flag with "R" any target compound listed as a TIC.
2. Make sure all rejected compounds are properly reported if they are target compounds.

11.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? ☐ ☐ ☒

11.5 Do TIC and "best match" standard relative ion intensities agree within $\pm 20\%$? ☐ ☐ ☒

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate. Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R". (Common lab contaminants: CO₂(M/E 44), Siloxanes (M/E 73), Hexane, Aldol Condensation Products, Solvent Preservatives, and related byproducts).

12.0 Compound Quantitation and Reported Detection Limits

12.1 Are there any transcription/calculation errors in organic analysis reporting form results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and average initial RRF/CF were used to calculate organic analysis reporting form result. Were any errors found? ☐ ☐ ☒

Level IV not performed on this SOG

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks > 25%) should be

YES NO N/A

reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

12.2 Are the method CRQL's adjusted to reflect sample dilutions and, for soils, sample moisture?

☒ ☐ ☐

ACTION: If errors are large, take action as specified in section 3.2 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC accedence dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original reporting form (if present) and substituting the data from the analysis of the diluted sample. Specify which organic analysis reporting form is to be used, then draw a red "X" across the entire page of all reporting forms that should not be used, including any in the summary package.

13.0 Standards Data (GC/MS)

13.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant Reports) present for initial and continuing calibration?

☒ ☐ ☐

ACTION: If any calibration standard data are missing, take action specified in section 3.2 above.

14.0 GC/MS Initial Calibration (CLP Form VI Equivalent)

YES NO N/A

14.1 Are the Initial Calibration reporting forms present and complete for the volatile fraction? ☒ ☐ ☐

ACTION: If any calibration forms or standard raw data are missing, take action specified in section 3.2 above.

ACTION: If the percent relative standard deviation (% RSD) is > 20%, (8000C-39) qualify positive results for that analyte "J". When % RSD > 90%,. Qualify all positive results for that analyte "J" and all non-detects results for that analyte "R".

14.2 Are all average RRFs > 0.050? ☒ ☐ ☐

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be $\geq$ the values in the following list. If individual RRF values reported are below the listed values document in the Data Assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with red pencil.

ACTION: For any target analyte with average RRF < 0.05, or for the requirements for the 5 compounds in 14.2 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

14.3 Are response factors stable over the concentration range of the calibration. ☒ ☐ ☐

NOTE: (Method Requirement) For the following CCC compounds, the %RSD values must be $\leq$ 30.0%. If %RSD values reported are > 30.0% document in the Data Assessment.

YES NO N/A

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

ACTION: Circle all outliers with a red pencil.

ACTION: If the % RSD is > 20.0%, or > 30% for the 6 compounds in 14.3 above, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

14.4 Was the % RSD determined using RRF or CF?

☒ 1 ☐ ☐

If no, what method was used to determine the linearity of the initial calibration? Document any effects to the case in the Data Assessment.

14.5 Are there any transcription/calculation errors in the reporting of RRF or % RSD? (Check at least two values but if errors are found, check more.)

☒ 1 ☐ ☒

Level IV not performed on this SW6

ACTION: Circle errors with a red pencil.

ACTION: If errors are large, take action as specified in section 3.2 above.

15.0 GC/MS Calibration Verification (CLP Form VII Equivalent)

YES NO N/A

15.1 Are the Calibration Verification reporting forms present and complete for all compounds of interest? ☒ ☐ ☐

15.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument? ☒ ☐ ☐

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

ACTION: If any forms are missing or no calibration verification standard has been analyzed twelve hours prior to sample analysis, take action as specified in section 3.2 above. If calibration verification data are not available, flag all associated sample data as unusable ("R").

15.3 Was the % D determined from the calibration verification determined using RRF or CF? ☒ ☐ ☐

If no, what method was used to determine the calibration verification? Document any effects to the case in the Data Assessment.

15.4 Do any volatile compounds have a % D (difference or drift) between the initial and continuing RRF or CF which exceeds 20% (SW-846, page 8260B-19, section 7.4.5.2). ☒ ☐ ☐

NOTE: (Method Requirement) For the following CCC compounds, the %D values must be $\leq 20.0\%$. If %D values reported are $> 20.0\%$ document in the Data Assessment.

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

YES NO N/A

ACTION: Circle all outliers with a red pencil.

ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated, "J". When %D is above 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

15.5 Do any volatile compounds have a RRF < 0.05? 11 ✓ —

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be $\geq$ the values in the following list for each calibration verification. If average RRF values reported are below the listed values document in the data assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with a red pencil.

ACTION: If RRF < 0.05, or < the requirements for the 5 compounds in section 15.5 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

16.0 Internal Standards (CLP Form VIII Equivalent)

16.1 Are the internal standard (IS) areas on the internal standard reporting forms of every sample and blank within the upper and lower limits (-50% to + 100%) for each initial mid-point calibration (SW-846, 8260B-20, Sect. 7.4.7)? 11 ✓ —

YES NO N/A

ACTION: If errors are large or information is missing, take action as specified in section 3.2 above.

ACTION: List each outlying internal standard below.

please see attached sheet

Sample ID	IS #	Area Lower Limit	Area Upper Limit
-----------	------	------------------	------------------

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Attach additional sheets if necessary.)

- ACTION:
1. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results quantitated with this internal standard.
 2. Do not qualify non-detects when the associated IS are counts area $> + 100\%$.
 3. If the IS area is below the lower limit ($< - 50\%$), qualify all associated non-detects (U-values) "J".
 4. If extremely low area counts are reported ($< - 25\%$) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable "R" and positive results as estimated "J".

16.2 Are the retention times of all internal standards within 30 seconds of the associated initial mid-point calibration standard (SW-846, 8260B-20, Sect. 7.4.6)? *1*

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

YES NO N/A

17.0 Field Duplicates

17.1 Were any field duplicates submitted for
volatile analysis?

11 ✓

ACTION: Compare the reported results for field duplicates and
calculate the relative percent difference.

ACTION: Any gross variation between field duplicate
results must be addressed in the Data Assessment.
However, if large differences exist, take action
specified in section 3.2 above.

TechCity (Former IBM Kingston) Site
Method 8260B, Internal Standard Area Outliers
SDG GSK05

<u>Sample</u>	<u>Internal Standard</u>	<u>IS Area</u>	<u>Area Lower Limit</u>	<u>Area Upper Limit</u>
OU06B1311108	1,4-Dichlorobenzene-d ₄	176588	276614	1106454
OU06B1311108 RE	1,4-Dichlorobenzene-d ₄	222751	254004	1016018



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Sample Reference List for SDG Number GSK05
with a Data Package Type of NYSDEC B
06911 - Groundwater Science Co
Project: TechCity Surficial Soil

Lab Sample Number	Lab Sample Code	Client Sample Description
6463885	TCTB8	TTBA11081108 Water
6463886	TC6B0	OU06B0411108 Grab Soil
6463887	TC6B1	OU06B1311108 Grab Soil
6463888	TC6D0	OU06D0411108 Grab Soil
6463889	TC6D1	OU06D1311108 Grab Soil
6463890	TC6A0	OU06A0411108 Grab Soil
6463891	TC6A1	OU06A1311108 Grab Soil
6463892	TC6E0	OU06E0411108 Grab Soil
6463893	TC6E1	OU06E0811108 Grab Soil
6463894	TCEB1	TEQ11108SHVL Water

GSK05. 0001

01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030B, December 1996.

10904 8260 Ext. Water Master

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

10949 8260 Ext. Soil Master

The soil sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

00111 Moisture

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2540 G

08389 GC/MS - LL Encore Prep

Two EnCore samples are collected per sample. The vials used for preparation are pre-preserved and pre-weighed. Two aliquots are extruded into a sodium bisulfate solution. The vials are re-weighed and the weight of the sample should be 5-g +/- .5 g. The prepared samples are then delivered to the lab for analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5035, November 2004.

07578 GC/MS-HL Encore Prep-NC

The sample is collected in an EnCore sampler and is submitted to the laboratory. A vial containing 5-ml methanol is prepared for each sample and weighed prior to adding the sample. After the sample is added to the vial, the vial is reweighed and the weight of sample is determined by difference. The weight of the sample should be 5-g +/- .5 g. The sample vial is then delivered to the lab for analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5035, November 2004.

GC/MS VOLATILES CALCULATIONS:

1. Relative response factor (RRF)

$$RRF = \frac{A_x}{A_{is}} \times \frac{C_{is}}{C_x}$$

Where :

A_x = Area of the characteristic ion for the compound to be measured.

A_{is} = Area of the characteristic ion for the specific internal standard to be measured.

C_{is} = Concentration of the internal standard.

C_x = Concentration of the compound to be measured.

2. % Relative Standard Deviation (%RSD)

$$\%RSD = \frac{\text{Standard deviation}}{\text{mean}} \times 100$$

3. % Difference (%D)

$$\%D = \frac{RRF_c - RRF_i}{RRF_i} \times 100$$

Where:

RRF_c = Relative response factor from continuing calibration standard.

RRF_i = Mean relative response factor from the initial calibration.

4. Concentration

$$\text{Concentration (ug/l)} = \frac{(A_x) (I_s) (D_f)}{(A_{is}) (RRF)}$$

Where:

A_x, A_{is}, RRF are as given in 1. above.

I_s = Concentration of internal standard added in parts per billion (ug/l)

D_f = Dilution factor

5. % Recovery (%Rec)

$$\%Rec = \frac{SSR - SR}{SA} \times 100$$

Where:

SSR = Spiked sample result

SR = Sample result

SA = Spike added

6. Relative Percent Difference (RPD)

$$RPD = \frac{|MSR - MSDR|}{(1/2) (MSR + MSDR)} \times 100$$

Where:

MSR = Matrix spike recovery

MSDR = Matrix spike duplicate recovery

CSX25. 0033



Quality Control Reference List
GC/MS Volatiles

CLIENT: Groundwater Science Co
SDG: GSK05

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
Volatiles by 8260B	Y113142AA	VLKY84	11/10/2011 17:02:00
		LCSY84	11/10/2011 17:23:00
		LCDY84	11/10/2011 17:44:00
		6463885	11/10/2011 20:01:00
		6463894	11/10/2011 20:22:00
Volatiles in Soil	A113211AA	VLKA54	11/17/2011 12:30:00
		LCSA54	11/17/2011 12:55:00
		6463886	11/17/2011 13:43:00
		6463887RE	11/17/2011 14:05:00
		6463890	11/17/2011 14:28:00
Volatiles in Soil	X113161AA	VLKX58	11/12/2011 15:36:00
		LCSX58	11/12/2011 16:11:00
		LCDX58	11/12/2011 16:36:00
		6463887	11/12/2011 19:33:00
		6463888	11/12/2011 19:56:00
		6463889	11/12/2011 20:18:00
		6463891	11/12/2011 21:03:00
		6463892	11/12/2011 21:25:00
		6463893	11/12/2011 21:48:00

GSK05 0035



Quality Control Summary
 Surrogates
 GC/MS Volatiles
 SDG: GSK05
 Matrix: SOLID

Fraction: Volatiles by GC/MS

A113211AA	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg
	%		%		%		%	
	Recovery	Limits	Recovery	Limits	Recovery	Limits	Recovery	Limits
VBLKA54	98	71 - 114	99	70 - 109	102	70 - 123	94	70 - 111
LCSA54	98	71 - 114	98	70 - 109	104	70 - 123	98	70 - 111
6463886	97	71 - 114	101	70 - 109	107	70 - 123	92	70 - 111
6463890	98	71 - 114	99	70 - 109	110	70 - 123	86	70 - 111

X113161AA	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg
	%		%		%		%	
	Recovery	Limits	Recovery	Limits	Recovery	Limits	Recovery	Limits
VBLKX58	95	71 - 114	97	70 - 109	92	70 - 123	89	70 - 111
LCSX58	98	71 - 114	102	70 - 109	102	70 - 123	93	70 - 111
LCDX58	96	71 - 114	103	70 - 109	102	70 - 123	94	70 - 111
6463887	97	71 - 114	100	70 - 109	104	70 - 123	80	70 - 111
6463888	97	71 - 114	99	70 - 109	101	70 - 123	74	70 - 111
6463889	97	71 - 114	99	70 - 109	98	70 - 123	83	70 - 111
6463891	96	71 - 114	98	70 - 109	95	70 - 123	91	70 - 111
6463892	96	71 - 114	98	70 - 109	96	70 - 123	84	70 - 111
6463893	98	71 - 114	102	70 - 109	94	70 - 123	93	70 - 111

GSK05: 0839



Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: GSK05
Matrix: SOLID

Fraction: Volatiles by GC/MS

A113211AA / VBLKA54 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	11/17/11	N.D.	ug/kg	2	5
Chloromethane	11/17/11	N.D.	ug/kg	2	5
Vinyl Chloride	11/17/11	N.D.	ug/kg	1	5
Bromomethane	11/17/11	N.D.	ug/kg	2	5
Chloroethane	11/17/11	N.D.	ug/kg	2	5
Trichlorofluoromethane	11/17/11	N.D.	ug/kg	2	5
1,1-Dichloroethene	11/17/11	N.D.	ug/kg	1	5
Freon 113	11/17/11	N.D.	ug/kg	2	10
Benzene	11/17/11	N.D.	ug/kg	0.5	5
Bromodichloromethane	11/17/11	N.D.	ug/kg	1	5
Carbon Tetrachloride	11/17/11	N.D.	ug/kg	1	5
Chloroform	11/17/11	N.D.	ug/kg	1	5
Dibromomethane	11/17/11	N.D.	ug/kg	1	5
1,1-Dichloroethane	11/17/11	N.D.	ug/kg	1	5
1,2-Dichloroethane	11/17/11	N.D.	ug/kg	1	5
1,2-Dichloroethene (Total)	11/17/11	N.D.	ug/kg	1	5
1,2-Dichloropropane	11/17/11	N.D.	ug/kg	1	5
cis-1,3-Dichloropropene	11/17/11	N.D.	ug/kg	1	5
Freon 123a	11/17/11	N.D.	ug/kg	2	5
Methylene Chloride	11/17/11	N.D.	ug/kg	2	5
Toluene	11/17/11	N.D.	ug/kg	1	5
1,1,1-Trichloroethane	11/17/11	N.D.	ug/kg	1	5
Trichloroethene	11/17/11	N.D.	ug/kg	1	5
Benzyl Chloride	11/17/11	N.D.	ug/kg	1	4
Bromobenzene	11/17/11	N.D.	ug/kg	1	5
Bromoform	11/17/11	N.D.	ug/kg	1	5
Chlorobenzene	11/17/11	N.D.	ug/kg	1	5
2-Chlorotoluene	11/17/11	N.D.	ug/kg	1	5
4-Chlorotoluene	11/17/11	N.D.	ug/kg	1	5
Dibromochloromethane	11/17/11	N.D.	ug/kg	1	5
1,2-Dichlorobenzene	11/17/11	N.D.	ug/kg	1	5
1,3-Dichlorobenzene	11/17/11	N.D.	ug/kg	1	5
1,4-Dichlorobenzene	11/17/11	N.D.	ug/kg	1	5
trans-1,3-Dichloropropene	11/17/11	N.D.	ug/kg	1	5
Ethylbenzene	11/17/11	N.D.	ug/kg	1	5
1,1,1,2-Tetrachloroethane	11/17/11	N.D.	ug/kg	1	5
1,1,2,2-Tetrachloroethane	11/17/11	N.D.	ug/kg	1	5
Tetrachloroethene	11/17/11	N.D.	ug/kg	1	5
1,1,2-Trichloroethane	11/17/11	N.D.	ug/kg	1	5
1,2,3-Trichloropropane	11/17/11	N.D.	ug/kg	1	5
Xylene (Total)	11/17/11	N.D.	ug/kg	1	5

X113161AA / VBLKX58 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	11/12/11	N.D.	ug/kg	2	5

0036



Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: GSK05
Matrix: SOLID

Fraction: Volatiles by GC/MS

XI13161AA / VBLKX58 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Chloromethane	11/12/11	N.D.	ug/kg	2	5
Vinyl Chloride	11/12/11	N.D.	ug/kg	1	5
Bromomethane	11/12/11	N.D.	ug/kg	2	5
Chloroethane	11/12/11	N.D.	ug/kg	2	5
Trichlorofluoromethane	11/12/11	N.D.	ug/kg	2	5
1,1-Dichloroethene	11/12/11	N.D.	ug/kg	1	5
Freon 113	11/12/11	N.D.	ug/kg	2	10
Benzene	11/12/11	N.D.	ug/kg	0.5	5
Bromodichloromethane	11/12/11	N.D.	ug/kg	1	5
Carbon Tetrachloride	11/12/11	N.D.	ug/kg	1	5
Chloroform	11/12/11	N.D.	ug/kg	1	5
Dibromomethane	11/12/11	N.D.	ug/kg	1	5
1,1-Dichloroethane	11/12/11	N.D.	ug/kg	1	5
1,2-Dichloroethane	11/12/11	N.D.	ug/kg	1	5
1,2-Dichloroethene (Total)	11/12/11	N.D.	ug/kg	1	5
1,2-Dichloropropane	11/12/11	N.D.	ug/kg	1	5
cis-1,3-Dichloropropene	11/12/11	N.D.	ug/kg	1	5
Freon 123a	11/12/11	N.D.	ug/kg	2	5
Methylene Chloride	11/12/11	N.D.	ug/kg	2	5
Toluene	11/12/11	N.D.	ug/kg	1	5
1,1,1-Trichloroethane	11/12/11	N.D.	ug/kg	1	5
Trichloroethene	11/12/11	N.D.	ug/kg	1	5
Benzyl Chloride	11/12/11	N.D.	ug/kg	1	4
Bromobenzene	11/12/11	N.D.	ug/kg	1	5
Bromoform	11/12/11	N.D.	ug/kg	1	5
Chlorobenzene	11/12/11	N.D.	ug/kg	1	5
2-Chlorotoluene	11/12/11	N.D.	ug/kg	1	5
4-Chlorotoluene	11/12/11	N.D.	ug/kg	1	5
Dibromochloromethane	11/12/11	N.D.	ug/kg	1	5
1,2-Dichlorobenzene	11/12/11	N.D.	ug/kg	1	5
1,3-Dichlorobenzene	11/12/11	N.D.	ug/kg	1	5
1,4-Dichlorobenzene	11/12/11	N.D.	ug/kg	1	5
trans-1,3-Dichloropropene	11/12/11	N.D.	ug/kg	1	5
Ethylbenzene	11/12/11	N.D.	ug/kg	1	5
1,1,1,2-Tetrachloroethane	11/12/11	N.D.	ug/kg	1	5
1,1,2,2-Tetrachloroethane	11/12/11	N.D.	ug/kg	1	5
Tetrachloroethene	11/12/11	N.D.	ug/kg	1	5
1,1,2-Trichloroethane	11/12/11	N.D.	ug/kg	1	5
1,2,3-Trichloropropane	11/12/11	N.D.	ug/kg	1	5
Xylene (Total)	11/12/11	N.D.	ug/kg	1	5

GSK05 0037



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK05
Matrix: SOLID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSA54		Batch: A113211AA (Sample number(s): 6463886-6463887, 6463890)						
Analyte	Spike Added ug/kg	LCS Conc ug/kg	LCSD Conc ug/kg	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	14.91		75		20-120		
Chloromethane	20	15.39		77		54-132		
Vinyl Chloride	20	14.61		73		53-120		
Bromomethane	20	12.85		64		32-162		
Chloroethane	20	13.09		65		37-154		
Trichlorofluoromethane	20	16.81		84		58-133		
1,1-Dichloroethene	20	17.57		88		73-123		
Freon 113	20	18.11		91		61-126		
1,1,1-Trichloroethane	20	16.95		85		71-125		
1,1-Dichloroethane	20	17.56		88		80-120		
1,2-Dichloroethane	20	17.18		86		71-129		
1,2-Dichloroethene (Total)	40	34.59		86		80-120		
1,2-Dichloropropane	20	16.75		84		80-120		
Benzene	20	17.5		87		80-120		
Bromodichloromethane	20	16.62		83		78-120		
Carbon Tetrachloride	20	17.14		86		69-122		
Chloroform	20	17.08		85		80-120		
cis-1,3-Dichloropropene	20	16.26		81		80-120		
Dibromomethane	20	16.73		84		80-120		
Freon 123a	20	16.65		83		61-127		
Methylene Chloride	20	17.3		87		76-124		
Toluene	20	18.32		92		80-120		
Trichloroethene	20	17		85		80-120		
1,1,1,2-Tetrachloroethane	20	19.06		95		80-120		
1,1,2,2-Tetrachloroethane	20	17.04		85		71-123		
1,1,2-Trichloroethane	20	18.19		91		80-120		
1,2,3-Trichloropropane	20	16.87		84		71-123		
1,2-Dichlorobenzene	20	19.05		95		79-120		
1,3-Dichlorobenzene	20	19.39		97		78-120		
1,4-Dichlorobenzene	20	19.12		96		79-120		
2-Chlorotoluene	20	18.78		94		78-120		
4-Chlorotoluene	20	18.88		94		79-120		
Benzyl Chloride	20	17.45		87		66-120		
Bromobenzene	20	19.19		96		79-120		
Bromoform	20	18.35		92		70-120		
Chlorobenzene	20	18.82		94		80-120		
Dibromochloromethane	20	18.07		90		77-120		
Ethylbenzene	20	18.65		93		80-120		
Tetrachloroethene	20	20.64		103		77-120		
trans-1,3-Dichloropropene	20	17.14		86		77-120		
Xylene (Total)	60	56.32		94		80-120		

GSK05 8841



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK05
Matrix: SOLID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSX58 LCSD: LCDX58		Batch: X113161AA (Sample number(s): 6463887-6463889, 6463891-6463893)						
Analyte	Spike Added ug/kg	LCS Conc ug/kg	LCSD Conc ug/kg	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	16.08	15.55	80	78	20-120	3	30
Chloromethane	20	15.12	14.47	76	72	54-132	4	30
Vinyl Chloride	20	15.76	15.25	79	76	53-120	3	30
Bromomethane	20	12.7	11.55	64	58	32-162	10	30
Chloroethane	20	14.88	13.91	74	70	37-154	7	30
Trichlorofluoromethane	20	17.21	17.1	86	86	58-133	1	30
1,1-Dichloroethene	20	19.08	18.57	95	93	73-123	3	30
Freon 113	20	19.99	19.57	100	98	61-126	2	30
1,1,1-Trichloroethane	20	17.61	17.28	88	86	71-125	2	30
1,1-Dichloroethane	20	18.8	18.42	94	92	80-120	2	30
1,2-Dichloroethane	20	18.77	18.82	94	94	71-129	0	30
1,2-Dichloroethene (Total)	40	37.73	36.9	94	92	80-120	2	30
1,2-Dichloropropane	20	18.27	17.93	91	90	80-120	2	30
Benzene	20	18.78	18.61	94	93	80-120	1	30
Bromodichloromethane	20	15.92	15.79	80	79	78-120	1	30
Carbon Tetrachloride	20	17.42	16.74	87	84	69-122	4	30
Chloroform	20	18.58	18.22	93	91	80-120	2	30
cis-1,3-Dichloropropene	20	15.86	15.36	79 *	77 *	80-120	3	30
Dibromomethane	20	17.24	17.44	86	87	80-120	1	30
Freon 123a	20	16.75	17.06	84	85	61-127	2	30
Methylene Chloride	20	18.52	18.06	93	90	76-124	2	30
Toluene	20	19.43	19.26	97	96	80-120	1	30
Trichloroethene	20	18.23	17.74	91	89	80-120	3	30
1,1,1,2-Tetrachloroethane	20	17.63	17.62	88	88	80-120	0	30
1,1,2,2-Tetrachloroethane	20	18.32	18.71	92	94	71-123	2	30
1,1,2-Trichloroethane	20	18.13	18.25	91	91	80-120	1	30
1,2,3-Trichloropropane	20	19.18	19.5	96	97	71-123	2	30
1,2-Dichlorobenzene	20	19.44	18.71	97	94	79-120	4	30
1,3-Dichlorobenzene	20	19.39	18.67	97	93	78-120	4	30
1,4-Dichlorobenzene	20	19.77	18.97	99	95	79-120	4	30
2-Chlorotoluene	20	19.9	19.31	100	97	78-120	3	30
4-Chlorotoluene	20	20.22	19.72	101	99	79-120	2	30
Benzyl Chloride	20	14.62	14.81	73	74	66-120	1	30
Bromobenzene	20	19.79	19.15	99	96	79-120	3	30
Bromoform	20	13.03	13.37	65 *	67 *	70-120	3	30
Chlorobenzene	20	19.7	19.1	98	95	80-120	3	30
Dibromochloromethane	20	15.85	15.81	79	79	77-120	0	30
Ethylbenzene	20	19.58	19.13	98	96	80-120	2	30
Tetrachloroethene	20	19.42	18.81	97	94	77-120	3	30
trans-1,3-Dichloropropene	20	15.47	15.79	77	79	77-120	2	30
Xylene (Total)	60	58.51	57.52	98	96	80-120	2	30

GSK05-0042

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05____
 Lab File ID: xn03t02.d BFB Injection Date: 11/03/11
 Instrument ID: HP09193 BFB Injection Time: 12:35
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.90
75	30.0 - 60.0% of mass 95	48.61
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	80.24
175	5.0 - 9.0% of mass 174	6.19 (7.72)1
176	Greater than 95.0%, but less than 101.0% of mass 174	78.38 (97.68)1
177	5.0 - 9.0% of mass 176	5.14 (6.56)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	xn03i01.d	11/03/11	12:59
02	VSTD100	xn03i02.d	11/03/11	13:29
03	VSTD50	xn03i03.d	11/03/11	13:54
04	VSTD20	xn03i04.d	11/03/11	14:28
05	VSTD10	xn03i05.d	11/03/11	14:52
06	VSTD4	xn03i06.d	11/03/11	15:29
07	1PPBMDL - VSTD001	xn03m01.d	11/03/11	15:56
08	LGICV	xn03v01.d	11/03/11	16:41

GSK05. 0044

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date(s): 11/03/11 11/03/11
 Heated Purge: (Y/N) Y Calibration Times: 12:59 15:29
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = xn03i06.d RRF 10= xn03i05.d RRF 20= xn03i04.d
 RRF 50= xn03i03.d RRF100= xn03i02.d RRF300= xn03i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.5708	0.4508	0.4540	0.4006	0.4091	0.3554		0.4401	17	2NDEG
Chloromethane	#0.5813	0.5624	0.5263	0.4591	0.4656	0.4106		0.5009	13	AVG
Vinyl Chloride	*0.5031	0.4827	0.4632	0.3988	0.4075	0.3608		0.4360	13	AVG
Bromomethane	0.3386	0.3180	0.2930	0.2590	0.2527	0.2053		0.2778	17	2NDEG
Chloroethane	0.2947	0.2871	0.2687	0.2319	0.2325	0.2016		0.2528	14	AVG
Trichlorofluoromethane	0.5290	0.4769	0.4683	0.4052	0.4155	0.3567		0.4419	14	AVG
Ethanol	0.0768	0.0839	0.0773	0.0792	0.0852	0.0958		0.0830	9	AVG
Freon 123a	0.3273	0.2834	0.2687	0.2592	0.2527	0.2213		0.2687	13	AVG
Acrolein	1.6969	1.5589	1.5369	1.6436	1.6347	1.3847		1.5760	7	AVG
1,1-Dichloroethene	*0.2969	0.3070	0.2375	0.2786	0.2785	0.2437		0.2737	10	AVG
Dichlorofluoromethane	0.6557	0.5701	0.5601	0.5187	0.5201	0.4563		0.5468	12	AVG
Freon 113	0.3155	0.3023	0.2218	0.2716	0.2707	0.2380		0.2700	13	AVG
Acetone	0.0385	0.0453	0.0398	0.0404	0.0411	0.0336		0.0398	10	AVG
Methyl Iodide	0.5400	0.5558	0.4353	0.5065	0.5052	0.4377		0.4967	10	AVG
2-Propanol	0.5027	0.6624	0.5310	0.6549	0.6319	0.7843		0.6279	16	2NDEG
Carbon Disulfide	1.0567	1.0412	0.8151	0.9562	0.9703	0.8639		0.9506	10	AVG
Allyl Chloride	0.6626	0.6556	0.6348	0.5978	0.5950	0.5513		0.6162	7	AVG
Methyl Acetate	0.1941	0.2648	0.2734	0.3003	0.3024	0.2848		0.2700	15	AVG
Methylene Chloride	0.4130	0.3917	0.3023	0.3371	0.3369	0.3004		0.3469	13	AVG
t-Butyl Alcohol	1.1665	1.4524	1.1744	1.2226	1.2488	1.3919		1.2761	9	AVG
Acrylonitrile	0.1134	0.1275	0.1187	0.1461	0.1474	0.1336		0.1311	11	AVG
trans-1,2-Dichloroethene	0.3214	0.3460	0.2745	0.3194	0.3215	0.2872		0.3117	8	AVG
Methyl Tertiary Butyl Ether	1.0962	1.2204	0.9399	1.0579	1.0561	0.9335		1.0507	10	AVG
n-Hexane	0.6495	0.5398	0.3809	0.4828	0.4773	0.4541		0.4974	18	2NDEG
1,1-Dichloroethane	#0.6659	0.6972	0.5469	0.6292	0.6349	0.5601		0.6224	9	AVG
2-Chloro-1,3-Butadiene	0.5735	0.5876	0.4647	0.5322	0.5453	0.4903		0.5322	9	AVG
di-Isopropyl Ether	1.3891	1.4548	1.1365	1.2781	1.2919	1.1574		1.2846	10	AVG
Ethyl t-Butyl Ether	1.2263	1.3739	1.0545	1.1677	1.1924	1.0434		1.1764	10	AVG
cis-1,2-Dichloroethene	0.3606	0.3874	0.2994	0.3531	0.3525	0.3193		0.3454	9	AVG
1,2-Dichloroethene (total)	0.3410	0.3667	0.2870	0.3363	0.3370	0.3033		0.3285	9	AVG
2,2-Dichloropropane	0.5370	0.5485	0.4296	0.4981	0.4987	0.4448		0.4928	10	AVG
2-Butanone	0.1438	0.1785	0.1763	0.2148	0.2163	0.1914		0.1868	15	AVG
Propionitrile	1.2539	1.3596	1.3235	1.3822	1.4269	1.3648		1.3518	4	AVG
Methacrylonitrile	0.1327	0.1731	0.1466	0.1582	0.1629	0.1542		0.1546	9	AVG
Bromochloroethane	0.1707	0.1797	0.1782	0.1741	0.1682	0.1560		0.1711	5	AVG
Tetrahydrofuran	1.5039	1.4681	1.3818	1.5138	1.4569	1.1880		1.4187	9	AVG
Chloroform	*0.6050	0.6233	0.4855	0.5598	0.5652	0.5113		0.5583	9	AVG
1,1,1-Trichloroethane	0.6665	0.5985	0.4849	0.5138	0.5197	0.4620		0.5409	14	AVG
Cyclohexane	0.7749	0.6754	0.4929	0.6009	0.5961	0.5529		0.6155	16	2NDEG
Cyclohexane(mz69)	0.2150	0.2039	0.1483	0.1793	0.1762	0.1638		0.1811	14	AVG
Cyclohexane(mz84)	0.5490	0.5317	0.3963	0.4774	0.4730	0.4384		0.4776	12	AVG
1,1-Dichloropropene	0.4684	0.4807	0.3774	0.4479	0.4564	0.4211		0.4420	8	AVG
Carbon Tetrachloride	0.4390	0.4439	0.3475	0.4137	0.4159	0.3748		0.4058	9	AVG
Benzene	1.4160	1.4919	1.1548	1.3671	1.3823	1.2331		1.3409	9	AVG
Isobutyl Alcohol	0.4322	0.5271	0.4407	0.5141	0.4629	0.4844		0.4769	8	AVG
1,2-Dichloroethane	0.4455	0.5044	0.3875	0.4469	0.4537	0.4137		0.4419	9	AVG
1,2-Dichloroethane(mz98)	0.0431	0.0472	0.0372	0.0438	0.0438	0.0402		0.0426	8	AVG
t-Butyl Methyl Ether	1.1008	1.2566	0.9349	1.0722	1.0697	0.9570		1.0652	11	AVG
n-Heptane	0.6784	0.6279	0.4425	0.5769	0.5663	0.5537		0.5743	14	AVG
n-Butanol	0.2998	0.3966	0.3448	0.3772	0.3899	0.4028		0.3685	11	AVG
Trichloroethene	0.3660	0.3752	0.2888	0.3335	0.3382	0.3111		0.3355	10	AVG
Methylcyclohexane	0.7014	0.6226	0.6375	0.5796	0.6027	0.5506		0.6158	8	AVG

Minimum RRF for SPCC(8) = 0.10
 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum XRSO for CCC(*) = 30%

GSX05 0053

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09193 Calibration Date(s): 11/03/11 11/03/11
Heated Purge: (Y/N) Y Calibration Times: 12:59 15:29
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID:	RRF 4 = xn03i06.d	RRF 10= xn03i05.d	RRF 20= xn03i04.d	RRF 50= xn03i03.d	RRF100= xn03i02.d	RRF300= xn03i01.d	RRF =			
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,2-Dichloropropane	0.3935	0.4329	0.3309	0.3872	0.3920	0.3599	0.3827	9	AVG	*
Dibromomethane	0.1966	0.2306	0.1736	0.2020	0.2061	0.1958	0.2008	9	AVG	
1,4-Dioxane	0.1010	0.1242	0.1058	0.1107	0.1128	0.1125	0.1111	7	AVG	
Methyl Methacrylate	0.2490	0.3094	0.2423	0.2819	0.3076	0.3028	0.2822	11	AVG	
Bromodichloromethane	0.4351	0.4951	0.3797	0.4404	0.4521	0.4194	0.4370	9	AVG	
2-Nitropropane	0.1231	0.1232	0.1120	0.1322	0.1292	0.1136	0.1222	7	AVG	
cis-1,3-Dichloropropane	0.5307	0.6113	0.4673	0.5599	0.5799	0.5480	0.5495	9	AVG	
4-Methyl-2-Pentanone	0.3300	0.4362	0.4685	0.5083	0.5187	0.4455	0.4512	15	AVG	
Toluene	1.2975	1.3479	1.0635	1.2044	1.1885	1.0697	1.1952	10	AVG	
trans-1,3-Dichloropropane	0.6909	0.7596	0.5847	0.6900	0.7323	0.6982	0.6776	10	AVG	
Ethyl Methacrylate	0.6320	0.8376	0.6220	0.7055	0.7233	0.6844	0.7008	11	AVG	
1,1,2-Trichloroethane	0.4523	0.5052	0.3643	0.4312	0.4232	0.3898	0.4277	11	AVG	
Tetrachloroethene	0.5506	0.5970	0.4776	0.5454	0.5264	0.4660	0.5271	9	AVG	
1,3-Dichloropropane	0.7645	0.9003	0.6788	0.7588	0.7672	0.7060	0.7626	10	AVG	
2-Hexanone	0.3565	0.4209	0.4553	0.5161	0.4948	0.4409	0.4474	13	AVG	
Dibromochloromethane	0.4648	0.5699	0.4176	0.4964	0.4968	0.4558	0.4836	11	AVG	
1,2-Dibromoethane	0.4175	0.5156	0.3879	0.4479	0.4456	0.4126	0.4378	10	AVG	
Chlorobenzene	1.3867	1.5252	1.1371	1.3245	1.3132	1.1901	1.3128	11	AVG	#
1,1,1,2-Tetrachloroethane	0.4770	0.5482	0.4059	0.4808	0.4750	0.4302	0.4695	10	AVG	
Ethylbenzene	2.2216	2.4076	1.8828	2.2106	2.1942	1.9125	2.1382	9	AVG	
m,p-Xylene	0.9740	1.0401	0.7842	0.9046	0.8817	0.7546	0.8899	12	AVG	
Xylene (Total)	1.0014	1.0503	0.7928	0.9060	0.8830	0.7601	0.8989	13	AVG	
o-Xylene	1.0562	1.0707	0.8102	0.9087	0.8857	0.7711	0.9171	14	AVG	
Styrene	1.2571	1.4830	1.1945	1.4518	1.4549	1.2768	1.3530	9	AVG	
Bromoform	0.3277	0.4291	0.3146	0.3841	0.3861	0.3524	0.3657	12	AVG	#
Isopropylbenzene	2.5294	2.6430	2.0005	2.3077	2.2439	1.8975	2.2703	13	AVG	
Cyclohexanone	0.4583	0.4484	0.4241	0.4489	0.4613	0.4282	0.4449	3	AVG	
Bromobenzene	0.9769	1.1013	0.8321	0.9844	0.9652	0.8951	0.9592	9	AVG	
1,1,2,2-Tetrachloroethane	1.0492	1.3789	0.9476	1.0683	1.0656	0.9933	1.0838	14	AVG	#
1,2,3-Trichloropropane	0.2978	0.3915	0.2735	0.3053	0.3041	0.2760	0.3080	14	AVG	
trans-1,4-Dichloro-2-Butene	0.2682	0.3570	0.3022	0.3010	0.3119	0.3035	0.3073	9	AVG	
n-Propylbenzene	4.2554	4.6298	3.5709	4.2192	4.1770	3.5201	4.0620	11	AVG	
2-Chlorotoluene	0.9095	0.9727	0.7501	0.8765	0.8806	0.8338	0.8705	9	AVG	
1,3,5-Trimethylbenzene	3.2969	3.5949	2.7227	3.1618	3.1255	2.7225	3.1040	11	AVG	
4-Chlorotoluene	1.1021	1.1264	0.8701	0.9786	0.9679	0.8882	0.9889	11	AVG	
tert-Butylbenzene	0.7644	0.8324	0.6397	0.7435	0.7378	0.6835	0.7336	9	AVG	
Pentachloroethane	0.6134	0.6363	0.6732	0.6373	0.6203	0.5799	0.6267	5	AVG	
1,2,4-Trimethylbenzene	3.2479	3.6006	2.7606	3.2432	3.2095	2.8159	3.1463	10	AVG	
sec-Butylbenzene	4.3841	4.7053	3.5549	4.0964	3.9883	3.3817	4.0184	12	AVG	
1,3-Dichlorobenzene	1.6420	1.8740	1.4364	1.7148	1.7280	1.5691	1.6607	9	AVG	
p-Isopropyltoluene	3.6819	3.9710	3.0714	3.5533	3.4979	3.0078	3.4639	11	AVG	
1,4-Dichlorobenzene	2.3019	2.3953	1.7860	2.0521	1.9792	1.7567	2.0452	13	AVG	
1,2,3-Trimethylbenzene	3.5129	3.5595	3.6496	3.3572	3.2344	2.8137	3.3546	9	AVG	
Benzyl Chloride	1.6751	2.3348	1.7141	2.1092	2.1738	2.0634	2.0117	13	AVG	
1,2-Dichlorobenzene	2.1426	2.3049	1.6998	1.9233	1.8829	1.6680	1.9369	13	AVG	
n-Butylbenzene	1.8091	1.9724	1.5169	1.7992	1.7727	1.6170	1.7479	9	AVG	
1,3-Diethylbenzene	2.0548	2.1250	2.2450	2.0724	2.0244	1.8594	2.0635	6	AVG	
1,4-Diethylbenzene	2.3238	2.2915	2.3699	2.1998	2.1520	1.9467	2.2139	7	AVG	
1,2-Diethylbenzene	2.4212	2.1845	2.1676	1.9014	1.8347	1.6964	2.0343	13	AVG	
1,2-Dibromo-3-Chloropropane	0.2427	0.3167	0.2037	0.2381	0.2426	0.2332	0.2462	15	AVG	
1,3,5-Trichlorobenzene	1.7025	1.8600	1.3919	1.6372	1.6162	1.5073	1.6192	10	AVG	
1,2,4-Trichlorobenzene	1.6353	1.7491	1.3306	1.5266	1.5136	1.3923	1.5246	10	AVG	

Minimum RRF for SPCC(*) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum RSD for CCC(*) = 30%

GSX05 0054

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date(s): 11/03/11 11/03/11
 Heated Purge: (Y/N) Y Calibration Times: 12:59 15:29
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = xn03i06.d RRF 10= xn03i05.d RRF 20= xn03i04.d
 RRF 50= xn03i03.d RRF100= xn03i02.d RRF300= xn03i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Hexachlorobutadiene	0.8947	0.9589	0.7352	0.8746	0.8551	0.7933		0.8520	9	AVG
Naphthalene	4.0567	4.9255	3.5976	4.0602	3.9852	3.3672		3.9987	13	AVG
1,2,3-Trichlorobenzene	1.6374	1.8158	1.3824	1.5108	1.4961	1.3630		1.5343	11	AVG
2-Methylnaphthalene	2.7886	3.0060	2.9715	2.7565	2.6112	2.2058		2.7233	11	AVG
Dibromofluoromethane	0.2389	0.2382	0.2339	0.2329	0.2310	0.2262		0.2335	2	AVG
Dibromofluoromethane(mz111)	0.2398	0.2397	0.2383	0.2385	0.2356	0.2347		0.2377	1	AVG
1,2-Dichloroethane-d4	0.0562	0.0583	0.0599	0.0556	0.0549	0.0545		0.0566	4	AVG
1,2-Dichloroethane-d4(mz104)	0.0359	0.0370	0.0362	0.0368	0.0369	0.0370		0.0366	1	AVG
1,2-Dichloroethane-d4(mz65)	0.2704	0.2831	0.2781	0.2608	0.2613	0.2683		0.2703	3	AVG
Toluene-d8	1.3964	1.3867	1.3961	1.3711	1.3479	1.3481		1.3744	2	AVG
Toluene-d8(mz100)	0.9248	0.9207	0.9461	0.9313	0.9066	0.9247		0.9257	1	AVG
4-Bromofluorobenzene	0.5381	0.4960	0.5089	0.4995	0.5058	0.5215		0.5116	3	AVG
4-Bromofluorobenzene(mz174)	0.4814	0.4820	0.4754	0.4783	0.4684	0.4579		0.4739	2	AVG

Average %RSD 10

Minimum RRF for SPCC(8) = 0.10
 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %RSD for CCC(*) = 30%

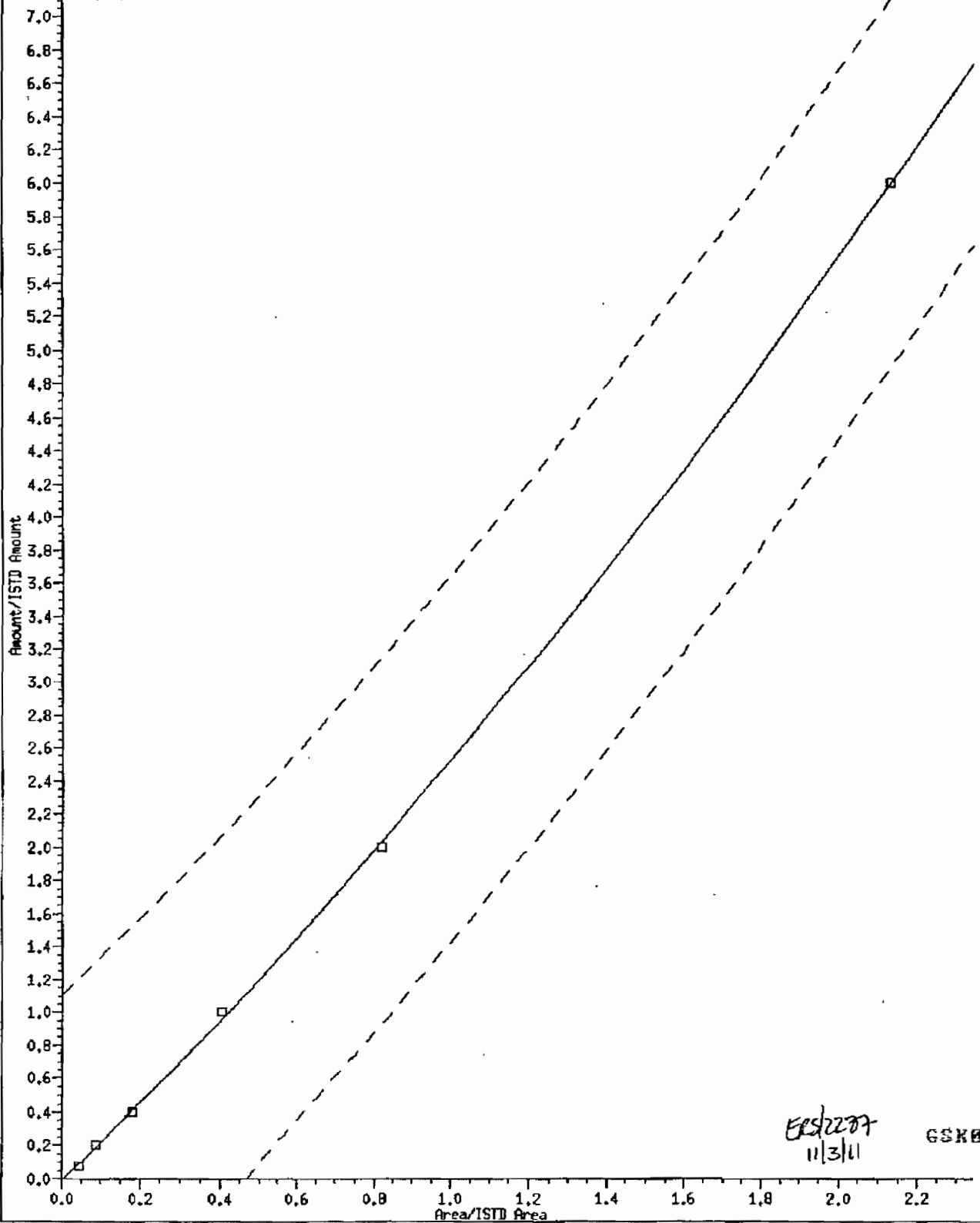
CSK05. 0055

2 Dichlorodifluoromethane

Curve Type: Quadratic By-Response

$$\text{Amt} = -0.0101685 + 2.269365 \cdot \text{Rsp} + 0.2476492 \cdot \text{Rsp}^2$$

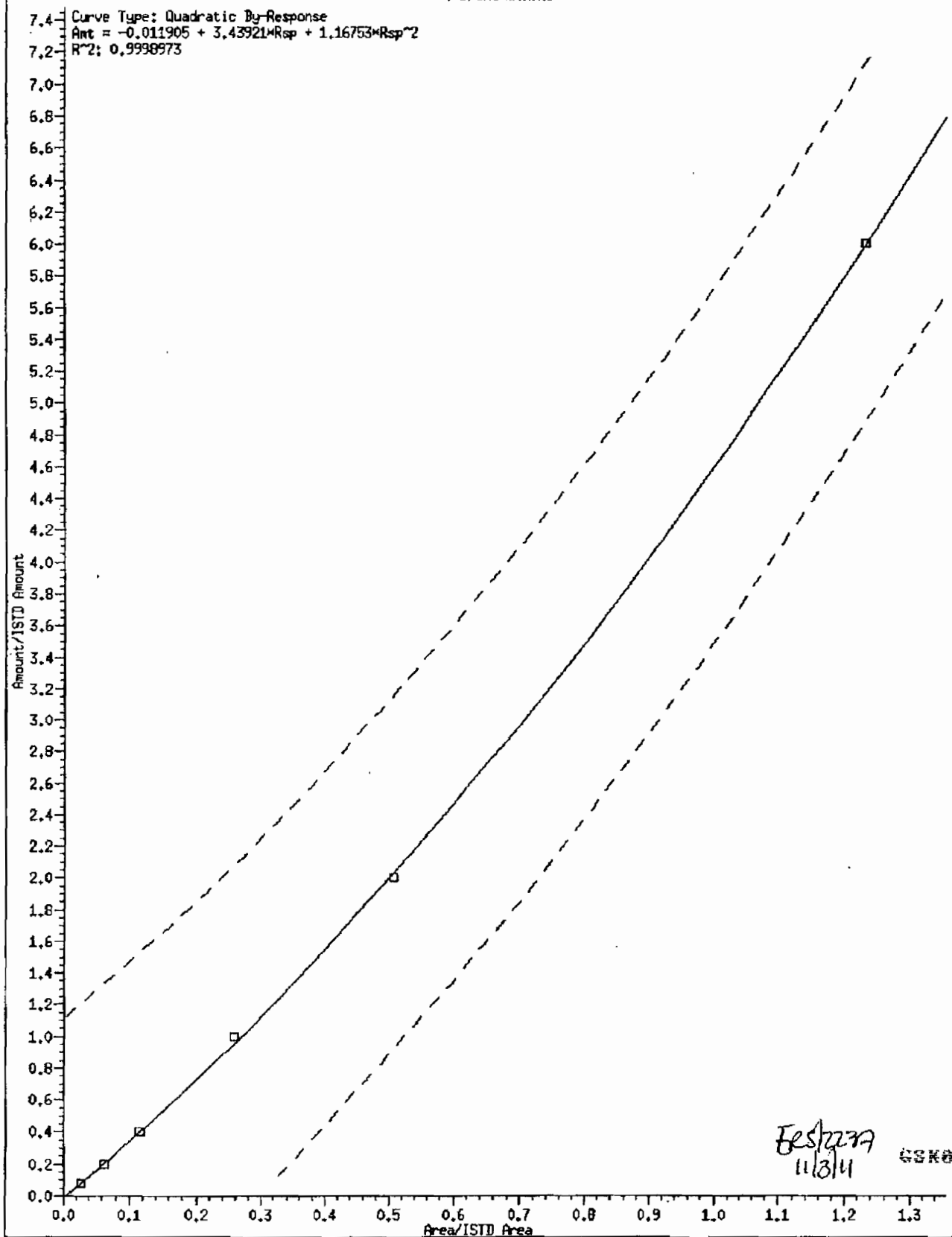
R^2: 0.9998404



ES/2207
11/3/11

GSK05 8856

9 Bromomethane

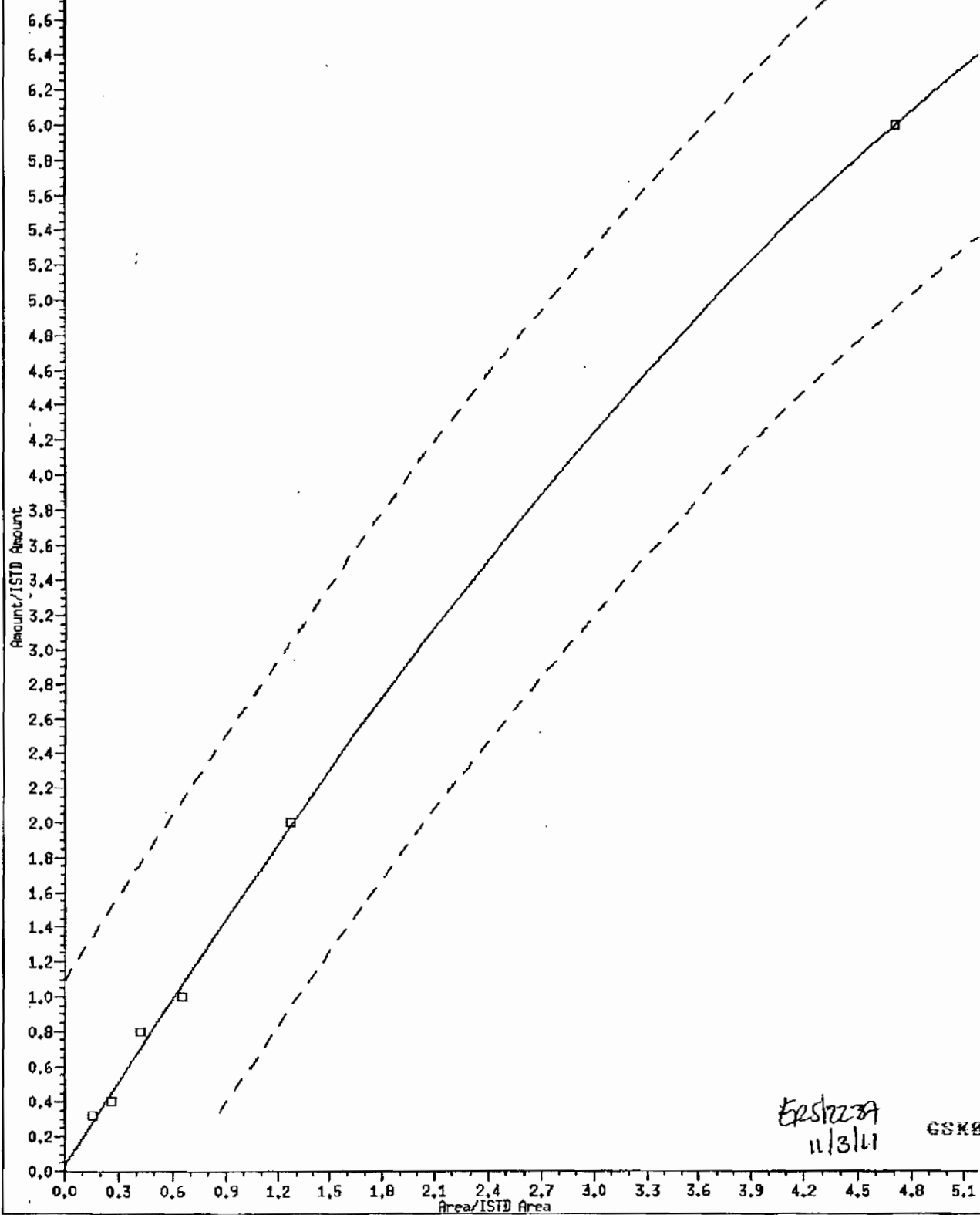


Erst 12/27
 11/3/14

GSK05 0457

24 2-Propanol

Curve Type: Quadratic By-Response
 $\text{Amt} = 0.0303642 + 1.64325 \times \text{Rsp} + -0.07958743 \times \text{Rsp}^2$
 $R^2: 0.9992584$



Erskine
 11/3/11

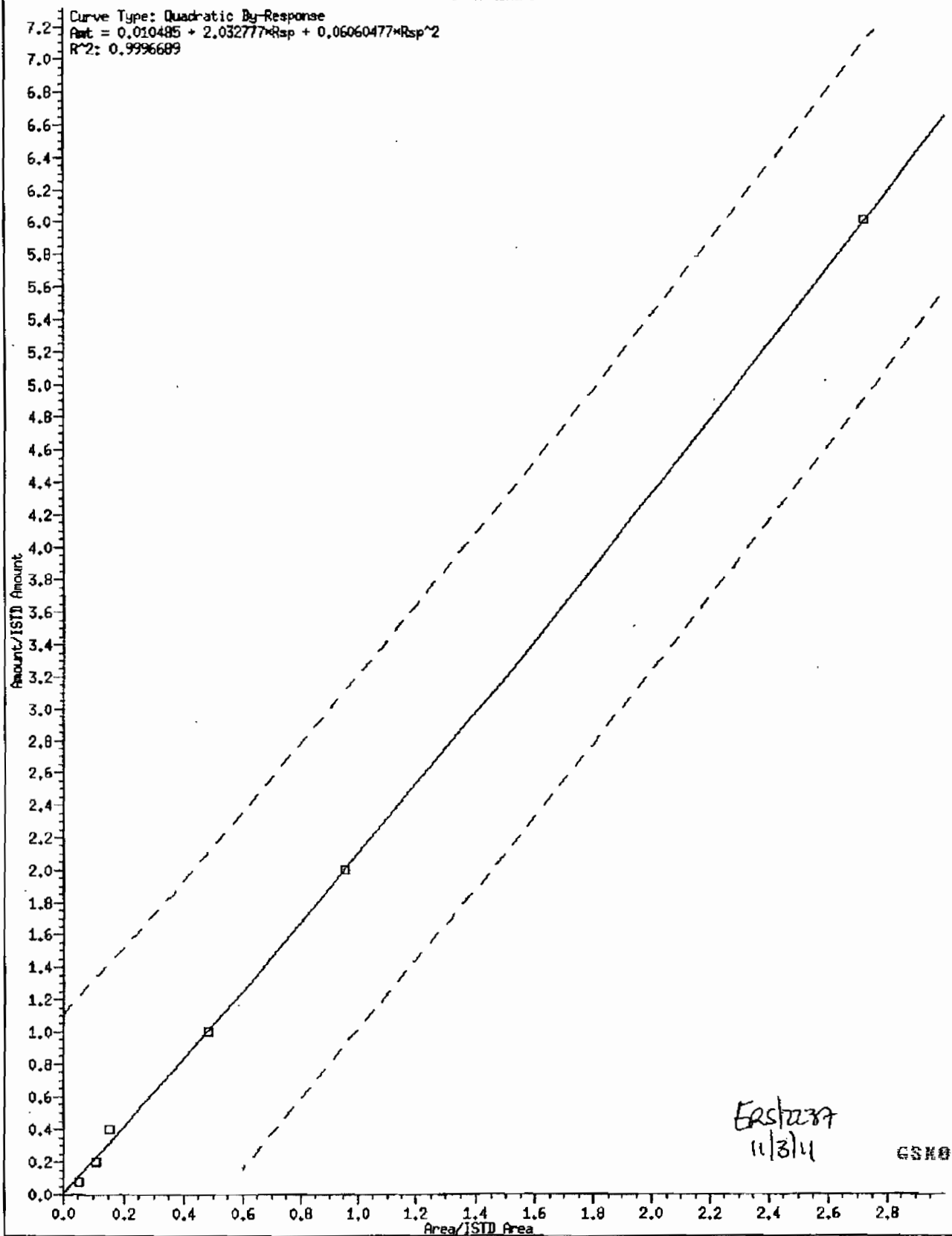
6SK05. 0058

39 n-Hexane

Curve Type: Quadratic By-Response

$\text{Amt} = 0.010485 + 2.032777 \times \text{Rsp} + 0.06060477 \times \text{Rsp}^2$

$R^2: 0.9996689$



Erst 237
11/3/11

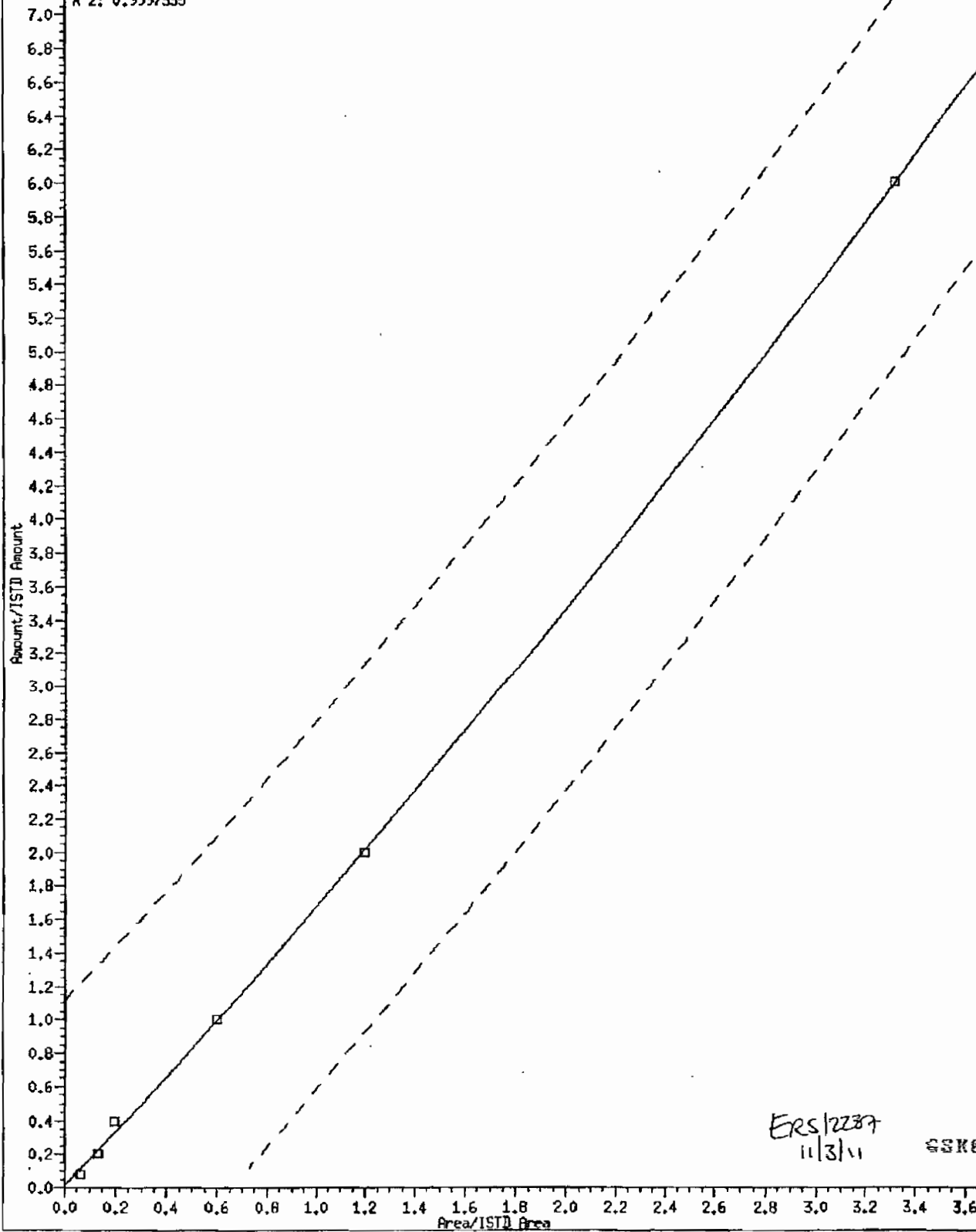
GSK05 0059

60 Cyclohexane

Curve Type: Quadratic By-Response

$$Amt = 0.012225 + 1.603937 * Rsp + 0.06054717 * Rsp^2$$

R^2: 0.9997335



ERS/2237
11/3/11

ESKES 2268

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

```

/chem2/HP09193.i/11nov03a.b/xn03i01.d VSTD300
/chem2/HP09193.i/11nov03a.b/xn03i02.d VSTD100
/chem2/HP09193.i/11nov03a.b/xn03i03.d VSTD050
/chem2/HP09193.i/11nov03a.b/xn03i04.d VSTD020
/chem2/HP09193.i/11nov03a.b/xn03i05.d VSTD010
/chem2/HP09193.i/11nov03a.b/xn03i06.d VSTD004
    
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Area Summary

File ID:

Internal Standard Name	xn03i01.d	xn03i02.d	xn03i03.d	xn03i04.d	xn03i05.d	xn03i06.d	Avg. Area	*RSD	In Spec
t-Butyl Alcohol-d10	270770	250200	248658	233235	240688	198198	240292	10	Yes
Fluorobenzene	1319353	1260812	1250569	1245796	1222393	1194309	1248872	3	Yes
Chlorobenzene-d5	971643	916498	898648	865455	862583	828880	890618	6	Yes
1,4-Dichlorobenzene-d4	588018	567806	560759	540380	537635	526921	553586	4	Yes

*RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	xn03i01.d	xn03i02.d	xn03i03.d	xn03i04.d	xn03i05.d	xn03i06.d	Avg. RT
t-Butyl Alcohol-d10	3.678	3.666	3.666	3.672	3.672	3.672	3.671
Fluorobenzene	7.133	7.139	7.139	7.133	7.139	7.133	7.136
Chlorobenzene-d5	10.759	10.765	10.759	10.759	10.765	10.759	10.761
1,4-Dichlorobenzene-d4	12.675	12.675	12.675	12.675	12.675	12.675	12.675

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 11/03/2011 at 17:00.

GSK05 0051

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 ICV Date: 11/03/11 Time: 16:41
 Lab File ID: xn03v01.d Init. Calib. Date(s): 11/03/11 11/03/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4401	0.3827	17.30	20	-13
# Chloromethane	0.5009	0.4431	17.69	20	-12 #
* Vinyl Chloride	0.4360	0.4004	18.37	20	-8 *
Bromomethane	0.2778	0.2315	15.83	20	-21
Chloroethane	0.2528	0.2240	17.72	20	-11
Trichlorofluoromethane	0.4419	0.4063	18.39	20	-8
Ethanol	0.0830	0.1027	1236.74	1000	24 NTC
Freon 123a	0.2687	0.2541	18.91	20	-5
Acrolein	1.5760	1.6738	159.31	150	6
* 1,1-Dichloroethene	0.2737	0.2824	20.63	20	3 *
Dichlorofluoromethane	0.5468	0.4847	17.73	20	-11
Freon 113	0.2700	0.2812	20.83	20	4
Acetone	0.0398	0.0326	122.75	150	-18
Methyl Iodide	0.4967	0.5114	20.59	20	3
2-Propanol	0.6279	0.8212	205.17	150	37 NTC
Carbon Disulfide	0.9506	0.9364	19.70	20	-1
Allyl Chloride	0.6162	0.6089	19.76	20	-1
Methyl Acetate	0.2700	0.2537	18.79	20	-6
Methylene Chloride	0.3469	0.3513	20.25	20	1
t-Butyl Alcohol	1.2761	1.4519	227.55	200	14
Acrylonitrile	0.1311	0.1192	90.94	100	-9
trans-1,2-Dichloroethene	0.3117	0.3260	20.92	20	5
Methyl Tertiary Butyl Ether	1.0507	1.0064	19.16	20	-4
n-Hexane	0.4974	0.4863	20.41	20	2
# 1,1-Dichloroethane	0.6224	0.6419	20.63	20	3 #
2-Chloro-1,3-Butadiene	0.5322	0.5370	20.18	20	1
di-Isopropyl Ether	1.2846	1.2609	19.63	20	-2
Ethyl t-Butyl Ether	1.1764	1.1646	19.80	20	-1
cis-1,2-Dichloroethene	0.3454	0.3548	20.55	20	3
1,2-Dichloroethene (total)	0.3285	0.3404	41.47	40	4
2,2-Dichloropropane	0.4928	0.5107	20.73	20	4
2-Butanone	0.1868	0.1701	136.53	150	-9
Propionitrile	1.3518	1.4424	160.05	150	7
Methacrylonitrile	0.1546	0.1425	138.27	150	-8
Bromochloromethane	0.1711	0.1656	19.36	20	-3
Tetrahydrofuran	1.4187	1.4056	99.07	100	-1

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

68K05 0062

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 ICV Date: 11/03/11 Time: 16:41
 Lab File ID: xm03v01.d Init. Calib. Date(s): 11/03/11 11/03/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.5583	0.5715	20.47	20	2 *
1,1,1-Trichloroethane	0.5409	0.5658	20.92	20	5
Cyclohexane	0.6155	0.6315	21.06	20	5
1,1-Dichloropropene	0.4420	0.4559	20.63	20	3
Carbon Tetrachloride	0.4058	0.4186	20.63	20	3
Benzene	1.3409	1.3843	20.65	20	3
Isobutyl Alcohol	0.4769	0.4764	499.49	500	0
1,2-Dichloroethane	0.4419	0.4305	19.48	20	-3
t-Amyl Methyl Ether	1.0652	1.0282	19.30	20	-3
n-Heptane	0.5743	0.5732	19.96	20	0
n-Butanol	0.3685	0.3586	972.95	1000	-3
Trichloroethene	0.3355	0.3426	20.43	20	2
Methylcyclohexane	0.6158	0.6386	20.74	20	4
* 1,2-Dichloropropane	0.3827	0.3811	19.92	20	0 *
Dibromomethane	0.2008	0.1887	18.79	20	-6
1,4-Dioxane	0.1111	0.1152	518.02	500	4
Methyl Methacrylate	0.2822	0.2504	17.75	20	-11
Bromodichloromethane	0.4370	0.4305	19.71	20	-1
2-Nitropropane	0.1222	0.1165	19.06	20	-5
cis-1,3-Dichloropropene	0.5495	0.5311	19.33	20	-3
4-Methyl-2-Pentanone	0.4512	0.4094	90.74	100	-9
* Toluene	1.1952	1.2441	20.82	20	4 *
trans-1,3-Dichloropropene	0.6776	0.6326	18.67	20	-7
Ethyl Methacrylate	0.7008	0.6813	19.44	20	-3
1,1,2-Trichloroethane	0.4277	0.4048	18.93	20	-5
Tetrachloroethene	0.5271	0.5485	20.81	20	4
1,3-Dichloropropane	0.7626	0.7443	19.52	20	-2
2-Hexanone	0.4474	0.3902	87.20	100	-13
Dibromochloromethane	0.4836	0.4729	19.56	20	-2
1,2-Dibromoethane	0.4378	0.4215	19.25	20	-4
# Chlorobenzene	1.3128	1.3710	20.89	20	4 #
1,1,1,2-Tetrachloroethane	0.4695	0.4783	20.37	20	2
* Ethylbenzene	2.1382	2.2546	21.09	20	5 *
m+p-Xylene	0.8899	0.9368	42.11	40	5
Xylene (Total)	0.8989	0.6682	63.36	60	6
o-Xylene	0.9171	0.9744	21.25	20	6

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(=)=20%

GSX05.0062

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 ICV Date: 11/03/11 Time: 16:41
 Lab File ID: xm03v01.d Init. Calib. Date(s): 11/03/11 11/03/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Styrene	1.3530	1.4455	21.37	20	7
# Bromoform	0.3657	0.3456	18.90	20	-5 #
Isopropylbenzene	2.2703	2.4312	21.42	20	7
Cyclohexanone	0.4449	0.4435	498.41	500	0
Bromobenzene	0.9592	0.9965	20.78	20	4
# 1,1,2,2-Tetrachloroethane	1.0838	1.0052	18.55	20	-7 #
1,2,3-Trichloropropane	0.3080	0.2886	18.74	20	-6
trans-1,4-Dichloro-2-Butene	0.3073	0.2965	96.47	100	-4
n-Propylbenzene	4.0620	4.3708	21.52	20	8
2-Chlorotoluene	0.8705	0.9105	20.92	20	5
1,3,5-Trimethylbenzene	3.1040	3.3308	21.46	20	7
4-Chlorotoluene	0.9889	1.0148	20.52	20	3
tert-Butylbenzene	0.7336	0.7732	21.08	20	5
Pentachloroethane	0.6267	0.6456	20.60	20	3
1,2,4-Trimethylbenzene	3.1463	3.3380	21.22	20	6
sec-Butylbenzene	4.0184	4.3275	21.54	20	8
1,3-Dichlorobenzene	1.6607	1.7390	20.94	20	5
p-Isopropyltoluene	3.4639	3.7075	21.41	20	7
1,4-Dichlorobenzene	2.0452	2.1122	20.66	20	3
1,2,3-Trimethylbenzene	3.3546	3.5474	21.15	20	6
Benzyl Chloride	2.0117	1.8861	18.75	20	-6
1,2-Dichlorobenzene	1.9369	1.9813	20.46	20	2
n-Butylbenzene	1.7479	1.8318	20.96	20	5
1,3-Diethylbenzene	2.0635	2.2037	21.36	20	7
1,4-Diethylbenzene	2.2139	2.3125	20.89	20	4
1,2-Diethylbenzene	2.0343	2.0804	20.45	20	2
1,2-Dibromo-3-Chloropropane	0.2462	0.2197	17.85	20	-11
1,3,5-Trichlorobenzene	1.6192	1.6747	20.69	20	3
1,2,4-Trichlorobenzene	1.5246	1.5348	20.13	20	1
Hexachlorobutadiene	0.8520	0.8770	20.59	20	3
Naphthalene	3.9987	3.7466	18.74	20	-6
1,2,3-Trichlorobenzene	1.5343	1.5394	20.07	20	0
2-Methylnaphthalene	2.7233	2.5120	18.45	20	-8

Average %Drift 6

Minimum RRF for SPCC(=)0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK05 0064

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05____
Lab File ID: xn12t01.d BFB Injection Date: 11/12/11
Instrument ID: HP09193 BFB Injection Time: 14:36
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.21
75	30.0 - 60.0% of mass 95	48.47
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.73
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	77.97
175	5.0 - 9.0% of mass 174	5.88 (7.54)1
176	Greater than 95.0%, but less than 101.0% of mass 174	75.71 (97.10)1
177	5.0 - 9.0% of mass 176	5.04 (6.65)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	xn12c01.d	11/12/11	15:01
02	VBLKX58	xn12b01.d	11/12/11	15:36
03	LCSX58	xn12l01.d	11/12/11	16:11
04	LCDX58	xn12l02.d	11/12/11	16:36
05	6464774	xn12s01.d	11/12/11	17:17
06	6464816	xn12s02.d	11/12/11	17:40
07	6464817	xn12s03.d	11/12/11	18:03
08	6464818	xn12s04.d	11/12/11	18:25
09	6464819	xn12s05.d	11/12/11	18:48
10	6463887	xn12s07.d	11/12/11	19:33
11	6463888	xn12s08.d	11/12/11	19:56
12	6463889	xn12s09.d	11/12/11	20:18
13	6463891	xn12s11.d	11/12/11	21:03
14	6463892	xn12s12.d	11/12/11	21:25
15	6463893	xn12s13.d	11/12/11	21:48
16	6462375RE	xn12s14.d	11/12/11	22:10
17	6462383RE	xn12s15.d	11/12/11	22:33
18	6463597RE	xn12s16.d	11/12/11	22:55
19	6463605	xn12s17.d	11/12/11	23:18
20	6461305RE	xn12s18.d	11/12/11	23:41
21	6462363	xn12s19.d	11/13/11	00:03

GSK05 0045

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date: 11/12/11 Time: 15:01
 Lab File ID: xnl2c01.d Init. Calib. Date(s): 11/03/11 11/03/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4401	0.4222	50.03	50	0
# Chloromethane	0.5009	0.4018	40.11	50	-20 #
* Vinyl Chloride	0.4360	0.3605	41.35	50	-17 *
Bromomethane	0.2778	0.2406	44.15	50	-12
Chloroethane	0.2528	0.2053	40.61	50	-19
Trichlorofluoromethane	0.4419	0.4192	47.43	50	-5
Ethanol	0.0830	0.1137	3424.28	2500	37 NTC
Freon 123a	0.2687	0.2221	41.33	50	-17
Acrolein	1.5760	2.3649	750.32	500	50 NTC
* 1,1-Dichloroethene	0.2737	0.2541	46.42	50	-7 *
Dichlorofluoromethane	0.5468	0.4292	39.25	50	-22 NTC
Freon 113	0.2700	0.2689	49.79	50	0
Acetone	0.0398	0.0362	90.99	100	-9 NTC
Methyl Iodide	0.4967	0.4623	46.54	50	-7
2-Propanol	0.6279	0.9374	375.20	250	50 NTC
Carbon Disulfide	0.9506	0.8577	45.11	50	-10
Allyl Chloride	0.6162	0.4287	33.11	50	-34 NTC
Methyl Acetate	0.2700	0.2301	42.62	50	-15
Methylene Chloride	0.3469	0.3148	45.38	50	-9
t-Butyl Alcohol	1.2761	1.5715	307.86	250	23 NTC
Acrylonitrile	0.1311	0.1247	47.55	50	-5
trans-1,2-Dichloroethene	0.3117	0.2909	46.67	50	-7
Methyl Tertiary Butyl Ether	1.0507	0.9575	45.57	50	-9
n-Hexane	0.4974	0.4675	48.71	50	-3
# 1,1-Dichloroethane	0.6224	0.5745	46.16	50	-8 #
2-Chloro-1,3-Butadiene	0.5322	0.4736	44.49	50	-11
di-Isopropyl Ether	1.2846	1.1892	46.29	50	-7
Ethyl t-Butyl Ether	1.1764	1.0511	44.68	50	-11
cis-1,2-Dichloroethene	0.3454	0.3197	46.28	50	-7
1,2-Dichloroethene (total)	0.3285	0.3053	92.95	100	-7
2,2-Dichloropropane	0.4928	0.4242	43.04	50	-14
2-Butanone	0.1868	0.2017	107.93	100	8
Propionitrile	1.3518	1.5312	283.18	250	13
Methacrylonitrile	0.1546	0.1441	116.45	125	-7
Bromochloromethane	0.1711	0.1415	41.36	50	-17
Tetrahydrofuran	1.4187	1.5138	106.70	100	7

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSR05 0004

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date: 11/12/11 Time: 15:01
 Lab File ID: xnl2c01.d Init. Calib. Date(s): 11/03/11 11/03/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.5583	0.5173	46.33	50	-7 *
1,1,1-Trichloroethane	0.5409	0.4520	41.78	50	-16
Cyclohexane	0.6155	0.5754	47.76	50	-4
Cyclohexane(mz69)	0.1811	0.1667	46.03	50	-8
Cyclohexane(mz84)	0.4776	0.4541	47.54	50	-5
1,1-Dichloropropene	0.4420	0.4045	45.76	50	-8
Carbon Tetrachloride	0.4058	0.3598	44.33	50	-11
Benzene	1.3409	1.2530	46.72	50	-7
Isobutyl Alcohol	0.4769	0.5511	722.25	625	16
1,2-Dichloroethane	0.4419	0.4299	48.63	50	-3
1,2-Dichloroethane(mz98)	0.0426	0.0391	45.89	50	-8
t-Amyl Methyl Ether	1.0652	0.9492	44.56	50	-11
n-Heptane	0.5743	0.5409	47.10	50	-6
n-Butanol	0.3685	0.4159	1410.61	1250	13
Trichloroethene	0.3355	0.3026	45.09	50	-10
Methylcyclohexane	0.6158	0.4679	37.99	50	-24 NTC
* 1,2-Dichloropropane	0.3827	0.3541	46.26	50	-7 *
Dibromomethane	0.2008	0.1890	47.07	50	-6
1,4-Dioxane	0.1111	0.1281	720.31	625	15
Methyl Methacrylate	0.2822	0.2598	46.04	50	-8
Bromodichloromethane	0.4370	0.3964	45.36	50	-9
2-Nitropropane	0.1222	0.1278	104.60	100	5
cis-1,3-Dichloropropene	0.5495	0.4963	45.16	50	-10
4-Methyl-2-Pentanone	0.4512	0.5414	119.98	100	20
* Toluene	1.1952	1.1356	47.51	50	-5 *
trans-1,3-Dichloropropene	0.6776	0.6501	47.15	50	-6
Ethyl Methacrylate	0.7008	0.6859	48.94	50	-2
1,1,2-Trichloroethane	0.4277	0.4247	49.66	50	-1
Tetrachloroethene	0.5271	0.4962	47.06	50	-6
1,3-Dichloropropane	0.7626	0.7582	49.71	50	-1
2-Hexanone	0.4474	0.5779	129.17	100	29 NTC
Dibromochloromethane	0.4836	0.4634	47.91	50	-4
1,2-Dibromoethane	0.4378	0.4367	49.86	50	0
# Chlorobenzene	1.3128	1.2965	49.38	50	-1 #
1,1,1,2-Tetrachloroethane	0.4695	0.4553	48.49	50	-3
* Ethylbenzene	2.1382	2.0970	49.04	50	-2 *

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

68X05 0005

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date: 11/12/11 Time: 15:01
 Lab File ID: xn12c01.d Init. Calib. Date(s): 11/03/11 11/03/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
m+p-Xylene	0.8899	0.8612	96.78	100	-3
Xylene (Total)	0.8989	0.8645	144.27	150	-4
o-Xylene	0.9171	0.8710	47.48	50	-5
Styrene	1.3530	1.3537	50.03	50	0
# Bromoform	0.3657	0.3241	44.31	50	-11 #
Isopropylbenzene	2.2703	2.1812	48.04	50	-4
Cyclohexanone	0.4449	0.4570	642.07	625	3
Bromobenzene	0.9592	0.9475	49.39	50	-1
# 1,1,2,2-Tetrachloroethane	1.0838	1.0944	50.49	50	1 #
1,2,3-Trichloropropane	0.3080	0.3073	49.87	50	0
trans-1,4-Dichloro-2-Butene	0.3073	0.3200	130.16	125	4
n-Propylbenzene	4.0620	4.1361	50.91	50	2
2-Chlorotoluene	0.8705	0.8642	49.64	50	-1
1,3,5-Trimethylbenzene	3.1040	3.0598	49.29	50	-1
4-Chlorotoluene	0.9889	0.9623	48.66	50	-3
tert-Butylbenzene	0.7336	0.7372	50.25	50	0
Pentachloroethane	0.6267	0.5755	45.91	50	-8
1,2,4-Trimethylbenzene	3.1463	3.1492	50.05	50	0
sec-Butylbenzene	4.0184	3.9999	49.77	50	0
1,3-Dichlorobenzene	1.6607	1.7024	51.25	50	3
p-Isopropyltoluene	3.4639	3.4738	50.14	50	0
1,4-Dichlorobenzene	2.0452	1.9779	48.36	50	-3
1,2,3-Trimethylbenzene	3.3546	3.1292	46.64	50	-7
Benzyl Chloride	2.0117	2.4009	46.26	50	-7
1,2-Dichlorobenzene	1.9369	1.8664	48.18	50	-4
n-Butylbenzene	1.7479	1.8265	49.57	50	-1
1,3-Diethylbenzene	2.0635	1.8841	45.65	50	-9
1,4-Diethylbenzene	2.2139	2.0123	45.45	50	-9
1,2-Diethylbenzene	2.0343	1.7600	43.26	50	-13
1,2-Dibromo-3-Chloropropane	0.2462	0.2271	46.13	50	-8
1,3,5-Trichlorobenzene	1.6192	1.5890	49.07	50	-2
1,2,4-Trichlorobenzene	1.5246	1.4747	48.36	50	-3
Hexachlorobutadiene	0.8520	0.7368	43.24	50	-14
Naphthalene	3.9987	3.8399	48.01	50	-4
1,2,3-Trichlorobenzene	1.5343	1.4682	47.85	50	-4
2-Methylnaphthalene	2.7233	2.3970	44.01	50	-12

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

65K05 0006

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date: 11/12/11 Time: 15:01
 Lab File ID: xn12c01.d Init. Calib. Date(s): 11/03/11 11/03/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dibromofluoromethane	0.2335	0.2292	49.08	50	-2
Dibromofluoromethane (mz111)	0.2377	0.2324	48.88	50	-2
1,2-Dichloroethane-d4	0.0566	0.0609	48.72	50	-3
1,2-Dichloroethane-d4 (mz104)	0.0366	0.0363	49.53	50	-1
1,2-Dichloroethane-d4 (mz65)	0.2703	0.2663	49.26	50	-1
Toluene-d8	1.3744	1.3817	50.27	50	1
Toluene-d8 (mz100)	0.9257	0.9382	50.68	50	1
4-Bromofluorobenzene	0.5116	0.4885	47.74	50	-5
4-Bromofluorobenzene (mz174)	0.4739	0.4462	47.08	50	-6

Average %Drift 8

Minimum RRF for SPCC(=) = 0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(=) = 20%

GSK05 0007

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP09193.i/11nov03a.b/xn03i06.d
/chem2/HP09193.i/11nov03a.b/xn03i05.d
/chem2/HP09193.i/11nov03a.b/xn03i04.d
/chem2/HP09193.i/11nov03a.b/xn03i03.d
/chem2/HP09193.i/11nov03a.b/xn03i02.d
/chem2/HP09193.i/11nov03a.b/xn03i01.d

File /chem2/HP09193.i/11nov03a.b/xn03i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09193.i/11nov12a.b/xn12c01.d

RT Summary

File ID:

=====

Internal Standard Name	xn12c01.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	3.672	3.666	Yes
Fluorobenzene	7.139	7.139	Yes
Chlorobenzene-d5	10.759	10.759	Yes
1,4-Dichlorobenzene-d4	12.676	12.675	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	xn12c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	221838	248658	124329	497316	Yes
Fluorobenzene	1333113	1250569	625284	2501138	Yes
Chlorobenzene-d5	914562	898648	449324	1797296	Yes
1,4-Dichlorobenzene-d4	553227	560759	280380	1121518	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

638205 0000

Comments: _____

report generated on 11/12/2011 at 15:26

GSX05 0009

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05
 Lab File ID (Standard): xn12c01.d Date Analyzed: 11/12/11
 Instrument ID: HP09193 Time Analyzed: 15:01
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1333113	7.139	914562	10.759	553227	12.676	221838	3.672
UPPER LIMIT	2666226	7.639	1829124	11.259	1106454	13.176	443676	4.172
LOWER LIMIT	666556	6.639	457281	10.259	276614	12.176	110919	3.172
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
01 VBLKX58	1291502	7.133	935824	10.765	508206	12.682	184023	3.678
02 LCSX58	1303999	7.133	881751	10.759	526939	12.681	205840	3.678
03 LCDX58	1356318	7.139	913404	10.765	553118	12.682	239143	3.684
04 6464774	1335745	7.133	957093	10.765	493746	12.681		
05 6464816	1329934	7.139	965712	10.765	526679	12.682		
06 6464817	1303994	7.140	951322	10.765	520342	12.682		
07 6464818	1258089	7.146	901679	10.765	487856	12.682		
08 6464819	1284594	7.145	894095	10.765	503481	12.681		
09 6463887	859289	7.133	518600	10.765	176588 *	12.681		
10 6463888	1213640	7.139	786133	10.765	284862	12.681		
11 6463889	1229860	7.139	833818	10.765	349356	12.682		
12 6463891	1252760	7.139	881265	10.765	431732	12.681		
13 6463892	1231298	7.139	849772	10.765	411726	12.681		
14 6463893	1235526	7.139	884921	10.765	468745	12.682		
15 6462375RE	631121 *	7.146	435178*	10.765	218459 *	12.682	103346 *	3.672
16 6462383RE	575213 *	7.133	302731*	10.765	100961 *	12.688	171192	3.647
17 6463597RE	359112 *	7.145	225887*	10.771	82406 *	12.688	87382 *	3.678
18 6463605	1314741	7.140	920300	10.765	507962	12.682	197947	3.678
19 6461305RE	1019382	7.133	474597	10.765	153234 *	12.682	186881	3.672
20 6462363	936749	7.139	649412	10.765	315652	12.681	242041	3.666

Not in SDG
 Not in SDG

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

GSK05 0102

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05
Lab File ID: ag05t01.d BFB Injection Date: 08/05/11
Instrument ID: HP09685 BFB Injection Time: 16:24
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.65
75	30.0 - 60.0% of mass 95	47.62
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.92
173	Less than 2.0% of mass 174	0.50 (0.60)1
174	Greater than 50.0% of mass 95	83.83
175	5.0 - 9.0% of mass 174	5.89 (7.02)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.23 (96.90)1
177	5.0 - 9.0% of mass 176	5.36 (6.60)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	ag05i01.d	08/05/11	16:46
02	VSTD100	ag05i02.d	08/05/11	17:09
03	VSTD50	ag05i03.d	08/05/11	17:31
04	VSTD20	ag05i04.d	08/05/11	17:54
05	VSTD10	ag05i05.d	08/05/11	18:16
06	VSTD4	ag05i06.d	08/05/11	18:39
07	VSTD0001	ag05m01.d	08/05/11	19:01
08	VSTD300	ag05i11.d	08/05/11	19:24
09	VSTD100	ag05i12.d	08/05/11	19:46
10	VSTD50	ag05i13.d	08/05/11	20:09
11	VSTD20	ag05i14.d	08/05/11	20:31
12	VSTD10	ag05i15.d	08/05/11	20:54
13	VSTD4	ag05i16.d	08/05/11	21:17
14	VSTD0001	ag05m11.d	08/05/11	21:39
15	VBLKA00	ag05b01.d	08/05/11	22:02
16	LCS1A00	ag05i02.d	08/05/11	22:47
17	6355784RE	ag05s01.d	08/05/11	23:09
18	LCSA00	ag05i03.d	08/05/11	23:53
19	LCDA00	ag05i04.d	08/06/11	00:18
20	LCD1A00	ag05i05.d	08/06/11	00:41
21	6364612	ag05s02.d	08/06/11	01:34
22	6364610	ag05s03.d	08/06/11	01:56

GSK05 8846

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05____
 Lab File ID: ag05t01.d BFB Injection Date: 08/05/11
 Instrument ID: HP09685 BFB Injection Time: 16:24
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.65
75	30.0 - 60.0% of mass 95	47.62
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.92
173	Less than 2.0% of mass 174	0.50 (0.60)1
174	Greater than 50.0% of mass 95	83.83
175	5.0 - 9.0% of mass 174	5.89 (7.02)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.23 (96.90)1
177	5.0 - 9.0% of mass 176	5.36 (6.60)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6365515	ag05s05.d	08/06/11	02:41
24	6365516	ag05s06.d	08/06/11	03:03
25	6365519	ag05s07.d	08/06/11	03:25
26	6365520	ag05s08.d	08/06/11	03:48
27	6365518	ag05s09.d	08/06/11	04:11

GSK05 0047

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HPD9685 Calibration Date(s): 08/05/11 08/05/11
Heated Purge: (Y/N) Y Calibration Times: 16:46 18:39
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = ag05i06.d RRF 10 = ag05i05.d RRF 20 = ag05i04.d
RRF 50 = ag05i03.d RRF100 = ag05i02.d RRF300 = ag05i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.4002	0.3760	0.3842	0.4671	0.4416	0.3969		0.4110	9	AVG
Chloromethane	#0.3802	0.3704	0.3795	0.4270	0.4007	0.3664		0.3874	6	AVG
Vinyl Chloride	*0.4000	0.3727	0.3795	0.4384	0.4054	0.3734		0.3949	6	AVG
Bromomethane	0.2817	0.2727	0.2527	0.2727	0.2502	N/A		0.2660	5	AVG
Chloroethane	0.2170	0.2137	0.2131	0.2265	0.2272	0.1444		0.2070	15	AVG
Trichlorofluoromethane	0.4774	0.4452	0.4506	0.5253	0.5001	0.4289		0.4712	8	AVG
Ethanol	0.1380	0.1249	0.1123	0.1192	0.1029	0.1139		0.1185	10	AVG
Freon 123a	0.3489	0.3454	0.3458	0.3411	0.3423	0.3103		0.3390	4	AVG
Acrolein	1.5457	1.7705	1.6582	1.9737	2.2793	1.8750		1.8504	14	AVG
1,1-Dichloroethene	*0.2531	0.2489	0.2567	0.2566	0.2644	0.2388		0.2531	3	AVG
Dichlorofluoromethane	0.5932	0.5823	0.5781	0.5530	0.5418	0.4541		0.5504	9	AVG
Freon 113	0.2717	0.2619	0.2648	0.2770	0.2857	0.2538		0.2691	4	AVG
Acetone	0.0333	0.0266	0.0280	0.0334	0.0291	0.0264		0.0295	11	AVG
Methyl Iodide	0.4626	0.4847	0.4984	0.4917	0.5047	0.4584		0.4834	4	AVG
2-Propanol	0.7445	0.7607	0.7236	0.7004	0.6938	0.7118		0.7225	4	AVG
Carbon Disulfide	0.8279	0.8424	0.8717	0.8706	0.9053	0.7976		0.8526	4	AVG
Allyl Chloride	0.3826	0.3487	0.3538	0.3764	0.3859	0.3559		0.3672	4	AVG
Methyl Acetate	0.2347	0.1852	0.1928	0.2013	0.1906	0.1780		0.1971	10	AVG
Methylene Chloride	0.3516	0.3239	0.3166	0.3026	0.3045	0.2757		0.3125	8	AVG
t-Butyl Alcohol	1.2757	1.3904	1.3817	1.3347	1.3260	1.1543		1.3104	7	AVG
Acrylonitrile	0.1113	0.0926	0.1019	0.1176	0.1052	0.0955		0.1040	9	AVG
trans-1,2-Dichloroethene	0.2799	0.2933	0.3018	0.2967	0.3064	0.2788		0.2928	4	AVG
Methyl Tertiary Butyl Ether	0.8152	0.8311	0.8795	0.8723	0.8511	0.7991		0.8414	4	AVG
n-Hexane	0.3765	0.3707	0.3749	0.3921	0.4028	0.3779		0.3825	3	AVG
1,1-Dichloroethane	#0.4903	0.5134	0.5221	0.5149	0.5237	0.4711		0.5059	4	AVG
2-Chloro-1,3-Butadiene	0.3755	0.3923	0.4117	0.4264	0.4446	0.4014		0.4086	6	AVG
di-Isopropyl Ether	0.7989	0.8430	0.8641	0.8629	0.8660	0.7856		0.8368	4	AVG
Ethyl t-Butyl Ether	0.8081	0.8504	0.8841	0.8906	0.8891	0.8223		0.8574	4	AVG
cis-1,2-Dichloroethene	0.3194	0.3282	0.3326	0.3294	0.3369	0.3117		0.3264	3	AVG
1,2-Dichloroethene (total)	0.2997	0.3107	0.3172	0.3130	0.3217	0.2952		0.3096	3	AVG
2,2-Dichloropropane	0.4113	0.4270	0.4424	0.4501	0.4678	0.4236		0.4370	5	AVG
2-Butanone	0.1437	0.1213	0.1403	0.1687	0.1493	0.1320		0.1426	11	AVG
Propionitrile	1.3079	1.5768	1.4690	1.4129	1.4976	1.3322		1.4327	7	AVG
Methacrylonitrile	0.1343	0.1300	0.1445	0.1467	0.1324	0.1295		0.1362	6	AVG
Bromochloromethane	0.1590	0.1563	0.1581	0.1671	0.1657	0.1629		0.1615	3	AVG
Tetrahydrofuran	1.1957	1.3235	1.2617	1.4254	1.5396	1.3267		1.3454	9	AVG
Chloroform	*0.5068	0.5224	0.5322	0.5251	0.5302	0.4824		0.5165	4	AVG
1,1,1-Trichloroethane	0.5546	0.5085	0.5209	0.4854	0.4945	0.4518		0.5026	7	AVG
Cyclohexane	0.4634	0.4589	0.4586	0.4779	0.4864	0.4414		0.4644	3	AVG
Cyclohexane(mz84)	0.4303	0.4256	0.4187	0.4432	0.4447	0.4117		0.4290	3	AVG
Cyclohexane(mz69)	0.1496	0.1491	0.1491	0.1546	0.1585	0.1446		0.1509	3	AVG
1,1-Dichloropropene	0.3893	0.3979	0.4079	0.4087	0.4225	0.3863		0.4021	3	AVG
Carbon Tetrachloride	0.3767	0.3851	0.3964	0.4035	0.4190	0.3866		0.3945	4	AVG
Benzene	1.1762	1.2101	1.2149	1.1869	1.1999	1.0864		1.1791	4	AVG
Isobutyl Alcohol	0.3775	0.4286	0.4260	0.4031	0.4012	0.3613		0.3996	7	AVG
1,2-Dichloroethane	0.4157	0.4202	0.4289	0.4215	0.4174	0.3854		0.4148	4	AVG
1,2-Dichloroethane(mz98)	0.0360	0.0378	0.0384	0.0378	0.0376	0.0360		0.0373	3	AVG
t-Amyl Methyl Ether	0.7419	0.7733	0.8150	0.8246	0.8202	0.7781		0.7922	4	AVG
n-Heptane	0.3681	0.3809	0.3895	0.3920	0.4032	0.3906		0.3874	3	AVG
n-Butanol	0.3194	0.3728	0.3857	0.3832	0.3905	0.3596		0.3685	7	AVG
Trichloroethene	0.3132	0.3192	0.3231	0.3206	0.3301	0.3041		0.3184	3	AVG
Methylcyclohexane	0.5067	0.4504	0.4786	0.5390	0.5554	0.5382		0.5114	8	AVG

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

GS005 8865

GA
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09685 Calibration Date(s): 08/05/11 08/05/11
Heated Purge: (Y/N) Y Calibration Times: 16:46 18:39
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID: RRF 4 = ag05i06.d RRF 10 = ag05i05.d RRF 20 = ag05i04.d
RRF 50 = ag05i03.d RRF100 = ag05i02.d RRF300 = ag05i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
1,2-Dichloropropane	0.2987	0.3124	0.3170	0.3167	0.3231	0.3044		0.3121	3	AVG
Dibromomethane	0.1961	0.1998	0.2075	0.2075	0.2042	0.1959		0.2018	3	AVG
1,4-Dioxane	0.1310	0.1450	0.1409	0.1513	0.1462	0.1407		0.1425	5	AVG
Methyl Methacrylate	0.2156	0.2086	0.2402	0.2508	0.2393	0.2365		0.2318	7	AVG
Bromodichloromethane	0.3435	0.3721	0.3918	0.3992	0.4078	0.3848		0.3832	6	AVG
2-Nitropropane	1.8434	2.2727	2.3055	2.8015	3.2583	N/A		2.4963	22	1STDEG
cis-1,3-Dichloropropene	0.4163	0.4572	0.4864	0.4999	0.5096	0.4812		0.4751	7	AVG
4-Methyl-2-Pentanone	0.2824	0.2570	0.3058	0.3808	0.3604	0.3012		0.3146	15	AVG
Toluene	1.0026	0.9895	1.0002	0.9703	0.9911	0.8950		0.9748	4	AVG
trans-1,3-Dichloropropene	0.5064	0.5572	0.5959	0.6148	0.6257	0.5931		0.5822	8	AVG
Ethyl Methacrylate	0.4164	0.4523	0.5229	0.5590	0.5526	0.5332		0.5060	11	AVG
1,1,2-Trichloroethane	0.3508	0.3546	0.3644	0.3598	0.3519	0.3329		0.3524	3	AVG
Tetrachloroethene	0.4310	0.4413	0.4384	0.4392	0.4550	0.4170		0.4370	3	AVG
1,3-Dichloropropane	0.5970	0.5975	0.6216	0.6202	0.6178	0.5828		0.6061	3	AVG
2-Hexenone	0.2748	0.2403	0.2908	0.3637	0.3414	N/A		0.3022	17	1STDEG
Dibromochloromethane	0.3318	0.3572	0.3898	0.4075	0.4170	0.4043		0.3846	9	AVG
1,2-Dibromoethane	0.3481	0.3568	0.3797	0.3773	0.3687	0.3521		0.3638	4	AVG
Chlorobenzene	#1.1258	1.1585	1.1582	1.1310	1.1523	1.0423		1.1280	4	AVG
1,1,1,2-Tetrachloroethane	0.3435	0.3754	0.3909	0.3933	0.4059	0.3887		0.3829	6	AVG
Ethylbenzene	*1.8022	1.8905	1.8915	1.8690	1.9138	1.6258		1.8321	6	AVG
m+p-Xylene	0.7071	0.7486	0.7451	0.7453	0.7721	0.6211		0.7232	7	AVG
Xylene (Total)	0.7017	0.7464	0.7450	0.7460	0.7718	0.6267		0.7229	7	AVG
o-Xylene	0.6909	0.7418	0.7447	0.7474	0.7713	0.6381		0.7223	7	AVG
Styrene	0.9897	1.1117	1.1913	1.2300	1.2779	1.0527		1.1422	10	AVG
Bromoform	#0.2262	0.2449	0.2765	0.2995	0.3041	0.3036		0.2758	12	AVG
Isopropylbenzene	1.7089	1.8260	1.8499	1.8465	1.9076	1.6170		1.7926	6	AVG
Cyclohexanone	0.3847	0.4284	0.4200	0.4384	0.4430	0.4332		0.4246	5	AVG
Bromobenzene	0.8569	0.8749	0.8692	0.8577	0.8786	0.7767		0.8523	4	AVG
1,1,2,2-Tetrachloroethane	#0.9233	0.8713	0.9367	0.9288	0.8827	0.8138		0.8928	5	AVG
1,2,3-Trichloropropane	0.3261	0.2749	0.2908	0.2823	0.2654	0.2355		0.2792	11	AVG
trans-1,4-Dichloro-2-Butene	0.2646	0.2709	0.2991	0.2891	0.2727	0.2319		0.2714	9	AVG
n-Propylbenzene	3.8059	3.9038	3.8472	3.7686	3.8029	2.9230		3.6752	10	AVG
2-Chlorotoluene	0.7983	0.8303	0.8145	0.8005	0.8262	0.7469		0.8028	4	AVG
1,3,5-Trimethylbenzene	2.5633	2.7366	2.7148	2.7150	2.8440	2.3211		2.6491	7	AVG
4-Chlorotoluene	0.8282	0.8602	0.8442	0.8356	0.8687	0.7451		0.8303	5	AVG
tert-Butylbenzene	0.5981	0.6304	0.6460	0.6489	0.6773	0.5793		0.6300	6	AVG
Pentachloroethane	0.4867	0.4874	0.5215	0.5589	0.5795	0.5089		0.5238	7	AVG
1,2,4-Trimethylbenzene	2.7858	2.9321	2.9291	2.9069	3.0183	2.4471		2.8366	7	AVG
sec-Butylbenzene	3.3243	3.4797	3.5079	3.5068	3.5900	2.8416		3.3751	8	AVG
1,3-Dichlorobenzene	1.6906	1.6950	1.6589	1.6469	1.6947	1.4122		1.6330	7	AVG
p-Isopropyltoluene	2.9352	3.1134	3.1546	3.1696	3.2735	2.5366		3.0305	9	AVG
1,4-Dichlorobenzene	1.7624	1.7494	1.7115	1.6685	1.7074	1.4919		1.6819	6	AVG
1,2,3-Trimethylbenzene	2.8786	2.7433	2.8234	2.9020	2.9903	2.5109		2.8081	6	AVG
Benzyl Chloride	0.3464	0.3669	0.4277	0.4465	0.4475	0.4332		0.4114	11	AVG
1,2-Dichlorobenzene	1.6598	1.6703	1.6403	1.6020	1.6346	1.4334		1.6067	5	AVG
n-Butylbenzene	1.5377	1.5876	1.6220	1.6133	1.6717	1.3990		1.5719	6	AVG
1,3-Diethylbenzene	1.7207	1.6420	1.7472	1.8440	1.9080	1.6494		1.7519	6	AVG
1,4-Diethylbenzene	1.8094	1.7602	1.8468	1.9346	2.0179	1.6705		1.8399	7	AVG
1,2-Diethylbenzene	1.5474	1.4719	1.5343	1.5770	1.6474	1.4258		1.5340	5	AVG
1,2-Dibromo-3-Chloropropane	0.1895	0.1639	0.1956	0.2019	0.1887	0.1863		0.1877	7	AVG
1,3,5-Trichlorobenzene	1.4093	1.3392	1.3486	1.3242	1.3718	1.2078		1.3335	5	AVG
1,2,4-Trichlorobenzene	1.4287	1.2922	1.3016	1.2941	1.3268	1.1463		1.2983	7	AVG

Minimum RRF for SPCC(*) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum XRSO for CCC(*) = 30%

CSK05 0066

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09685 Calibration Date(s): 08/05/11 08/05/11
Heated Purge: (Y/N) Y Calibration Times: 16:46 18:39
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

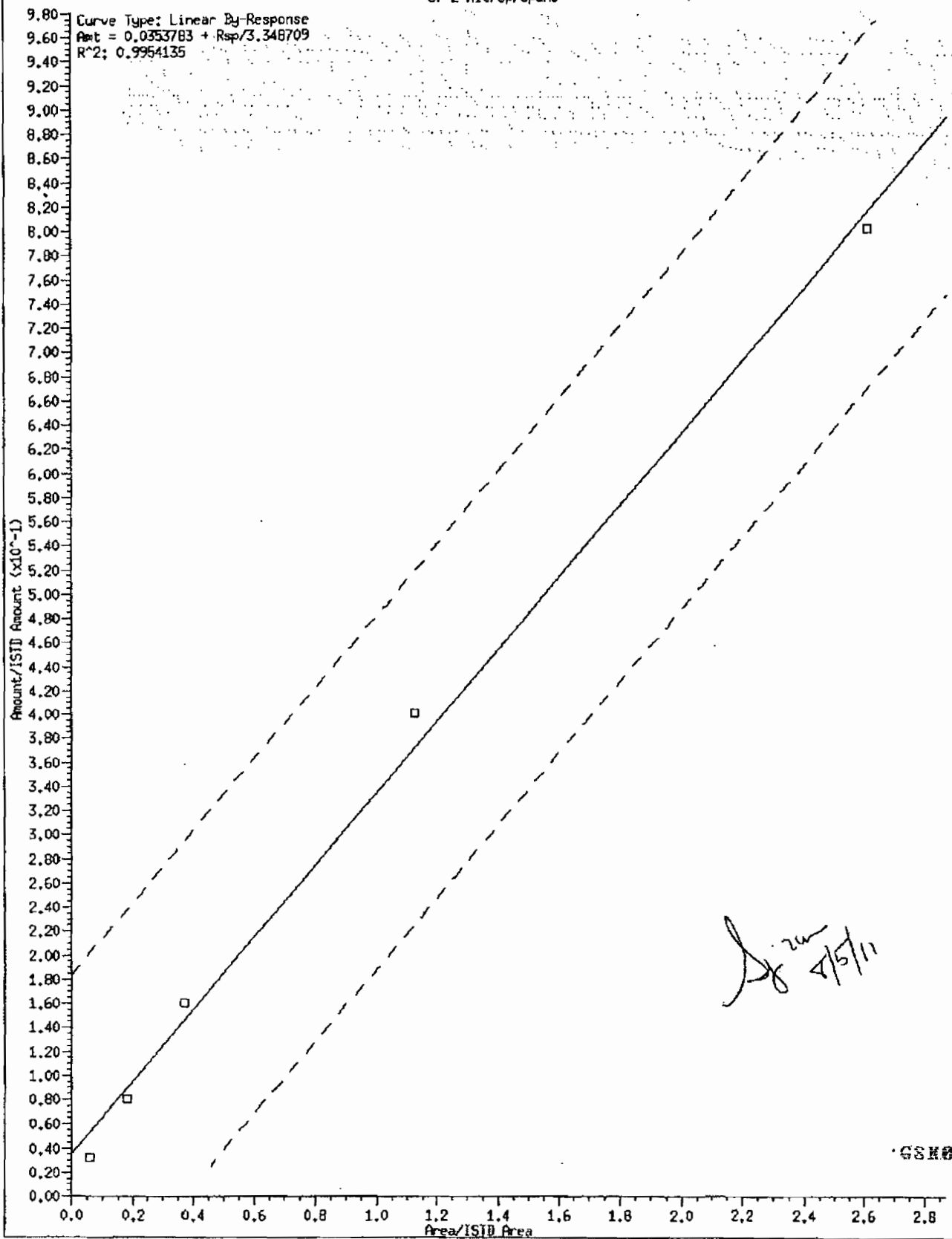
LAB FILE ID: RRF 4 = ag05i06.d RRF 10= ag05i05.d RRF 20= ag05i04.d										
RRF 50= ag05i03.d RRF100= ag05i02.d RRF300= ag05i01.d RRF =										
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Hexachlorobutadiene	0.6734	0.6805	0.6972	0.6913	0.7219	0.6320		0.6827	4	AVG
Naphthalene	3.6958	3.2673	3.5174	3.4855	3.3253	2.6341		3.3209	11	AVG
1,2,3-Trichlorobenzene	1.3899	1.2388	1.2585	1.2227	1.2336	1.0627		1.2343	8	AVG
2-Methylnaphthalene	2.4273	1.9061	2.2215	2.3318	2.2521	1.8183		2.1595	11	AVG
Dibromofluoromethane	0.2424	0.2435	0.2437	0.2454	0.2418	0.2403		0.2428	1	AVG
Dibromofluoromethane(mz111)	0.2475	0.2491	0.2497	0.2507	0.2480	0.2457		0.2484	1	AVG
1,2-Dichloroethane-d4	0.0580	0.0572	0.0584	0.0573	0.0571	0.0568		0.0575	1	AVG
1,2-Dichloroethane-d4(mz65)	0.2858	0.2859	0.2853	0.2883	0.2777	0.2773		0.2834	2	AVG
1,2-Dichloroethane-d4(mz104)	0.0372	0.0359	0.0365	0.0367	0.0356	0.0362		0.0364	2	AVG
Toluene-d8	1.2710	1.2712	1.2732	1.2743	1.2715	1.2545		1.2693	1	AVG
Toluene-d8(mz100)	0.8234	0.8243	0.8261	0.8297	0.8310	0.8172		0.8253	1	AVG
4-Bromofluorobenzene	0.5074	0.5071	0.5106	0.5131	0.5132	0.5190		0.5117	1	AVG
4-Bromofluorobenzene(mz174)	0.4306	0.4308	0.4334	0.4299	0.4275	0.4340		0.4310	1	AVG

Average %RSD 6

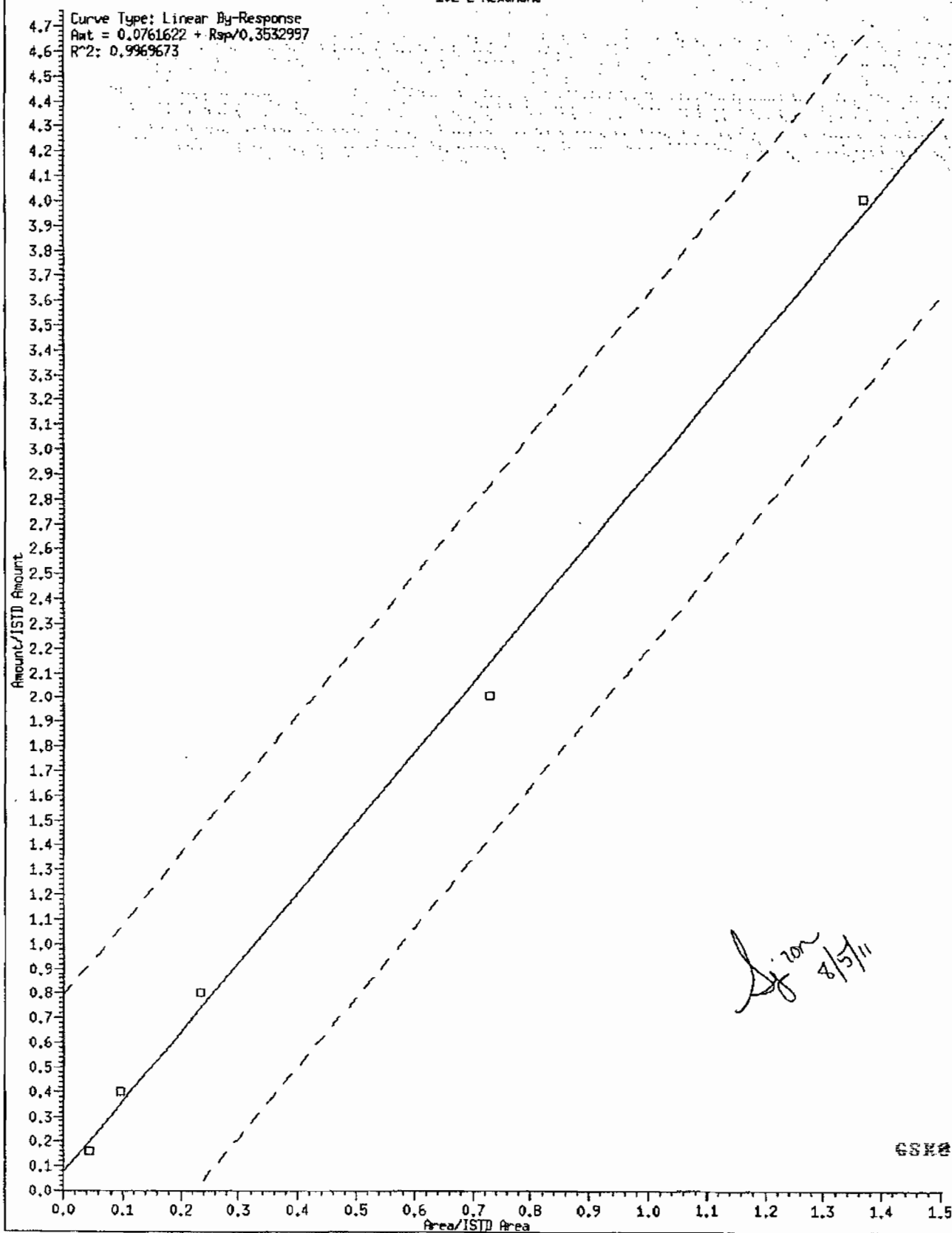
Minimum RRF for SPCC(4) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

GSX05 8867

87 2-Nitropropane



102 2-Hexanone



Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

```

/chem2/HP09685.i/11aug05a.b/ag05i01.d VSTD300
/chem2/HP09685.i/11aug05a.b/ag05i02.d VSTD100
/chem2/HP09685.i/11aug05a.b/ag05i03.d VSTD050
/chem2/HP09685.i/11aug05a.b/ag05i04.d VSTD020
/chem2/HP09685.i/11aug05a.b/ag05i05.d VSTD010
/chem2/HP09685.i/11aug05a.b/ag05i06.d VSTD004
    
```

Area Summary

File ID:

Internal Standard Name	ag05i01.d	ag05i02.d	ag05i03.d	ag05i04.d	ag05i05.d	ag05i06.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	226314	212391	256942	240095	195900	254796	231240	10	Yes
Fluorobenzene	1511470	1500041	1477258	1458586	1427546	1407953	1463809	3	Yes
Chlorobenzene-d5	1213175	1196725	1179094	1162981	1138664	1119047	1168281	3	Yes
1,4-Dichlorobenzene-d4	743497	710985	695398	686229	668690	653961	693127	5	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	ag05i01.d	ag05i02.d	ag05i03.d	ag05i04.d	ag05i05.d	ag05i06.d	Avg. RT
t-Butyl Alcohol-d10	3.958	3.945	3.958	3.951	3.952	3.952	3.953
Fluorobenzene	7.413	7.407	7.413	7.413	7.407	7.413	7.411
Chlorobenzene-d5	10.960	10.954	10.954	10.960	10.954	10.954	10.956
1,4-Dichlorobenzene-d4	12.858	12.852	12.852	12.852	12.852	12.852	12.853

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 08/05/2011 at 20:26.

68X85 8878

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 ICV Date: 08/05/11 Time: 23:53
 Lab File ID: ag05103.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4110	0.3893	18.94	20	-5
# Chloromethane	0.3874	0.4223	21.80	20	9 #
* Vinyl Chloride	0.3949	0.4258	21.56	20	8 *
Bromomethane	0.2660	0.2237	16.82	20	-16
Chloroethane	0.2070	0.1928	18.63	20	-7
Trichlorofluoromethane	0.4712	0.5130	21.77	20	9
Ethanol	0.1185	0.1260	1062.90	1000	6
Freon 123a	0.3390	0.3378	19.93	20	0
Acrolein	1.8504	1.5375	124.64	150	-17
* 1,1-Dichloroethene	0.2531	0.2553	20.17	20	1 *
Dichlorofluoromethane	0.5504	0.5645	20.51	20	3
Freon 113	0.2691	0.2486	18.47	20	-8
Acetone	0.0295	0.0372	189.52	150	26 NTC
Methyl Iodide	0.4834	0.4327	17.90	20	-10
2-Propanol	0.7225	0.7201	149.51	150	0
Carbon Disulfide	0.8526	0.7227	16.95	20	-15
Allyl Chloride	0.3672	0.3470	18.90	20	-5
Methyl Acetate	0.1971	0.2651	26.90	20	34 NTC
Methylene Chloride	0.3125	0.3145	20.13	20	1
t-Butyl Alcohol	1.3104	1.5839	241.73	200	21 NTC
Acrylonitrile	0.1040	0.1173	112.74	100	13
trans-1,2-Dichloroethene	0.2928	0.2868	19.59	20	-2
Methyl Tertiary Butyl Ether	0.8414	0.7886	18.75	20	-6
n-Hexane	0.3825	0.3317	17.34	20	-13
# 1,1-Dichloroethane	0.5059	0.4891	19.33	20	-3 #
2-Chloro-1,3-Butadiene	0.4086	0.3671	17.96	20	-10
di-Isopropyl Ether	0.8368	0.7625	18.23	20	-9
Ethyl t-Butyl Ether	0.8574	0.7520	17.54	20	-12
cis-1,2-Dichloroethene	0.3264	0.3124	19.15	20	-4
1,2-Dichloroethene (total)	0.3096	0.2996	38.74	40	-3
2,2-Dichloropropane	0.4370	0.3974	18.18	20	-9
2-Butanone	0.1426	0.1557	163.84	150	9
Propionitrile	1.4327	1.5166	158.78	150	6
Methacrylonitrile	0.1362	0.1500	165.18	150	10
Bromochloromethane	0.1615	0.1598	19.79	20	-1
Tetrahydrofuran	1.3454	1.3826	102.76	100	3

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK05 0621

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 ICV Date: 08/05/11 Time: 23:53
 Lab File ID: ag05103.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.5165	0.4957	19.19	20	-4 *
1,1,1-Trichloroethane	0.5026	0.4678	18.61	20	-7
Cyclohexane	0.4644	0.4127	17.77	20	-11
1,1-Dichloropropene	0.4021	0.3815	18.97	20	-5
Carbon Tetrachloride	0.3945	0.3656	18.53	20	-7
Benzene	1.1791	1.1647	19.76	20	-1
Isobutyl Alcohol	0.3996	0.4438	555.24	500	11
1,2-Dichloroethane	0.4148	0.4123	19.88	20	-1
t-Amyl Methyl Ether	0.7922	0.6995	17.66	20	-12
n-Heptane	0.3874	0.3339	17.24	20	-14
n-Butanol	0.3685	0.3888	1054.90	1000	5
Trichloroethene	0.3184	0.2983	18.74	20	-6
Methylcyclohexane	0.5114	0.4978	19.47	20	-3
* 1,2-Dichloropropane	0.3121	0.2923	18.73	20	-6 *
Dibromomethane	0.2018	0.1961	19.44	20	-3
1,4-Dioxane	0.1425	0.1500	526.31	500	5
Methyl Methacrylate	0.2318	0.2164	18.67	20	-7
Bromodichloromethane	0.3832	0.3480	18.16	20	-9
2-Nitropropane	2.4963	2.0897	21.33	20	7
cis-1,3-Dichloropropene	0.4751	0.4211	17.73	20	-11
4-Methyl-2-Pentanone	0.3146	0.3320	105.52	100	6
* Toluene	0.9748	0.9137	18.75	20	-6 *
trans-1,3-Dichloropropene	0.5822	0.5007	17.20	20	-14
Ethyl Methacrylate	0.5060	0.4604	18.19	20	-9
1,1,2-Trichloroethane	0.3524	0.3359	19.06	20	-5
Tetrachloroethene	0.4370	0.4130	18.90	20	-5
1,3-Dichloropropane	0.6061	0.5776	19.06	20	-5
2-Hexanone	0.3022	0.3063	90.50	100	-10
Dibromochloromethane	0.3846	0.3435	17.87	20	-11
1,2-Dibromoethane	0.3638	0.3524	19.37	20	-3
# Chlorobenzene	1.1280	1.0489	18.60	20	-7 #
1,1,1,2-Tetrachloroethane	0.3829	0.3480	18.17	20	-9
* Ethylbenzene	1.8321	1.7339	18.93	20	-5 *
m+p-Xylene	0.7232	0.6954	38.46	40	-4
Xylene (Total)	0.7229	0.5531	57.45	60	-4
o-Xylene	0.7223	0.6859	18.99	20	-5

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK85 8872
 Maximum %Drift for CCC(=)=20%

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 ICV Date: 08/05/11 Time: 23:53
 Lab File ID: ag05103.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Styrene	1.1422	1.0660	18.66	20	-7
# Bromoform	0.2758	0.2375	17.22	20	-14 #
Isopropylbenzene	1.7926	1.7232	19.23	20	-4
Cyclohexanone	0.4246	0.3623	426.57	500	-15
Bromobenzene	0.8523	0.7988	18.74	20	-6
# 1,1,2,2-Tetrachloroethane	0.8928	0.8712	19.52	20	-2 #
1,2,3-Trichloropropane	0.2792	0.2739	19.62	20	-2
trans-1,4-Dichloro-2-Butene	0.2714	0.2976	109.67	100	10
n-Propylbenzene	3.6752	3.5842	19.50	20	-2
2-Chlorotoluene	0.8028	0.7531	18.76	20	-6
1,3,5-Trimethylbenzene	2.6491	2.5915	19.57	20	-2
4-Chlorotoluene	0.8303	0.7903	19.04	20	-5
tert-Butylbenzene	0.6300	0.5941	18.86	20	-6
Pentachloroethane	0.5238	0.4770	18.21	20	-9
1,2,4-Trimethylbenzene	2.8366	2.6984	19.03	20	-5
sec-Butylbenzene	3.3751	3.2703	19.38	20	-3
1,3-Dichlorobenzene	1.6330	1.5103	18.50	20	-8
p-Isopropyltoluene	3.0305	2.9271	19.32	20	-3
1,4-Dichlorobenzene	1.6819	1.5619	18.57	20	-7
1,2,3-Trimethylbenzene	2.8081	2.7468	19.56	20	-2
Benzyl Chloride	0.4114	0.3490	16.97	20	-15
1,2-Dichlorobenzene	1.6067	1.4932	18.59	20	-7
n-Butylbenzene	1.5719	1.5214	19.36	20	-3
1,3-Diethylbenzene	1.7519	1.7218	19.66	20	-2
1,4-Diethylbenzene	1.8399	1.8117	19.69	20	-2
1,2-Diethylbenzene	1.5340	1.4673	19.13	20	-4
1,2-Dibromo-3-Chloropropane	0.1877	0.1803	19.22	20	-4
1,3,5-Trichlorobenzene	1.3335	1.2326	18.49	20	-8
1,2,4-Trichlorobenzene	1.2983	1.1275	17.37	20	-13
Hexachlorobutadiene	0.6827	0.6074	17.79	20	-11
Naphthalene	3.3209	3.1311	18.86	20	-6
1,2,3-Trichlorobenzene	1.2343	1.1280	18.28	20	-9
2-Methylnaphthalene	2.1595	1.8004	16.67	20	-17

Average %Drift 7

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(=)=20%

GSX85 2073

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05____
Lab File ID: an17t01.d BFB Injection Date: 11/17/11
Instrument ID: HP09685 BFB Injection Time: 11:20
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.20
75	30.0 - 60.0% of mass 95	46.09
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.51
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	96.29
175	5.0 - 9.0% of mass 174	6.81 (7.07)1
176	Greater than 95.0%, but less than 101.0% of mass 174	91.64 (95.17)1
177	5.0 - 9.0% of mass 176	6.03 (6.58)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	an17c01.d	11/17/11	11:45
02	VLKA54	an17b02.d	11/17/11	12:30
03	LCSA54	an17l01.d	11/17/11	12:55
04	6463886	an17s01.d	11/17/11	13:43
05	6463887RE	an17s02.d	11/17/11	14:05
06	6463890	an17s03.d	11/17/11	14:28
07	6466514RE	an17s04.d	11/17/11	14:51
08	6466515	an17s05.d	11/17/11	15:14
09	6466523	an17s06.d	11/17/11	15:36
10	6465233	an17s07.d	11/17/11	15:59
11	6465241RE	an17s08.d	11/17/11	16:22
12	6465245	an17s09.d	11/17/11	16:44
13	6465249	an17s10.d	11/17/11	17:07
14	6465252	an17s11.d	11/17/11	17:30
15	6467791	an17s13.d	11/17/11	18:15
16	6467792	an17s14.d	11/17/11	19:01
17	6467793	an17s15.d	11/17/11	19:23
18	6467796	an17s16.d	11/17/11	19:46
19	6467797MS	an17s17.d	11/17/11	20:09
20	6467798MSD	an17s18.d	11/17/11	20:31
21	6467804	an17s19.d	11/17/11	20:54
22	6467794	an17s20.d	11/17/11	21:17

62805 5548

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05
Lab File ID: an17t01.d BFB Injection Date: 11/17/11
Instrument ID: HP09685 BFB Injection Time: 11:20
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.20
75	30.0 - 60.0% of mass 95	46.09
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.51
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	96.29
175	5.0 - 9.0% of mass 174	6.81 (7.07)1
176	Greater than 95.0%, but less than 101.0% of mass 174	91.64 (95.17)1
177	5.0 - 9.0% of mass 176	6.03 (6.58)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6465234RE	an17s21.d	11/17/11	21:40
24	6467803	an17s22.d	11/17/11	22:02
25	6467788	an17s23.d	11/17/11	22:25
26	6467792RE	an17s24.d	11/18/11	08:13

Not in this SDG

GSK05 2849

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/17/11 Time: 11:45
 Lab File ID: anl7c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4110	0.4496	54.69	50	9
# Chloromethane	0.3874	0.3525	45.50	50	-9 #
* Vinyl Chloride	0.3949	0.3443	43.60	50	-13 *
Bromomethane	0.2660	0.2294	43.12	50	-14
Chloroethane	0.2070	0.1845	44.55	50	-11
Trichlorofluoromethane	0.4712	0.4890	51.89	50	4
Ethanol	0.1185	0.1214	2559.86	2500	2
Freon 123a	0.3390	0.3247	47.89	50	-4
Acrolein	1.8504	2.0898	564.70	500	13
* 1,1-Dichloroethene	0.2531	0.2393	47.26	50	-5 *
Dichlorofluoromethane	0.5504	0.4849	44.05	50	-12
Freon 113	0.2691	0.2611	48.50	50	-3
Acetone	0.0295	0.0262	88.93	100	-11 NTC
Methyl Iodide	0.4834	0.4742	49.04	50	-2
2-Propanol	0.7225	0.8052	278.64	250	11
Carbon Disulfide	0.8526	0.8078	47.37	50	-5
Allyl Chloride	0.3672	0.3499	47.64	50	-5
Methyl Acetate	0.1971	0.2022	51.30	50	3
Methylene Chloride	0.3125	0.2809	44.94	50	-10
t-Butyl Alcohol	1.3104	1.4438	275.44	250	10
Acrylonitrile	0.1040	0.0997	47.90	50	-4
trans-1,2-Dichloroethene	0.2928	0.2771	47.32	50	-5
Methyl Tertiary Butyl Ether	0.8414	0.7381	43.86	50	-12
n-Hexane	0.3825	0.3653	47.75	50	-4
# 1,1-Dichloroethane	0.5059	0.4825	47.69	50	-5 #
2-Chloro-1,3-Butadiene	0.4086	0.3897	47.69	50	-5
di-Isopropyl Ether	0.8368	0.7734	46.22	50	-8
Ethyl t-Butyl Ether	0.8574	0.6038	35.21	50	-30 NTC
cis-1,2-Dichloroethene	0.3264	0.3009	46.10	50	-8
1,2-Dichloroethene (total)	0.3096	0.2890	93.41	100	-7
2,2-Dichloropropane	0.4370	0.4042	46.24	50	-8
2-Butanone	0.1426	0.1354	94.95	100	-5
Propionitrile	1.4327	1.6334	285.02	250	14
Methacrylonitrile	0.1362	0.1195	109.67	125	-12
Bromochloromethane	0.1615	0.1538	47.60	50	-5
Tetrahydrofuran	1.3454	1.5109	112.30	100	12

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

CSK85 8828

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/17/11 Time: 11:45
 Lab File ID: an17c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.5165	0.4830	46.76	50	-6 *
1,1,1-Trichloroethane	0.5026	0.4408	43.86	50	-12
Cyclohexane	0.4644	0.4385	47.21	50	-6
Cyclohexane(mz84)	0.4290	0.4042	47.11	50	-6
Cyclohexane(mz69)	0.1509	0.1413	46.82	50	-6
1,1-Dichloropropene	0.4021	0.3736	46.45	50	-7
Carbon Tetrachloride	0.3945	0.3797	48.11	50	-4
Benzene	1.1791	1.1069	46.94	50	-6
Isobutyl Alcohol	0.3996	0.4114	643.49	625	3
1,2-Dichloroethane	0.4148	0.3804	45.85	50	-8
1,2-Dichloroethane(mz98)	0.0373	0.0346	46.36	50	-7
t-Amyl Methyl Ether	0.7922	0.4414	27.86	50	-44 NTU
n-Heptane	0.3874	0.3771	48.67	50	-3
n-Butanol	0.3685	0.3809	1291.98	1250	3
Trichloroethene	0.3184	0.2957	46.44	50	-7
Methylcyclohexane	0.5114	0.4851	47.43	50	-5
* 1,2-Dichloropropane	0.3121	0.2795	44.79	50	-10 *
Dibromomethane	0.2018	0.1807	44.76	50	-10
1,4-Dioxane	0.1425	0.1408	617.51	625	-1
Methyl Methacrylate	0.2318	0.2097	45.23	50	-10
Bromodichloromethane	0.3832	0.3585	46.78	50	-6
2-Nitropropane	2.4963	3.3893	110.06	100	10
cis-1,3-Dichloropropene	0.4751	0.4432	46.64	50	-7
4-Methyl-2-Pentanone	0.3146	0.3266	103.80	100	4
* Toluene	0.9748	0.9489	48.67	50	-3 *
trans-1,3-Dichloropropene	0.5822	0.5683	48.81	50	-2
Ethyl Methacrylate	0.5060	0.4926	48.67	50	-3
1,1,2-Trichloroethane	0.3524	0.3352	47.56	50	-5
Tetrachloroethene	0.4370	0.4812	55.05	50	10
1,3-Dichloropropane	0.6061	0.5774	47.63	50	-5
2-Hexanone	0.3022	0.3263	96.18	100	-4
Dibromochloromethane	0.3846	0.4031	52.40	50	5
1,2-Dibromoethane	0.3638	0.3637	49.98	50	0
# Chlorobenzene	1.1280	1.1281	50.00	50	0 #
1,1,1,2-Tetrachloroethane	0.3829	0.4045	52.82	50	6
* Ethylbenzene	1.8321	1.8610	50.79	50	2 *

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK55 0091

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/17/11 Time: 11:45
 Lab File ID: an17c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
m+p-Xylene	0.7232	0.7301	100.95	100	1
Xylene (Total)	0.7229	0.7254	150.51	150	0
o-Xylene	0.7223	0.7160	49.56	50	-1
Styrene	1.1422	1.1757	51.46	50	3
# Bromoform	0.2758	0.2972	53.87	50	8 #
Isopropylbenzene	1.7926	1.8798	52.43	50	5
Cyclohexanone	0.4246	0.3600	529.94	625	-15
Bromobenzene	0.8523	0.8787	51.55	50	3
# 1,1,2,2-Tetrachloroethane	0.8928	0.8032	44.98	50	-10 #
1,2,3-Trichloropropane	0.2792	0.2425	43.44	50	-13
trans-1,4-Dichloro-2-Butene	0.2714	0.2463	113.44	125	-9
n-Propylbenzene	3.6752	3.6908	50.21	50	0
2-Chlorotoluene	0.8028	0.8059	50.19	50	0
1,3,5-Trimethylbenzene	2.6491	2.7452	51.81	50	4
4-Chlorotoluene	0.8303	0.8296	49.95	50	0
tert-Butylbenzene	0.6300	0.6472	51.37	50	3
Pentachloroethane	0.5238	0.5528	52.77	50	6
1,2,4-Trimethylbenzene	2.8366	2.8597	50.41	50	1
sec-Butylbenzene	3.3751	3.5208	52.16	50	4
1,3-Dichlorobenzene	1.6330	1.6759	51.31	50	3
p-Isopropyltoluene	3.0305	3.2099	52.96	50	6
1,4-Dichlorobenzene	1.6819	1.6927	50.32	50	1
1,2,3-Trimethylbenzene	2.8081	2.8214	50.24	50	0
Benzyl Chloride	0.4114	0.4028	48.96	50	-2
1,2-Dichlorobenzene	1.6067	1.6084	50.05	50	0
n-Butylbenzene	1.5719	1.5246	48.50	50	-3
1,3-Diethylbenzene	1.7519	1.8057	51.54	50	3
1,4-Diethylbenzene	1.8399	1.8867	51.27	50	3
1,2-Diethylbenzene	1.5340	1.5491	50.49	50	1
1,2-Dibromo-3-Chloropropane	0.1877	0.1745	46.49	50	-7
1,3,5-Trichlorobenzene	1.3335	1.4993	56.22	50	12
1,2,4-Trichlorobenzene	1.2983	1.3926	53.63	50	7
Hexachlorobutadiene	0.6827	0.8231	60.28	50	21
Naphthalene	3.3209	3.3605	50.60	50	1
1,2,3-Trichlorobenzene	1.2343	1.3588	55.04	50	10
2-Methylnaphthalene	2.1595	2.1911	50.73	50	1

NPL

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

68805 8892

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09685 Calibration Date: 11/17/11 Time: 11:45
 Lab File ID: anl7c01.d Init. Calib. Date(s): 08/05/11 08/05/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dibromofluoromethane	0.2428	0.2417	49.77	50	0
Dibromofluoromethane (mz111)	0.2484	0.2466	49.62	50	-1
1,2-Dichloroethane-d4	0.0575	0.0583	50.71	50	1
1,2-Dichloroethane-d4 (mz65)	0.2834	0.2791	49.25	50	-2
1,2-Dichloroethane-d4 (mz104)	0.0364	0.0367	50.45	50	1
Toluene-d8	1.2693	1.3144	51.78	50	4
Toluene-d8 (mz100)	0.8253	0.8567	51.91	50	4
4-Bromofluorobenzene	0.5117	0.4975	48.61	50	-3
4-Bromofluorobenzene (mz174)	0.4310	0.4647	53.91	50	8

Average %Drift 6

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

65X05.0093

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP09685.i/11aug05a.b/ag05i06.d
/chem2/HP09685.i/11aug05a.b/ag05i05.d
/chem2/HP09685.i/11aug05a.b/ag05i04.d
/chem2/HP09685.i/11aug05a.b/ag05i03.d
/chem2/HP09685.i/11aug05a.b/ag05i02.d
/chem2/HP09685.i/11aug05a.b/ag05i01.d

File /chem2/HP09685.i/11aug05a.b/ag05i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09685.i/11nov17a.b/an17c01.d

RT Summary

File ID:

=====

Internal Standard Name	an17c01.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	3.945	3.958	Yes
Fluorobenzene	7.407	7.413	Yes
Chlorobenzene-d5	10.960	10.954	Yes
1,4-Dichlorobenzene-d4	12.858	12.852	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	an17c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	138700	256942	128471	513884	Yes
Fluorobenzene	1143708	1477258	738629	2954516	Yes
Chlorobenzene-d5	845522	1179094	589547	2358188	Yes
1,4-Dichlorobenzene-d4	508009	695398	347699	1390796	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

GSK05. 0094

report generated on 11/17/2011 at 13:11

00005 0095

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05
 Lab File ID (Standard): anl7c01.d Date Analyzed: 11/17/11
 Instrument ID: HP09685 Time Analyzed: 11:45
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1143708	7.407	845522	10.960	508009	12.858	138700	3.945
UPPER LIMIT	2287416	7.907	1691044	11.460	1016018	13.358	277400	4.445
LOWER LIMIT	571854	6.907	422761	10.460	254004	12.358	69350	3.445
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
01 VBLKA54	1127986	7.413	827932	10.960	495583	12.858	131338	3.952
02 LCSA54	1143740	7.413	839105	10.960	505253	12.858	135954	3.951
03 6463886	1121370	7.407	766967	10.960	401627	12.858		
04 6463887RE	945967	7.413	597958	10.960	222751	* 12.858		Not Repd
05 6463890	1121142	7.413	742404	10.960	360122	12.858		
06 6466514RE	904114	7.413	603774	10.960	240897	* 12.858	118254	3.939 Not in SDG
07 6466515	1072179	7.413	705345	10.960	307366	12.858	113643	3.945
08 6466523	805918	7.407	606498	10.960	340273	12.858	88401	3.915
09 6465233	878070	7.407	653833	10.960	351615	12.858	129966	3.933
10 6465241RE	564131 *	7.413	178635*	10.960	44480	* 12.858	118053	3.957 Not in SDG
11 6465245	1098571	7.413	793078	10.960	469327	12.858	121223	3.952
12 6465249	1079884	7.407	773053	10.960	5257517	* 12.870	127061	3.933 Not in SDG
13 6465252	1057400	7.413	642772	10.960	241219	* 12.858	110760	3.957
14 6467791	1087890	7.413	788838	10.960	402121	12.858	147867	3.958
15 6467792	922770	7.413	581882	10.960	219908	* 12.858	115241	3.939 Not in SDG
16 6467793	979835	7.413	640296	10.960	307190	12.858	142370	3.945
17 6467796	827723	7.407	615534	10.960	310655	12.858	80683	3.927
18 6467797MS	975541	7.413	716575	10.960	399291	12.858	121401	3.939
19 6467798MSD	1078343	7.413	781006	10.960	430425	12.858	139769	3.957
20 6467804	1093378	7.407	790801	10.960	468071	12.858	149231	3.939
21 6467794	834716	7.407	485724	10.960	197043	* 12.858	141374	3.927 Not in SDG
22 6465234RE	724565	7.413	294567*	10.960	101305	* 12.858	142857	3.952

○ Reanalysis Not reported.
 Original sample analysis reported
 from 11/12/2011, inst. HP09193

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

GSK05. 8105

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05
 Lab File ID (Standard): anl7c01.d Date Analyzed: 11/17/11
 Instrument ID: HP09685 Time Analyzed: 11:45
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1143708	7.407	845522	10.960	508009	12.858	138700	3.945
UPPER LIMIT	2287416	7.907	1691044	11.460	1016018	13.358	277400	4.445
LOWER LIMIT	571854	6.907	422761	10.460	254004	12.358	69350	3.445
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
23 6467803	1064645	7.413	741320	10.960	388654	12.858	139588	3.946
24 6467788	1047344	7.413	676538	10.960	291037	12.858	109810	3.946
25 6467792RE	456875 *	7.407	288581*	10.960	106080 *	12.858	82797	3.933

not in
SDG

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.



Quality Control Summary
Surrogates
GC/MS Volatiles
SDG: GSK05
Matrix: LIQUID

Fraction: Volatiles by GC/MS

Y113142AA Sample	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKY84	109	80 - 116	107	77 - 113	95	80 - 113	87	78 - 113
LCSY84	104	80 - 116	105	77 - 113	99	80 - 113	98	78 - 113
LCDY84	102	80 - 116	106	77 - 113	99	80 - 113	97	78 - 113
6463885	111	80 - 116	106	77 - 113	94	80 - 113	86	78 - 113
6463894	110	80 - 116	109	77 - 113	94	80 - 113	87	78 - 113

GSK05: 8848



Quality Control Summary
 Method Blank
 GC/MS Volatiles
 SDG: GSK05
 Matrix: LIQUID

Fraction: Volatiles by GC/MS

Y113142AA / VBLKY84 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	11/10/11	N.D.	ug/l	2	5
Chloromethane	11/10/11	N.D.	ug/l	1	5
Vinyl Chloride	11/10/11	N.D.	ug/l	1	5
Bromomethane	11/10/11	N.D.	ug/l	1	5
Chloroethane	11/10/11	N.D.	ug/l	1	5
Freon 123a	11/10/11	N.D.	ug/l	2	5
Freon 113	11/10/11	N.D.	ug/l	2	10
Trichlorofluoromethane	11/10/11	N.D.	ug/l	2	5
1,1-Dichloroethene	11/10/11	N.D.	ug/l	0.8	5
Ethylbenzene	11/10/11	N.D.	ug/l	0.8	5
1,1,1,2-Tetrachloroethane	11/10/11	N.D.	ug/l	1	5
Methylene Chloride	11/10/11	N.D.	ug/l	2	5
Bromoform	11/10/11	N.D.	ug/l	1	5
1,1-Dichloroethane	11/10/11	N.D.	ug/l	1	5
1,1,2,2-Tetrachloroethane	11/10/11	N.D.	ug/l	1	5
Bromobenzene	11/10/11	N.D.	ug/l	1	5
1,2-Dichloroethene (Total)	11/10/11	N.D.	ug/l	0.8	5
1,2,3-Trichloropropane	11/10/11	N.D.	ug/l	1	5
Chloroform	11/10/11	N.D.	ug/l	0.8	5
2-Chlorotoluene	11/10/11	N.D.	ug/l	1	5
1,1,1-Trichloroethane	11/10/11	N.D.	ug/l	0.8	5
4-Chlorotoluene	11/10/11	N.D.	ug/l	1	5
Benzene	11/10/11	N.D.	ug/l	0.5	5
Carbon Tetrachloride	11/10/11	N.D.	ug/l	1	5
1,2-Dichloroethane	11/10/11	N.D.	ug/l	1	5
Trichloroethene	11/10/11	N.D.	ug/l	1	5
1,2-Dichloropropane	11/10/11	N.D.	ug/l	1	5
Dibromomethane	11/10/11	N.D.	ug/l	1	5
Bromodichloromethane	11/10/11	N.D.	ug/l	1	5
1,3-Dichlorobenzene	11/10/11	N.D.	ug/l	1	5
cis-1,3-Dichloropropene	11/10/11	N.D.	ug/l	1	5
1,4-Dichlorobenzene	11/10/11	N.D.	ug/l	1	5
Toluene	11/10/11	N.D.	ug/l	0.7	5
trans-1,3-Dichloropropene	11/10/11	N.D.	ug/l	1	5
Benzyl Chloride	11/10/11	N.D.	ug/l	1	5
1,2-Dichlorobenzene	11/10/11	N.D.	ug/l	1	5
1,1,2-Trichloroethane	11/10/11	N.D.	ug/l	0.8	5
Tetrachloroethene	11/10/11	N.D.	ug/l	0.8	5
Dibromochloromethane	11/10/11	N.D.	ug/l	1	5
Chlorobenzene	11/10/11	N.D.	ug/l	0.8	5
Xylene (Total)	11/10/11	N.D.	ug/l	0.8	5

GSK05 8838



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK05
Matrix: LIQUID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSY84 LCSD: LCDY84		Batch: Y113142AA (Sample number(s): 6463885, 6463894)						
Analyte	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	19.49	18.12	97	91	47-120	7	30
Chloromethane	20	17.57	16.92	88	85	60-129	4	30
Vinyl Chloride	20	18.46	17.57	92	88	65-125	5	30
Bromomethane	20	17.08	15.76	85	79	44-120	8	30
Chloroethane	20	13.48	12.75	67	64	49-129	6	30
Freon 123a	20	22.8	19.74	114	99	63-125	14	30
Freon 113	20	20.14	18.67	101	93	69-128	8	30
Trichlorofluoromethane	20	21.54	19.24	108	96	64-129	11	30
1,1-Dichloroethene	20	19.85	18.32	99	92	74-123	8	30
1,1,1,2-Tetrachloroethane	20	20.45	19.5	102	97	80-120	5	30
Ethylbenzene	20	18.7	17.81	94	89	79-120	5	30
Methylene Chloride	20	20.01	19.07	100	95	80-120	5	30
1,1-Dichloroethane	20	18.17	17.35	91	87	79-120	5	30
Bromoform	20	19.32	18.36	97	92	61-120	5	30
1,1,2,2-Tetrachloroethane	20	17.51	17.18	88	86	71-120	2	30
Bromobenzene	20	20.3	19.37	101	97	80-120	5	30
1,2-Dichloroethene (Total)	40	40.83	38.9	102	97	80-120	5	30
1,2,3-Trichloropropane	20	19.05	18.47	95	92	80-120	3	30
2-Chlorotoluene	20	19.62	18.97	98	95	80-120	3	30
Chloroform	20	19.86	18.8	99	94	77-122	5	30
1,1,1-Trichloroethane	20	20.02	18.7	100	93	75-127	7	30
4-Chlorotoluene	20	19.33	18.93	97	95	80-120	2	30
1,2-Dichloroethane	20	19.33	18.19	97	91	70-130	6	30
Benzene	20	18.84	18.08	94	90	79-120	4	30
Carbon Tetrachloride	20	20.32	18.75	102	94	75-123	8	30
Trichloroethene	20	20.12	19.22	101	96	80-120	5	30
1,2-Dichloropropane	20	17.36	16.72	87	84	78-120	4	30
Dibromomethane	20	19.89	18.69	99	93	80-120	6	30
1,3-Dichlorobenzene	20	20.3	19.47	102	97	80-120	4	30
Bromodichloromethane	20	18.83	17.39	94	87	80-120	8	30
cis-1,3-Dichloropropene	20	17.5	17.09	88	85	80-120	2	30
1,4-Dichlorobenzene	20	20.19	19.47	101	97	80-120	4	30
Toluene	20	19.18	18.44	96	92	79-120	4	30
trans-1,3-Dichloropropene	20	17.3	16.74	87	84	79-120	3	30
1,1,2-Trichloroethane	20	19.7	18.69	99	93	80-120	5	30
1,2-Dichlorobenzene	20	20.34	19.42	102	97	80-120	5	30
Benzyl Chloride	20	18.02	17.72	90	89	69-120	2	30
Tetrachloroethene	20	21.5	20.34	108	102	80-121	6	30
Dibromochloromethane	20	19.84	18.55	99	93	80-120	7	30
Chlorobenzene	20	20.2	19.03	101	95	80-120	6	30
Xylene (Total)	60	59.15	55.82	99	93	80-120	6	30

GSK05-0043

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05
 Lab File ID: yc31t05.d BFB Injection Date: 10/31/11
 Instrument ID: HP09355 BFB Injection Time: 20:16
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.05
75	30.0 - 60.0% of mass 95	50.78
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.86
173	Less than 2.0% of mass 174	0.41 (0.51)1
174	Greater than 50.0% of mass 95	80.91
175	5.0 - 9.0% of mass 174	5.90 (7.29)1
176	Greater than 95.0%, but less than 101.0% of mass 174	78.36 (96.85)1
177	5.0 - 9.0% of mass 176	5.31 (6.77)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	yc31i01.d	10/31/11	20:54
02	VSTD100	yc31i02.d	10/31/11	21:15
03	VSTD50	yc31i03.d	10/31/11	21:35
04	VSTD20	yc31i04.d	10/31/11	21:56
05	VSTD10	yc31i05.d	10/31/11	22:45
06	VSTD4	yc31i06.d	10/31/11	23:05
07	MDL001 - MDL001	yc31m01.d	10/31/11	23:28
08	LCSY71	yc31i05.d	11/01/11	00:10

GSK05 0850

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09355 Calibration Date(s): 10/31/11 10/31/11
Heated Purge: (Y/N) Y Calibration Times: 20:54 23:05
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID: RRF 4 = yc31i06.d RRF 10= yc31i05.d RRF 20= yc31i04.d
RRF 50= yc31i03.d RRF100= yc31i02.d RRF300= yc31i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.4823	0.4778	0.4596	0.4458	0.4027	0.4482		0.4527	6	AVG
Chloromethane	#0.4761	0.4817	0.4455	0.4448	0.3772	0.3486		0.4290	13	AVG
Vinyl Chloride	*0.4598	0.4681	0.4336	0.4264	0.3791	0.3448		0.4186	11	AVG
1,3-Butadiene	0.3333	0.2882	0.3005	0.2855	0.2436	0.2369		0.2813	13	AVG
Bromomethane	0.2933	0.2973	0.2672	0.2647	0.2435	0.2071		0.2622	13	AVG
Chloroethane	0.2575	0.2639	0.2411	0.2252	0.2010			0.2377	11	AVG
Dichlorofluoromethane	0.5123	0.5278	0.4996	0.4969	0.4675	0.4316		0.4893	7	AVG
Trichlorofluoromethane	0.5387	0.5269	0.4967	0.4925	0.4658	0.5125		0.5055	5	AVG
n-Pentane	0.5719	0.5492	0.5292	0.5154	0.4700	0.3950		0.5051	13	AVG
Ethyl Ether	0.3040	0.3158	0.2902	0.2923	0.2728	0.2393		0.2857	9	AVG
Freon 123a	0.3403	0.3327	0.3140	0.3111	0.2800	0.2717		0.3083	9	AVG
Acrolein	1.3717	1.4557	1.3768	1.2775	1.3111	1.0300		1.3038	11	AVG
1,1-Dichloroethene	*0.2878	0.2837	0.2636	0.2633	0.2477	0.2456		0.2653	7	AVG
Freon 113	0.3092	0.2977	0.2819	0.2930	0.2713	0.2951		0.2914	5	AVG
Acetone	0.0896	0.0881	0.0715	0.0692	0.0651			0.0767	15	AVG
Methyl Iodide	0.4860	0.5009	0.4756	0.4793	0.4547	0.4526		0.4749	4	AVG
2-Propanol	0.8924	0.9188	0.6819	0.8275	0.7428	0.7453		0.8015	12	AVG
Carbon Disulfide	0.8718	0.9064	0.8557	0.8695	0.8207	0.7717		0.8493	6	AVG
Allyl Chloride	0.5001	0.4926	0.4503	0.4566	0.4128	0.3966		0.4515	9	AVG
Methyl Acetate	0.5299	0.4951	0.4192	0.4467	0.3888	0.3694		0.4415	14	AVG
Methylene Chloride	0.3285	0.3326	0.3077	0.3074	0.2865	0.2695		0.3053	8	AVG
t-Butyl Alcohol	1.2843	1.3935	1.2975	1.3626	1.3136	1.3325		1.3306	3	AVG
Acrylonitrile	0.2703	0.2940	0.2484	0.2433	0.2298	0.2049		0.2484	13	AVG
trans-1,2-Dichloroethene	0.2986	0.3082	0.2870	0.2867	0.2700	0.2640		0.2858	6	AVG
Methyl Tertiary Butyl Ether	0.9896	1.0556	0.9805	1.0077	0.9581	0.9211		0.9854	5	AVG
n-Hexane	0.4927	0.4853	0.4684	0.4886	0.4414	0.4628		0.4732	4	AVG
1,2-Dichloroethene (total)	0.3074	0.3200	0.3011	0.3023	0.2844	0.2802		0.2992	5	AVG
1,1-Dichloroethane	#0.5696	0.5949	0.5585	0.5668	0.5327	0.5068		0.5549	6	AVG
di-Isopropyl Ether	1.0150	1.0872	1.0327	1.0550	0.9840	0.9123		1.0144	6	AVG
2-Chloro-1,3-Butadiene	0.4504	0.4847	0.4620	0.4817	0.4560	0.4667		0.4669	3	AVG
Ethyl t-Butyl Ether	0.9268	1.0091	0.9727	1.0209	0.9725	0.9318		0.9723	4	AVG
cis-1,2-Dichloroethene	0.3162	0.3318	0.3152	0.3178	0.2988	0.2964		0.3127	4	AVG
2-Butanone	0.3267	0.3800	0.3240	0.3347	0.3245	0.3021		0.3320	8	AVG
2,2-Dichloropropane	0.4242	0.4436	0.4226	0.4418	0.4264	0.4449		0.4339	2	AVG
Propionitrile	1.2725	1.3293	1.3129	1.2966	1.2875	1.2213		1.2867	3	AVG
Methacrylonitrile	0.2127	0.2320	0.2120	0.2196	0.2102	0.2057		0.2154	4	AVG
Bromochloromethane	0.1531	0.1594	0.1528	0.1597	0.1471	0.1549		0.1545	3	AVG
Tetrahydrofuran	1.1132	1.2100	1.1428	1.1215	1.1419	1.0617		1.1318	4	AVG
Chloroform	*0.5138	0.5315	0.4953	0.5093	0.4849	0.5010		0.5060	3	AVG
1,1,1-Trichloroethane	0.5700	0.5196	0.4944	0.4759	0.4582	0.4939		0.5020	8	AVG
Cyclohexane	0.5722	0.5767	0.5518	0.5882	0.5410	0.5809		0.5684	3	AVG
Cyclohexane(mz 84)	0.4813	0.4647	0.4437	0.4747	0.4367	0.4820		0.4638	4	AVG
Cyclohexane(mz 69)	0.1728	0.1752	0.1649	0.1744	0.1620	0.1751		0.1707	3	AVG
1,1-Dichloropropene	0.4171	0.4327	0.4112	0.4250	0.4059	0.4269		0.4198	2	AVG
Carbon Tetrachloride	0.3571	0.3701	0.3584	0.3739	0.3652	0.4128		0.3729	6	AVG
Isobutyl Alcohol	0.3778	0.3944	0.3746	0.3870	0.3888	0.4162		0.3898	4	AVG
Benzene	1.2944	1.3241	1.2301	1.2527	1.1898	1.1765		1.2446	5	AVG
1,2-Dichloroethane	0.4321	0.4568	0.4244	0.4429	0.4339	0.4640		0.4424	3	AVG
1,2-Dichloroethane(mz 98)	0.0371	0.0399	0.0375	0.0390	0.0375	0.0387		0.0383	3	AVG
t-Amyl Methyl Ether	0.8453	0.9233	0.8759	0.9339	0.9036	0.9172		0.8999	4	AVG
n-Heptane	0.5467	0.5293	0.5177	0.5042	0.4710	0.5228		0.5153	5	AVG
n-Butanol	0.2969	0.3215	0.3179	0.3340	0.3304	0.3683		0.3282	7	AVG

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

GSK05 0074

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date(s): 10/31/11 10/31/11
 Heated Purge: (Y/N) Y Calibration Times: 20:54 23:05
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID:	RRF 4 = yc31i06.d	RRF 10= yc31i05.d	RRF 20= yc31i04.d	RRF 50= yc31i03.d	RRF100= yc31i02.d	RRF300= yc31i01.d	RRF =			
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Trichloroethene	0.3119	0.3279	0.3076	0.3132	0.3053	0.3164		0.3137	3	AVG
1,2-Dichloropropane	*0.3284	0.3530	0.3311	0.3450	0.3288	0.3299		0.3360	3	AVG *
Methylcyclohexane(mz98)	0.2401	0.2402	0.2481	0.2588	0.2341	0.2766		0.2496	6	AVG
Methylcyclohexane	0.5602	0.5475	0.5686	0.5880	0.5314	0.6126		0.5681	5	AVG
Methyl Methacrylate	0.2878	0.3242	0.3069	0.3364	0.3363	0.3524		0.3240	7	AVG
Dibromomethane	0.1974	0.2102	0.1958	0.2063	0.2008	0.2114		0.2036	3	AVG
1,4-Dioxane	0.0768	0.0864	0.0838	0.1022	0.0791			0.0856	12	AVG
Bromodichloromethane	0.3414	0.3735	0.3548	0.3871	0.3849	0.4158		0.3762	7	AVG
2-Nitropropane	0.1330	0.1498	0.1337	0.1472	0.1520	0.1631		0.1465	8	AVG
2-Chloroethyl Vinyl Ether	0.1900	0.2273	0.2294	0.2496	0.2472	0.2492		0.2321	10	AVG
cis-1,3-Dichloropropene	0.4226	0.4915	0.4730	0.5091	0.5021	0.5271		0.4876	8	AVG
4-Methyl-2-Pentanone	0.5214	0.6688	0.5883	0.6172	0.6083	0.5829		0.5978	8	AVG
Toluene	*1.1139	1.1518	1.0751	1.0895	1.0457	1.0467		1.0871	4	AVG *
trans-1,3-Dichloropropene	0.5653	0.6417	0.6195	0.6704	0.6721	0.6975		0.6444	7	AVG
Ethyl Methacrylate	0.5140	0.6233	0.6164	0.6847	0.6883	0.6940		0.6368	11	AVG
1,1,2-Trichloroethane	0.3959	0.4347	0.3986	0.4143	0.4012	0.4045		0.4082	4	AVG
Tetrachloroethene	0.4876	0.4958	0.4665	0.4787	0.4596	0.4904		0.4798	3	AVG
1,3-Dichloropropane	0.7017	0.7619	0.7082	0.7387	0.7201	0.7259		0.7261	3	AVG
2-Hexanone	0.5672	0.7126	0.6295	0.6718	0.6609	0.6178		0.6433	8	AVG
Dibromochloromethane	0.3480	0.3897	0.3866	0.4171	0.4221	0.4553		0.4031	9	AVG
1,2-Dibromoethane	0.3991	0.4462	0.4148	0.4341	0.4296	0.4439		0.4279	4	AVG
Chlorobenzene	#1.2219	1.2851	1.1908	1.2221	1.1826	1.2123		1.2191	3	AVG #
1,1,1,2-Tetrachloroethane	0.3751	0.4087	0.3858	0.4134	0.4059	0.4375		0.4044	5	AVG
Ethylbenzene	*1.9812	2.1399	2.0527	2.1282	2.0560	2.0448		2.0671	3	AVG *
m+p-Xylene	0.7711	0.8454	0.8163	0.8423	0.8205	0.8315		0.8212	3	AVG
Xylene (Total)	0.7585	0.8373	0.8087	0.8372	0.8189	0.8384		0.8165	4	AVG
o-Xylene	0.7332	0.8212	0.7935	0.8269	0.8157	0.8522		0.8071	5	AVG
Styrene	1.0987	1.2850	1.2703	1.3565	1.3449	1.4014		1.2928	8	AVG
Bromoform	#0.2436	0.2876	0.2803	0.3157	0.3293	0.3712		0.3046	15	AVG #
Isopropylbenzene	1.9017	2.1495	2.0510	2.1582	2.0877	2.0578		2.0677	4	AVG
Cyclohexanone	0.3095	0.3333	0.3394	0.4036	0.3494	0.4445		0.3633	14	AVG
1,1,2,2-Tetrachloroethane	#1.1592	1.2489	1.1434	1.1765	1.1251	1.0474		1.1501	6	AVG #
trans-1,4-Dichloro-2-Butene	0.3889	0.4462	0.4040	0.4180	0.4067	0.3826		0.4077	6	AVG
Bromobenzene	0.8549	0.8983	0.8435	0.8666	0.8232	0.8078		0.8490	4	AVG
1,2,3-Trichloropropane	0.3641	0.3846	0.3579	0.3643	0.3499	0.3401		0.3601	4	AVG
n-Propylbenzene	4.2950	4.5501	4.2769	4.3095	3.9963	3.1677		4.0992	12	AVG
2-Chlorotoluene	0.8267	0.8982	0.8528	0.8597	0.8182	0.8007		0.8427	4	AVG
1,3,5-Trimethylbenzene	2.9511	3.2043	3.0908	3.1471	3.0195	2.6425		3.0092	7	AVG
4-Chlorotoluene	0.8655	0.9373	0.8959	0.9039	0.8776	0.8399		0.8867	4	AVG
tert-Butylbenzene	0.5932	0.6669	0.6493	0.6897	0.6714	0.6822		0.6588	5	AVG
Pentachloroethane	0.4312	0.4933	0.4849	0.5229	0.5076	0.5502		0.4983	8	AVG
1,2,4-Trimethylbenzene	2.8875	3.2754	3.1645	3.2444	3.0680	2.6822		3.0537	8	AVG
sec-Butylbenzene	3.6733	4.0004	3.8225	3.9623	3.7307	3.0664		3.7093	9	AVG
p-Isopropyltoluene	3.3036	3.5628	3.3941	3.5452	3.3391	2.8131		3.3263	8	AVG
1,3-Dichlorobenzene	1.7160	1.8341	1.7240	1.7345	1.6574	1.6186		1.7141	4	AVG
1,4-Dichlorobenzene	1.8299	1.9275	1.7932	1.8046	1.7258	1.6857		1.7944	5	AVG
1,2,3-Trimethylbenzene	3.0633	3.2948	3.2399	3.3129	3.0238	2.6662		3.1002	8	AVG
Benzyl Chloride	1.9493	2.2906	2.2620	2.4566	2.4218	2.2312		2.2686	8	AVG
1,3-Diethylbenzene	1.7752	1.9814	1.9555	2.0426	1.8821	1.8618		1.9165	5	AVG
1,4-Diethylbenzene	1.9180	2.1404	2.0990	2.1969	2.0390	1.9619		2.0592	5	AVG
n-Butylbenzene	1.7180	1.8762	1.7595	1.8155	1.7111	1.6256		1.7510	5	AVG
1,2-Dichlorobenzene	1.7029	1.8651	1.7389	1.7844	1.7124	1.6022		1.7343	5	AVG

Minimum RRF for SPCC(%) = 0.10
 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %RSD for CCC(%) = 30%

GSK05 0075

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date(s): 10/31/11 10/31/11
 Heated Purge: (Y/N) Y Calibration Times: 20:54 23:05
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID: RRF 4 = yc31i06.d RRF 10= yc31i05.d RRF 20= yc31i04.d
 RRF 50= yc31i03.d RRF100= yc31i02.d RRF300= yc31i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1,2-Diethylbenzene	1.6147	1.7451	1.6856	1.7581	1.6219	1.6245		1.6750	4	AVG
1,2-Dibromo-3-Chloropropane	0.2850	0.3245	0.3055	0.3380	0.3311	0.3434		0.3213	7	AVG
1,3,5-Trichlorobenzene	1.3042	1.4547	1.3332	1.3949	1.3194	1.3332		1.3566	4	AVG
1,2,4-Trichlorobenzene	1.1629	1.3107	1.2097	1.2953	1.2368	1.2287		1.2407	4	AVG
Hexachlorobutadiene	0.5685	0.6186	0.5556	0.5849	0.5435	0.5779		0.5748	5	AVG
Naphthalene	3.5919	4.5473	4.1221	4.5626	4.2187	3.0287		4.0119	15	AVG
1,2,3-Trichlorobenzene	1.1955	1.3431	1.1897	1.3109	1.2011	1.2171		1.2429	5	AVG
2-Methylnaphthalene	1.5725	2.2930	2.0910	2.8026	2.3008	2.2915		2.2252	18	1STDG
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Dibromofluoromethane	0.2277	0.2284	0.2277	0.2296	0.2261	0.2298		0.2282	1	AVG
Dibromofluoromethane(mz111)	0.2327	0.2338	0.2329	0.2336	0.2316	0.2345		0.2332	0	AVG
1,2-Dichloroethane-d4	0.0607	0.0621	0.0613	0.0594	0.0601	0.0582		0.0603	2	AVG
1,2-Dichloroethane-d4(mz104)	0.0378	0.0391	0.0385	0.0381	0.0385	0.0377		0.0383	1	AVG
Toluene-d8(mz100)	0.9012	0.9115	0.8998	0.9006	0.8925	0.8761		0.8969	1	AVG
1,2-Dichloroethane-d4(mz65)	0.3045	0.3071	0.3125	0.3252	0.3084	0.3162		0.3123	2	AVG
4-Bromofluorobenzene(mz174)	0.4207	0.4200	0.4171	0.4198	0.4198	0.4399		0.4229	2	AVG
Toluene-d8	1.4082	1.4157	1.4007	1.3963	1.3870	1.3414		1.3915	2	AVG
4-Bromofluorobenzene	0.5212	0.5235	0.5159	0.5159	0.5184	0.5327		0.5213	1	AVG

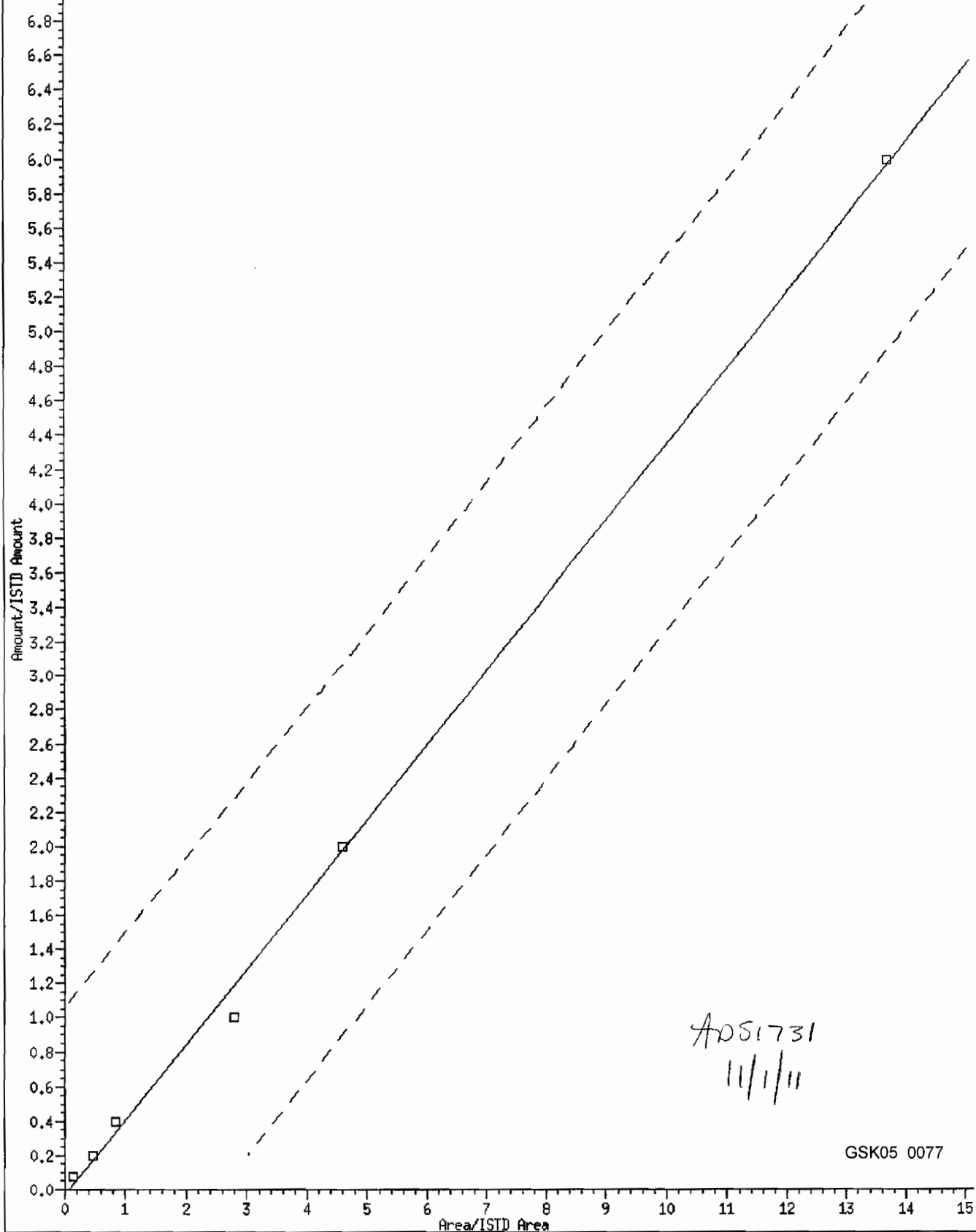
Average %RSD 6

Minimum RRF for SPCC(#) = 0.10
 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %RSD for CCC(*) = 30%

GSK05 0076

154 2-Methylnaphthalene

Curve Type: Linear By-Response
 Amt = $-0.0289323 + \text{Rsp}/2.29092$
 $R^2: 0.9981715$



AD51731
 11/1/11

GSK05 0077

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP09355.i/11oct31c.b/yc31i01.d VSTD300
/chem2/HP09355.i/11oct31c.b/yc31i02.d VSTD100
/chem2/HP09355.i/11oct31c.b/yc31i03.d VSTD050
/chem2/HP09355.i/11oct31c.b/yc31i04.d VSTD020
/chem2/HP09355.i/11oct31c.b/yc31i05.d VSTD010
/chem2/HP09355.i/11oct31c.b/yc31i06.d VSTD004

Area Summary

File ID:

=====

Internal Standard Name	yc31i01.d	yc31i02.d	yc31i03.d	yc31i04.d	yc31i05.d	yc31i06.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	463372	525498	549260	530250	578758	540797	531322	7	Yes
Fluorobenzene	1204268	1421395	1399426	1452611	1409030	1411771	1383084	6	Yes
Chlorobenzene-d5	905312	1020330	997257	1020026	981013	981636	984262	4	Yes
1,4-Dichlorobenzene-d4	632955	634942	602110	604319	586052	587805	608030	4	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

=====

Internal Standard Name	yc31i01.d	yc31i02.d	yc31i03.d	yc31i04.d	yc31i05.d	yc31i06.d	Avg. RT
t-Butyl Alcohol-d10	2.133	2.127	2.133	2.139	2.121	2.133	2.131
Fluorobenzene	4.263	4.263	4.262	4.269	4.263	4.262	4.263
Chlorobenzene-d5	7.450	7.444	7.444	7.444	7.444	7.444	7.445
1,4-Dichlorobenzene-d4	9.446	9.440	9.439	9.440	9.440	9.440	9.441

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 11/01/2011 at 01:14.

GSK05 0079

Page GSK05 0078 is void
lct00404 - 1/19/12

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 11/01/11 Time: 00:10
 Lab File ID: yc31105.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT	
Dichlorodifluoromethane	0.4527	0.4237	18.72	20	-6	
# Chloromethane	0.4290	0.4499	20.97	20	5	#
* Vinyl Chloride	0.4186	0.4454	21.28	20	6	*
1,3-Butadiene	0.2813	0.2674	19.01	20	-5	
Bromomethane	0.2622	0.2363	18.02	20	-10	
Chloroethane	0.2377	0.1860	15.65	20	-22	
Dichlorofluoromethane	0.4893	0.4958	20.27	20	1	
Trichlorofluoromethane	0.5055	0.5014	19.84	20	-1	
n-Pentane	0.5051	0.4021	15.92	20	-20	
Ethyl Ether	0.2857	0.2639	18.47	20	-8	
Freon 123a	0.3083	0.3211	20.83	20	4	
Acrolein	1.3038	0.8646	99.48	150	-34	NTC
* 1,1-Dichloroethene	0.2653	0.2866	21.61	20	8	*
Freon 113	0.2914	0.2901	19.91	20	0	
Acetone	0.0767	0.0665	130.08	150	-13	
Methyl Iodide	0.4749	0.4892	20.61	20	3	
2-Propanol	0.8015	0.8697	162.78	150	9	
Carbon Disulfide	0.8493	0.8233	19.39	20	-3	
Allyl Chloride	0.4515	0.4624	20.48	20	2	
Methyl Acetate	0.4415	0.5609	25.41	20	27	NTC
Methylene Chloride	0.3053	0.3355	21.97	20	10	
t-Butyl Alcohol	1.3306	1.3738	206.48	200	3	
Acrylonitrile	0.2484	0.2262	91.03	100	-9	
trans-1,2-Dichloroethene	0.2858	0.3135	21.94	20	10	
Methyl Tertiary Butyl Ether	0.9854	1.0307	20.92	20	5	
n-Hexane	0.4732	0.4741	20.04	20	0	
1,2-Dichloroethene (total)	0.2992	0.3277	43.80	40	10	
# 1,1-Dichloroethane	0.5549	0.6050	21.81	20	9	#
di-Isopropyl Ether	1.0144	1.0555	20.81	20	4	
2-Chloro-1,3-Butadiene	0.4669	0.4934	21.14	20	6	
Ethyl t-Butyl Ether	0.9723	1.0082	20.74	20	4	
cis-1,2-Dichloroethene	0.3127	0.3418	21.86	20	9	
2-Butanone	0.3320	0.3220	145.46	150	-3	
2,2-Dichloropropane	0.4339	0.4598	21.19	20	6	
Propionitrile	1.2867	1.3660	159.24	150	6	
Methacrylonitrile	0.2154	0.2281	158.90	150	6	

Minimum RRF for SPCC(#) = 0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*) = 20%

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 11/01/11 Time: 00:10
 Lab File ID: yc31105.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====
Bromochloromethane	0.1545	0.1551	20.07	20	0
Tetrahydrofuran	1.1318	1.1135	98.38	100	-2
* Chloroform	0.5060	0.5329	21.06	20	5 *
1,1,1-Trichloroethane	0.5020	0.5055	20.14	20	1
Cyclohexane	0.5684	0.5767	20.29	20	1
1,1-Dichloropropene	0.4198	0.4497	21.42	20	7
Carbon Tetrachloride	0.3729	0.3821	20.49	20	2
Isobutyl Alcohol	0.3898	0.3980	510.56	500	2
Benzene	1.2446	1.3489	21.68	20	8
1,2-Dichloroethane	0.4424	0.4631	20.94	20	5
t-Amyl Methyl Ether	0.8999	0.9163	20.37	20	2
n-Heptane	0.5153	0.4799	18.63	20	-7
n-Butanol	0.3282	0.3321	1011.86	1000	1
Trichloroethene	0.3137	0.3369	21.48	20	7
* 1,2-Dichloropropane	0.3360	0.3571	21.26	20	6 *
Methylcyclohexane	0.5681	0.5620	19.78	20	-1
Methyl Methacrylate	0.3240	0.3152	19.46	20	-3
Dibromomethane	0.2036	0.2129	20.91	20	5
1,4-Dioxane	0.0856	0.1007	587.58	500	18
Bromodichloromethane	0.3762	0.3779	20.09	20	0
2-Nitropropane	0.1465	0.1230	16.79	20	-16
2-Chloroethyl Vinyl Ether	0.2321	0.2390	20.60	20	3
cis-1,3-Dichloropropene	0.4876	0.5051	20.72	20	4
4-Methyl-2-Pentanone	0.5978	0.5824	97.42	100	-3
* Toluene	1.0871	1.1598	21.34	20	7 *
trans-1,3-Dichloropropene	0.6444	0.6648	20.63	20	3
Ethyl Methacrylate	0.6368	0.6767	21.25	20	6
1,1,2-Trichloroethane	0.4082	0.4325	21.19	20	6
Tetrachloroethene	0.4798	0.5023	20.94	20	5
1,3-Dichloropropane	0.7261	0.7666	21.12	20	6
2-Hexanone	0.6433	0.6363	98.92	100	-1
Dibromochloromethane	0.4031	0.4052	20.10	20	1
1,2-Dibromoethane	0.4279	0.4479	20.93	20	5
# Chlorobenzene	1.2191	1.2816	21.02	20	5 #
1,1,1,2-Tetrachloroethane	0.4044	0.4119	20.37	20	2
* Ethylbenzene	2.0671	2.1691	20.99	20	5 *

Minimum RRF for SPCC(#) = 0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*) = 20%

GSK05 0081

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 11/01/11 Time: 00:10
 Lab File ID: yc31105.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
m+p-Xylene	0.8212	0.8717	42.46	40	6
Xylene (Total)	0.8165	0.6106	63.50	60	6
o-Xylene	0.8071	0.8488	21.03	20	5
Styrene	1.2928	1.3595	21.03	20	5
# Bromoform	0.3046	0.2942	19.31	20	-3 #
Isopropylbenzene	2.0677	2.1856	21.14	20	6
Cyclohexanone	0.3633	0.3489	480.20	500	-4
# 1,1,2,2-Tetrachloroethane	1.1501	1.2424	21.60	20	8 #
trans-1,4-Dichloro-2-Butene	0.4077	0.4339	106.41	100	6
Bromobenzene	0.8490	0.9077	21.38	20	7
1,2,3-Trichloropropane	0.3601	0.3839	21.32	20	7
n-Propylbenzene	4.0992	4.5510	22.20	20	11
2-Chlorotoluene	0.8427	0.9107	21.61	20	8
1,3,5-Trimethylbenzene	3.0092	3.2770	21.78	20	9
4-Chlorotoluene	0.8867	0.9365	21.12	20	6
tert-Butylbenzene	0.6588	0.6948	21.09	20	5
Pentachloroethane	0.4983	0.4764	19.12	20	-4
1,2,4-Trimethylbenzene	3.0537	3.3601	22.01	20	10
sec-Butylbenzene	3.7093	4.0735	21.96	20	10
p-Isopropyltoluene	3.3263	3.6080	21.69	20	8
1,3-Dichlorobenzene	1.7141	1.8090	21.11	20	6
1,4-Dichlorobenzene	1.7944	1.9066	21.25	20	6
1,2,3-Trimethylbenzene	3.1002	3.2753	21.13	20	6
Benzyl Chloride	2.2686	2.4036	21.19	20	6
1,3-Diethylbenzene	1.9165	1.9913	20.78	20	4
1,4-Diethylbenzene	2.0592	2.0975	20.37	20	2
n-Butylbenzene	1.7510	1.8530	21.17	20	6
1,2-Dichlorobenzene	1.7343	1.8166	20.95	20	5
1,2-Diethylbenzene	1.6750	1.6951	20.24	20	1
1,2-Dibromo-3-Chloropropane	0.3213	0.3290	20.48	20	2
1,3,5-Trichlorobenzene	1.3566	1.4284	21.06	20	5
1,2,4-Trichlorobenzene	1.2407	1.3037	21.02	20	5
Hexachlorobutadiene	0.5748	0.5858	20.38	20	2
Naphthalene	4.0119	4.5648	22.76	20	14
1,2,3-Trichlorobenzene	1.2429	1.3098	21.08	20	5
2-Methylnaphthalene	2.2252	2.3383	18.97	20	-5

Minimum RRF for SPCC(=)0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 11/01/11 Time: 00:10
 Lab File ID: yc31105.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====

Average %Drift 6

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05____
Lab File ID: yn10t05.d BFB Injection Date: 11/10/11
Instrument ID: HP09355 BFB Injection Time: 16:02
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.88
75	30.0 - 60.0% of mass 95	47.38
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.85
173	Less than 2.0% of mass 174	0.12 (0.13)1
174	Greater than 50.0% of mass 95	85.99
175	5.0 - 9.0% of mass 174	6.12 (7.11)1
176	Greater than 95.0%, but less than 101.0% of mass 174	82.27 (95.67)1
177	5.0 - 9.0% of mass 176	5.69 (6.91)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	yn10c05.d	11/10/11	16:20
02	VSTD50	yn10c06.d	11/10/11	16:41
03	VBLKY84	yn10b05.d	11/10/11	17:02
04	LCSY84	yn10l05.d	11/10/11	17:23
05	LCDY84	yn10l06.d	11/10/11	17:44
06	LCSLY84	yn10l07.d	11/10/11	18:05
07	LCDLY84	yn10l08.d	11/10/11	18:26
08	6463885	yn10s52.d	11/10/11	20:01
09	6463894	yn10s53.d	11/10/11	20:22
10	6465505	yn10s54.d	11/10/11	20:43
11	6465506	yn10s55.d	11/10/11	21:04
12	6464740	yn10s56.d	11/10/11	21:25
13	6464820	yn10s57.d	11/10/11	21:46
14	6462384	yn10s58.d	11/10/11	22:06
15	6462385	yn10s59.d	11/10/11	22:27
16	6463613	yn10s60.d	11/10/11	22:48
17	6463614	yn10s61.d	11/10/11	23:08
18	6465254	yn10s62.d	11/10/11	23:29
19	6465255	yn10s63.d	11/10/11	23:50
20	6462256	yn10s64.d	11/11/11	00:11
21	6462257	yn10s65.d	11/11/11	00:31
22	6462258	yn10s66.d	11/11/11	00:52

GSK05 0051

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05____
 Lab File ID: yn10t05.d BFB Injection Date: 11/10/11
 Instrument ID: HP09355 BFB Injection Time: 16:02
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.88
75	30.0 - 60.0% of mass 95	47.38
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.85
173	Less than 2.0% of mass 174	0.12 (0.13)1
174	Greater than 50.0% of mass 95	85.99
175	5.0 - 9.0% of mass 174	6.12 (7.11)1
176	Greater than 95.0%, but less than 101.0% of mass 174	82.27 (95.67)1
177	5.0 - 9.0% of mass 176	5.69 (6.91)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6462259	yn10s67.d	11/11/11	01:13
24	6459302	yn10s68.d	11/11/11	01:34
25	6459624RE	yn10s69.d	11/11/11	01:55

GSK05 8852

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 11/10/11 Time: 16:20
 Lab File ID: yn10c05.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4527	0.4543	50.17	50	0
# Chloromethane	0.4290	0.3415	39.81	50	-20 #
* Vinyl Chloride	0.4186	0.3677	43.92	50	-12 *
1,3-Butadiene	0.2813	0.2372	42.15	50	-16
Bromomethane	0.2622	0.2409	45.93	50	-8
Chloroethane	0.2377	0.1906	40.09	50	-20
Dichlorofluoromethane	0.4893	0.5417	55.35	50	11
Trichlorofluoromethane	0.5055	0.5323	52.65	50	5
n-Pentane	0.5051	0.4668	46.21	50	-8
Ethyl Ether	0.2857	0.4475	78.31	50	57 NTC
Freon 123a	0.3083	0.3323	53.90	50	8
Acrolein	1.3038	1.0611	406.93	500	-19
* 1,1-Dichloroethene	0.2653	0.2717	51.20	50	2 *
Freon 113	0.2914	0.3288	56.43	50	13
Acetone	0.0767	0.0595	77.61	100	-22 NTC
Methyl Iodide	0.4749	0.5174	54.47	50	9
2-Propanol	0.8015	0.7095	221.30	250	-11
Carbon Disulfide	0.8493	0.8164	48.06	50	-4
Allyl Chloride	0.4515	0.3523	39.01	50	-22 NTC
Methyl Acetate	0.4415	0.3601	40.78	50	-18
Methylene Chloride	0.3053	0.3008	49.26	50	-1
t-Butyl Alcohol	1.3306	1.1600	217.93	250	-13
Acrylonitrile	0.2484	0.1805	36.32	50	-27 NTC
trans-1,2-Dichloroethene	0.2858	0.2854	49.94	50	0
Methyl Tertiary Butyl Ether	0.9854	0.8939	45.35	50	-9
n-Hexane	0.4732	0.4287	45.29	50	-9
1,2-Dichloroethene (total)	0.2992	0.2976	99.47	100	-1
# 1,1-Dichloroethane	0.5549	0.4866	43.85	50	-12 #
di-Isopropyl Ether	1.0144	0.7742	38.16	50	-24 NTC
2-Chloro-1,3-Butadiene	0.4669	0.4217	45.16	50	-10
Ethyl t-Butyl Ether	0.9723	0.8084	41.57	50	-17
cis-1,2-Dichloroethene	0.3127	0.3097	49.53	50	-1
2-Butanone	0.3320	0.2403	72.37	100	-28 NTC
2,2-Dichloropropane	0.4339	0.4185	48.22	50	-4
Propionitrile	1.2867	1.0547	204.93	250	-18
Methacrylonitrile	0.2154	0.1929	111.99	125	-10

Minimum RRF for SPCC(*)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

65K85 8896

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 11/10/11 Time: 16:20
 Lab File ID: yn10c05.d Init. Calih. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
=====	=====	=====	=====	=====	=====	
Bromochloromethane	0.1545	0.1668	53.98	50	8	
Tetrahydrofuran	1.1318	0.8971	79.26	100	-21	NTC
* Chloroform	0.5060	0.4953	48.95	50	-2	*
1,1,1-Trichloroethane	0.5020	0.4719	47.01	50	-6	
Cyclohexane	0.5684	0.4939	43.44	50	-13	
Cyclohexane(mz 84)	0.4638	0.4638	50.00	50	0	
Cyclohexane(mz 69)	0.1707	0.1614	47.26	50	-5	
1,1-Dichloropropene	0.4198	0.3915	46.63	50	-7	
Carbon Tetrachloride	0.3729	0.3958	53.07	50	6	
Isobutyl Alcohol	0.3898	0.3185	510.74	625	-18	
Benzene	1.2446	1.1493	46.17	50	-8	
1,2-Dichloroethane	0.4424	0.4235	47.87	50	-4	
1,2-Dichloroethane(mz 98)	0.0383	0.0383	50.06	50	0	
t-Amyl Methyl Ether	0.8999	0.7996	44.43	50	-11	
n-Heptane	0.5153	0.4238	41.12	50	-18	
n-Butanol	0.3282	0.2855	1087.45	1250	-13	
Trichloroethene	0.3137	0.3130	49.88	50	0	
* 1,2-Dichloropropane	0.3360	0.2870	42.71	50	-15	*
Methylcyclohexane(mz98)	0.2496	0.2680	53.68	50	7	
Methylcyclohexane	0.5681	0.5785	50.91	50	2	
Methyl Methacrylate	0.3240	0.2923	45.10	50	-10	
Dibromomethane	0.2036	0.2007	49.26	50	-1	
1,4-Dioxane	0.0856	0.1031	752.51	625	20	
Bromodichloromethane	0.3762	0.3721	49.46	50	-1	
2-Nitropropane	0.1465	0.1255	85.65	100	-14	
2-Chloroethyl Vinyl Ether	0.2321	0.2089	44.99	50	-10	
cis-1,3-Dichloropropene	0.4876	0.4513	46.28	50	-7	
4-Methyl-2-Pentanone	0.5978	0.4515	75.53	100	-24	NTC
* Toluene	1.0871	1.0237	47.08	50	-6	*
trans-1,3-Dichloropropene	0.6444	0.5842	45.33	50	-9	
Ethyl Methacrylate	0.6368	0.5637	44.26	50	-11	
1,1,2-Trichloroethane	0.4082	0.3957	48.47	50	-3	
Tetrachloroethene	0.4798	0.5060	52.73	50	5	
1,3-Dichloropropane	0.7261	0.6517	44.88	50	-10	
2-Hexanone	0.6433	0.4813	74.81	100	-25	NTC
Dibromochloromethane	0.4031	0.4222	52.37	50	5	

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

63185 8897

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 11/10/11 Time: 16:20
 Lab File ID: yn10c05.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,2-Dibromoethane	0.4279	0.4273	49.92	50	0
# Chlorobenzene	1.2191	1.2116	49.69	50	-1 #
1,1,1,2-Tetrachloroethane	0.4044	0.4213	52.09	50	4
* Ethylbenzene	2.0671	2.0016	48.42	50	-3 *
m+p-Xylene	0.8212	0.8226	100.17	100	0
Xylene (Total)	0.8165	0.8144	149.60	150	0
o-Xylene	0.8071	0.7980	49.43	50	-1
Styrene	1.2928	1.3258	51.28	50	3
# Bromoform	0.3046	0.3293	54.05	50	8 #
Isopropylbenzene	2.0677	2.1362	51.66	50	3
Cyclohexanone	0.3633	0.3280	564.18	625	-10
# 1,1,2,2-Tetrachloroethane	1.1501	1.0290	44.74	50	-11 #
trans-1,4-Dichloro-2-Butene	0.4077	0.3230	99.03	125	-21
Bromobenzene	0.8490	0.8431	49.65	50	-1
1,2,3-Trichloropropane	0.3601	0.3415	47.41	50	-5
n-Propylbenzene	4.0992	3.8607	47.09	50	-6
2-Chlorotoluene	0.8427	0.8263	49.03	50	-2
1,3,5-Trimethylbenzene	3.0092	2.9487	48.99	50	-2
4-Chlorotoluene	0.8867	0.8523	48.06	50	-4
tert-Butylbenzene	0.6588	0.6674	50.65	50	1
Pentachloroethane	0.4983	0.5304	53.21	50	6
1,2,4-Trimethylbenzene	3.0537	3.0374	49.73	50	-1
sec-Butylbenzene	3.7093	3.7774	50.92	50	2
p-Isopropyltoluene	3.3263	3.4359	51.65	50	3
1,3-Dichlorobenzene	1.7141	1.7316	50.51	50	1
1,4-Dichlorobenzene	1.7944	1.7992	50.13	50	0
1,2,3-Trimethylbenzene	3.1002	3.0614	49.37	50	-1
Benzyl Chloride	2.2686	2.1951	48.38	50	-3
1,3-Diethylbenzene	1.9165	1.9690	51.37	50	3
1,4-Diethylbenzene	2.0592	2.0987	50.96	50	2
n-Butylbenzene	1.7510	1.6908	48.28	50	-3
1,2-Dichlorobenzene	1.7343	1.7448	50.30	50	1
1,2-Diethylbenzene	1.6750	1.7135	51.15	50	2
1,2-Dibromo-3-Chloropropane	0.3213	0.3008	46.82	50	-6
1,3,5-Trichlorobenzene	1.3566	1.4898	54.91	50	10
1,2,4-Trichlorobenzene	1.2407	1.3389	53.96	50	8

NTC

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

CSK85 2898

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 11/10/11 Time: 16:20
 Lab File ID: yn10c05.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Hexachlorobutadiene	0.5748	0.6336	55.11	50	10
Naphthalene	4.0119	4.4479	55.43	50	11
1,2,3-Trichlorobenzene	1.2429	1.3340	53.66	50	7
2-Methylnaphthalene	2.2252	2.5235	53.63	50	7
Dibromofluoromethane	0.2282	0.2402	52.61	50	5
Dibromofluoromethane(mz111)	0.2332	0.2445	52.43	50	5
1,2-Dichloroethane-d4	0.0603	0.0619	51.33	50	3
1,2-Dichloroethane-d4 (mz104)	0.0383	0.0404	52.81	50	6
1,2-Dichloroethane-d4 (mz65)	0.3123	0.2992	47.90	50	-4
Toluene-d8(mz100)	0.8969	0.8858	49.38	50	-1
4-Bromofluorobenzene(mz174)	0.4229	0.4665	55.16	50	10
Toluene-d8	1.3915	1.3624	48.95	50	-2
4-Bromofluorobenzene	0.5213	0.5165	49.54	50	-1

Average %Drift 8

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK05 0099

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP09355.i/11oct31c.b/yc31i06.d
/chem2/HP09355.i/11oct31c.b/yc31i05.d
/chem2/HP09355.i/11oct31c.b/yc31i04.d
/chem2/HP09355.i/11oct31c.b/yc31i03.d
/chem2/HP09355.i/11oct31c.b/yc31i02.d
/chem2/HP09355.i/11oct31c.b/yc31i01.d

File /chem2/HP09355.i/11oct31c.b/yc31i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09355.i/11nov10b.b/yn10c05.d

RT Summary

File ID:

=====

Internal Standard Name	yn10c05.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	2.133	2.133	Yes
Fluorobenzene	4.268	4.262	Yes
Chlorobenzene-d5	7.450	7.444	Yes
1,4-Dichlorobenzene-d4	9.446	9.439	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	yn10c05.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	449422	549260	274630	1098520	Yes
Fluorobenzene	1135050	1399426	699713	2798852	Yes
Chlorobenzene-d5	843985	997257	498628	1994514	Yes
1,4-Dichlorobenzene-d4	557412	602110	301055	1204220	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

GSK05 0100

Comments: _____

report generated on 11/10/2011 at 16:38

68K65 0101

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05
 Lab File ID (Standard): ynl0c05.d Date Analyzed: 11/10/11
 Instrument ID: HP09355 Time Analyzed: 16:20
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(FBZ)		IS2(CBZ)		IS3(DCB)		IS4(TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1135050	4.268	843985	7.450	557412	9.446	449422	2.133
UPPER LIMIT	2270100	4.768	1687970	7.950	1114824	9.946	898844	2.633
LOWER LIMIT	567525	3.768	421992	6.950	278706	8.946	224711	1.633
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE								
ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
01 VBLKY84	1012326	4.262	738141	7.444	437223	9.440	382002	2.133
02 LCSY84	1092016	4.262	796516	7.444	512826	9.440	367137	2.139
03 LCDY84	1185312	4.262	859189	7.444	542900	9.439	409621	2.139
04 LCS1Y84	1143001	4.256	822347	7.444	479661	9.440	414929	2.133
05 LCD1Y84	1091584	4.256	789468	7.444	456372	9.440	398822	2.127
06 6463885	1002941	4.262	736133	7.444	439982	9.440	351937	2.133
07 6463894	983224	4.262	711071	7.444	429481	9.439	336927	2.139
08 6465505	953312	4.262	708911	7.444	422709	9.440	336827	2.127
09 6465506	947373	4.262	690219	7.444	413253	9.439	330490	2.127
10 6464740	926020	4.262	682594	7.444	413266	9.439		
11 6464820	913446	4.262	671318	7.444	407596	9.440		
12 6462384	893494	4.262	655071	7.444	399669	9.440	327741	2.133
13 6462385	896439	4.262	661519	7.444	402777	9.440	309577	2.133
14 6463613	905869	4.256	666816	7.444	407018	9.440	316439	2.121
15 6463614	867267	4.262	639966	7.444	390167	9.439	294980	2.127
16 6465254	854303	4.262	630460	7.444	381909	9.439	297471	2.127
17 6465255	868122	4.262	642286	7.444	390174	9.440	294128	2.133
18 6462256	936876	4.256	688829	7.444	440775	9.440	322505	2.133
19 6462257	916957	4.262	666973	7.444	416349	9.440	307083	2.133
20 6462258	932683	4.256	682273	7.444	433697	9.440	268212	2.127
21 6462259	887319	4.256	648810	7.444	392232	9.439	348880	2.133
22 6459302	942704	4.262	730992	7.438	448359	9.434		

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

GSK0508183

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK05____
 Lab File ID (Standard): ym10c05.d Date Analyzed: 11/10/11
 Instrument ID: HP09355 Time Analyzed: 16:20
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(FBZ)		IS2(CBZ)		IS3(DCB)		IS4(TBA)		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1135050	4.268	843985	7.450	557412	9.446	449422	2.133	
UPPER LIMIT	2270100	4.768	1687970	7.950	1114824	9.946	898844	2.633	
LOWER LIMIT	567525	3.768	421992	6.950	278706	8.946	224711	1.633	
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE									
ID									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
23 6459624RE	1010505	4.262	752269	7.438	497328	9.440	106226 *	2.206	Not in SD6

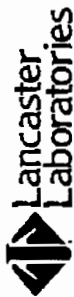
IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.



CSRS 9584



VOA Prep Summary by SDG: GSK05
21 - GC/MS Volatiles

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	Final Extraction Vol (mL)	Problem Codes
6463886	169A	07578	11376540	N	11/08/11 10:14	11/09/11 16:31	28.80 g	33.84 g	5.04 g	4.50 g - 5.50 g	Y	112901	MeOH w/surrogate (5 mL)	5.000	
6463886	193A	08389	11379286	N	11/08/11 10:14	11/09/11 16:31	32.80 g	38.30 g	5.50 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6463886	193B	08389	11379285	Y	11/08/11 10:14	11/09/11 16:32	32.79 g	38.10 g	5.31 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6463887	169A	07578	11376580	N	11/08/11 10:41	11/09/11 16:33	28.99 g	34.94 g	5.95 g	4.50 g - 5.50 g	N	112901	MeOH w/surrogate (5 mL)	5.000	A
6463887	193A	08389	11379288	Y	11/08/11 10:41	11/09/11 16:34	33.05 g	38.72 g	5.67 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6463887	193B	08389	11379287	N	11/08/11 10:41	11/09/11 16:35	33.21 g	39.14 g	5.93 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6463888	169A	07578	11376559	N	11/08/11 11:13	11/09/11 16:36	28.84 g	34.20 g	5.36 g	4.50 g - 5.50 g	Y	112901	MeOH w/surrogate (5 mL)	5.000	
6463888	193A	08389	11379290	Y	11/08/11 11:13	11/09/11 16:37	33.01 g	38.45 g	5.44 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6463888	193B	08389	11379289	N	11/08/11 11:13	11/09/11 16:38	33.14 g	38.32 g	5.18 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6463889	169A	07578	11376576	N	11/08/11 11:30	11/09/11 16:39	29.04 g	35.11 g	6.07 g	4.50 g - 5.50 g	N	112901	MeOH w/surrogate (5 mL)	5.000	A
6463889	193A	08389	11379292	Y	11/08/11 11:30	11/09/11 16:40	33.09 g	39.24 g	6.15 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6463889	193B	08389	11379291	N	11/08/11 11:30	11/09/11 16:41	33.06 g	39.28 g	6.22 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6463890	169A	07578	11376575	N	11/08/11 11:55	11/09/11 16:42	28.79 g	33.56 g	4.77 g	4.50 g - 5.50 g	Y	112901	MeOH w/surrogate (5 mL)	5.000	
6463890	193A	08389	11379294	N	11/08/11 11:55	11/09/11 16:43	33.01 g	37.77 g	4.76 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6463890	193B	08389	11379293	Y	11/08/11 11:55	11/09/11 16:44	33.27 g	38.33 g	5.06 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6463891	169A	07578	11376541	N	11/08/11 12:14	11/09/11 16:45	28.75 g	33.48 g	4.73 g	4.50 g - 5.50 g	Y	112901	MeOH w/surrogate (5 mL)	5.000	
6463891	193A	08389	11379296	Y	11/08/11 12:14	11/09/11 16:46	33.29 g	38.04 g	4.75 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6463891	193B	08389	11379295	N	11/08/11 12:14	11/09/11 16:47	33.13 g	37.65 g	4.52 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6463892	169A	07578	11376538	N	11/08/11 14:00	11/09/11 16:48	28.82 g	34.03 g	5.21 g	4.50 g - 5.50 g	Y	112901	MeOH w/surrogate (5 mL)	5.000	
6463892	193A	08389	11379298	Y	11/08/11 14:00	11/09/11 16:49	32.96 g	38.24 g	5.28 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6463892	193B	08389	11379297	N	11/08/11 14:00	11/09/11 16:50	33.05 g	38.45 g	5.41 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6463893	169A	07578	11376561	N	11/08/11 14:25	11/09/11 16:51	28.83 g	34.82 g	5.99 g	4.50 g - 5.50 g	N	112901	MeOH w/surrogate (5 mL)	5.000	A
6463893	193A	08389	11379300	Y	11/08/11 14:25	11/09/11 16:52	32.97 g	38.78 g	5.81 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6463893	193B	08389	11379299	N	11/08/11 14:25	11/09/11 16:53	32.99 g	38.72 g	5.73 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6463894	150A	00374	11379218	N	11/05/11 15:15	11/09/11 09:43	0.00 g	4.76 g	4.76 g	4.50 g - 5.50 g	Y	1130701	DI Water (5 mL)	5.000	

Final Extraction Vol (mL) = Preservative Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements
B = vial leaked
C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)
D = sampler not full
E = effervescence observed
F = pH >= 2
G = headspace in container

Outside weight requirements



VOA Prep Summary by SDG: GSK05

21 - GC/MS Volatiles

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	Final Extraction Vol (mL)	Problem Codes
6463486	150B	00374	11379214	N	11/05/11 15:15	11/09/11 09:43	0.00 g	5.32 g	5.32 g	4.50 g - 5.50 g	Y	1130701	DI Water (5 mL)	5.000	
6463486	150C	00374	11379215	N	11/05/11 15:15	11/09/11 09:43	0.00 g	4.73 g	4.73 g	4.50 g - 5.50 g	Y	1130701	DI Water (5 mL)	5.000	
6463486	150D	00374	11379219	N	11/05/11 15:15	11/09/11 09:43	0.00 g	4.88 g	4.88 g	4.50 g - 5.50 g	Y	1130701	DI Water (5 mL)	5.000	
6463486	150E	00374	11379212	N	11/05/11 15:15	11/09/11 09:43	0.00 g	5.02 g	5.02 g	4.50 g - 5.50 g	Y	1130701	DI Water (5 mL)	5.000	
6463486	150F	00374	11379213	N	11/05/11 15:15	11/09/11 09:43	0.00 g	4.93 g	4.93 g	4.50 g - 5.50 g	Y	1130701	DI Water (5 mL)	5.000	
6463486	169A	06646	11379263	Y	11/05/11 15:15	11/09/11 09:42	0.00 g	5.01 g	5.01 g	4.50 g - 5.50 g	Y	113051	MeOH w/surrogate (5 mL)	5.000	
6463486	169B	06646	11379268	N	11/05/11 15:15	11/09/11 09:42	0.00 g	5.35 g	5.35 g	4.50 g - 5.50 g	Y	113051	MeOH w/surrogate (5 mL)	5.000	
6463486	169C	06646	11379264	N	11/05/11 15:15	11/09/11 09:43	0.00 g	4.79 g	4.79 g	4.50 g - 5.50 g	Y	113051	MeOH w/surrogate (5 mL)	5.000	
6467796	169A	07578	11379847	N	11/11/11 11:10	11/12/11 11:44	28.03 g	34.60 g	5.57 g	4.50 g - 5.50 g	N	113051	MeOH w/surrogate (5 mL)	5.000	A
6467796	169B	07578	11379853	N	11/11/11 11:10	11/12/11 11:45	28.88 g	34.98 g	6.10 g	4.50 g - 5.50 g	N	113051	MeOH w/surrogate (5 mL)	5.000	A
6467796	193A	08389	11379771	Y	11/11/11 11:10	11/12/11 11:45	33.03 g	39.14 g	6.11 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6467796	193B	08389	11379765	N	11/11/11 11:10	11/12/11 11:45	33.00 g	39.25 g	6.25 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6467797	169A	07578	11379836	N	11/11/11 11:10	11/12/11 11:39	28.90 g	34.63 g	5.73 g	4.50 g - 5.50 g	N	113051	MeOH w/surrogate (5 mL)	5.000	A
6467797	169B	07578	11379842	N	11/11/11 11:10	11/12/11 11:40	28.91 g	33.99 g	5.08 g	4.50 g - 5.50 g	Y	113051	MeOH w/surrogate (5 mL)	5.000	
6467797	193A	08389	11379781	Y	11/11/11 11:10	11/12/11 11:40	32.74 g	38.72 g	5.98 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6467797	193B	08389	11379775	N	11/11/11 11:10	11/12/11 11:41	32.62 g	38.84 g	6.22 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6467798	169A	07578	11379865	N	11/11/11 11:10	11/12/11 11:27	29.03 g	34.93 g	5.90 g	4.50 g - 5.50 g	N	113051	MeOH w/surrogate (5 mL)	5.000	A
6467798	159B	07578	11379871	N	11/11/11 11:10	11/12/11 11:27	28.96 g	35.11 g	6.15 g	4.50 g - 5.50 g	N	113051	MeOH w/surrogate (5 mL)	5.000	A
6467798	193A	08389	11379729	N	11/11/11 11:10	11/12/11 11:27	32.73 g	39.52 g	6.79 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6467798	193B	08389	11379735	Y	11/11/11 11:10	11/12/11 11:28	32.74 g	38.19 g	5.45 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	

Final Extraction Vol (mL) = Preservative Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements
B = vial leaked
C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)
D = sampler not full
E = effluence observed
F = pH >= 2
G = headspace in container

Moisture Data

GSH05 0821



CLIENT: Groundwater Science Co
SDG: GSK05

MOISTURE

SAMPLE NUMBERS:

<u>Sample #</u>	<u>Sample Code</u>
6463886	TC6B0
6463887	TC6B1
6463888	TC6D0
6463889	TC6D1
6463890	TC6A0
6463891	TC6A1
6463892	TC6E0
6463893	TC6E1

COMMENTS:

Due to limitations of the data package software, Form I's are unavailable for wet chemistry data. Please refer to analysis reports for this information.

The moisture value calculation is:

$$\% \text{ moisture} = \frac{A - B}{C} \times 100$$

Where: A = weight of sample and container before drying
B = weight of sample and container after drying
C = weight of sample before drying

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>LCS</u> <u>%REC</u>	<u>LCSD</u> <u>%REC</u>	<u>LCS/LCSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD Max</u>
----------------------	---------------------------	----------------------------	----------------------------------	------------	----------------

Batch number: 11315820007B	Sample number(s): 6463886-6463893				
Moisture	100		99-101		

Sample Matrix Quality Control

<u>Analysis Name</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>RPD</u>	<u>RPD Max</u>
----------------------	---------------------------	---------------------------	------------	----------------

Batch number: 11315820007B	Sample number(s): 6463886-6463893			
Moisture	23.7	22.9	3	15

* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.

GSK05 0822

Moisture Data Report

Batch #: 11315820007

<u>Sample ID</u>	<u>Batch ID</u>	<u>Analysis#</u>	<u>Tare Wt</u>	<u>Sample Wt</u>	<u>Dry Wt</u>	<u>%Moisture</u>	<u>Analysis Date (Emp#)</u>	<u>Verified Date (Emp#)</u>
LCS 89.5% Std.			1.1046	5.0256	1.6421	89.30	11/11/11 (1201/SWF11/14/11 (0236/CW)	
6463886	B	00111	1.1209	8.3641	7.8210	19.89	11/11/11 (1201/SWF11/14/11 (0236/CW)	
6463887	B	00111	1.0760	7.2051	7.5939	9.54	11/11/11 (1201/SWF11/14/11 (0236/CW)	
6463888	B	00111	1.1185	9.3703	8.1679	24.77	11/11/11 (1201/SWF11/14/11 (0236/CW)	
6463889	B	00111	1.0843	8.6350	8.3912	15.38	11/11/11 (1201/SWF11/14/11 (0236/CW)	
6463890	B	00111	1.1076	9.2511	7.6986	28.75	11/11/11 (1201/SWF11/14/11 (0236/CW)	
6463891	B	00111	1.1311	8.3250	8.9203	6.44	11/11/11 (1201/SWF11/14/11 (0236/CW)	
6463892	B	00111	1.0786	9.2580	7.9402	25.88	11/11/11 (1201/SWF11/14/11 (0236/CW)	
6463893	B	00111	1.0994	8.3921	8.1730	15.71	11/11/11 (1201/SWF11/14/11 (0236/CW)	
P463486BKG	B	00111	1.1058	7.7363	7.0067	23.72	11/11/11 (1201/SWF11/14/11 (0236/CW)	
P463486DUP	B	00111	1.0973	7.3633	6.7727	22.92	11/11/11 (1201/SWF11/14/11 (0236/CW)	

GSK05 0823

Analysis Report



Page 1 of 2

Sample Description: TTRAl1081108 Water
Tech City Surficial Soils

LLI Sample # WW 6463885
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011

Groundwater Science Co

Submitted: 11/09/2011 09:35

560 Route 53

Reported: 11/18/2011 13:37

Suite 202

Beacon NY 12508

TCTB8 SDG#: GSK05-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-16-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CSM05 8889

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

2216 Rev. 3/27/06

Analysis Report



Page 2 of 2

Sample Description: TTBA11081108 Water
Tech City Surficial Soils

LLI Sample # WW 6463885
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011

Groundwater Science Co

Submitted: 11/09/2011 09:35

560 Route 53

Reported: 11/18/2011 13:37

Suite 202

Beacon NY 12508

TCTB8 SDG#: GSK05-01TB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113142AA	11/10/2011 20:01	Frank A Valla, Jr	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113142AA	11/10/2011 20:01	Frank A Valla, Jr	1

GSK05 0818

Analysis Report



Page 1 of 2

Sample Description: TEQ1108SHVL Water
Tech City Surficial Soils

LLI Sample # WW 6463894
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 15:30 by DAB

Groundwater Science Co

560 Route 53

Suite 202

Beacon NY 12508

Submitted: 11/09/2011 09:35

Reported: 11/18/2011 13:37

TCEB1 SDG#: GSK05-10EB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK05 8827

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

2216 Rev. 3/27/06

Analysis Report



Page 2 of 2

Sample Description: TEQ11108SHVL Water
Tech City Surficial Soils

LLI Sample # WW 6463894
LLI Group # 1275473
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/08/2011 15:30 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/09/2011 09:35

Suite 202

Reported: 11/18/2011 13:37

Beacon NY 12508

TCEB1 SDG#: GSK05-10EB*

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113142AA	11/10/2011 20:22	Frank A Valla, Jr	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113142AA	11/10/2011 20:22	Frank A Valla, Jr	1

GSK05 8028

ATTACHMENT E
PROJECT CORRESPONDENCE

Tracy Young

From: Natalie R. Luciano [NLuciano@lancasterlabs.com]
Sent: Thursday, January 19, 2012 7:59 AM
To: TYOUNG@VERIDIANENV.COM
Cc: Nicole Maljovec; DBergmann@groundwatersciences.com
Subject: RE: Groundwater Sciences - TechCity (Former IBM Kingston) SDG GSK05 Request
Attachments: GSK05_WATER ICAL FORM_12JAN.PDF; GSK05_ICAL DATA_12JAN.PDF

Hi Tracy,

Per our data package group, the form 5 included in the package is correct. The form 6A and the ICV form did not belong in the package for the water calibration, neither the raw data included. I attached a PDF of the forms and raw data. Let me know if a revised CD is needed.

Thank you,

Natalie Luciano
Specialist, Environmental Client Services

Lancaster Laboratories, Inc.
2425 New Holland Pike
Lancaster, PA 17601
Phone: 717-556-7258
Fax: 717-656-6766

Website: www.LancasterLabsEnv.com

From: Natalie R. Luciano
Sent: Wednesday, January 18, 2012 2:41 PM
To: 'TYOUNG@VERIDIANENV.COM'
Cc: Nicole Maljovec; 'DBergmann@groundwatersciences.com'
Subject: RE: Groundwater Sciences - TechCity (Former IBM Kingston) SDG GSK05 Request

Hello Tracy,

I will have our data package group review the forms in question and respond as soon as I have more information.

Thank you,

Natalie Luciano
Specialist, Environmental Client Services

Lancaster Laboratories, Inc.
2425 New Holland Pike
Lancaster, PA 17601
Phone: 717-556-7258
Fax: 717-656-6766

Website: www.LancasterLabsEnv.com

1/23/2012

From: Nicole Maljovec
Sent: Wednesday, January 18, 2012 2:02 PM
To: Natalie R. Luciano
Subject: FW: Groundwater Sciences - TechCity (Former IBM Kingston) SDG GSK05 Request

From: Tracy Young[SMTP:TYOUNG@VERIDIANENV.COM]
Sent: Wednesday, January 18, 2012 2:01:28 PM
To: Nicole Maljovec
Cc: 'Dorothy A. Bergmann'; 'Charlotte Symms'
Subject: Groundwater Sciences - TechCity (Former IBM Kingston) SDG GSK05 Request
Auto forwarded by a Rule

Hi Nicole,

Upon a cursory review of SDG GSK05, Method 8260B for the TechCity (Former IBM Kingston) site, there is a discrepancy between the BFB Tune Form (Form 5A) and ICAL Summary (Form 6A) and ICV summary pages for the water samples. The Form 5 (BFB Tune) is associated with a date of 10/31/2011, Lab File ID yc31t05.d, Instrument HP09355 (page 50). The ICAL Summary is for the Calibration Date of 09/27/2011, Lab File ID ys27i01.d, Instrument HP09355 (pages 74-79). The Initial Calibration Verification is associated with the ICAL from 09/27/2011 (pages 81-83).

Please provide the correct Form 5, Form 6A and ICV pages that are associated with the water samples from SDG GSK05.

Should you have any questions, please contact me.

Kind Regards,
Tracy

Tracy A. Young
Senior Chemist
Veridian Environmental, Inc.
1111 Kennedy Place - Suite 2
Davis, CA 95616
Voice: 530-758-1903
Fax: 530-758-5633
e-mail: tyoung@veridianenv.com



"Truth through Science"

Veridian
Environmental, Inc

DATA VALIDATION REPORT

TECHCITY (FORMER IBM KINGSTON) GROUNDWATER CONTAMINATION SUPERFUND SITE

Lancaster Laboratories
SDG: **GSK06**

January 23, 2012

Prepared for:

GROUNDWATER SCIENCES CORPORATION
2601 Market Place Street, Suite 310
Harrisburg, Pennsylvania 17110

Prepared by:

VERIDIAN ENVIRONMENTAL, INC.
1111 Kennedy Place
Suite 2
Davis, California 95616

DATA VALIDATION REPORT

TECHCITY (FORMER IBM KINGSTON)
GROUNDWATER CONTAMINATION
SUPERFUND SITE

January 23, 2012

Name	Position	Signature/Date
Veridian Environmental, Inc.		
Prepared by:		
Tracy A. Young	Senior Quality Assurance Chemist	<i>Tracy A. Young</i> 01/23/2012
Ann Lack	Senior Quality Assurance Chemist	<i>Ann Lack</i> 01/23/2012
Reviewed and Approved by:		
Charlotte R. Symms	President	<i>Charlotte R. Symms</i> 1/23/2012

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ACRONYMS

<u>Acronym</u>	<u>Definition</u>
%D	Percent Difference
%REC	Percent Recovery
%RI	Percent Relative Intensity
%RPD	Percent Relative Percent Difference
%RSD	Percent Relative Standard Deviation
%S	Percent Solids
ARRF	Average Relative Response Factor
CCC	Calibration Check Analytes
CCV	Continuing Calibration Verification
CD	Correctable Deficiency
CF	Calibration Factor
CLP	Contract Laboratory Program
COC	Chain-of-Custody
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
DER	Division of Environmental Remediation
DF	Dilution Factor
DL	Dilution Limit
DO	Diluted Out
DOC	Date of Collection
DQO	Data Quality Objective
DVR	Data Validation Report
EDD	Electronic Data Deliverable
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
GSC	Groundwater Sciences Corporation
ICAL	Initial Calibration
ICV	Initial Calibration Verification
IS	Internal Standard
kg	Kilogram
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
l	Liter
LL	Lower Limit
LLI	Lancaster Laboratories, Inc.
MDL	Method Detection Limit
ml	Milliliter
MRL	Method Reporting Limit
MS	Matrix Spike

<u>Acronym</u>	<u>Definition</u>
MSD	Matrix Spike Duplicate
µg	Microgram
ND	Non-detect
NFG	National Functional Guidelines
NIST	National Institute of Standards and Technology
NQW	No Qualification Warranted
NTC	Non Target Compound
NYSDEC	New York State Department of Environmental Conservation
OERR	Office of Emergency and Remedial Response
OSWER	Office of Solid Waste and Emergency Response
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
RRF	Relative Response Factor
RRT	Relative Retention Time
RSD	Relative Standard Deviation
RT	Retention Time
SDG	Sample Delivery Group
SM	Standard Method
SOP	Standard Operating Procedure
SOW	Statement of Work
SPCC	System Performance Check Analytes
Surr	Surrogate
TAL	Target Analyte List
TCL	Target Analyte List
TIC	Tentatively Identified Analyte
UL	Upper Limit
U.S. EPA	United States Environmental Protection Agency
VEI	Veridian Environmental, Inc.
VOC	Volatile Organic Analyte

1.0 INTRODUCTION

This Data Validation Report (DVR) details the assessment and the Level IV data validation performed on the sample analyses from SDG GSK06 as summarized in Attachment A. These samples were collected on November 9, 2011, as part of the TechCity (Former IBM Kingston) Facility Superfund Site in Kingston, New York. The samples were shipped to and analyzed by Lancaster Laboratories, Inc., (LLI) in Lancaster, Pennsylvania.

Data validation of all sample results was performed by Tracy A. Young, Ann Lack, and Charlotte R. Symms of Veridian Environmental, Inc. (VEI). A review (Level III) of 100% of the data, which allows for complete independent data review without reconstruction of analytical data, was conducted. In addition, approximately 10% of the project data underwent a comprehensive or extensive review (Level IV) which allowed for the complete reconstruction of the chemical analyses. The comprehensive review included the recalculation of calibration curves and sample results. None of the samples from this report were selected for the comprehensive Level IV review. The data were validated in accordance with the analytical methods and the documents entitled: *RFI Management Plans, Former IBM Kingston Facility* (Golder Associates, 2009); *U.S. EPA Region 2 RCRA and CERCLA Data Validation Standard Operating Procedures* (U.S. EPA Region 2, 2006); and with guidance from *DER-10 / Technical Guidance for Site Investigation and Remediation* (NYSDEC DEC Program Policy, 2010), *Data Quality Assessment: A Reviewer's Guide* (U.S. EPA QA/G-9R 2006); *Data Quality Assessment: Statistical Tools for Practitioners* (U.S. EPA QA-G-9S, 2006); and *U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (U.S. EPA, 2008).

The data were examined to determine the usability of the analytical results and the compliance relative to requirements specified in the analytical methods and guidelines provided. Qualifier codes have been placed next to the results on the laboratory analytical result forms so the data user can quickly assess the qualitative and/or quantitative reliability of any result. The data qualifications allow the data end-user to best understand the usability of the analytical results. It should be understood that data that have not been qualified in this report should be considered valid based on the quality control (QC) criteria that have been reviewed. This report was prepared to provide a critical review of the laboratory analyses and the reported analytical results. Quality assurance (QA) reviews of laboratory-generated data routinely identify various problems associated with analytical measurements, even from the most experienced and capable laboratories.

The findings of this QA review are presented in Section 2.0 of this report, a summary is presented in Section 3.0, and the references are provided in Section 4.0. Attachment A summarizes the client sample identification, the analytical laboratory, laboratory sample identification, sample date, sample time, and the analyses requested for each sample in this SDG. Copies of the laboratory case narrative, the sample chain-of-custody (COC) record, and the sample receipt documentation log report forms for samples discussed in this DVR are included in Attachment B. The qualified analytical result forms for the samples are provided in Attachment C. The samples were analyzed for Volatile Organic Analytes (EPA Method 8260B) and Moisture (Standard Method 2540G). The data validation checklist and copies of all relevant documentation needed to support the findings of the quality assurance review are presented in Attachment D. Project Correspondence is presented as Attachment E.

Several data validation flags are utilized in the validation process. The definitions of these qualifier flags are as follows:

- U The analyte was analyzed for, but was not detected at or above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected at or above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample result and/or analysis have been rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

All necessary flags have been incorporated into the data presented in this report (Attachment C). As per project-specific reporting requirements, all results reported at concentrations less than the sample-specific practical quantitation limits (adjusted for dilution factors, sample size, and percent solids) should be considered estimated (J).

2.0 FINDINGS

Copies of all relevant documentation needed to support the findings of the quality assurance review are presented in Attachment D of this report. Data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis do not require any corrective action by the laboratory. Accordingly, the following data usability issues should not necessarily be construed as an indication of laboratory performance. Data that warranted qualification are summarized in Section 3.0 of this report.

2.1 VOLATILE ORGANIC ANALYTES DATA VALIDATION

The samples analyzed for Volatile Organic Analytes (VOCs) by U.S. EPA Method 8260B were evaluated for the following data requirements.

	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable	Not Applicable
Sample Condition Upon Receipt		✓			
Analytical Holding Times	✓				
Blank Analyses	✓				
GC/MS Tuning and Mass Calibrations	✓				
Initial Calibrations	✓				
Initial Calibration Verifications			✓		

	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable	Not Applicable
Continuing Calibrations	✓				
Surrogate Spike Recoveries	✓				
LCS Analyses	✓				
MS/MSD Analyses					✓
Internal Standards	✓				
Verification of Sample Results					✓
Field Duplicate Results					✓
Verification of the Client EDD	✓				
Moisture Content	✓				
Additional Findings		✓			

A comprehensive Level IV review was performed on ten percent (10%) of the project data. None of the samples from SDG GSK06 were selected for the comprehensive Level IV review. Details of the data findings are presented following the summary of the data requirements.

2.1.1 Sample Condition Upon Receipt

All samples were received intact and with the proper preservation ($\text{pH} \leq 2$) by LLI. The temperature of the cooler was 1.6°C upon receipt by the laboratory. Since the samples were not frozen, qualification of the data is not warranted.

2.1.2 Analytical Holding Times

All samples were prepared and analyzed within the project-specified holding time of 14 days from sample collection.

2.1.3 Blank Analyses

All associated field and laboratory blanks were free of target analyte contamination.

2.1.4 Gas Chromatograph/Mass Spectrometer Tuning and Mass Calibrations

All gas chromatograph/mass spectrometer (GC/MS) tuning and mass calibrations met project criteria (m/z ratios). All project samples were analyzed within the 12-hour tune windows.

2.1.5 Initial Calibrations

For the initial calibrations, all SPCC (min. RRFs) and CCC analytes ($\% \text{RSD} \leq 30\%$) met project criteria. In addition, all target analytes displayed acceptable calibrations (average RRF > 0.050 and $\% \text{RSD} \leq 20\%$).

2.1.6 Initial Calibration Verifications

All target compounds demonstrated acceptable percent differences in the Initial Calibration Verifications (ICVs) except for chloroethane listed in the following table. A low percent difference was observed for chloroethane. The associated non-detect results are biased low (UJ).

<u>Lab Sample ID</u> <u>Date (Time)</u>	<u>Analyte(s)</u>	<u>Percent</u> <u>Difference</u>	<u>Associated</u> <u>Qualified Sample(s)</u>
ICV 11/01/2011 (00:10)	Chloroethane	-22%	TTBA11091109 TEQ11109SHVL

2.1.7 Continuing Calibrations

For the continuing calibrations, all SPCC (min. RRFs) and CCC analytes (%D $\leq$ 20%) met project criteria. In addition, the percent differences and RRFs for all other target analytes were $\leq$ 20% and > 0.050 , respectively.

2.1.8 Surrogate Spike Recoveries

For all project analyses, the surrogate recoveries were within project criteria.

2.1.9 Laboratory Control Sample Analyses

For all LCS analyses, the recoveries for all target analytes met project criteria.

2.1.10 Matrix Spike/Matrix Spike Duplicate Analyses

The laboratory did not prepare and analyze a Matrix Spike/Matrix Spike Duplicate (MS/MSD) for this analysis on any sample from SDG GSK06. Consequently, an assessment of matrix effects cannot be made for these samples.

2.1.11 Internal Standards

For all project sample analyses, the internal standards met project criteria (RT within ± 30 seconds of ICAL mid-point standard and internal standard area within -50% to + 100% of ICAL mid-point standard).

2.1.12 Verification of Sample Results

None of the samples from SDG GSK06 were selected for a comprehensive Level IV review.

2.1.13 Field Duplicate Results

Field duplicates were not submitted for this analysis; consequently, an assessment of precision cannot be made.

2.1.14 Verification of the Client Electronic Data Deliverable

The database files provided in the laboratory's enhanced general format matched the data reported by the laboratory.

2.1.15 Moisture Content

The moisture content of the soil samples was analyzed by Standard Method 2540G. For all project samples, the moisture content was within project criteria.

2.1.16 Additional Findings

As noted on the VOA Prep Summary, samples **OU02H1311109**, **OU02D1311109**, **OU02A1311109**, **OU02F1311109**, and **OU02B1311109** were outside the weight requirements. Qualification of the data is not warranted on this basis.

2.2 FIELD DUPLICATES

Field duplicates were not submitted with SDG GSK06; consequently an assessment of precision cannot be made.

2.3 REPRESENTATIVENESS EVALUATION

Representativeness is a qualitative evaluation of whether the data represent actual environmental conditions. Representativeness was evaluated using holding time criteria, which reflect the length of time after sample collection that a sample or extract remains representative of environmental conditions. Depending on the analysis, either one or two holding times were evaluated. For those analyses that do not include a sample extraction, only one holding time was evaluated: the length of time between sample collection and analysis. For analyses that require sample extraction prior to analysis, two holding times were evaluated: the length of time from sampling until extraction and the length of time from extraction to analysis. Holding times were compared to standard method-specific holding times accepted by the U.S. EPA. All holding times that are within acceptance criteria are considered representative. Those holding times outside of U.S. EPA acceptance criteria are qualitatively evaluated to determine their effect on sample representativeness. Representativeness was also evaluated by analysis of laboratory method blanks, trip blanks, and equipment blanks that were used to identify sources of contamination not associated with environmental conditions. As summarized in the following sections, the samples appear to be representative of the environmental conditions on site.

2.3.1 Sample Condition Upon Receipt

All samples arrived at the laboratory intact, appropriately preserved and documented except as previously noted. The cooler was received by LLI < 2.0°C. Since the samples were not frozen, qualification of the data is not warranted.

2.3.2 Analytical Holding Times

As previously noted, all holding times were met.

2.3.3 Blank Analyses

As previously discussed, all field and laboratory blanks were free of all target analytes.

2.4 USABILITY AND COMPARABILITY

Usability of data was evaluated by assuring that all the analytical requests were met, the samples were received in the proper condition, and all analyses were performed within the appropriate holding times with the exception of those noted in this report.

3.0 SUMMARY

This QA review has identified aspects of the analytical data that required qualification due to initial calibration verifications. None of the VOC data were rejected. To confidently use any of the analytical data within this sample set, the data user should understand the qualifications and limitations of the results. SDG GSK06 met the project completeness goal of 90%. The percent completeness is summarized in the following table.

Fraction	Number of Results	Number of Rejected Results	Percent Completeness
VOCs	738	0	100%
Overall	738	0	100%

4.0 REFERENCES

Data Quality Assessment: A Reviewer's Guide, U.S. Environmental Protection Agency, EPA *Data Quality Assessment: A Reviewer's Guide*, U.S. Environmental Protection Agency, EPA QA/G-9R, February, 2006.

Data Quality Assessment: Statistical Tools for Practitioners, U.S. Environmental Protection Agency, EPA QA/G-9S, February, 2006.

DER-10 / Technical Guidance for Site Investigation and Remediation, Office of Remediation and Materials Management, DEC Program Policy, May 3, 2010.

RFI Management Plans, Former IBM Kingston Facility, Golder Associates, September 2005.

Standard Methods for the Examination of Water and Wastewater, 20th Edition, American Public Health Association, 1998.

Method 2540G Moisture Content

SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods Third Edition, U.S. Environmental Protection Agency, Office of Solid Waste, December 1994.

Method 8260B: Volatile Organic Analytes by Gas Chromatography/Mass Spectrometry

U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, EPA 540-R-08-01, June 2008.

U.S EPA Region 2 RCRA and CERCLA Field and Data Validation Standard Operating Procedures

<u>SOP No.</u>	<u>Title</u>	<u>Date</u>
SOP HW-24 Revision 2	Validating Volatile Organic Analytes by SW-846 Method 8260B	October 2006

ATTACHMENT A

CHAIN-OF-CUSTODY SUMMARY TABLE

ATTACHMENT A
CHAIN-OF-CUSTODY SUMMARY TABLE
TechCity (Former IBM Kingston)
Kingston, New York

Client Sample ID	Laboratory	Laboratory SDG	Laboratory Sample ID	Collection Date	Matrix	Parameter(s) Analyzed
TTBA11091109 (Trip Blank)	Lancaster Labs	GSK06	6465505	11/09/2011	Water	V
TEQ11109SHVL (Equipment Rinsate)	Lancaster Labs	GSK06	6465506	11/09/2011	Water	V
OU02C0411109	Lancaster Labs	GSK06	6465507	11/09/2011	Soil	V
OU02C1311109	Lancaster Labs	GSK06	6465508	11/09/2011	Soil	V
OU02E0411109	Lancaster Labs	GSK06	6465509	11/09/2011	Soil	V
OU02E1311109	Lancaster Labs	GSK06	6465510	11/09/2011	Soil	V
OU02H0411109	Lancaster Labs	GSK06	6465511	11/09/2011	Soil	V
OU02H1311109	Lancaster Labs	GSK06	6465512	11/09/2011	Soil	V
OU02D0411109	Lancaster Labs	GSK06	6465513	11/09/2011	Soil	V
OU02D1311109	Lancaster Labs	GSK06	6465514	11/09/2011	Soil	V
OU02A0411109	Lancaster Labs	GSK06	6465515	11/09/2011	Soil	V
OU02A1311109	Lancaster Labs	GSK06	6465516	11/09/2011	Soil	V
OU02G0411109	Lancaster Labs	GSK06	6465517	11/09/2011	Soil	V
OU02G1311109	Lancaster Labs	GSK06	6465518	11/09/2011	Soil	V
OU02F0411109	Lancaster Labs	GSK06	6465519	11/09/2011	Soil	V
OU02F1311109	Lancaster Labs	GSK06	6465520	11/09/2011	Soil	V
OU02B0411109	Lancaster Labs	GSK06	6465521	11/09/2011	Soil	V
OU02B1311109	Lancaster Labs	GSK06	6465522	11/09/2011	Soil	V

Notes:

- SDG - Sample Delivery Group
- V - Volatile Organic Compounds by U.S. EPA Method 8260B

ATTACHMENT B

CASE NARRATIVE AND CHAIN-OF-CUSTODY RECORDS



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

NYSDEC ASP Category B Data Package

Prepared for:

Groundwater Science Co
560 Route 53
Suite 202
Beacon NY 12508

Project: TechCity Surficial Soil
Water and Soil Samples
Collected on 11/09/11

SDG# GSK06

GROUP	SAMPLE NUMBERS
1275716	6465505-6465522

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:

Date: 12/06/2011

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Nicole Maljovec at Ext. 1537.

Total Number of Pages 618



CLIENT: Groundwater Science Co
SDG: GSK06

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Volatiles in Soil
Volatiles by 8260B

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
6465505	TTBA11091109	X		1	Trip Blank
6465506	TEQ11109SHVL	X		1	Equipment Blank
6465507	OU02C0411109		X	1.07	
6465508	OU02C1311109		X	0.99	
6465509	OU02E0411109		X	1.07	
6465510	OU02E1311109		X	0.95	
6465511	OU02H0411109		X	1.07	
6465512	OU02H1311109		X	0.88	
6465513	OU02D0411109		X	0.98	
6465514	OU02D1311109		X	0.87	
6465515	OU02A0411109		X	0.95	
6465516	OU02A1311109		X	0.86	
6465517	OU02G0411109		X	1.05	
6465518	OU02G1311109		X	0.95	
6465519	OU02F0411109		X	1.02	
6465520	OU02F1311109		X	0.9	
6465521	OU02B0411109		X	0.96	
6465522	OU02B1311109		X	0.81	

See QC Reference List for Associated Batch QC Samples

SAMPLE PREPARATION:

The weight for several samples was found to be outside the weight requirement when these samples were re-weighed at the laboratory. Please see the VOA Prep Summary sheets in the Preparations Log section for more information.

ANALYSIS:

No problems were encountered with the analysis of the samples.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Site specific matrix QC samples were not submitted for this SDG. The batch matrix QC was performed on samples from another project. Therefore the matrix effects would not be relevant and matrix QC is not provided in the data package. Laboratory spike data (LCS) are provided.

GSK06 0042



CLIENT: Groundwater Science Co
SDG: GSK06

GC/MS Volatiles

Fraction: Volatiles by GC/MS

DATA INTERPRETATION :

No further interpretation is necessary for the data submitted.

Abbreviation Key

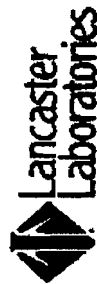
UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E = out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Narrative Reviewed and Approved 12/2/11 by
(Date)

Kathy J. Fair
Kathy J. Fair
Specialist

GSK06 0049

IBM Chain of Custody



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Accel. #: **6911** Group #: **1275716** Sample #: **6465505-22** **COC # 01368**

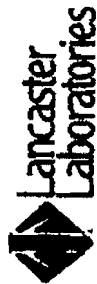
Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Groundwater Services Corp</u> Acct. #: <u>06911</u> Project Name: <u>Tech City Surface Soil</u> Project Name# (cont.): <u>93002.37</u> Sample: <u>DAPEERMAN/MW/Lynch/082002/082002</u> Project State: <u>NY</u> P.O.#: <u>93002.37</u> IBM PM: <u>DEAN KIRKLAND</u> Check one: ☐ Routine Lab GW ☐ Routine GTF Q&M ☒ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs OU: _____ (Endicott Non-Routine only)		4 Matrix ☐ Potable ☐ NPDES Applicable ☐ Water ☐ Soil ☐ Composite		5 Analyses Requested Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other 0260B STD Soil 2 3 enclosures		6 Temperature of samples upon receipt (if requested)			
2 Sample Identification TTBA11091109 TEQ11109SHVL OU02C041109 OU02C131109 OU02E041109 OU02E131109 OU02H041109 OU02H131109 OU02D041109 OU02D131109		3 Date Collected 11/9/2011 11/9/2011 11/9/2011 11/9/2011 11/9/2011 11/9/2011 11/9/2011 11/9/2011 11/9/2011		7 Time Collected — 0851 0956 1013 1039 1057 1121 1137 1159 1217		8 Total # of Containers 2 3 4 4 4 4 4 4 4		9 Relinquished by: <u>DAPEERMAN</u> Date: <u>11/9/2011</u> Time: <u>1045</u> Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____	
7 Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please check): ☐ Phone ☐ E-mail Phone #: _____ E-mail: _____		8 Data Package Options (please check if required) ☐ Type 1 (Validation/NJ Reg) ☐ TX TRRP-13 ☐ Type 2 (Reduced NJ) ☐ MA MCP ☐ Type 3 (Raw Data Only) ☐ CT RCP ☐ NY ASP A ☐ NY ASP B Site-specific QC (MS/MSD/Out)? ☐ Yes ☐ No (If Yes, indicate QC sample and submit triplicate volume.)		9 Received by: <u>Sybillette</u> Date: <u>11/11/2011</u> Time: <u>0900</u> Received by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____					

Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

IBM Chain of Custody



For Lancaster Laboratories use only

Acc. #: 6911 Group #: 1275716 Sample #: 6465505-22 **COC # 01369**

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Groundwater Sciences, LLP</u> Acct. #: <u>06911</u> Project Name: <u>100 City Surrogate Soil</u> Project Name: <u>(cont.) 93002-37</u> Sampler: <u>Deborah M. Murchin / DeStefano</u> Object State: <u>NY</u> P.O. #: <u>93002-37</u> IBM PM: <u>Deborah Murchin</u> Check one: ☐ Routine Lab GW ☐ Routine GTF OEM ☐ Non-Routine Investigation ☐ Non-Routine Upgrades/Installs OU: _____ (Enlist Non-Routine only)		2 Sample Identification <table border="1"> <thead> <tr> <th>Sample Identification</th> <th>Date Collected</th> <th>Time Collected</th> </tr> </thead> <tbody> <tr><td>OU02A0411109</td><td>11/9/2011</td><td>1247</td></tr> <tr><td>OU02A1311109</td><td>11/9/2011</td><td>1301</td></tr> <tr><td>OU02A0411109</td><td>11/9/2011</td><td>1337</td></tr> <tr><td>OU02A1311109</td><td>11/9/2011</td><td>1351</td></tr> <tr><td>OU02F0411109</td><td>11/9/2011</td><td>1416</td></tr> <tr><td>OU02F1311109</td><td>11/9/2011</td><td>1431</td></tr> <tr><td>OU02B0411109</td><td>11/9/2011</td><td>1504</td></tr> <tr><td>OU02B1311109</td><td>11/9/2011</td><td>1521</td></tr> </tbody> </table>		Sample Identification	Date Collected	Time Collected	OU02A0411109	11/9/2011	1247	OU02A1311109	11/9/2011	1301	OU02A0411109	11/9/2011	1337	OU02A1311109	11/9/2011	1351	OU02F0411109	11/9/2011	1416	OU02F1311109	11/9/2011	1431	OU02B0411109	11/9/2011	1504	OU02B1311109	11/9/2011	1521																																													
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3 Matrix 4 Total # of Containers <table border="1"> <thead> <tr> <th>Matrix</th> <th>Soil</th> <th>Water</th> <th>NPDES</th> <th>Acidic</th> <th>Other</th> </tr> </thead> <tbody> <tr><td></td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td>X</td><td></td><td></td><td></td><td></td></tr> </tbody> </table>		Matrix	Soil	Water	NPDES	Acidic	Other		X						X						X						X						X						X						X						X					5 Analyses Requested <table border="1"> <thead> <tr> <th>Analyses Requested</th> <th>Preservation Codes</th> </tr> </thead> <tbody> <tr><td></td><td>0</td></tr> <tr><td></td><td>0</td></tr> <tr><td></td><td>0</td></tr> <tr><td></td><td>0</td></tr> <tr><td></td><td>0</td></tr> <tr><td></td><td>0</td></tr> <tr><td></td><td>0</td></tr> <tr><td></td><td>0</td></tr> </tbody> </table>		Analyses Requested	Preservation Codes		0		0		0		0		0		0		0		0
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6 Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other <u>8260B51X50.1 @ 32m wire samples</u> Remarks/SSOW		7 Turnaround Time Requested (TAT) (please check): ☒ Normal ☐ Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please check): ☐ Phone ☐ E-mail Phone #: _____ E-mail: _____																																																																									
8 Data Package Options (please check if required) ☐ Type I (Validation/NJ Reg) ☐ TX TRRP-13 ☐ Type II (Reduced NJ) ☐ MA MCP ☐ Type III (Raw Data Only) ☐ CT RCP ☐ NY ASP A ☐ NY ASP B Site-specific QC (MS/MSD/Dup)? ☐ Yes ☐ No (If yes, indicate QC sample and submit duplicate volume)		9 Relinquished by: <u>Deborah Murchin / GSC</u> Relinquished by: _____ Relinquished by: _____ Relinquished by: _____																																																																									
9 Received by: _____ Date: <u>11/9/2011</u> Time: <u>1645</u> Received by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____ Received by: <u>Steph Lehman</u> Date: <u>11/10/2011</u> Time: <u>0900</u>																																																																											



Environmental Sample Administration Receipt Documentation Log

Client/Project: IBM

Date of Receipt: 11/10/11

Time of Receipt: 0900

Source Code: SO-1

Shipping Container Sealed: YES NO

Custody Seal Present *: YES NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	9422	1.6	TO	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#

Suzette Lehman 1677

Date/Time:

11/10/11 10:30

GSK06. 0004

Issued by Dept. 6042 Management

2174.06

ATTACHMENT C
QUALIFIED LABORATORY TEST RESULT FORMS

.

Analysis Report



ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Groundwater Science Co
560 Route 53
Suite 202
Beacon NY 12508

November 21, 2011

Project: TechCity Surficial Soil

Submittal Date: 11/10/2011

Group Number: 1275716

SDG: GSK06

PO Number: DC93002.37

State of Sample Origin: NY

Client Sample Description

TTBA11091109 Water
TEQ11109SHVL Water
OU02C0411109 Grab Soil
OU02C1311109 Grab Soil
OU02E0411109 Grab Soil
OU02E1311109 Grab Soil
OU02H0411109 Grab Soil
OU02H1311109 Grab Soil
OU02D0411109 Grab Soil
OU02D1311109 Grab Soil
OU02A0411109 Grab Soil
OU02A1311109 Grab Soil
OU02G0411109 Grab Soil
OU02G1311109 Grab Soil
OU02F0411109 Grab Soil
OU02F1311109 Grab Soil
OU02B0411109 Grab Soil
OU02B1311109 Grab Soil

Lancaster Labs (LLI)

6465505
6465506
6465507
6465508
6465509
6465510
6465511
6465512
6465513
6465514
6465515
6465516
6465517
6465518
6465519
6465520
6465521
6465522

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Groundwater Science Co
COPY TO
1 COPY TO Data Package Group

Attn: Dorothy Bergmann

~~GSK06-0607~~

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

2216 Rev. 3/27/06

Analysis Report



Page 1 of 2

Sample Description: TTBA11091109 Water
Tech City Surficial Soils

LLI Sample # WW 6465505
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011

Groundwater Science Co

Submitted: 11/10/2011 09:00

560 Route 53

Reported: 11/21/2011 16:37

Suite 202

Beacon NY 12508

TCTB9 SDG#: GSK06-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor	DVQ
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l		
10904	Benzene	71-43-2	N.D.	0.5	5	1	
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1	
10904	Bromobenzene	108-85-1	N.D.	1	5	1	
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1	
10904	Bromoform	75-25-2	N.D.	1	5	1	
10904	Bromomethane	74-83-9	N.D.	1	5	1	
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1	
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1	
10904	Chloroethane	75-00-3	N.D.	1	5	1	
10904	Chloroform	67-66-3	N.D.	0.8	5	1	
10904	Chloromethane	74-87-3	N.D.	1	5	1	
10904	2-Chlorotoluene	95-45-8	N.D.	1	5	1	
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1	
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1	
10904	Dibromomethane	74-95-5	N.D.	1	5	1	
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1	
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1	
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1	
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1	
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1	
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1	
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1	
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1	
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1	
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1	
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1	
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1	
10904	Freon 113	76-13-1	N.D.	2	10	1	
10904	Freon 123a	354-23-4	N.D.	2	5	1	
10904	Methylene Chloride	75-09-2	N.D.	2	5	1	
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1	
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1	
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1	
10904	Toluene	108-88-3	N.D.	0.7	5	1	
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1	
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1	
10904	Trichloroethene	79-01-6	N.D.	1	5	1	
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1	
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1	
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1	
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1	

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK06 0010

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TTBA11091109 Water
Tech City Surficial Soils

LLI Sample # WW 6465505
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011

Groundwater Science Co

Submitted: 11/10/2011 09:00

560 Route 53

Reported: 11/21/2011 16:37

Suite 202

Beacon NY 12508

TCTB9 SDG#: GSK06-01TB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113142AA	11/10/2011 20:43	Frank A Valla, Jr	1
01163	GC/MS VOA Water Prep	SW 846 5030B	1	Y113142AA	11/10/2011 20:43	Frank A Valla, Jr	1

GSK06-01TB

Analysis Report



Page 1 of 2

Sample Description: TEQ11109SHVL Water
Tech City Surficial Soils

LLI Sample # WW 6465506
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 08:51 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

TCEB9 SDG#: GSK06-02EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CSH06 0012

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TEQ11109SHVL Water
Tech City Surficial Soils

LLI Sample # WW 6465506
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 08:51 by DAB

Groundwater Science Co

Submitted: 11/10/2011 09:00

560 Route 53

Reported: 11/21/2011 16:37

Suite 202

Beacon NY 12508

TCEB9 SDG#: GSK06-02EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113142AA	11/10/2011 21:04	Frank A Valle, Jr	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113142AA	11/10/2011 21:04	Frank A Valla, Jr	1

CSH36 0013

Analysis Report



Page 1 of 2

Sample Description: OU02C0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465507
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 09:56 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2C04 SDG#: GSK06-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.8	8	1.07
10949	Benzyl Chloride	100-44-7	N.D.	2	6	1.07
10949	Bromobenzene	108-86-1	N.D.	2	8	1.07
10949	Bromodichloromethane	75-27-4	N.D.	2	8	1.07
10949	Bromoform	75-25-2	N.D.	2	8	1.07
10949	Bromomethane	74-83-9	N.D.	3	8	1.07
10949	Carbon Tetrachloride	56-23-5	N.D.	2	8	1.07
10949	Chlorobenzene	108-90-7	N.D.	2	8	1.07
10949	Chloroethane	75-00-3	N.D.	3	8	1.07
10949	Chloroform	67-66-3	N.D.	2	8	1.07
10949	Chloromethane	74-87-3	N.D.	3	8	1.07
10949	2-Chlorotoluene	95-49-8	N.D.	2	8	1.07
10949	4-Chlorotoluene	106-43-4	N.D.	2	8	1.07
10949	Dibromochloromethane	124-48-1	N.D.	2	8	1.07
10949	Dibromomethane	74-95-3	N.D.	2	8	1.07
10949	1,2-Dichlorobenzene	95-50-1	N.D.	2	8	1.07
10949	1,3-Dichlorobenzene	541-73-1	N.D.	2	8	1.07
10949	1,4-Dichlorobenzene	106-46-7	N.D.	2	8	1.07
10949	Dichlorodifluoromethane	75-71-5	N.D.	3	8	1.07
10949	1,1-Dichloroethane	75-34-3	N.D.	2	8	1.07
10949	1,2-Dichloroethane	107-06-2	N.D.	2	8	1.07
10949	1,1-Dichloroethene	75-35-4	N.D.	2	8	1.07
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	2	8	1.07
10949	1,2-Dichloropropane	78-87-5	N.D.	2	8	1.07
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	2	8	1.07
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	2	8	1.07
10949	Ethylbenzene	100-41-4	N.D.	2	8	1.07
10949	Freon 113	76-13-1	N.D.	3	16	1.07
10949	Freon 123a	354-23-4	N.D.	3	8	1.07
10949	Methylene Chloride	75-09-2	N.D.	3	6	1.07
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	2	8	1.07
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	2	8	1.07
10949	Tetrachloroethene	127-18-4	N.D.	2	8	1.07
10949	Toluene	106-86-3	N.D.	2	8	1.07
10949	1,1,1-Trichloroethane	73-55-6	N.D.	2	8	1.07
10949	1,1,2-Trichloroethane	79-00-5	N.D.	2	8	1.07
10949	Trichloroethene	79-01-6	N.D.	2	8	1.07
10949	Trichlorofluoromethane	75-69-4	N.D.	3	8	1.07
10949	1,2,3-Trichloropropane	96-18-4	N.D.	2	8	1.07
10949	Vinyl Chloride	75-01-4	N.D.	2	8	1.07
10949	Xylene (Total)	1330-20-7	N.D.	2	8	1.07

Wet Chemistry

SM20 2540 G

60111 Moisture

n.a.

31.3

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis

GSK06 0614

Analysis Report



Page 2 of 2

Sample Description: OU02C0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465507
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 09:56 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2C04 SDG#: GSK06-03

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113211AA	11/17/2011 16:43	Chelsea B Eastep	1.07
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:14	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:14	Christopher D Meeks	n.a.
07578	GC/MS-HE Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:13	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06 0015

Analysis Report



Page 1 of 2

Sample Description: OU02C1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465508
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 10:13 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

02C13 SDG#: GSK06-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.7	7	0.99
10949	Benzyl Chloride	100-44-7	N.D.	1	6	0.99
10949	Bromobenzene	108-96-1	N.D.	1	7	0.99
10949	Bromodichloromethane	75-27-4	N.D.	1	7	0.99
10949	Bromoform	75-25-2	N.D.	1	7	0.99
10949	Bromomethane	74-83-9	N.D.	3	7	0.99
10949	Carbon Tetrachloride	56-23-5	N.D.	1	7	0.99
10949	Chlorobenzene	108-90-7	N.D.	1	7	0.99
10949	Chloroethane	75-00-3	N.D.	3	7	0.99
10949	Chloroform	67-66-3	N.D.	1	7	0.99
10949	Chloromethane	74-87-3	N.D.	3	7	0.99
10949	2-Chlorotoluene	95-49-8	N.D.	1	7	0.99
10949	4-Chlorotoluene	106-43-4	N.D.	1	7	0.99
10949	Dibromochloromethane	124-48-1	N.D.	1	7	0.99
10949	Dibromomethane	74-95-3	N.D.	1	7	0.99
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	7	0.99
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	7	0.99
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	7	0.99
10949	Dichlorodifluoromethane	75-71-8	N.D.	3	7	0.99
10949	1,1-Dichloroethane	75-34-3	N.D.	1	7	0.99
10949	1,2-Dichloroethane	107-06-2	N.D.	1	7	0.99
10949	1,1-Dichloroethene	75-35-4	N.D.	1	7	0.99
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	7	0.99
10949	1,2-Dichloropropane	78-67-5	N.D.	1	7	0.99
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	7	0.99
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	7	0.99
10949	Ethylbenzene	100-41-4	N.D.	1	7	0.99
10949	Freon 113	75-12-1	N.D.	3	14	0.99
10949	Freon 123a	354-23-4	N.D.	3	7	0.99
10949	Methylene Chloride	75-09-2	N.D.	3	7	0.99
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	7	0.99
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	7	0.99
10949	Tetrachloroethene	127-18-4	N.D.	1	7	0.99
10949	Toluene	108-88-3	N.D.	1	7	0.99
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	7	0.99
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	7	0.99
10949	Trichloroethene	79-01-5	N.D.	1	7	0.99
10949	Trichlorofluoromethane	75-69-4	N.D.	3	7	0.99
10949	1,2,3-Trichloropropane	96-16-4	N.D.	1	7	0.99
10949	Vinyl Chloride	75-01-4	N.D.	1	7	0.99
10949	Xylene (Total)	1330-20-7	N.D.	1	7	0.99

Wet Chemistry

SM20 2540 G

00111

Moisture

n.a.

30.4

0.50

%

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK06 0616

Lancaster Laboratories, Inc.

2425 New Holland Pike

PO Box 12425

Lancaster, PA 17605-2425

717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

2216 Rev. 3/27/06

Analysis Report



Page 2 of 2

Sample Description: 0002C1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465508
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 10:13 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

02C13 SDG#: GSK06-04

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113211AA	11/17/2011 17:06	Chelsea B Eastep	0.99
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:15	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:16	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:15	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06-0017

Analysis Report



Page 1 of 2

Sample Description: OU02E0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465509
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 10:39 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2E04 SDG#: GSK06-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.8	8	1.07
10949	Benzyl Chloride	100-44-7	N.D.	2	7	1.07
10949	Bromobenzene	108-86-1	N.D.	2	8	1.07
10949	Bromodichloromethane	75-27-4	N.D.	2	8	1.07
10949	Bromoform	75-25-2	N.D.	2	8	1.07
10949	Bromomethane	74-83-9	N.D.	3	8	1.07
10949	Carbon Tetrachloride	56-23-5	N.D.	2	8	1.07
10949	Chlorobenzene	108-90-7	N.D.	2	8	1.07
10949	Chloroethane	75-00-3	N.D.	3	8	1.07
10949	Chloroform	67-66-3	N.D.	2	8	1.07
10949	Chloromethane	74-87-3	N.D.	3	8	1.07
10949	2-Chlorotoluene	95-49-8	N.D.	2	8	1.07
10949	4-Chlorotoluene	106-43-4	N.D.	2	8	1.07
10949	Dibromochloromethane	124-48-1	N.D.	2	8	1.07
10949	Dibromomethane	74-95-3	N.D.	2	8	1.07
10949	1,2-Dichlorobenzene	95-50-1	N.D.	2	8	1.07
10949	1,3-Dichlorobenzene	541-73-1	N.D.	2	8	1.07
10949	1,4-Dichlorobenzene	106-46-7	N.D.	2	8	1.07
10949	Dichlorodifluoromethane	75-71-8	N.D.	3	8	1.07
10949	1,1-Dichloroethane	75-34-3	N.D.	2	8	1.07
10949	1,2-Dichloroethane	107-06-2	N.D.	2	8	1.07
10949	1,1-Dichloroethene	75-35-4	N.D.	2	8	1.07
10949	1,2-Dichloroethene (Total)	540-55-0	N.D.	2	8	1.07
10949	1,2-Dichloropropane	78-87-5	N.D.	2	8	1.07
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	2	8	1.07
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	2	8	1.07
10949	Ethylbenzene	100-41-4	N.D.	2	8	1.07
10949	Freon 113	76-13-1	N.D.	3	17	1.07
10949	Freon 123a	354-23-4	N.D.	1	8	1.07
10949	Methylene Chloride	75-09-2	N.D.	3	6	1.07
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	2	8	1.07
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	2	8	1.07
10949	Tetrachloroethene	127-18-4	N.D.	2	8	1.07
10949	Toluene	108-88-3	N.D.	2	8	1.07
10949	1,1,1-Trichloroethane	71-55-6	N.D.	2	8	1.07
10949	1,1,2-Trichloroethane	79-00-5	N.D.	2	8	1.07
10949	Trichloroethene	79-01-6	N.D.	2	8	1.07
10949	Trichlorofluoromethane	75-69-4	N.D.	3	8	1.07
10949	1,2,3-Trichloropropane	96-18-4	N.D.	2	8	1.07
10949	Vinyl Chloride	75-01-4	N.D.	2	8	1.07
10949	Xylene (Total)	1330-20-7	N.D.	2	8	1.07

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a	36.8	0.50	0.50	1
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK06-0018

Analysis Report



Page 2 of 2

Sample Description: OU02E0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465509
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 10:39 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2E04 SDG#: GSK06-05

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 6260B	1	X113211AA	11/17/2011 17:28	Chelsea B Eastep	1.07
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:17	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:17	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:17	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

00000 0010

Analysis Report



Page 1 of 2

Sample Description: OU02E1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465510
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 10:57 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2E13 SDG#: GSK06-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.6	6	0.95
10949	Benzyl Chloride	100-44-7	N.D.	1	6	0.95
10949	Bromobenzene	108-86-1	N.D.	1	6	0.95
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.95
10949	Bromoform	75-25-2	N.D.	1	6	0.95
10949	Bromomethane	74-83-9	N.D.	2	6	0.95
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.95
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.95
10949	Chloroethane	75-00-3	N.D.	2	6	0.95
10949	Chloroform	67-66-3	N.D.	1	6	0.95
10949	Chloromethane	74-87-3	N.D.	2	6	0.95
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.95
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.95
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.95
10949	Dibromomethane	74-95-3	N.D.	1	6	0.95
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.95
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.95
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.95
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.95
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.95
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.95
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.95
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.95
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.95
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.95
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.95
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.95
10949	Freon 113	76-13-1	N.D.	2	12	0.95
10949	Freon 123a	354-22-4	N.D.	2	6	0.95
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.95
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.95
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.95
10949	Tetrachloroethene	127-16-4	N.D.	1	6	0.95
10949	Toluene	108-88-3	N.D.	1	6	0.95
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.95
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.95
10949	Trichloroethene	79-01-6	N.D.	1	6	0.95
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.95
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.95
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.95
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.95

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	23.7	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					

GSK06-0628

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

2216 Rev. 3/27/06

Analysis Report



Page 2 of 2

Sample Description: OU02E1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465510
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 10:57 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2E13 SDG#: GSK06-06

General Sample Comments

State of New York Certification No 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113211AA	11/17/2011 17:52	Chelsea B Eastep	0.95
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:19	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:19	Christopher D Meeks	n.a.
07576	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:19	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

0506 0021

Analysis Report



Page 1 of 2

Sample Description: OU02H0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465511
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 11:21 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

C2H04 SDG#: GSK06-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.9	9	1.07
10949	Benzyl Chloride	100-44-7	N.D.	2	7	1.07
10949	Bromobenzene	108-86-1	N.D.	2	9	1.07
10949	Bromodichloromethane	75-27-4	N.D.	2	9	1.07
10949	Bromoform	75-25-2	N.D.	2	9	1.07
10949	Bromomethane	74-83-9	N.D.	4	9	1.07
10949	Carbon Tetrachloride	56-23-5	N.D.	2	9	1.07
10949	Chlorobenzene	108-90-7	N.D.	2	9	1.07
10949	Chloroethane	75-00-3	N.D.	4	9	1.07
10949	Chloroform	67-66-3	N.D.	2	9	1.07
10949	Chloromethane	74-87-3	N.D.	4	9	1.07
10949	2-Chlorotoluene	95-49-8	N.D.	2	9	1.07
10949	4-Chlorotoluene	106-43-4	N.D.	2	9	1.07
10949	Dibromochloromethane	124-48-1	N.D.	2	9	1.07
10949	Dibromomethane	74-95-3	N.D.	2	9	1.07
10949	1,2-Dichlorobenzene	95-50-1	N.D.	2	9	1.07
10949	1,3-Dichlorobenzene	541-73-1	N.D.	2	9	1.07
10949	1,4-Dichlorobenzene	106-46-7	N.D.	2	9	1.07
10949	Dichlorodifluoromethane	75-71-8	N.D.	4	9	1.07
10949	1,1-Dichloroethane	75-34-3	N.D.	2	9	1.07
10949	1,2-Dichloroethane	107-06-2	N.D.	2	9	1.07
10949	1,1-Dichloroethene	75-35-4	N.D.	2	9	1.07
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	2	9	1.07
10949	1,2-Dichloropropane	78-87-5	N.D.	2	9	1.07
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	2	9	1.07
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	2	9	1.07
10949	Ethylbenzene	100-41-4	N.D.	2	9	1.07
10949	Freon 113	76-13-1	N.D.	4	18	1.07
10949	Freon 123a	364-23-4	N.D.	4	9	1.07
10949	Methylene Chloride	75-09-2	N.D.	4	9	1.07
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	2	9	1.07
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	2	9	1.07
10949	Tetrachloroethene	127-18-4	N.D.	2	9	1.07
10949	Toluene	108-88-3	N.D.	2	9	1.07
10949	1,1,1-Trichloroethane	71-55-6	N.D.	2	9	1.07
10949	1,1,2-Trichloroethane	79-00-5	N.D.	2	9	1.07
10949	Trichloroethene	79-01-6	N.D.	2	9	1.07
10949	Trichlorofluoromethane	75-69-4	N.D.	4	9	1.07
10949	1,2,3-Trichloropropane	96-18-4	N.D.	2	9	1.07
10949	Vinyl Chloride	75-01-4	N.D.	2	9	1.07
10949	Xylene (Total)	1330-20-7	N.D.	2	9	1.07

Wet Chemistry

SM20 2540 G

00111	Moisture	n a	40.9	0.50	0.50	1
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"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK06 0822

Analysis Report



Page 2 of 2

Sample Description: OU02H04111109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465511
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 11:21 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2H04 SDG#: GSK06-07

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 82605	1	X113211AA	11/17/2011 22:59	Chelsea B Eastep	1.07
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:21	Christopher D Meeks	n.a
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:21	Christopher D Meeks	n.a.
07578	GC/MS-PL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:20	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06 8823

Analysis Report



Page 1 of 2

Sample Description: OU02H1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465512
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 11:37 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2H13 SDG#: GSK06-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.88
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.88
10949	Bromobenzene	108-86-1	N.D.	1	5	0.88
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.88
10949	Bromoform	75-25-2	N.D.	1	5	0.88
10949	Bromomethane	74-83-9	N.D.	2	5	0.88
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.88
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.88
10949	Chloroethane	75-00-3	N.D.	2	5	0.88
10949	Chloroform	67-66-3	N.D.	1	5	0.88
10949	Chloromethane	74-87-3	N.D.	2	5	0.88
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.88
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.88
10949	Dibromochloromethane	124-46-1	N.D.	1	5	0.88
10949	Dibromomethane	74-95-3	N.D.	1	5	0.88
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.88
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.88
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.88
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.88
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.88
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.88
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.88
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.88
10949	2,2-Dichloropropane	78-87-5	N.D.	1	5	0.88
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.88
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.88
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.88
10949	Freon 113	76-13-1	N.D.	2	10	0.88
10949	Freon 123a	354-23-4	N.D.	2	5	0.88
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.88
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.88
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.88
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.88
10949	Toluene	108-88-3	N.D.	1	5	0.88
10949	1,1,1-Trichloroethane	72-55-6	N.D.	1	5	0.88
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.88
10949	Trichloroethene	79-01-5	N.D.	1	5	0.88
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.88
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.88
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.88
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.88

Wet Chemistry

SM20 2540 G

00111	Moisture	n/a	16.0	0.50	0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

GSK06-0824

Analysis Report



Page 2 of 2

Sample Description: 0002H1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465512
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 11:37 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

02H13 SDG#: GSK06-08

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 6260B	1	X113211AA	11/17/2011 16:39	Chelsea B Eastep	0.88
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:22	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:23	Christopher D Meeks	n.a.
07576	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:22	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318520006A	11/14/2011 23:29	Scott W Freisher	1

GSK06 0025

Analysis Report



Page 1 of 2

Sample Description: OU02D0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465513
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 11:59 by DAB

Groundwater Science Co

56C Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2D04 SDG#: GSK06-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.6	6	0.98
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.98
10949	Bromobenzene	108-86-1	N.D.	1	6	0.98
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.98
10949	Bromoform	75-25-2	N.D.	1	6	0.98
10949	Bromomethane	74-83-9	N.D.	3	6	0.98
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.98
10949	Chlorobenzene	106-90-7	N.D.	1	6	0.98
10949	Chloroethane	75-00-3	N.D.	3	6	0.98
10949	Chloroform	67-66-3	N.D.	1	6	0.98
10949	Chloromethane	74-87-3	N.D.	3	6	0.98
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.98
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.98
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.98
10949	Dibromomethane	74-95-3	N.D.	1	6	0.98
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.98
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.98
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.98
10949	Dichlorodifluoromethane	75-71-8	N.D.	3	6	0.98
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.98
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.98
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.98
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.98
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.98
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.98
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.98
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.98
10949	Freon 113	76-13-1	N.D.	3	13	0.98
10949	Freon 123a	354-23-4	N.D.	3	6	0.98
10949	Methylene Chloride	75-09-2	N.D.	3	6	0.98
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.98
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.98
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.98
10949	Toluene	108-88-3	N.D.	1	6	0.98
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.98
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.98
10949	Trichloroethene	79-01-6	N.D.	1	6	0.98
10949	Trichlorofluoromethane	75-69-4	N.D.	3	6	0.98
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.98
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.98
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.98

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a.	21.9	0.50	0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

GSK06 0026

Analysis Report



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Sample Description: OU02D0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465513
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 11:59 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2D04 SDG#: GSK06-09

General Sample Comments

State of New York Certification No 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113211AA	11/17/2011 19:04	Chelsea S Eastep	0.98
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:24	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:25	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:24	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06 8827

Analysis Report



Page 1 of 2

Sample Description: OU02D1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465514
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 12:17 by DAB

Groundwater Science Co

Submitted: 11/10/2011 09:00

560 Route 53

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2D13 SDG#: GSK06-10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.87
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.87
10949	Bromobenzene	108-86-1	N.D.	1	5	0.87
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.87
10949	Bromoform	75-25-2	N.D.	1	5	0.87
10949	Bromomethane	74-83-9	N.D.	2	5	0.87
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.87
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.87
10949	Chloroethane	75-00-3	N.D.	2	5	0.87
10949	Chloroform	67-66-3	N.D.	1	5	0.87
10949	Chloromethane	74-87-3	N.D.	2	5	0.87
10949	2-Chlorotoluene	95-49-6	N.D.	1	5	0.87
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.87
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.87
10949	Dibromomethane	74-95-3	N.D.	1	5	0.87
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.87
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.87
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.87
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.87
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.87
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.87
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.87
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.87
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.87
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.87
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.87
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.87
10949	Freon 113	76-13-1	N.D.	2	11	0.87
10949	Freon 123a	354-23-4	N.D.	2	5	0.87
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.87
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.87
10949	1,1,1,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.87
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.87
10949	Toluene	108-88-3	N.D.	1	5	0.87
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.87
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.87
10949	Trichloroethene	79-01-6	N.D.	1	5	0.87
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.87
10949	1,2,3-Trichloropropane	96-15-4	N.D.	1	5	0.87
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.87
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.87

Wet Chemistry SM20 2540 G

00211	Moisture	n.a.	19.5	0.50	0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 105 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

GSK06 0629

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU02D1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465514
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 12:17 by DAB

Groundwater Science Co

Submitted: 11/10/2011 09:00

560 Route 53

Reported: 11/21/2011 16:37

Suite 202

Beacon NY 12508

Q2D13 SDG#: GSK06-10

General Sample Comments

State of New York Certification No 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113211AA	11/17/2011 19:27	Chelsea B Eastep	0.87
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:26	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:26	Christopher D Meeks	n.a.
07578	GC/MS-FL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:26	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06-0029

Analysis Report



Page 1 of 2

Sample Description: OU02A0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465515
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 12:47 by DAB

Groundwater Science Co

Submitted: 11/10/2011 09:00

560 Route 53

Reported: 11/21/2011 16:37

Suite 202

Beacon NY 12508

C2A04 SDG#: GSK06-11

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.6	6	0.95
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.95
10949	Bromobenzene	108-86-1	N.D.	1	6	0.95
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.95
10949	Bromoform	75-25-2	N.D.	1	6	0.95
10949	Bromomethane	74-83-9	N.D.	2	6	0.95
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.95
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.95
10949	Chloroethane	75-00-3	N.D.	2	6	0.95
10949	Chloroform	67-66-3	N.D.	1	6	0.95
10949	Chloromethane	74-87-3	N.D.	2	6	0.95
10949	2-Chlorotoluene	95-49-6	N.D.	1	6	0.95
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.95
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.95
10949	Dibromomethane	74-95-3	N.D.	1	6	0.95
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.95
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.95
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.95
10949	Dichlorodifluoromethane	75-71-5	N.D.	2	6	0.95
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.95
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.95
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.95
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.95
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.95
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.95
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.95
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.95
10949	Freon 113	76-13-1	N.D.	2	12	0.95
10949	Freon 123a	354-23-4	N.D.	2	6	0.95
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.95
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.95
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.95
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.95
10949	Toluene	108-88-3	N.D.	1	6	0.95
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.95
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.95
10949	Trichloroethene	79-01-6	N.D.	1	6	0.95
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.95
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.95
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.95
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.95

Wet Chemistry

SM20 2540 G

00111 Moisture n.a. 20.0 0.50 0.50 1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

444444 444444

Analysis Report



Page 2 of 2

Sample Description: OU02A0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465515
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 12:47 by DAB

Groundwater Science Co

Submitted: 11/10/2011 09:00

560 Route 53

Reported: 11/21/2011 16:37

Suite 202

Beacon NY 12508

O2A04 SDG#: GSK06-11

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8250B	1	X113211AA	11/17/2011 19:50	Chelsea B Eastep	0.95
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:29	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:29	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:25	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06-0031

Analysis Report



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Sample Description: OU02A1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465516
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 13:01 by DAB

Groundwater Science Co

Submitted: 11/10/2011 09:00

560 Route 53

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2A13 SDG#: GSK06-12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.86
10949	Benzyl Chloride	100-44-7	N.D.	1	4	0.86
10949	Bromobenzene	108-86-1	N.D.	1	5	0.86
10949	Bromodichloromethane	75-27-4	N.D.	1	5	0.86
10949	Bromoform	75-25-2	N.D.	1	5	0.86
10949	Bromomethane	74-83-9	N.D.	2	5	0.86
10949	Carbon Tetrachloride	56-23-5	N.D.	1	5	0.86
10949	Chlorobenzene	108-90-7	N.D.	1	5	0.86
10949	Chloroethane	75-00-3	N.D.	2	5	0.86
10949	Chloroform	67-66-3	N.D.	1	5	0.86
10949	Chloromethane	74-87-3	N.D.	2	5	0.86
10949	2-Chlorotoluene	95-49-8	N.D.	1	5	0.86
10949	4-Chlorotoluene	106-43-4	N.D.	1	5	0.86
10949	Dibromochloromethane	124-48-1	N.D.	1	5	0.86
10949	Dibromomethane	74-95-3	N.D.	1	5	0.86
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	0.86
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	0.86
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	0.86
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	5	0.86
10949	1,1-Dichloroethane	75-34-3	N.D.	1	5	0.86
10949	1,2-Dichloroethane	107-06-2	N.D.	1	5	0.86
10949	1,1-Dichloroethene	75-35-4	N.D.	1	5	0.86
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	5	0.86
10949	1,2-Dichloropropane	78-87-5	N.D.	1	5	0.86
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	0.86
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	0.86
10949	Ethylbenzene	100-41-4	N.D.	1	5	0.86
10949	Freon 113	76-13-1	N.D.	2	10	0.86
10949	Freon 123a	354-23-4	N.D.	2	5	0.86
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.86
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	0.86
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	0.86
10949	Tetrachloroethene	127-18-4	N.D.	1	5	0.86
10949	Toluene	108-88-3	N.D.	1	5	0.86
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	5	0.86
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	5	0.86
10949	Trichloroethene	79-01-6	N.D.	1	5	0.86
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.86
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	0.86
10949	Vinyl Chloride	75-01-4	N.D.	1	5	0.86
10949	Xylene (Total)	1330-20-7	N.D.	1	5	0.86

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a	13.7	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 ± 105 degrees Celsius. The moisture result reported above is on an as-received basis						

GSK06 0032

Analysis Report



Page 2 of 2

Sample Description: OU02A1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465516
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 13:01 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2A13 SDG#: GSK06-12

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113211AA	11/17/2011 20:13	Chelsea B Eastep	0.86
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:31	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:31	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:30	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06-12033

Analysis Report



Page 1 of 2

Sample Description: OU02G0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465517
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 13:37 by DAB

Groundwater Science Co

560 Route 53

Suite 202

Beacon NY 12508

Submitted: 11/10/2011 09:00

Reported: 11/21/2011 16:37

O2G04 SDG#: GSK06-13

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.8	8	1.05
10949	Benzyl Chloride	100-44-7	N.D.	2	6	1.05
10949	Bromobenzene	106-86-1	N.D.	2	8	1.05
10949	Bromodichloromethane	75-27-4	N.D.	2	8	1.05
10949	Bromoform	75-25-2	N.D.	2	8	1.05
10949	Bromomethane	74-83-9	N.D.	3	8	1.05
10949	Carbon Tetrachloride	56-23-5	N.D.	2	8	1.05
10949	Chlorobenzene	108-90-7	N.D.	2	8	1.05
10949	Chloroethane	75-00-3	N.D.	3	8	1.05
10949	Chloroform	67-66-3	N.D.	2	8	1.05
10949	Chloromethane	74-87-3	N.D.	3	8	1.05
10949	2-Chlorotoluene	95-49-8	N.D.	2	8	1.05
10949	4-Chlorotoluene	106-43-4	N.D.	2	8	1.05
10949	Dibromochloromethane	124-48-1	N.D.	2	8	1.05
10949	Dibromomethane	74-95-3	N.D.	2	8	1.05
10949	1,2-Dichlorobenzene	95-50-1	N.D.	2	8	1.05
10949	1,3-Dichlorobenzene	541-73-1	N.D.	2	8	1.05
10949	1,4-Dichlorobenzene	106-46-7	N.D.	2	8	1.05
10949	Dichlorodifluoromethane	75-71-6	N.D.	3	8	1.05
10949	1,1-Dichloroethane	75-34-3	N.D.	2	8	1.05
10949	1,2-Dichloroethane	107-06-2	N.D.	2	8	1.05
10949	1,1-Dichloroethene	75-35-4	N.D.	2	8	1.05
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	2	8	1.05
10949	1,2-Dichloropropane	78-87-5	N.D.	2	8	1.05
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	2	8	1.05
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	2	8	1.05
10949	Ethylbenzene	100-41-4	N.D.	2	8	1.05
10949	Freon 113	76-13-1	N.D.	3	16	1.05
10949	Freon 123a	354-23-4	N.D.	3	8	1.05
10949	Methylene Chloride	75-09-2	N.D.	3	9	1.05
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	2	8	1.05
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	2	8	1.05
10949	Tetrachloroethene	127-18-4	N.D.	2	8	1.05
10949	Toluene	108-88-3	N.D.	2	8	1.05
10949	1,1,1-Trichloroethane	71-55-6	N.D.	2	8	1.05
10949	1,1,2-Trichloroethane	79-00-5	N.D.	2	8	1.05
10949	Trichloroethene	79-01-6	N.D.	2	8	1.05
10949	Trichlorofluoromethane	75-69-4	N.D.	3	8	1.05
10949	1,2,3-Trichloropropane	96-18-4	N.D.	2	8	1.05
10949	Vinyl Chloride	75-01-4	N.D.	2	8	1.05
10949	Xylene (Total)	1330-20-7	N.D.	2	8	1.05

Wet Chemistry

SM20 2540 G

00111 Moisture n.a. 12.7 0.50 0.50 1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK06 0034

Analysis Report



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Sample Description: OU02G0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465517
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 13:37 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2G04 SDG#: GSK06-13

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113211AA	11/17/2011 20:36	Chelsea B Eastep	1.05
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:34	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:34	Christopher D Meeks	n.a.
07578	GC/MS-EL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:33	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06-0035

Analysis Report



Page 1 of 2

Sample Description: OU02G1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465518
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 13:51 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2G13 SDG#: GSK06-14

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.6	6	0.95
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.95
10949	Bromobenzene	108-86-1	N.D.	1	6	0.95
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.95
10949	Bromoform	75-25-2	N.D.	1	6	0.95
10949	Bromomethane	74-83-9	N.D.	2	6	0.95
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.95
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.95
10949	Chloroethane	75-00-3	N.D.	2	6	0.95
10949	Chloroform	67-66-3	N.D.	1	6	0.95
10949	Chloromethane	74-87-3	N.D.	2	6	0.95
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.95
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.95
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.95
10949	Dibromomethane	74-95-3	N.D.	1	6	0.95
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.95
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.95
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.95
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.95
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.95
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.95
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.95
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.95
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.95
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.95
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.95
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.95
10949	Freon 113	76-13-1	N.D.	2	12	0.95
10949	Freon 123a	354-23-4	N.D.	2	6	0.95
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.95
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.95
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.95
10949	Tetrachloroethene	127-18-4	N.D.	1	6	0.95
10949	Toluene	105-88-3	N.D.	1	6	0.95
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.95
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	6	0.95
10949	Trichloroethene	79-01-6	N.D.	1	6	0.95
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.95
10949	1,2,3-Trichloropropene	96-18-4	N.D.	1	6	0.95
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.95
10949	Xylene (Total)	1230-20-7	N.D.	1	6	0.95

Wet Chemistry

SM20 2540 G

%

%

%

00111 Moisture

n a

22.8

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK06 0036

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU02G13111109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465518
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 13:51 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2G13 SDG#: GSK06-14

General Sample Comments

State of New York Certification No 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 82608	1	X113211AA	11/17/2011 20:59	Chelsea B Eastep	0.95
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:36	Christopher D Meeks	n.a.
06389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:36	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:35	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06.0037

Analysis Report



Page 1 of 2

Sample Description: OU02F0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465519
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 14:16 by DAB

Groundwater Science Co

Submitted: 11/10/2011 09:00

560 Route 53

Reported: 11/21/2011 16:37

Suite 202

Beacon NY 12508

O2F04 SDG#: GSK06-15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.7	7	1.02
10949	Benzyl Chloride	100-44-7	N.D.	1	6	1.02
10949	Bromobenzene	108-86-1	N.D.	1	7	1.02
10949	Bromodichloromethane	75-27-4	N.D.	1	7	1.02
10949	Bromoform	75-25-2	N.D.	1	7	1.02
10949	Bromomethane	74-83-9	N.D.	3	7	1.02
10949	Carbon Tetrachloride	56-23-5	N.D.	1	7	1.02
10949	Chlorobenzene	108-90-7	N.D.	1	7	1.02
10949	Chloroethane	75-00-3	N.D.	3	7	1.02
10949	Chloroform	67-66-3	N.D.	1	7	1.02
10949	Chloromethane	74-87-3	N.D.	3	7	1.02
10949	2-Chlorotoluene	95-49-8	N.D.	1	7	1.02
10949	4-Chlorotoluene	106-43-4	N.D.	1	7	1.02
10949	Dibromochloromethane	124-48-1	N.D.	1	7	1.02
10949	Dibromomethane	74-95-3	N.D.	1	7	1.02
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	7	1.02
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	7	1.02
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	7	1.02
10949	Dichlorodifluoromethane	75-71-8	N.D.	3	7	1.02
10949	1,1-Dichloroethane	75-34-3	N.D.	1	7	1.02
10949	1,2-Dichloroethane	107-06-2	N.D.	1	7	1.02
10949	1,1-Dichloroethene	75-35-4	N.D.	1	7	1.02
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	7	1.02
10949	1,2-Dichloropropane	78-87-5	N.D.	1	7	1.02
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	7	1.02
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	7	1.02
10949	Ethylbenzene	100-41-4	N.D.	1	7	1.02
10949	Freon 113	76-13-1	N.D.	3	15	1.02
10949	Freon 123a	354-23-4	N.D.	3	7	1.02
10949	Methylene Chloride	75-09-2	N.D.	3	7	1.02
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	7	1.02
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	7	1.02
10949	Tetrachloroethene	127-18-4	N.D.	1	7	1.02
10949	Toluene	108-58-3	N.D.	1	7	1.02
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	7	1.02
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	7	1.02
10949	Trichloroethene	79-01-6	N.D.	1	7	1.02
10949	Trichlorofluoromethane	75-69-4	N.D.	3	7	1.02
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	7	1.02
10949	Vinyl Chloride	75-01-4	N.D.	1	7	1.02
10949	Xylene (Total)	1330-20-7	N.D.	1	7	1.02

Wet Chemistry

SM20 2540 G

00111 Moisture

n a

31.1

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

GSK06 0638

Analysis Report



Page 2 of 2

Sample Description: OU02F04111109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465519
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 14:16 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2F04 SDG#: GSK06-15

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113211AA	11/17/2011 21:21	Chelsea B Eastep	1.02
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:38	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:38	Christopher D Meeks	n.a.
07578	GC/MS-KL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:38	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06 0039

Analysis Report



Page 1 of 2

Sample Description: OU02F1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465520
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 14:31 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2F13 SDG#: GSK06-16

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.6	6	0.9
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.9
10949	Bromobenzene	106-86-1	N.D.	1	6	0.9
10949	Bromodichloromethane	75-27-4	N.D.	1	6	0.9
10949	Bromoform	75-25-2	N.D.	1	6	0.9
10949	Bromomethane	74-83-9	N.D.	2	6	0.9
10949	Carbon Tetrachloride	56-23-5	N.D.	1	6	0.9
10949	Chlorobenzene	108-90-7	N.D.	1	6	0.9
10949	Chloroethane	75-00-3	N.D.	2	6	0.9
10949	Chloroform	67-66-3	N.D.	1	6	0.9
10949	Chloromethane	74-87-3	N.D.	2	6	0.9
10949	2-Chlorotoluene	95-49-8	N.D.	1	6	0.9
10949	4-Chlorotoluene	106-43-4	N.D.	1	6	0.9
10949	Dibromochloromethane	124-48-1	N.D.	1	6	0.9
10949	Dibromomethane	74-95-3	N.D.	1	6	0.9
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	6	0.9
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	6	0.9
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	6	0.9
10949	Dichlorodifluoromethane	75-71-8	N.D.	2	6	0.9
10949	1,1-Dichloroethane	75-34-3	N.D.	1	6	0.9
10949	1,2-Dichloroethane	107-06-2	N.D.	1	6	0.9
10949	1,1-Dichloroethene	75-35-4	N.D.	1	6	0.9
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	6	0.9
10949	1,2-Dichloropropane	78-87-5	N.D.	1	6	0.9
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	6	0.9
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	6	0.9
10949	Ethylbenzene	100-41-4	N.D.	1	6	0.9
10949	Freon 113	76-13-1	N.D.	2	12	0.9
10949	Freon 123a	354-23-4	N.D.	2	6	0.9
10949	Methylene Chloride	75-09-2	N.D.	2	6	0.9
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	6	0.9
10949	1,1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	6	0.9
10949	Tetrachloroethene	127-16-4	N.D.	1	6	0.9
10949	Toluene	108-88-3	N.D.	1	6	0.9
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	6	0.9
10949	1,1,2-Trichloroethane	79-30-5	N.D.	1	6	0.9
10949	Trichloroethene	79-01-6	N.D.	1	6	0.9
10949	Trichlorofluoromethane	75-69-4	N.D.	2	6	0.9
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	6	0.9
10949	Vinyl Chloride	75-01-4	N.D.	1	6	0.9
10949	Xylene (Total)	1330-20-7	N.D.	1	6	0.9

Wet Chemistry

SM20 2540 G

00111	Moisture	n.a	23.5	0.50	0.50	1
-------	----------	-----	------	------	------	---

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis

GSK06 0840

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU02F1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465520
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 14:31 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2F13 SDG#: GSK06-16

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113212AA	11/17/2011 21:45	Chelsea B Eastep	0.9
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:41	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:42	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:40	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06 0041

Analysis Report



Page 1 of 2

Sample Description: OU02B0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465521
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 15:04 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2B04 SDG#: GSK06-17

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.7	7	0.96
10949	Benzyl Chloride	100-44-7	N.D.	1	5	0.96
10949	Bromobenzene	108-86-1	N.D.	1	7	0.96
10949	Bromodichloromethane	75-27-4	N.D.	1	7	0.96
10949	Bromoform	75-25-2	N.D.	1	7	0.96
10949	Bromomethane	74-83-9	N.D.	3	7	0.96
10949	Carbon Tetrachloride	56-23-5	N.D.	1	7	0.96
10949	Chlorobenzene	108-90-7	N.D.	1	7	0.96
10949	Chloroethane	75-00-3	N.D.	3	7	0.96
10949	Chloroform	67-66-3	N.D.	1	7	0.96
10949	Chloromethane	74-87-3	N.D.	3	7	0.96
10949	2-Chlorotoluene	95-49-8	N.D.	1	7	0.96
10949	4-Chlorotoluene	106-43-4	N.D.	1	7	0.96
10949	Dibromochloromethane	124-48-1	N.D.	1	7	0.96
10949	Dibromomethane	74-95-3	N.D.	1	7	0.96
10949	1,2-Dichlorobenzene	95-50-1	N.D.	1	7	0.96
10949	1,3-Dichlorobenzene	541-73-1	N.D.	1	7	0.96
10949	1,4-Dichlorobenzene	106-46-7	N.D.	1	7	0.96
10949	Dichlorodifluoromethane	75-71-8	N.D.	3	7	0.96
10949	1,1-Dichloroethane	75-34-3	N.D.	1	7	0.96
10949	1,2-Dichloroethane	107-06-2	N.D.	1	7	0.96
10949	1,1-Dichloroethene	75-35-4	N.D.	1	7	0.96
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	1	7	0.96
10949	1,2-Dichloropropane	78-87-5	N.D.	1	7	0.96
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	7	0.96
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	7	0.96
10949	Ethylbenzene	100-41-4	N.D.	1	7	0.96
10949	Freon 113	76-13-1	N.D.	3	13	0.96
10949	Freon 123a	354-23-4	N.D.	3	7	0.96
10949	Methylene Chloride	75-09-2	N.D.	3	7	0.96
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	7	0.96
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	7	0.96
10949	Tetrachloroethene	127-18-4	N.D.	1	7	0.96
10949	Toluene	108-86-3	N.D.	1	7	0.96
10949	1,1,1-Trichloroethane	71-55-6	N.D.	1	7	0.96
10949	1,1,2-Trichloroethane	79-00-5	N.D.	1	7	0.96
10949	Trichloroethene	79-01-6	N.D.	1	7	0.96
10949	Trichlorofluoromethane	75-69-4	N.D.	3	7	0.96
10949	1,2,3-Trichloropropane	96-18-4	N.D.	1	7	0.96
10949	Vinyl Chloride	75-01-4	N.D.	1	7	0.96
10949	Xylene (Total)	1330-20-7	N.D.	1	7	0.96

Wet Chemistry

SM20 2540 G

00111 Moisture

n.a.

27.5

0.50

0.50

1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis

GSK06 0042

Analysis Report



Page 2 of 2

Sample Description: OU02B0411109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465521
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 15:04 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

02B04 SDG#: GSK06-17

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113211AA	11/17/2011 22:07	Chelsea B Eastep	0.96
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:43	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:44	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:43	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06 0043

Analysis Report



Page 1 of 2

Sample Description: OU02B1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465522
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 15:21 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

O2B13 SDG#: GSK06-18*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10949	Benzene	71-43-2	N.D.	0.5	5	0.81
10949	Benzyl Chloride	100-44-7	N.D.	0.9	4	0.81
10949	Bromobenzene	108-86-1	N.D.	0.9	5	0.81
10949	Bromodichloromethane	75-27-4	N.D.	0.9	5	0.81
10949	Bromoform	75-25-2	N.D.	0.9	5	0.81
10949	Bromomethane	74-83-9	N.D.	2	5	0.81
10949	Carbon Tetrachloride	56-23-5	N.D.	0.9	5	0.81
10949	Chlorobenzene	108-90-7	N.D.	0.9	5	0.81
10949	Chloroethane	75-00-3	N.D.	2	5	0.81
10949	Chloroform	67-66-3	N.D.	0.9	5	0.81
10949	Chloromethane	74-87-3	N.D.	2	5	0.81
10949	2-Chlorotoluene	95-49-8	N.D.	0.9	5	0.81
10949	4-Chlorotoluene	106-43-4	N.D.	0.9	5	0.81
10949	Dibromochloromethane	124-48-1	N.D.	0.9	5	0.81
10949	Dibromomethane	74-95-3	N.D.	0.9	5	0.81
10949	1,2-Dichlorobenzene	95-50-1	N.D.	0.9	5	0.81
10949	1,3-Dichlorobenzene	541-73-1	N.D.	0.9	5	0.81
10949	1,4-Dichlorobenzene	106-46-7	N.D.	0.9	5	0.81
10949	Dichlorodifluoromethane	75-71-6	N.D.	2	5	0.81
10949	1,1-Dichloroethane	75-34-3	N.D.	0.9	5	0.81
10949	1,2-Dichloroethane	107-06-2	N.D.	0.9	5	0.81
10949	1,1-Dichloroethene	75-35-4	N.D.	0.9	5	0.81
10949	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.9	5	0.81
10949	1,2-Dichloropropane	78-87-5	N.D.	0.9	5	0.81
10949	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.9	5	0.81
10949	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.9	5	0.81
10949	Ethylbenzene	100-41-4	N.D.	0.9	5	0.81
10949	Freon 113	76-13-3	N.D.	2	9	0.81
10949	Freon 123a	354-23-4	N.D.	2	5	0.81
10949	Methylene Chloride	75-09-2	N.D.	2	5	0.81
10949	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.9	5	0.81
10949	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.9	5	0.81
10949	Tetrachloroethene	127-18-4	N.D.	0.9	5	0.81
10949	Toluene	108-88-3	N.D.	0.9	5	0.81
10949	1,1,1-Trichloroethane	71-55-6	N.D.	0.9	5	0.81
10949	1,1,2-Trichloroethane	79-00-5	N.D.	0.9	5	0.81
10949	Trichloroethene	79-01-6	N.D.	0.9	5	0.81
10949	Trichlorofluoromethane	75-69-4	N.D.	2	5	0.81
10949	1,2,3-Trichloropropane	96-16-4	N.D.	0.9	5	0.81
10949	Vinyl Chloride	75-01-4	N.D.	0.9	5	0.81
10949	Xylene (Total)	1330-20-7	N.D.	0.9	5	0.81

Wet Chemistry

SM20 2540 G

00111	Moisture	%	12.2	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

GSK06-0644

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*= This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: OU02B1311109 Grab Soil
Tech City Surficial Soils

LLI Sample # SW 6465522
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 15:21 by DAB

Groundwater Science Co

Submitted: 11/10/2011 09:00

560 Route 53

Reported: 11/21/2011 16:37

Suite 202

Beacon NY 12508

02B13 SDG#: GSK06-18*

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10949	Volatiles in Soil	SW-846 8260B	1	X113211AA	11/17/2011 22:36	Chelsea B Eastep	0.81
08389	GC/MS - LL Encore Prep	SW-846 5035	1	201131426163	11/10/2011 14:45	Christopher D Meeks	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035	2	201131426163	11/10/2011 14:46	Christopher D Meeks	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035	1	201131426163	11/10/2011 14:45	Christopher D Meeks	n.a.
00111	Moisture	SM20 2540 G	1	11318820006A	11/14/2011 23:29	Scott W Freisher	1

GSK06 0045

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
ug	microgram(s)	mg	milligram(s)
ml	milliliter(s)	l	liter(s)
m3	cubic meter(s)	ul	microliter(s)
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value - The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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ATTACHMENT D

**DATA VALIDATION CHECKLIST
AND SUPPORT DOCUMENTATION**

SOP # HW-24
Revision # 2
August 2008

USEPA
Hazardous Waste Support Branch
Validating Volatile Organic Compounds
By Gas Chromatography/Mass Spectrometry
SW-846 Method 8260B

Prepared by: George Karas Date: 8/22/08
George Karas, Chemist
Hazardous Waste Support Section

Prepared by: Russell Arnone Date: 8/23/08
Russell Arnone, Chemist
Hazardous Waste Support Section

Concurred by: Linda Maugel Date: 8/26/08
Linda Maugel, Chief
Hazardous Waste Support Section

Approved by: Robert Ranyon Date: 8/26/08
Robert Ranyon, Chief
Hazardous Waste Support Branch

Annual Review

Reviewed by: Russell Arnone Date: 8/11/09
Name

Reviewed by: _____ Date: _____
Name

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the USEPA SW-846, Method 8260B December 1996. The validation methods and actions discussed in this document are based on the requirements set forth in USEPA SW-846, Method 8260B and Method 8000C, Rev 3, March 2003; and "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," January, 2005. This document covers technical as well as method specific problems; however situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are defined on page 4.

The reviewer must prepare a detailed data assessment to be submitted along with the complete SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data, and contract non-compliance.

DEFINITIONS

Acronyms

BNA - base neutral acid(another name for Semi Volatiles)
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
CF - calibration factor
%D - percent difference
DCB -decachlorobiphenyl
DDD - dichlorodiphenyldichloroethane
DDE - dichlorodiphenylethane
DDT - dichlorodiphenyltrichloroethane
DoC - Date of Collection
GC - gas chromatography
GC/ECD - gas chromatography/electron capture detector
GC/MS - gas chromatography/mass spectrometer
GPC - gel permeation chromatography
IS - internal standard
kg - kilogram
µg - microgram
MS - matrix spike
MSD - matrix spike duplicate
l - liter
ml - milliliter
PCB - Polychlorinated biphenyl
PE - performance evaluation
PEM - Performance Evaluation Mixture
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SMC - system monitoring compound
SOP - standard operating procedure
SOW - Statement of Work
SVOA - semivolatile organic acid
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TCX -tetrachloro-m-xylene
TIC - tentatively identified compound

TOPO - Task Order Project Officer
TPO - Technical Project Officer
VOA - Volatile organic
VTSR - Validated Time of Sample Receipt

Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

LAB QUALIFIERS:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

USEPA Region II
SW846 Method 8260B VOA

Date: August 2008
SOP: HW-24, Rev. 2

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

YES NO N/A

I. PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: SDG GSK06 LAB: Lancaster Laboratories

SITE NAME: TechCity (Former IBM Kingston)

1.0 Data Completeness and Deliverables

1.1 Has all data been submitted in CLP deliverable
format or CLP Forms Equivalent? ☒

ACTION: If not, note the effect on review of the data in
the Data Assessment narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative, and/or cover letter
signed release present? ☒

2.2 Are case number and SDG number(s) contained
in the narrative or cover letter? ☒

ACTION: If not, note the effect on review of the data in
the Data Assessment narrative.

II. VOLATILE ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Reports, and/or Chain of Custodies
from the field samplers present for all samples
sign release present? ☒

ACTION: If no, contact the laboratory/sampling team for replacement
of missing or illegible copies.

1.2 Is a sampling trip report present (if required)? ☐ ☒

1.3 Sample Conditions/Problems

YES NO N/A

- 1.3.1 Do the Traffic Reports, Chain of Custodies, or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? X

ACTION: If all the VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, flag all positive results "J" and all non-detects "R".

ACTION: If samples were not iced or if the ice was melted upon receipt at the laboratory and the temperature of the cooler was elevated ($>10^{\circ}\text{C}$), flag all positive results "J" and all non-detects non"UJ".

2.0 Holding Times

- 2.1 Have any volatile holding times, determined from date of collection to date of analysis, been exceeded? X

The maximum holding time for aqueous samples is 14 days.

The maximum holding time for soils non aqueous samples is 14 days.

NOTE: If unpreserved, aqueous samples maintained at 4°C for aromatic hydrocarbons analysis must be analyzed within 7 days. If preserved with HCL acid to a $\text{pH}<2$ and stored at 4°C , then aqueous samples must be analyzed within 14 days from time of collection. For non-aqueous samples for volatile components that are frozen (less than 7°C) or are properly cooled ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and perserved with NaHSO_4 , the maximum holding time is 14 days from sample collection. If

YES NO N/A

uncertain about preservation, contact the laboratory /sampling team to determine whether or not samples were preserved.

ACTION: Qualify sample results according to Table 1:

Table 1. Holding Time Actions for Trace Volatile Analysis

Matrix	Preserved	Criteria	Action	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 days	No qualifications	
	No	> 7 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes	> 14 days	J	R
Non Aqueous	No	≤ 14 days	J	R
	Yes	≤ 14 days	No qualifications	
	Yes/No	> 14 days	J	R

3.0 Surrogate Recovery (CLP Form II Equivalent)

3.1 Have the volatile surrogate recoveries been listed on Surrogate Recovery forms for each of the following matrices:

- a. Water ☒ ___ ___
- b. Soil ☒ ___ ___

3.2 If so, are all the samples listed on the appropriate Surrogate Recovery forms for each matrix:

- a. Water ☒ ___ ___
- b. Soil ☒ ___ ___

ACTION: If large errors exist, deliverables are unavailable or information is missing, document the effect(s) in Data

YES NO N/A

Assessments and contact the laboratory/project officer/appropriate official for an explanation /resubmittal, make any necessary corrections and document effect in the Data Assessment.

- 3.3 Were the surrogate recovery limits followed per Table 2. If Table 2 criteria were not followed, the laboratory may use in-house performance criteria (per SW-846, Method 8000C, section 9.7). Other compounds may be used as surrogates, depending upon the analysis requirements. ☐ ☒ ☐

(Inhouse limits)

Table 2. Surrogate Spike Recovery Limits for Water and Soil/Sediments

DMC	Recovery Limits (%)Water	Recovery Limits Soil/Sediment
4-Bromofluorobenzene	80-120	70-130
Dibromofluoromethane	80-120	70-130
Toluene-d ₈	80-120	70-130
Dichloroethane-d ₄	80-120	70-130

Note: Use above table if laboratory did not provide in house recovery criteria.

Note: Other compounds may be used as surrogated depending upon the analysis requirements.

- 3.4 Were outliers marked correctly with an asterisk?

☐ ☐ ☒

ACTION: Circle all outliers with a red pencil.

- 3.5 Were one or more volatile surrogate recoveries out of specification for any sample or method blank. Table 2.

☐ ☒ ☐

If yes, were samples reanalyzed?

☐ ☐ ☒

Were method blanks reanalyzed?

☐ ☐ ☒

YES NO N/A

ACTION: If all surrogate recoveries are > 10% but 1 or more compounds do not meet method specifications:

1. Flag all positive results as estimated ("J").
2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.
3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects, but qualify positive results as estimated "J".

If any surrogate has a recovery of < 10%:

1. Positive results are qualified with ("J").
2. Non-detects for that should be qualified as unusable ("R").

NOTE: Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. The basic concern is whether the blank problems represent an isolated problem with the blank alone or whether there is a fundamental problem with the analytical process. If one or more samples in the batch show acceptable surrogate recoveries, the reviewer may choose the blank problem to be an isolated occurrence.

3.6 Are there any transcription/calculation errors between raw data and reported data?

Level IV not performed on this SDG 11 — ✓

ACTION: If large errors exist, take action as specified in section 3.2 above.

4.0 Laboratory Control Sample (Form III/Equivalent)

4.1 Is the LCS prepared, extracted, analyzed, and reported once for every 20 field samples of a similar matrix, per SDG. ✓ — —

YES NO N/A

Note: LCS consists of an aliquot of a clean (control) matrix similar to the sample matrix and of the same weight or volume.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation /resubmittals. Make note in the data assessment.

4.2 Were the Laboratory Control Samples analyzed at the required frequency for each of the following matrices:

A. Water	☒	☐	☐
B. Soil	☒	☐	☐
C. Med Soil	☐	☐	☒

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

4.3 Have in house LCS recovery limits been developed (Method 8000C, Sect 9.7). ☒ ☐ ☐

4.4 If in house limits are not developed, are LCS acceptance recovery limits between 70 - 130% (Method 8000c Sect 9.5)? ☐ ☐ ☒

4.5 Were one or more of the volatile LCS recoveries outside the in house laboratory recovery criteria for spiked analytes? If in house limits are not present use 70 - 130% recovery limits.

☐ ☒ ☐

YES NO N/A

Table 3. LCS Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit ≤ %R	No Qualifications	

5.0 Matrix Spikes (Form III or equivalent)

5.1 Are all data for matrix spike and matrix duplicate or matrix spike duplicate (MS/MD or MS/MSD) present and complete for each matrix?

MS/MSD not performed on this SDG

☐ ☐ ☒

NOTE: The laboratory should use one matrix spike and a duplicate analysis of an unspiked field sample if target analytes are expected in the sample. If the sample is not expected to contain target analytes, a MS/MSD should be analyzed (SW-846, Method 8260B, Sect 8.4.2).

5.2 Have MS/MD or MS/MSD results been summarized on modified CLP Form III?

☐ ☐ ☒

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency for each of the following matrices? (One MS/MD, MS/MSD or laboratory replicate must be performed for every 20 samples)

YES NO N/A

of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month [page 8000C, section 9.5.]

- | | | | | |
|----|------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a. | Water (Not in this SWG) | ☒ | ☐ | ☐ |
| b. | Waste | ☐ | ☐ | ☒ |
| c. | Soil/Solid (Not in this SWG) | ☒ | ☐ | ☐ |

Note: The LCS is spiked with the same analytes at the same concentrations as the matrix spike (SW-846 8000C, Section 9.5). If different make note in data assessment. Matrix/LCS spiking standards should be prepared from volatile organic compounds which are representative of the compounds being investigating. At a minimum, the matrix spike should include 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene. The concentration of the LCS should be determined as described SW-Method 8000C Section 9.5.

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

5.4 Have in house MS recovery limits been developed (Method 8000C, Sect 9.7) for each matrix. ☐ ☐ ☒

5.5 Were one or more of the volatile MS/MSD recoveries outside of the in-house laboratory recovery criteria for spiked analytes? If none are present, then use 70-130% recovery as per SW-846, 8000C, Sect. 9.5.4. ☐ ☐ ☒

ACTION: Circle all outliers with a red pencil.

NOTE: If any individual % recovery in the MS (or MSD) falls outside the designated range for recovery the reviewer should determine if there is a matrix effect. A matrix effect is indicated if the LCS data are within limits but the MS data exceeds the limits.

YES NO N/A

NOTE: No qualification of data is necessary on MS and MSD data alone. However, using informed professional judgement, the data reviewer may use MS and MSD results in conjunction with other QC criteria to determine the need for some qualification.

Note: The data reviewer should first try to determine to what extent the results of the MS and MSD affect the associated data. This determination should be made with regard to the MS and MSD sample itself, as well as specific analytes for all samples associated with the MS and MSD.

Note: In those instances where it can be determined that the results of the MS and MSD affect only the sample spiked, limit qualification to this sample only. However, it may be determined through the MS and MSD results that a laboratory is having a systematic problem in the analysis of one or more analytes that affect all associated samples, and the reviewer must use professional judgement to qualify the data from all associated samples.

Note: The reviewer must use professional judgement to determine the need for qualification of non-spiked compounds.

ACTION: Follow criteria in Table 4 when professional judgement deems qualification of sample.

Table 4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Actions for Volatile Analysis

Criteria	Action	
	Detected Spiked Compounds	Non-Detected Spiked Compounds
%R > Upper Acceptance Limit	J	No Qualifiers
%R < Lower Acceptance Limit	J	UJ
Lower Acceptance Limit ≤ %R	No Qualifications	

YES NO N/A

6.0 Blank (CLP Form IV Equivalent)

6.1 Is the Method Blank Summary form present? ✓ — —

6.2 Frequency of Analysis: Has a method blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch? ✓ — —

6.3 Has a method blank been analyzed for each GC/MS system used ? ✓ — —

ACTION: If any blank data are missing, take action as specified above (section 3.2). If blank data is not available, reject @ all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

6.4 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for volatile organic compounds?

✓ 1 — —

7.0 Contamination

NOTE: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

7.1 Do any method/instrument/reagent blanks have positive results for target analytes and/or TICs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for percent moisture where necessary.

1 ✓ —

YES NO N/A

7.2 Do any field/rinse blanks have positive
volatile organic compound results?

— ☒ —

(TB + EQ)

ACTION: Prepare a list of the samples associated with each
of the contaminated blanks. (Attach a separate
sheet.)

NOTE: All field blank results associated to a particular
group of samples (may exceed one per case or one
per day) may be used to qualify data. Blanks may
not be qualified because of contamination in
another blank. Field blanks must be qualified for
surrogate, or calibration QC problems.

ACTION: Follow the directions in Table 5 below to qualify
sample results due to contamination. Use the
largest value from all the associated blanks.

Table 5. Volatile Organic Analysis Blank Contamination Criteria

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Storage, Field, Trip, Instrument**	Detects	Not detected	No qualification
	< CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	> CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report the concentration for the sample with a U, or qualify the data as unusable R
		≥ CRQL and ≥ blank contamination	Use professional judgement
	= CRQL*	< CRQL	Report CRQL value with a U
		≥ CRQL	Use professional judgement
	Gross contamination	Detects	Qualify results as unusable R

* 2x the CRQL for methylene chloride, 2-butanone, and acetone

** Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

NOTE: If gross blank contamination exists(e.g., saturated peaks, "hump-o-grams," "junk" peaks), all affected positive compounds in the associated samples should be qualified as unusable "R", due to interference. Non-detected volatile organic target compounds do not require qualification unless the contamination is so high that it interferes with the analyses of non-detected compounds.

YES NO N/A

7.3 Are there field/rinse/equipment blanks associated with every sample?

☒ — —

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

8.0 GC/MS Apparatus and Materials

8.1 Did the lab use the proper gas chromatographic column(s) for analysis of volatiles by Method 8260B? Check raw data, instrument logs or contact the lab to determine what type of column(s) was (were) used.

☒ — —

NOTE: For the analysis of volatiles, the method requires the use of 60 m. x 0.75 mm capillary column, coated with VOCOL(Supelco) or equivalent column. (see SW-846, page 8260B-7, section 4.9.2)

ACTION: If the specified column, or equivalent, was not used, document the effects in the Data Assessment. Use professional judgement to determine the acceptability of the data.

9.0 GC/MS Instrument Performance Check (CLP Form V Equivalent)

9.1 Are the GC/MS Instrument Performance Check forms present for Bromofluorobenzene (BFB), and do these forms list the associated samples with date/time analyzed?

☒ — —

9.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?

☒ — —

9.3 Has an instrument performance check solution (BFB)

YES NO N/A

been analyzed for every twelve hours of sample analysis per instrument?(see Table 4, SW-846, page 8260B-36)

☒ ☐ ☐

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS GC/MS tuning data are available.

ACTION: If the laboratory/project officer cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable, "R".

9.4 Have the ion abundances been normalized to m/z 95?

☒ ☐ ☐

9.5 Have the ion abundance criteria been met for each instrument used?

☒ ☐ ☐

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, take action as specified in section 3.2.

9.6 Are there any transcription/calculation errors between mass lists and reported values? (Check at least two values but if errors are found, check more.)

☐ ☐ ☒

9.7 Have the appropriate number of significant figures (two) been reported?

☒ ☐ ☐

ACTION: If large errors exist, take action as specified in section 3.2.

9.8 Are the spectra of the mass calibration compounds acceptable.

☒ ☐ ☐

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

YES NO N/A

10.0 Target Analytes (CLP Form I Equivalent)

10.1 Are the Organic Analysis reporting forms present with required header information on each page, for each of the following:

- | | | | |
|--|-------------------------------------|-----|-------------------------------------|
| a. Samples and/or fractions as appropriate | ☒ | ___ | ___ |
| b. Matrix spikes and matrix spike duplicates | ☐ | ___ | ☒ |
| c. Blanks | ☒ | ___ | ___ |
| d. Laboratory Control Samples | ☒ | ___ | ___ |

10.2 Are the reconstructed Ion Chromatograms, mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?

- | | | | |
|---|-------------------------------------|-----|-------------------------------------|
| a. Samples and/or fractions as appropriate | ☒ | ___ | ___ |
| b. Matrix spikes and matrix spike duplicates
(Mass spectra not required) | ☐ | ___ | ☒ |
| c. Blanks | ☒ | ___ | ___ |
| d. Laboratory Control Samples | ☒ | ___ | ___ |

ACTION: If any data are missing, take action specified in 3.2 above.

10.3 Is chromatographic performance acceptable with respect to:

Baseline stability?	☒	___	___
---------------------	-------------------------------------	-----	-----

YES NO N/A

Resolution?

☒ ☐ ☐

Peak shape?

☒ ☐ ☐

Full-scale graph (attenuation)?

☒ ☐ ☐

Other: _____

ACTION: Use professional judgement to determine the acceptability of the data.

10.4 Are the lab-generated standard mass spectra of identified volatile compounds present for each sample?

☐ ☐ ☒

All ND

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If the lab does not generate their own standard spectra, make a note in the Data Assessment. If spectra are missing, contact the lab for missing spectra.

10.5 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?

☐ ☐ ☒

All ND

10.6 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum?

☐ ☐ ☒

All

10.7 Do the relative intensities of the characteristic ions in the sample agree within $\pm 30\%$ of the corresponding relative intensities in the reference spectrum?

☐ ☐ ☒

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected ("R"), flagged ("N") - Presumptive evidence of the presence of the compound) or changed to non detected ("U") at the calculated detection limit. In order to be

YES NO N/A

positively identified, the data must comply with the criteria listed in 9.6, 9.7, and 9.8.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

11.0 Tentatively Identified Compounds (TIC) (CLP Form I/TIC Equivalent)

11.1 If Tentatively Identified Compound were required for this project, are all Tentatively Identified Compound reporting forms present; and do listed TICs include scan number or retention time, estimated concentration and a qualifier? ☐ ☐ ☒

NOTE: Add "N" qualifier to all TICs which have CAS number, if missing.

NOTE: Have the project officer/appropriate official check the project plan to determine if lab was required to identify non-target analytes (SW-846, page 8260B-23, Sect. 7.6.2).

11.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:

a. Samples and/or fractions as appropriate ☐ ☐ ☒

b. Blanks ☐ ☐ ☒

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier only to analytes identified by a CAS#.

NOTE: If TICs are present in the associated blanks take action as specified in section 3.2 above.

YES NO N/A

11.3 Are any priority pollutants listed as TIC compounds (i.e., an BNA compound listed as a VOA TIC)? ☐ ☐ ☒

ACTION: 1. Flag with "R" any target compound listed as a TIC.

2. Make sure all rejected compounds are properly reported if they are target compounds.

11.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% (of the most abundant ion) also present in the sample mass spectrum? ☐ ☐ ☒

11.5 Do TIC and "best match" standard relative ion intensities agree within $\pm 20\%$? ☐ ☐ ☒

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change the identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate. Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable, "R". (Common lab contaminants: CO₂(M/E 44), Siloxanes (M/E 73), Hexane, Aldol Condensation Products, Solvent Preservatives, and related byproducts).

12.0 Compound Quantitation and Reported Detection Limits

12.1 Are there any transcription/calculation errors in organic analysis reporting form results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and average initial RRF/CF were used to calculate organic analysis reporting form result. Were any errors found? ☐ ☐ ☒

Level IV not performed on this SDG

NOTE: Structural isomers with similar mass spectra, but insufficient GC resolution (i.e. percent valley between the two peaks $> 25\%$) should be

YES NO N/A

reported as isomeric pairs. The reviewer should check the raw data to ensure that all such isomers were included in the quantitation (i.e., add the areas of the two coeluting peaks to calculate the total concentration).

12.2 Are the method CRQL's adjusted to reflect sample dilutions and, for soils, sample moisture?

☒ ☐ ☐

ACTION: If errors are large, take action as specified in section 3.2 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest detection limits are used (unless a QC accedence dictates the use of the higher detection limit from the diluted sample data). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original reporting form (if present) and substituting the data from the analysis of the diluted sample. Specify which organic analysis reporting form is to be used, then draw a red "X" across the entire page of all reporting forms that should not be used, including any in the summary package.

13.0 Standards Data (GC/MS)

13.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant Reports) present for initial and continuing calibration?

☒ ☐ ☐

ACTION: If any calibration standard data are missing, take action specified in section 3.2 above.

14.0 GC/MS Initial Calibration (CLP Form VI Equivalent)

YES NO N/A

14.1 Are the Initial Calibration reporting forms present and complete for the volatile fraction? ✓ — —

ACTION: If any calibration forms or standard raw data are missing, take action specified in section 3.2 above.

ACTION: If the percent relative standard deviation (% RSD) is > 20%, (8000C-39) qualify positive results for that analyte "J". When % RSD > 90%,. Qualify all positive results for that analyte "J" and all non-detects results for that analyte "R".

14.2 Are all average RRFs > 0.050? ✓ — —

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be $\geq$ the values in the following list. If individual RRF values reported are below the listed values document in the Data Assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with red pencil.

ACTION: For any target analyte with average RRF < 0.05, or for the requirements for the 5 compounds in 14.2 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

14.3 Are response factors stable over the concentration range of the calibration. ✓ — —

NOTE: (Method Requirement) For the following CCC compounds, the %RSD values must be $\leq$ 30.0%. If %RSD values reported are > 30.0% document in the Data Assessment.

YES NO N/A

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

ACTION: Circle all outliers with a red pencil.

ACTION: If the % RSD is > 20.0%, or > 30% for the 6 compounds in 14.3 above, qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

14.4 Was the % RSD determined using RRF or CF?

☒ ☐ ☐

If no, what method was used to determine the linearity of the initial calibration? Document any effects to the case in the Data Assessment.

14.5 Are there any transcription/calculation errors in the reporting of RRF or % RSD? (Check at least two values but if errors are found, check more.)

☐ ☐ ☒

Level IV not performed on this SOG

ACTION: Circle errors with a red pencil.

ACTION: If errors are large, take action as specified in section 3.2 above.

15.0 GC/MS Calibration Verification (CLP Form VII Equivalent)

YES NO N/A

15.1 Are the Calibration Verification reporting forms present and complete for all compounds of interest? ☒ ☐ ☐

15.2 Has a calibration verification standard been analyzed for every twelve hours of sample analysis per instrument? ☒ ☐ ☐

ACTION: List below all sample analyses that were not within twelve hours of a calibration verification analysis for each instrument used.

ACTION: If any forms are missing or no calibration verification standard has been analyzed twelve hours prior to sample analysis, take action as specified in section 3.2 above. If calibration verification data are not available, flag all associated sample data as unusable ("R").

15.3 Was the % D determined from the calibration verification determined using RRF or CF? ☒ ☐ ☐

If no, what method was used to determine the calibration verification? Document any effects to the case in the Data Assessment.

15.4 Do any volatile compounds have a % D (difference or drift) between the initial and continuing RRF or CF which exceeds 20% (SW-846, page 8260B-19, section 7.4.5.2). ☒ ☐ ☐

NOTE: (Method Requirement) For the following CCC compounds, the %D values must be $\leq 20.0\%$. If %D values reported are $> 20.0\%$ document in the Data Assessment.

1,1-Dichloroethene
Chloroform
1,2-Dichloropropane
Toluene
Ethylbenzene
Vinyl chloride

YES NO N/A

ACTION: Circle all outliers with a red pencil.

ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated, "J". When %D is above 90%, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

15.5 Do any volatile compounds have a RRF < 0.05? 11 ☒

NOTE: (Method Requirement) For SPCC compounds, the individual RRF values must be $\geq$ the values in the following list for each calibration verification. If average RRF values reported are below the listed values document in the data assessment.

Chloromethane	0.10
1,1-Dichloroethane	0.10
Bromoform	0.10
Chlorobenzene	0.30
1,1,2,2-Tetrachloroethane	0.30

ACTION: Circle all outliers with a red pencil.

ACTION: If RRF < 0.05, or < the requirements for the 5 compounds in section 15.5 above, qualify all positive results for that analyte "J" and all non-detect results for that analyte "R".

NOTE: The above data qualification action applies regardless of method requirements.

16.0 Internal Standards (CLP Form VIII Equivalent)

16.1 Are the internal standard (IS) areas on the internal standard reporting forms of every sample and blank within the upper and lower limits (-50% to + 100%) for each initial mid-point calibration (SW-846, 8260B-20, Sect. 7.4.7)? ☒

YES NO N/A

ACTION: If errors are large or information is missing, take action as specified in section 3.2 above.

ACTION: List each outlying internal standard below.

Sample ID	IS #	Area Lower Limit	Area Upper Limit
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Attach additional sheets if necessary.)

- ACTION:
1. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results quantitated with this internal standard.
 2. Do not qualify non-detects when the associated IS are counts area $> + 100\%$.
 3. If the IS area is below the lower limit ($< - 50\%$), qualify all associated non-detects (U-values) "J".
 4. If extremely low area counts are reported ($< - 25\%$) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable "R" and positive results as estimated "J".

16.2 Are the retention times of all internal standards within 30 seconds of the associated initial mid-point calibration standard (SW-846, 8260B-20, Sect. 7.4.6)? ☒ _____

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

YES NO N/A

17.0 Field Duplicates

17.1 Were any field duplicates submitted for
volatile analysis?

11 ☒

ACTION: Compare the reported results for field duplicates and
calculate the relative percent difference.

ACTION: Any gross variation between field duplicate
results must be addressed in the Data Assessment.
However, if large differences exist, take action
specified in section 3.2 above.



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Sample Reference List for SDG Number GSK06
with a Data Package Type of NYSDEC B
06911 - Groundwater Science Co
Project: TechCity Surficial Soil

<u>Lab Sample Number</u>	<u>Lab Sample Code</u>	<u>Client Sample Description</u>
6465505	TCTB9	TTBA11091109 Water
6465506	TCEB9	TEQ11109SHVL Water
6465507	O2C04	OU02C0411109 Grab Soil
6465508	O2C13	OU02C1311109 Grab Soil
6465509	O2E04	OU02E0411109 Grab Soil
6465510	O2E13	OU02E1311109 Grab Soil
6465511	O2H04	OU02H0411109 Grab Soil
6465512	O2H13	OU02H1311109 Grab Soil
6465513	O2D04	OU02D0411109 Grab Soil
6465514	O2D13	OU02D1311109 Grab Soil
6465515	O2A04	OU02A0411109 Grab Soil
6465516	O2A13	OU02A1311109 Grab Soil
6465517	O2G04	OU02G0411109 Grab Soil
6465518	O2G13	OU02G1311109 Grab Soil
6465519	O2F04	OU02F0411109 Grab Soil
6465520	O2F13	OU02F1311109 Grab Soil
6465521	O2B04	OU02B0411109 Grab Soil
6465522	O2B13	OU02B1311109 Grab Soil

GSK06 0001

01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030B, December 1996.

10904 8260 Ext. Water Master

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

10949 8260 Ext. Soil Master

The soil sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

00111 Moisture

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2540 G

08389 GC/MS - LL Encore Prep

Two EnCore samples are collected per sample. The vials used for preparation are pre-preserved and pre-weighed. Two aliquots are extruded into a sodium bisulfate solution. The vials are re-weighed and the weight of the sample should be 5-g +/- .5 g. The prepared samples are then delivered to the lab for analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5035, November 2004.

07578 GC/MS-HL Encore Prep-NC

The sample is collected in an EnCore sampler and is submitted to the laboratory. A vial containing 5-ml methanol is prepared for each sample and weighed prior to adding the sample. After the sample is added to the vial, the vial is reweighed and the weight of sample is determined by difference. The weight of the sample should be 5-g +/- .5 g. The sample vial is then delivered to the lab for analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5035, November 2004.

GC/MS VOLATILES CALCULATIONS:

1. Relative response factor (RRF)

$$RRF = \frac{A_x}{A_{is}} \times \frac{C_{is}}{C_x}$$

Where :

A_x = Area of the characteristic ion for the compound to be measured.

A_{is} = Area of the characteristic ion for the specific internal standard to be measured.

C_{is} = Concentration of the internal standard.

C_x = Concentration of the compound to be measured.

2. % Relative Standard Deviation (%RSD)

$$\%RSD = \frac{\text{Standard deviation}}{\text{mean}} \times 100$$

3. % Difference (%D)

$$\%D = \frac{RRF_c - RRF_i}{RRF_i} \times 100$$

Where:

RRF_c = Relative response factor from continuing calibration standard.

RRF_i = Mean relative response factor from the initial calibration.

4. Concentration

$$\text{Concentration (ug/l)} = \frac{(A_x) (I_s) (D_f)}{(A_{is}) (RRF)}$$

Where:

A_x, A_{is}, RRF are as given in 1. above.

I_s = Concentration of internal standard added in parts per billion (ug/l)

D_f = Dilution factor

5. % Recovery (%Rec)

$$\%Rec = \frac{SSR - SR}{SA} \times 100$$

Where:

SSR = Spiked sample result

SR = Sample result

SA = Spike added

6. Relative Percent Difference (RPD)

$$RPD = \frac{|MSR - MSDR|}{(1/2) (MSR + MSDR)} \times 100$$

Where:

MSR = Matrix spike recovery

MSDR = Matrix spike duplicate recovery

CSK06 0050



Quality Control Reference List
GC/MS Volatiles

CLIENT: Groundwater Science Co
SDG: GSK06

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
Volatiles by 8260B	Y113142AA	VBLY84	11/10/2011 17:02:00
		LCSY84	11/10/2011 17:23:00
		LCDY84	11/10/2011 17:44:00
		6465505	11/10/2011 20:43:00
		6465506	11/10/2011 21:04:00
Volatiles in Soil	X113211AA	VBKX60	11/17/2011 15:14:00
		LCSX60	11/17/2011 15:37:00
		LCDX60	11/17/2011 16:02:00
		6465507	11/17/2011 16:43:00
		6465508	11/17/2011 17:06:00
		6465509	11/17/2011 17:28:00
		6465510	11/17/2011 17:52:00
		6465511	11/17/2011 22:59:00
		6465512	11/17/2011 18:39:00
		6465513	11/17/2011 19:04:00
		6465514	11/17/2011 19:27:00
		6465515	11/17/2011 19:50:00
		6465516	11/17/2011 20:13:00
		6465517	11/17/2011 20:36:00
		6465518	11/17/2011 20:59:00
		6465519	11/17/2011 21:21:00
		6465520	11/17/2011 21:45:00
		6465521	11/17/2011 22:07:00
		6465522	11/17/2011 22:36:00

GSK06 #852



Quality Control Summary
 Surrogates
 GC/MS Volatiles
 SDG: GSK06
 Matrix: SOLID

Fraction: Volatiles by GC/MS

Sample	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg	Spike Added	50 ug/kg
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKX60	99	71 - 114	104	70 - 109	90	70 - 123	92	70 - 111
LCSX60	100	71 - 114	104	70 - 109	103	70 - 123	98	70 - 111
LCDX60	100	71 - 114	103	70 - 109	101	70 - 123	97	70 - 111
6465507	98	71 - 114	101	70 - 109	94	70 - 123	91	70 - 111
6465508	101	71 - 114	107	70 - 109	89	70 - 123	97	70 - 111
6465509	101	71 - 114	105	70 - 109	93	70 - 123	93	70 - 111
6465510	99	71 - 114	101	70 - 109	97	70 - 123	87	70 - 111
6465511	98	71 - 114	100	70 - 109	97	70 - 123	86	70 - 111
6465512	99	71 - 114	99	70 - 109	94	70 - 123	93	70 - 111
6465513	100	71 - 114	101	70 - 109	97	70 - 123	86	70 - 111
6465514	100	71 - 114	105	70 - 109	90	70 - 123	95	70 - 111
6465515	100	71 - 114	101	70 - 109	96	70 - 123	93	70 - 111
6465516	101	71 - 114	104	70 - 109	95	70 - 123	88	70 - 111
6465517	102	71 - 114	109	70 - 109	90	70 - 123	97	70 - 111
6465518	102	71 - 114	107	70 - 109	94	70 - 123	90	70 - 111
6465519	98	71 - 114	101	70 - 109	94	70 - 123	89	70 - 111
6465520	100	71 - 114	106	70 - 109	90	70 - 123	92	70 - 111
6465521	100	71 - 114	105	70 - 109	91	70 - 123	95	70 - 111
6465522	98	71 - 114	102	70 - 109	91	70 - 123	98	70 - 111

GSK06 0955



Quality Control Summary
 Method Blank
 GC/MS Volatiles
 SDG: GSK06
 Matrix: SOLID

Fraction: Volatiles by GC/MS

X113211AA / VBLKX60 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	11/17/11	N.D.	ug/kg	2	5
Chloromethane	11/17/11	N.D.	ug/kg	2	5
Vinyl Chloride	11/17/11	N.D.	ug/kg	1	5
Bromomethane	11/17/11	N.D.	ug/kg	2	5
Chloroethane	11/17/11	N.D.	ug/kg	2	5
Trichlorofluoromethane	11/17/11	N.D.	ug/kg	2	5
1,1-Dichloroethene	11/17/11	N.D.	ug/kg	1	5
Freon 113	11/17/11	N.D.	ug/kg	2	10
Benzene	11/17/11	N.D.	ug/kg	0.5	5
Bromodichloromethane	11/17/11	N.D.	ug/kg	1	5
Carbon Tetrachloride	11/17/11	N.D.	ug/kg	1	5
Chloroform	11/17/11	N.D.	ug/kg	1	5
Dibromomethane	11/17/11	N.D.	ug/kg	1	5
1,1-Dichloroethane	11/17/11	N.D.	ug/kg	1	5
1,2-Dichloroethane	11/17/11	N.D.	ug/kg	1	5
1,2-Dichloroethene (Total)	11/17/11	N.D.	ug/kg	1	5
1,2-Dichloropropane	11/17/11	N.D.	ug/kg	1	5
cis-1,3-Dichloropropene	11/17/11	N.D.	ug/kg	1	5
Freon 123a	11/17/11	N.D.	ug/kg	2	5
Methylene Chloride	11/17/11	N.D.	ug/kg	2	5
Toluene	11/17/11	N.D.	ug/kg	1	5
1,1,1-Trichloroethane	11/17/11	N.D.	ug/kg	1	5
Trichloroethene	11/17/11	N.D.	ug/kg	1	5
Benzyl Chloride	11/17/11	N.D.	ug/kg	1	4
Bromobenzene	11/17/11	N.D.	ug/kg	1	5
Bromoform	11/17/11	N.D.	ug/kg	1	5
Chlorobenzene	11/17/11	N.D.	ug/kg	1	5
2-Chlorotoluene	11/17/11	N.D.	ug/kg	1	5
4-Chlorotoluene	11/17/11	N.D.	ug/kg	1	5
Dibromochloromethane	11/17/11	N.D.	ug/kg	1	5
1,2-Dichlorobenzene	11/17/11	N.D.	ug/kg	1	5
1,3-Dichlorobenzene	11/17/11	N.D.	ug/kg	1	5
1,4-Dichlorobenzene	11/17/11	N.D.	ug/kg	1	5
trans-1,3-Dichloropropene	11/17/11	N.D.	ug/kg	1	5
Ethylbenzene	11/17/11	N.D.	ug/kg	1	5
1,1,1,2-Tetrachloroethane	11/17/11	N.D.	ug/kg	1	5
1,1,2,2-Tetrachloroethane	11/17/11	N.D.	ug/kg	1	5
Tetrachloroethene	11/17/11	N.D.	ug/kg	1	5
1,1,2-Trichloroethane	11/17/11	N.D.	ug/kg	1	5
1,2,3-Trichloropropane	11/17/11	N.D.	ug/kg	1	5
Xylene (Total)	11/17/11	N.D.	ug/kg	1	5

GSK06 0053



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK06
Matrix: SOLID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSX60 LCSD: LCDX60		Batch: X113211AA (Sample number(s): 6465507-6465522)						
Analyte	Spike Added ug/kg	LCS Conc ug/kg	LCSD Conc ug/kg	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	17.56	16.66	88	83	20-120	5	30
Chloromethane	20	18.23	17.39	91	87	54-132	5	30
Vinyl Chloride	20	18.46	17.74	92	89	53-120	4	30
Bromomethane	20	15.66	15.19	78	76	32-162	3	30
Chloroethane	20	15.81	15.14	79	76	37-154	4	30
Trichlorofluoromethane	20	18.41	17.27	92	86	58-133	6	30
1,1-Dichloroethene	20	19.43	18.74	97	94	73-123	4	30
Freon 113	20	19.54	18.28	98	91	61-126	7	30
1,1,1-Trichloroethane	20	21.26	20.65	106	103	71-125	3	30
1,1-Dichloroethane	20	19.69	19.08	98	95	80-120	3	30
1,2-Dichloroethane	20	19.21	19.07	96	95	71-129	1	30
1,2-Dichloroethene (Total)	40	39.33	38	98	95	80-120	3	30
1,2-Dichloropropane	20	19.23	19.06	96	95	80-120	1	30
Benzene	20	19.59	19.27	98	96	80-120	2	30
Bromodichloromethane	20	18.65	18.45	93	92	78-120	1	30
Carbon Tetrachloride	20	19.32	18.29	97	91	69-122	5	30
Chloroform	20	19.78	19.16	99	96	80-120	3	30
cis-1,3-Dichloropropene	20	18.82	18.9	94	94	80-120	0	30
Dibromomethane	20	18.94	19.07	95	95	80-120	1	30
Freon 123a	20	20.72	19.61	104	98	61-127	5	30
Methylene Chloride	20	18.19	17.83	91	89	76-124	2	30
Toluene	20	20.33	19.49	102	97	80-120	4	30
Trichloroethene	20	19.46	19.13	97	96	80-120	2	30
1,1,1,2-Tetrachloroethane	20	19.62	19.24	98	96	80-120	2	30
1,1,2,2-Tetrachloroethane	20	19.7	20.23	99	101	71-123	3	30
1,1,2-Trichloroethane	20	19.07	20.29	95	101	80-120	6	30
1,2,3-Trichloropropane	20	20.05	20.4	100	102	71-123	2	30
1,2-Dichlorobenzene	20	19.72	20.2	99	101	79-120	2	30
1,3-Dichlorobenzene	20	19.49	19.28	97	96	78-120	1	30
1,4-Dichlorobenzene	20	20.42	20.36	102	102	79-120	0	30
2-Chlorotoluene	20	19.87	19.69	99	98	78-120	1	30
4-Chlorotoluene	20	20.28	19.93	101	100	79-120	2	30
Benzyl Chloride	20	17.08	17.36	85	87	66-120	2	30
Bromobenzene	20	20.13	20.09	101	100	79-120	0	30
Bromoform	20	17.74	17.58	89	88	70-120	1	30
Chlorobenzene	20	20.32	19.68	102	98	80-120	3	30
Dibromochloromethane	20	17.89	17.6	89	88	77-120	2	30
Ethylbenzene	20	20.38	19.44	102	97	80-120	5	30
Tetrachloroethene	20	20.64	19.76	103	99	77-120	4	30
trans-1,3-Dichloropropene	20	17.24	17.78	86	89	77-120	3	30
Xylene (Total)	60	61.35	58.97	102	98	80-120	4	30

GSK06-0157

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK06____
Lab File ID: xn16t01.d BFB Injection Date: 11/16/11
Instrument ID: HP09193 BFB Injection Time: 16:06
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.34
75	30.0 - 60.0% of mass 95	47.45
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.80
173	Less than 2.0% of mass 174	0.18 (0.21)1
174	Greater than 50.0% of mass 95	81.79
175	5.0 - 9.0% of mass 174	5.85 (7.15)1
176	Greater than 95.0%, but less than 101.0% of mass 174	78.99 (96.57)1
177	5.0 - 9.0% of mass 176	5.28 (6.69)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	xn16i01.d	11/16/11	16:45
02	VSTD100	xn16i02.d	11/16/11	17:08
03	VSTD50	xn16i03.d	11/16/11	17:31
04	VSTD20	xn16i04.d	11/16/11	18:00
05	1PPBMDL - VSTD001	xn16m01.d	11/16/11	19:30
06	VSTD10	xn16i07.d	11/16/11	20:55
07	VSTD4	xn16i08.d	11/16/11	21:31

GSK06 0059

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09193 Calibration Date(s): 11/16/11 11/16/11
Heated Purge: (Y/N) Y Calibration Times: 16:45 21:31
Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE ID:	RRF 4 = xn16i08.d	RRF 10= xn16i07.d	RRF 20= xn16i04.d	RRF 50= xn16i03.d	RRF100= xn16i02.d	RRF300= xn16i01.d	RRF =		%	CAL.
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	RSD	METHOD
Dichlorodifluoromethane	0.4105	0.3936	0.3740	0.4238	0.4000	0.3727		0.3958	5	AVG
Chloromethane	*0.4891	0.4644	0.4237	0.4588	0.4522	0.4085		0.4494	6	AVG
Vinyl Chloride	*0.4311	0.4128	0.3832	0.4252	0.4012	0.3780		0.4052	5	AVG
Bromomethane	0.2731	0.2700	0.2449	0.2702	0.2520	0.2126		0.2538	9	AVG
Chloroethane	0.2531	0.2428	0.2194	0.2403	0.2225	0.1912		0.2282	10	AVG
Trichlorofluoromethane	0.4328	0.4149	0.3816	0.4320	0.4085	0.3806		0.4084	6	AVG
Ethanol	0.1450	0.1364	0.1423	0.1342	0.1319	0.1251		0.1358	5	AVG
Freon 123a	0.2594	0.2424	0.2567	0.2609	0.2457	0.2345		0.2499	4	AVG
Acrolein	2.0701	2.1662	2.1303	2.4328	2.6684	2.3136		2.2969	10	AVG
1,1-Dichloroethene	*0.2652	0.2867	0.2600	0.2911	0.2731	0.2670		0.2739	5	AVG
Dichlorofluoromethane	0.5651	0.5417	0.5303	0.5263	0.4945	0.4516		0.5182	8	AVG
Freon 113	0.2835	0.2937	0.2694	0.3099	0.2820	0.2798		0.2864	5	AVG
Acetone	0.1401	0.1170	0.1076	0.1067	0.1057	0.0922		0.1115	14	AVG
Methyl Iodide	0.4638	0.5012	0.4622	0.5182	0.4916	0.4725		0.4849	5	AVG
2-Propanol	0.6940	0.7355	0.8097	0.9015	1.0553	0.9278		0.8540	16	1STD EG
Carbon Disulfide	0.8588	0.9209	0.8543	0.9908	0.9330	0.9117		0.9116	6	AVG
Allyl Chloride	0.6166	0.5521	0.5695	0.5989	0.5857	0.5627		0.5809	4	AVG
Methyl Acetate	0.2718	0.2432	0.2393	0.2498	0.2583	0.2489		0.2519	5	AVG
Methylene Chloride	0.4359	0.3846	0.3264	0.3456	0.3309	0.3130		0.3562	13	AVG
t-Butyl Alcohol	1.5536	1.4540	1.4345	1.5093	1.6556	1.3971		1.5007	6	AVG
Acrylonitrile	0.0711	0.1093	0.1024	0.1204	0.1269	0.1204		0.1084	19	1STD EG
trans-1,2-Dichloroethene	0.2900	0.3177	0.2918	0.3280	0.3088	0.3014		0.3063	5	AVG
Methyl Tertiary Butyl Ether	0.9274	1.0188	0.9181	0.9762	0.9496	0.8748		0.9442	5	AVG
n-Hexane	0.4852	0.5366	0.4793	0.5530	0.5069	0.5023		0.5106	6	AVG
1,1-Dichloroethane	*0.5854	0.6294	0.5841	0.6397	0.6026	0.5646		0.6010	5	AVG
2-Chloro-1,3-Butadiene	0.4696	0.5232	0.4854	0.5473	0.5132	0.4978		0.5061	5	AVG
di-Isopropyl Ether	1.2136	1.3029	1.2030	1.2973	1.2446	1.1408		1.2337	5	AVG
Ethyl t-Butyl Ether	1.0591	1.1396	1.0738	1.1511	1.0835	1.0223		1.0882	5	AVG
cis-1,2-Dichloroethene	0.3172	0.3440	0.3242	0.3611	0.3428	0.3306		0.3367	5	AVG
1,2-Dichloroethene (total)	0.3036	0.3309	0.3080	0.3445	0.3258	0.3160		0.3215	5	AVG
2,2-Dichloropropane	0.3990	0.4449	0.4205	0.4863	0.4563	0.4428		0.4416	7	AVG
2-Butanone	0.1366	0.1766	0.1458	0.1679	0.1681	0.1607		0.1593	10	AVG
Propionitrile	1.2788	1.2640	1.4860	1.6196	1.7375	1.7254		1.5186	14	AVG
Methacrylonitrile	0.1230	0.1375	0.1311	0.1409	0.1415	0.1357		0.1349	5	AVG
Bromochloromethane	0.1430	0.1467	0.1584	0.1640	0.1626	0.1586		0.1556	6	AVG
Tetrahydrofuran	1.1596	1.3336	1.3355	1.4907	1.5919	1.5279		1.4065	11	AVG
Chloroform	*0.4985	0.5525	0.5141	0.5657	0.5375	0.5130		0.5302	5	AVG
1,1,1-Trichloroethane	0.4594	0.4711	0.4395	0.4848	0.4560	0.4454		0.4594	4	AVG
Cyclohexane	0.6098	0.6583	0.5950	0.6767	0.6176	0.6166		0.6290	5	AVG
Cyclohexane(mz69)	0.1721	0.1886	0.1683	0.1966	0.1789	0.1807		0.1809	6	AVG
Cyclohexane(mz84)	0.4917	0.5103	0.4586	0.5282	0.4876	0.4931		0.4949	5	AVG
1,1-Dichloropropene	0.4177	0.4437	0.4062	0.4597	0.4328	0.4270		0.4312	4	AVG
Carbon Tetrachloride	0.3206	0.3607	0.3353	0.4007	0.3796	0.3836		0.3634	8	AVG
Benzene	1.2857	1.3648	1.2524	1.3819	1.3220	1.2695		1.3127	4	AVG
Isobutyl Alcohol	0.4352	0.4673	0.4706	0.5030	0.5824	0.5134		0.4953	10	AVG
1,2-Dichloroethane	0.4043	0.4421	0.4017	0.4396	0.4248	0.3922		0.4175	5	AVG
1,2-Dichloroethane(mz98)	0.0319	0.0390	0.0368	0.0412	0.0403	0.0398		0.0382	9	AVG
t-Amyl Methyl Ether	0.9117	0.9825	0.9214	0.9877	0.9609	0.9055		0.9449	4	AVG
n-Heptane	0.6192	0.6078	0.5648	0.6318	0.6008	0.6020		0.6044	4	AVG
n-Butanol	0.2693	0.3041	0.3447	0.3790	0.4779	0.4304		0.3676	21	1STD EG
Trichloroethene	0.3053	0.3304	0.3038	0.3362	0.3182	0.3169		0.3185	4	AVG
Methylcyclohexane	0.6240	0.5834	0.6151	0.6385	0.6013	0.6133		0.6126	3	AVG

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum XRSO for CCC(%) = 30%

68886 8886

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date(s): 11/16/11 11/16/11
 Heated Purge: (Y/N) Y Calibration Times: 16:45 21:31
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE 10: RRF 4 = xn16i08.d RRF 10= xn16i07.d RRF 20= xn16i04.d									
RRF 50= xn16i03.d RRF100= xn16i02.d RRF300= xn16i01.d RRF =									
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD
1,2-Dichloropropane	0.3502	0.3740	0.3496	0.3871	0.3729	0.3575	0.3652	4	AVG
Dibromomethane	0.1649	0.1833	0.1707	0.1907	0.1889	0.1867	0.1809	6	AVG
1,4-Dioxane	0.1142	0.1254	0.1280	0.1367	0.1487	0.1338	0.1311	9	AVG
Methyl Methacrylate	0.1712	0.2183	0.2043	0.2393	0.2526	0.2513	0.2228	14	AVG
Bromodichloromethane	0.3048	0.3573	0.3496	0.4114	0.4068	0.4025	0.3721	11	AVG
2-Nitropropane	0.0792	0.0999	0.0851	0.0998	0.1019	0.0945	0.0934	10	AVG
cis-1,3-Dichloropropene	0.3636	0.4432	0.4392	0.5200	0.5239	0.5214	0.4686	14	AVG
4-Methyl-2-Pentanone	0.3063	0.3810	0.3361	0.4067	0.4128	0.3740	0.3695	11	AVG
Toluene	1.0954	1.2510	1.1646	1.2762	1.2074	1.1401	1.1891	6	AVG
trans-1,3-Dichloropropene	0.3664	0.5203	0.5381	0.6648	0.6868	0.6667	0.5738	22	1STDEG
Ethyl Methacrylate	0.4785	0.5984	0.5864	0.6602	0.6962	0.6423	0.6103	12	AVG
1,1,2-Trichloroethane	0.3661	0.4453	0.3860	0.4387	0.4191	0.3909	0.4077	8	AVG
Tetrachloroethene	0.4512	0.5245	0.4767	0.5410	0.5048	0.5017	0.5000	6	AVG
1,3-Dichloropropane	0.6566	0.7726	0.7192	0.7641	0.7490	0.6906	0.7253	6	AVG
2-Hexanone	0.2690	0.3815	0.3325	0.3975	0.3998	0.3736	0.3590	14	AVG
Dibromochloromethane	0.2830	0.3824	0.3840	0.4494	0.4605	0.4453	0.4008	17	1STDEG
1,2-Dibromoethane	0.3262	0.4124	0.3954	0.4320	0.4280	0.4035	0.3996	10	AVG
Chlorobenzene	1.2044	1.3607	1.2658	1.3878	1.3209	1.2542	1.2990	5	AVG
1,1,1,2-Tetrachloroethane	0.3496	0.4428	0.4221	0.4767	0.4735	0.4541	0.4364	11	AVG
Ethylbenzene	1.8510	2.2062	2.0544	2.3376	2.1967	2.0271	2.1121	8	AVG
m+p-Xylene	0.8276	0.9407	0.8636	0.9527	0.9000	0.8183	0.8838	6	AVG
Xylene (Total)	0.8454	0.9616	0.8738	0.9584	0.9083	0.8248	0.8954	6	AVG
o-Xylene	0.8808	1.0036	0.8941	0.9699	0.9248	0.8377	0.9185	7	AVG
Styrene	0.9075	1.2898	1.3187	1.5131	1.4826	1.3740	1.3143	17	2NDDEG
Bromoform	0.1675	0.2313	0.2384	0.2967	0.3303	0.3195	0.2639	24	1STDEG
Isopropylbenzene	2.1048	2.4505	2.2277	2.4449	2.2870	2.0593	2.2624	7	AVG
Cyclohexanone	0.3733	0.3997	0.4268	0.4551	0.4675	0.4379	0.4267	8	AVG
Bromobenzene	0.8712	0.9490	0.9310	1.0099	0.9906	0.9173	0.9449	5	AVG
1,1,2,2-Tetrachloroethane	0.9575	1.0356	0.9891	1.0641	1.0947	0.9392	1.0134	6	AVG
1,2,3-Trichloropropane	0.3120	0.2983	0.2766	0.2919	0.3003	0.2556	0.2891	7	AVG
trans-1,4-Dichloro-2-Butene	0.2529	0.2673	0.2843	0.2784	0.3064	0.2604	0.2750	7	AVG
n-Propylbenzene	3.9146	4.3174	4.0923	4.6688	4.3729	3.6733	4.1732	9	AVG
2-Chlorotoluene	0.8469	0.8958	0.8559	0.9675	0.9174	0.8800	0.8939	5	AVG
1,3,5-Trimethylbenzene	3.1027	3.2572	3.0827	3.4564	3.2236	2.8558	3.1630	6	AVG
4-Chlorotoluene	0.9864	1.0705	0.9864	1.0737	1.0094	0.9262	1.0088	6	AVG
tert-Butylbenzene	0.7155	0.7687	0.7437	0.8292	0.7878	0.7420	0.7645	5	AVG
Pentachloroethane	0.4852	0.5027	0.5771	0.6339	0.6322	0.6118	0.5738	11	AVG
1,2,4-Trimethylbenzene	2.8835	3.2224	3.0973	3.5205	3.3011	2.9527	3.1629	7	AVG
sec-Butylbenzene	4.0099	4.3202	4.1170	4.6144	4.2294	3.6320	4.1538	8	AVG
1,3-Dichlorobenzene	1.4975	1.6377	1.5689	1.8251	1.7972	1.6768	1.6672	8	AVG
p-Isopropyltoluene	3.2016	3.5745	3.4596	3.9149	3.6650	3.2030	3.5031	8	AVG
1,4-Dichlorobenzene	2.0219	2.0831	2.0093	2.1625	2.0108	1.8470	2.0224	5	AVG
1,2,3-Trimethylbenzene	3.4009	3.2715	3.4583	3.6012	3.3993	3.0041	3.3559	6	AVG
Benzyl Chloride	1.0481	1.3868	1.4840	1.8897	2.0600	1.9125	1.6302	24	1STDEG
1,2-Dichlorobenzene	1.8091	1.9595	1.9050	2.0531	1.9542	1.7600	1.9068	6	AVG
n-Butylbenzene	1.6171	1.8004	1.7743	1.9792	1.8769	1.7256	1.7955	7	AVG
1,3-Diethylbenzene	1.9689	1.9264	2.0717	2.2065	2.0956	1.9877	2.0428	5	AVG
1,4-Diethylbenzene	2.1600	2.0894	2.2444	2.3863	2.2467	2.0765	2.2006	5	AVG
1,2-Diethylbenzene	2.0682	1.9923	2.0399	2.0560	1.9125	1.7838	1.9755	6	AVG
1,2-Dibromo-3-Chloropropane	0.1755	0.2100	0.1879	0.2088	0.2208	0.1927	0.1993	8	AVG
1,3,5-Trichlorobenzene	1.4619	1.5927	1.5287	1.6864	1.5951	1.4462	1.5518	6	AVG
1,2,4-Trichlorobenzene	1.3936	1.4583	1.4128	1.5344	1.4701	1.3105	1.4299	5	AVG

Minimum RRF for SPCC(4) = 0.10
 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %RSD for CCC(*) = 30%

66K06 8867

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date(s): 11/16/11 11/16/11--
 Heated Purge: (Y/N) Y Calibration Times: 16:45 21:31
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

LAB FILE 10: RRF 4 = xn16i08.d RRF 10= xn16i07.d RRF 20= xn16i04.d
 RRF 50= xn16i03.d RRF100= xn16i02.d RRF300= xn16i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Hexachlorobutadiene	0.6872	0.7350	0.7308	0.8049	0.7733	0.7376		0.7448	5	AVG
Naphthalene	3.5655	3.8581	3.6255	3.9698	3.8533	3.0685		3.6568	9	AVG
1,2,3-Trichlorobenzene	1.3795	1.4882	1.4507	1.5088	1.4404	1.2389		1.4178	7	AVG
2-Methylnaphthalene	2.1041	2.3194	2.4483	2.6215	2.3849	2.0369		2.3192	9	AVG
Dibromofluoromethane	0.2268	0.2247	0.2253	0.2238	0.2237	0.2212		0.2243	1	AVG
Dibromofluoromethane(mz111)	0.2269	0.2266	0.2277	0.2296	0.2285	0.2267		0.2277	1	AVG
1,2-Dichloroethane-d4	0.0556	0.0576	0.0570	0.0535	0.0520	0.0526		0.0547	4	AVG
1,2-Dichloroethane-d4(mz104)	0.0344	0.0349	0.0350	0.0349	0.0349	0.0348		0.0348	1	AVG
1,2-Dichloroethane-d4(mz65)	0.2755	0.2779	0.2743	0.2555	0.2512	0.2466		0.2635	5	AVG
Toluene-d8	1.3309	1.4219	1.4459	1.4110	1.4031	1.3766		1.3982	3	AVG
Toluene-d8(mz100)	0.8793	0.9569	0.9625	0.9504	0.9504	0.9484		0.9413	3	AVG
4-Bromofluorobenzene	0.5107	0.4814	0.4878	0.4829	0.4919	0.5025		0.4929	2	AVG
4-Bromofluorobenzene(mz174)	0.4157	0.4485	0.4485	0.4413	0.4353	0.4460		0.4392	3	AVG

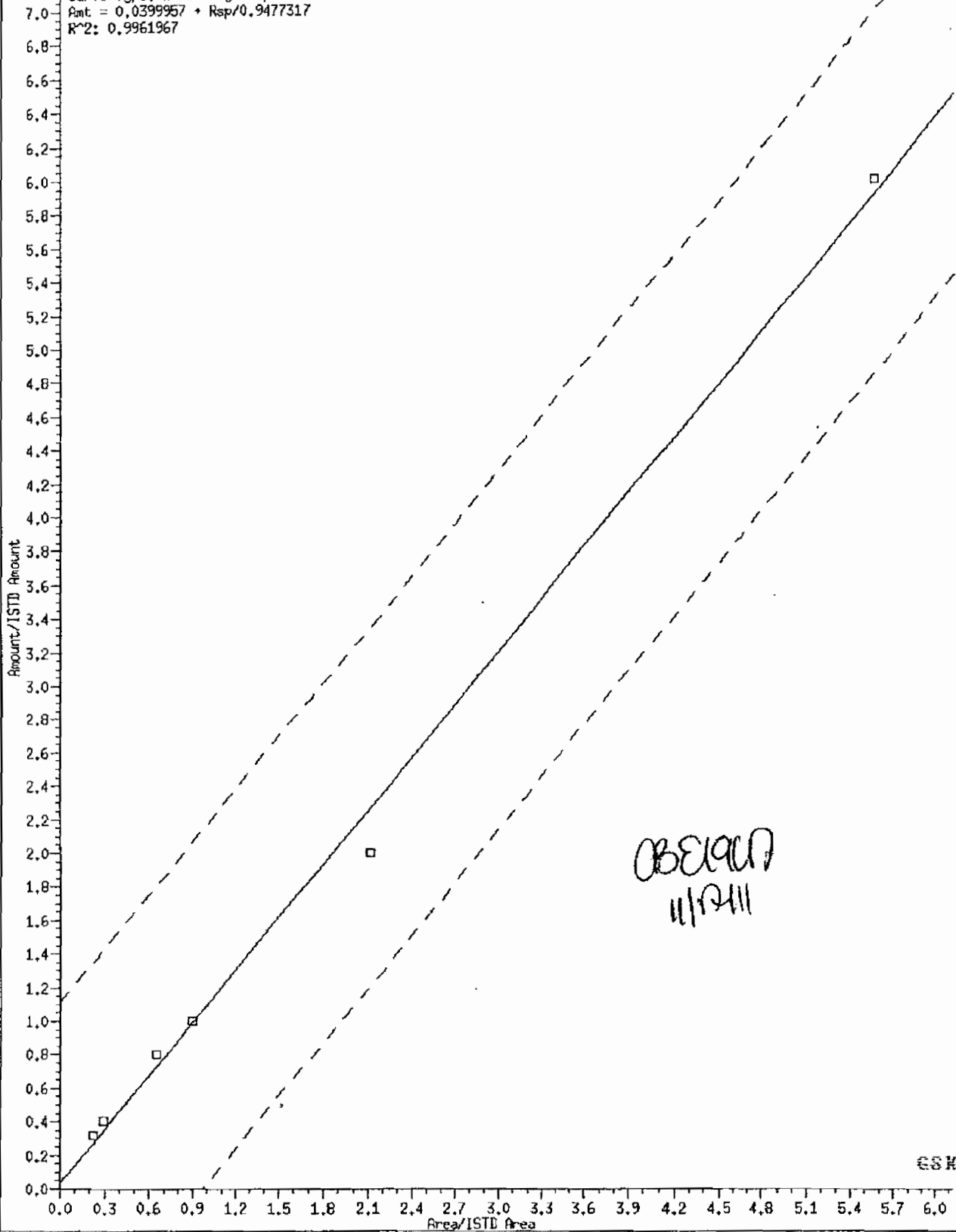
Average %RSD 8

Minimum RRF for SPCC(%) = 0.10
 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %RSD for CCC(%) = 30%

68K05 0068

24 2-Propanol

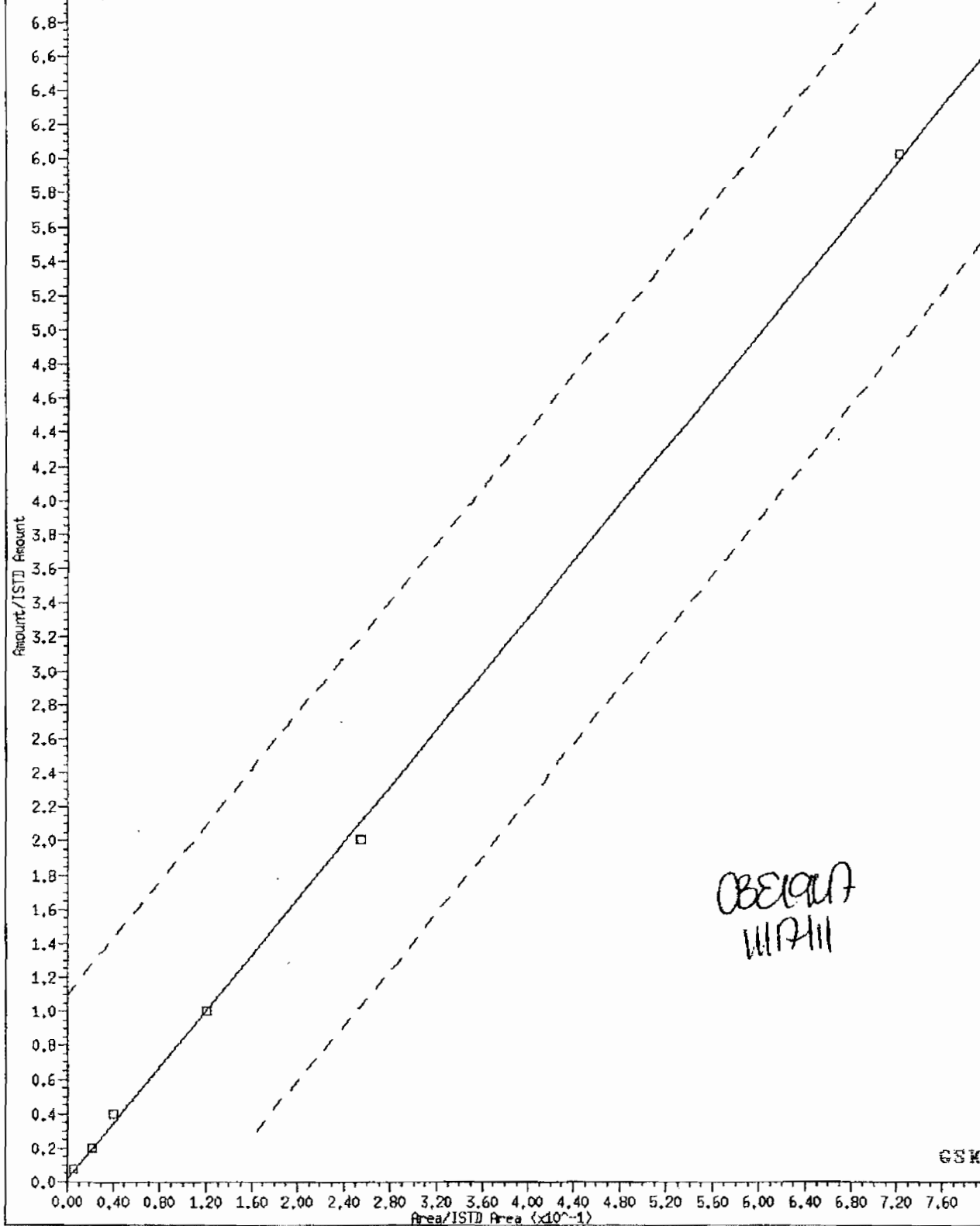
Curve Type: Linear By-Response
Amt = 0.0399957 + Rsp/0.9477317
R^2: 0.9961967



CSK06 0869

35 Acrylonitrile

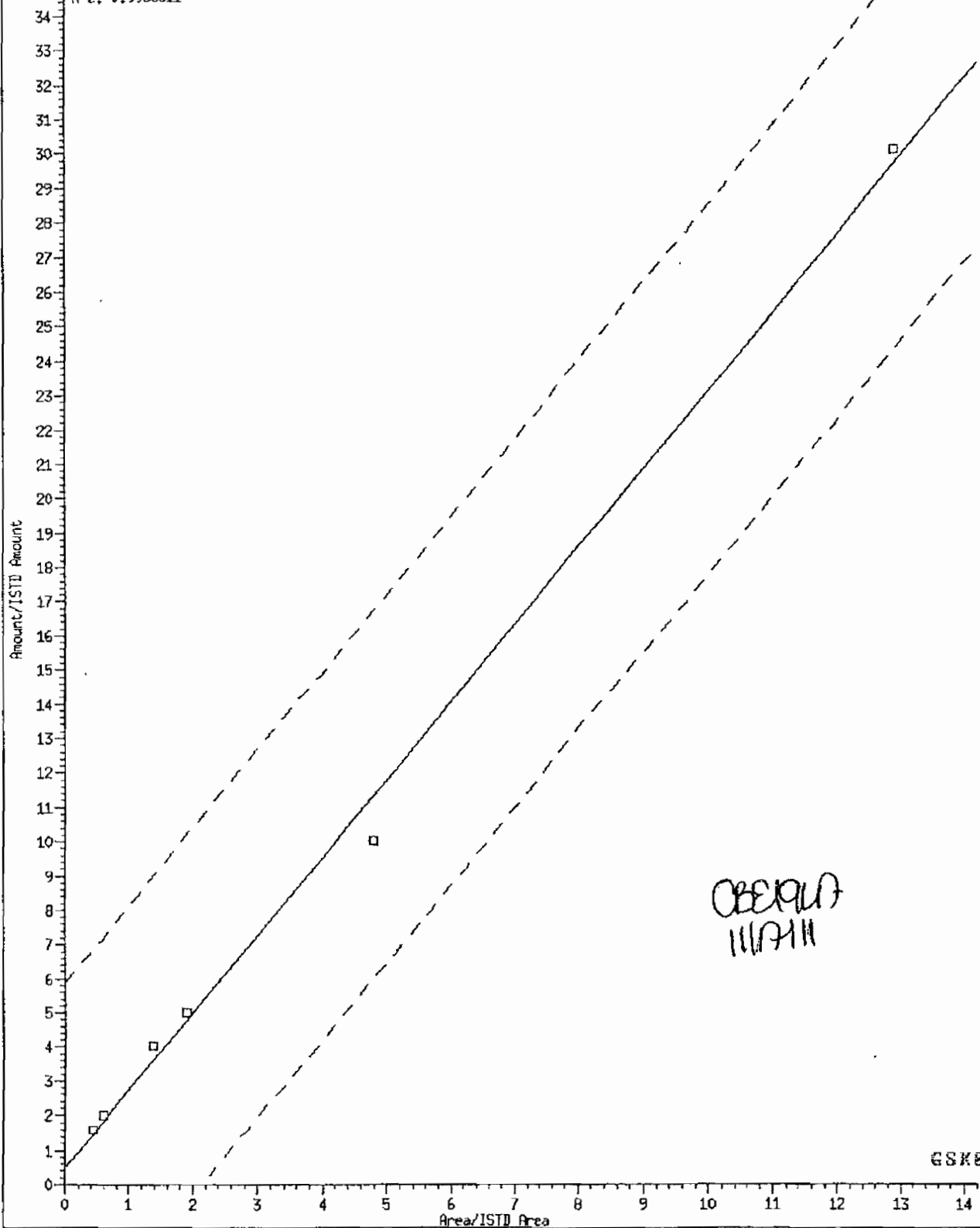
Curve Type: Linear By-Response
Amt = 0.0134232 + Rsp/0.121371
R²: 0.9994190



65K06 0070

77 n-Butanol

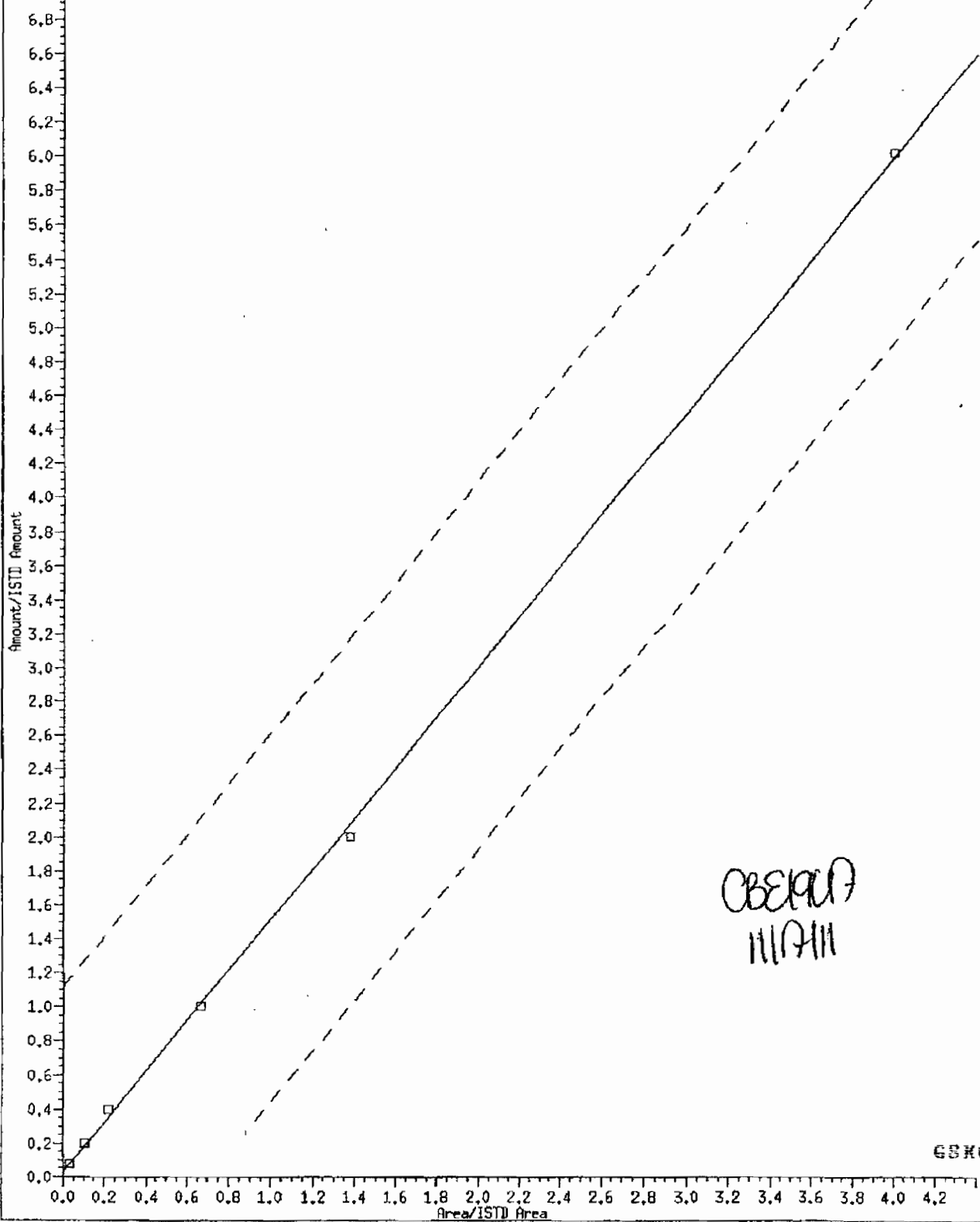
Curve Type: Linear By-Response
Amt = 0.4959008 + Rsp/0.4434183
R²: 0.9965611



GSK06 0071

98 trans-1,3-Dichloropropene

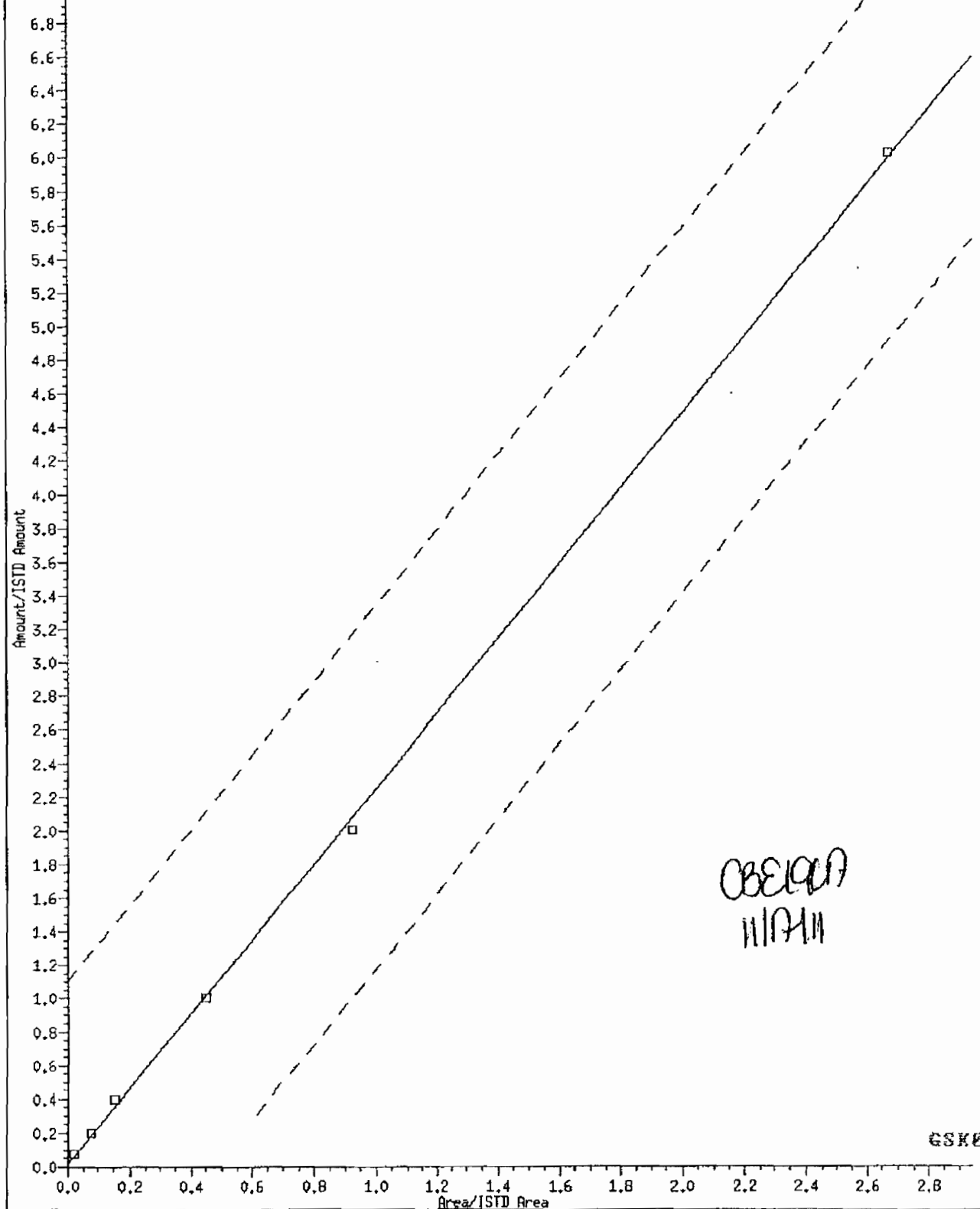
Curve Type: Linear By-Response
 Amt = 0.0317 + Rsp/0.6730408
 R²: 0.9996537



GSK06 0672

105 Dibromochloromethane

Curve Type: Linear By-Response
Amt = 0.0170901 + Rsp/0.4484419
R²: 0.9996894



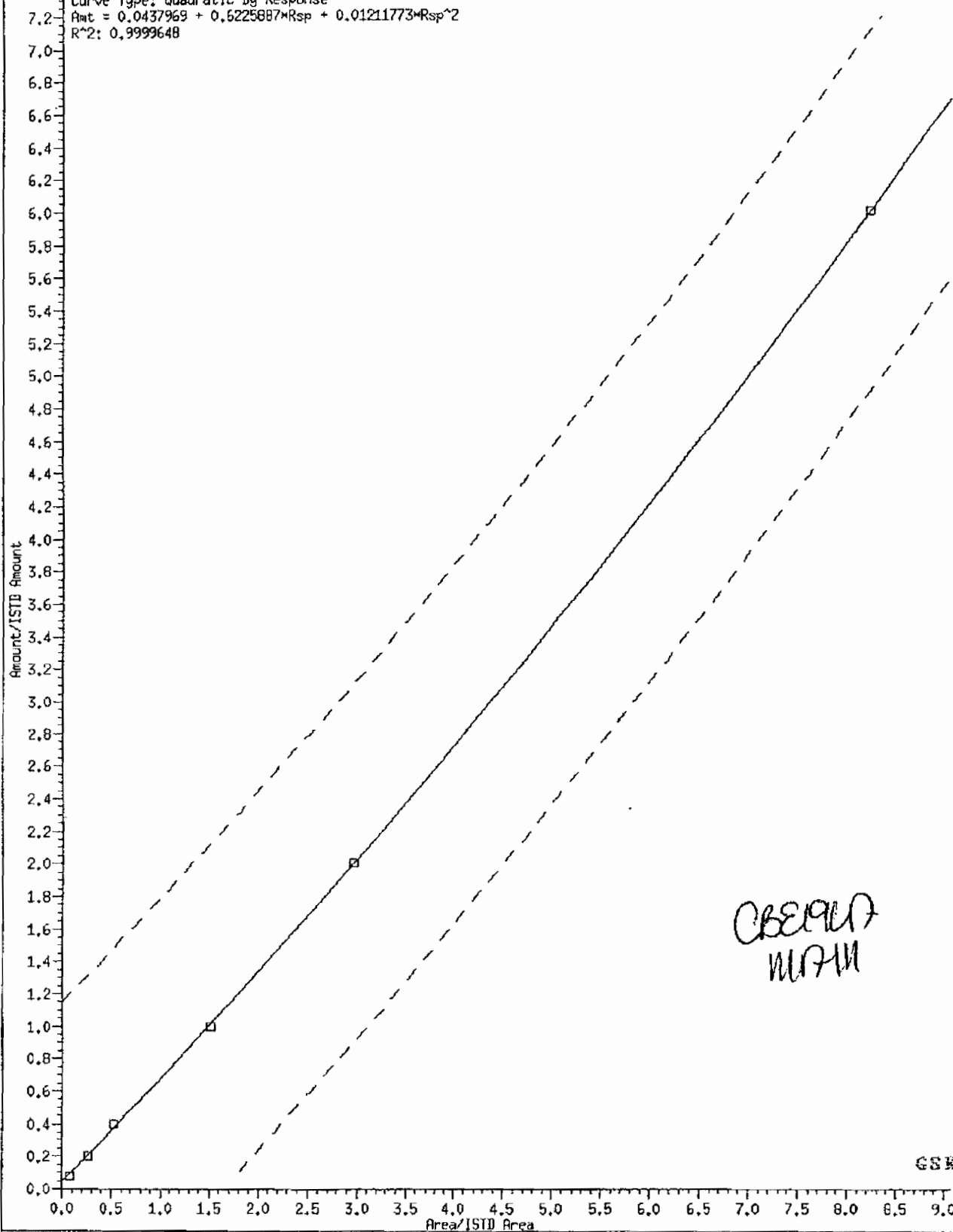
GSK06 0073

116 Styrene

Curve Type: Quadratic By-Response

$$\text{Amt} = 0.0437969 + 0.6225887 \times \text{Rsp} + 0.01211773 \times \text{Rsp}^2$$

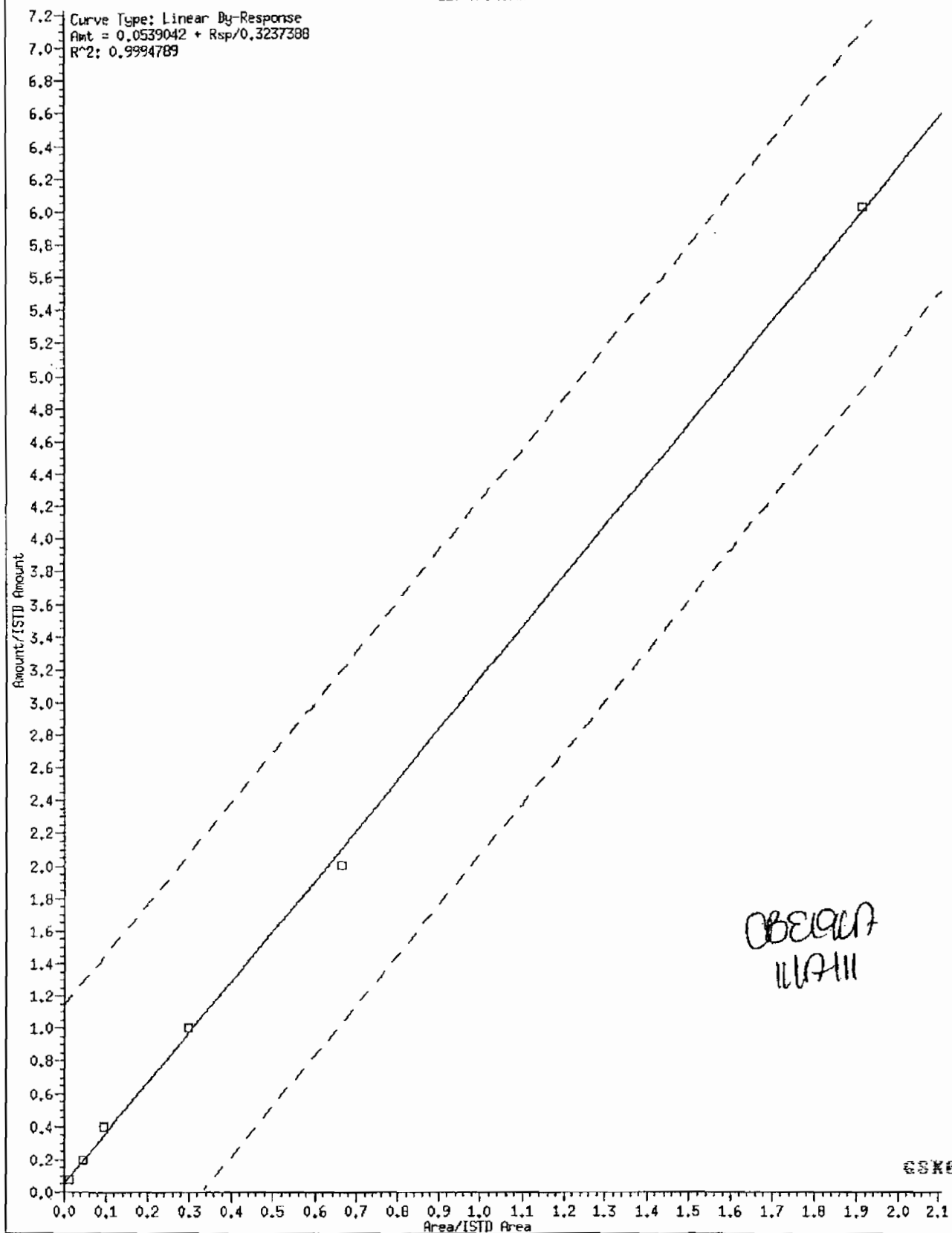
R²: 0.9999648



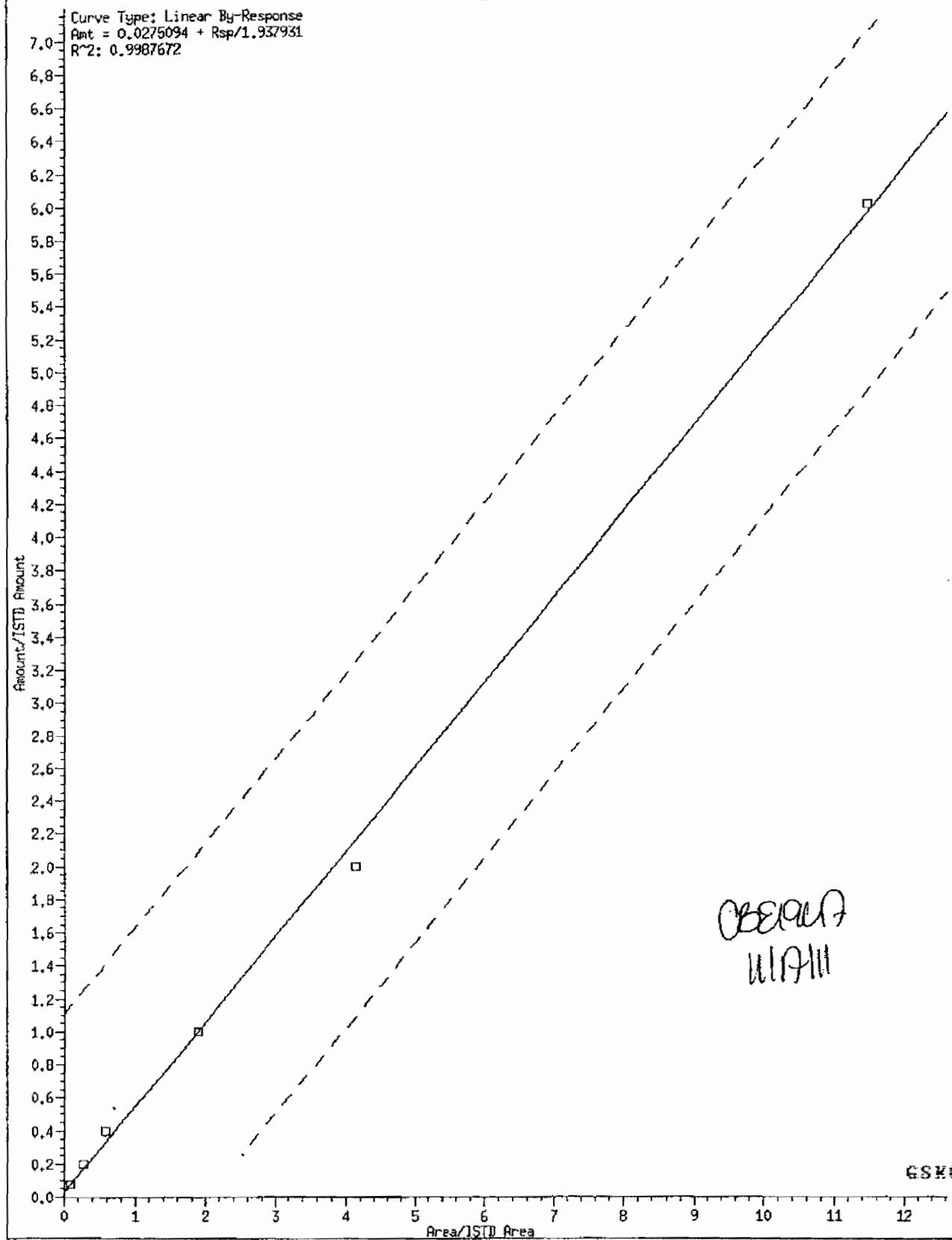
CBE917
M7M

GSK060874

117 Bromoform



143 Benzyl Chloride



GSX86 0076

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

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/chem2/HP09193.i/11nov16a.b/xn16i01.d VSTD300
/chem2/HP09193.i/11nov16a.b/xn16i02.d VSTD100
/chem2/HP09193.i/11nov16a.b/xn16i03.d VSTD050
/chem2/HP09193.i/11nov16a.b/xn16i04.d VSTD020
/chem2/HP09193.i/11nov16a.b/xn16i07.d VSTD010
/chem2/HP09193.i/11nov16a.b/xn16i08.d VSTD004
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Area Summary

File ID:

Internal Standard Name	xn16i01.d	xn16i02.d	xn16i03.d	xn16i04.d	xn16i07.d	xn16i08.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	181762	179112	186797	181270	206261	187866	187178	5	Yes
Fluorobenzene	1338180	1271086	1259145	1213248	1191749	1191059	1244078	5	Yes
Chlorobenzene-d5	938061	867638	854806	802108	787180	838800	848099	6	Yes
1,4-Dichlorobenzene-d4	577389	521176	506976	484190	488018	481392	509857	7	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	xn16i01.d	xn16i02.d	xn16i03.d	xn16i04.d	xn16i07.d	xn16i08.d	Avg. RT
t-Butyl Alcohol-d10	3.678	3.672	3.690	3.684	3.684	3.678	3.681
Fluorobenzene	7.145	7.145	7.145	7.145	7.139	7.145	7.144
Chlorobenzene-d5	10.765	10.765	10.765	10.765	10.765	10.765	10.765
1,4-Dichlorobenzene-d4	12.681	12.682	12.682	12.682	12.681	12.681	12.681

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 11/17/2011 at 12:59.

GSK26 8877

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Lab File ID: xn17t01.d BFB Injection Date: 11/17/11
 Instrument ID: HP09193 BFB Injection Time: 13:34
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.81
75	30.0 - 60.0% of mass 95	47.20
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.82
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.54
175	5.0 - 9.0% of mass 174	5.97 (7.14)1
176	Greater than 95.0%, but less than 101.0% of mass 174	80.64 (96.53)1
177	5.0 - 9.0% of mass 176	5.29 (6.55)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	xn17c01.d	11/17/11	14:00
02	LCSXICV	xn17v01.d	11/17/11	14:28

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP09193 ICV Date: 11/17/11 Time: 14:28

Lab File ID: xn17v01.d Init. Calib. Date(s): 11/17/11 11/17/11

Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.3958	0.3181	16.07	20	-20
# Chloromethane	0.4494	0.3988	17.74	20	-11 #
* Vinyl Chloride	0.4052	0.3629	17.91	20	-10 *
Bromomethane	0.2538	0.2215	17.46	20	-13
Chloroethane	0.2282	0.2020	17.70	20	-12
Trichlorofluoromethane	0.4084	0.3739	18.31	20	-8
Ethanol	0.1358	0.1367	1006.26	1000	1
Freon 123a	0.2499	0.2589	20.71	20	4
Acrolein	2.2969	2.1674	141.54	150	-6
* 1,1-Dichloroethene	0.2739	0.3051	22.28	20	11 *
Dichlorofluoromethane	0.5182	0.5206	20.09	20	0
Freon 113	0.2864	0.3153	22.02	20	10
Acetone	0.1115	0.1021	137.38	150	-8
Methyl Iodide	0.4849	0.5253	21.66	20	8
2-Propanol	0.8540	0.8016	136.87	150	-9
Carbon Disulfide	0.9116	1.0063	22.08	20	10
Allyl Chloride	0.5809	0.5850	20.14	20	1
Methyl Acetate	0.2519	0.2829	22.46	20	12
Methylene Chloride	0.3562	0.3504	19.68	20	-2
t-Butyl Alcohol	1.5007	1.4093	187.83	200	-6
Acrylonitrile	0.1084	0.1228	101.82	100	2
trans-1,2-Dichloroethene	0.3063	0.3322	21.69	20	8
Methyl Tertiary Butyl Ether	0.9442	1.0026	21.24	20	6
n-Hexane	0.5106	0.5512	21.59	20	8
# 1,1-Dichloroethane	0.6010	0.6425	21.38	20	7 #
2-Chloro-1,3-Butadiene	0.5061	0.5354	21.16	20	6
di-Isopropyl Ether	1.2337	1.2873	20.87	20	4
Ethyl t-Butyl Ether	1.0882	1.1226	20.63	20	3
cis-1,2-Dichloroethene	0.3367	0.3609	21.44	20	7
1,2-Dichloroethene (total)	0.3215	0.3465	43.13	40	8
2,2-Dichloropropane	0.4416	0.4681	21.20	20	6
2-Butanone	0.1593	0.1671	157.36	150	5
Propionitrile	1.5186	1.4207	140.34	150	-6
Methacrylonitrile	0.1349	0.1442	160.34	150	7
Bromochloromethane	0.1556	0.1646	21.16	20	6
Tetrahydrofuran	1.4065	1.4354	102.05	100	2

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)

Maximum %Drift for CCC(*)=20%

GSK06 0070

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP09193 ICV Date: 11/17/11 Time: 14:28

Lab File ID: xnl7v01.d Init. Calib. Date(s): 11/17/11 11/17/11

Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
* Chloroform	0.5302	0.5565	20.99	20	5 *
1,1,1-Trichloroethane	0.4594	0.5167	22.50	20	12
Cyclohexane	0.6290	0.6815	21.67	20	8
1,1-Dichloropropene	0.4312	0.4419	20.50	20	2
Carbon Tetrachloride	0.3634	0.3643	20.05	20	0
Benzene	1.3127	1.3924	21.21	20	6
Isobutyl Alcohol	0.4953	0.4769	481.43	500	-4
1,2-Dichloroethane	0.4175	0.4313	20.66	20	3
t-Amyl Methyl Ether	0.9449	0.9872	20.89	20	4
n-Heptane	0.6044	0.5972	19.76	20	-1
n-Butanol	0.3676	0.3586	932.66	1000	-7
Trichloroethene	0.3185	0.3342	20.99	20	5
Methylcyclohexane	0.6126	0.6523	21.30	20	6
* 1,2-Dichloropropane	0.3652	0.3769	20.64	20	3 *
Dibromomethane	0.1809	0.1833	20.27	20	1
1,4-Dioxane	0.1311	0.1287	490.57	500	-2
Methyl Methacrylate	0.2228	0.2249	20.19	20	1
Bromodichloromethane	0.3721	0.3810	20.48	20	2
2-Nitropropane	0.0934	0.0909	19.47	20	-3
cis-1,3-Dichloropropene	0.4686	0.4827	20.60	20	3
4-Methyl-2-Pentanone	0.3695	0.4165	112.73	100	13
* Toluene	1.1891	1.2473	20.98	20	5 *
trans-1,3-Dichloropropene	0.5738	0.6184	19.96	20	0
Ethyl Methacrylate	0.6103	0.6753	22.13	20	11
1,1,2-Trichloroethane	0.4077	0.4491	22.03	20	10
Tetrachloroethene	0.5000	0.5153	20.61	20	3
1,3-Dichloropropane	0.7253	0.7791	21.48	20	7
2-Hexanone	0.3590	0.4262	118.73	100	19
Dibromochloromethane	0.4008	0.4227	19.71	20	-1
1,2-Dibromoethane	0.3996	0.4360	21.82	20	9
# Chlorobenzene	1.2990	1.3319	20.51	20	3 #
1,1,1,2-Tetrachloroethane	0.4364	0.4530	20.76	20	4
* Ethylbenzene	2.1121	2.1580	20.43	20	2 *
m+p-Xylene	0.8838	0.9145	41.39	40	3
Xylene (Total)	0.8954	0.6146	62.01	60	3
o-Xylene	0.9185	0.9473	20.63	20	3

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

GSK06 0079

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 ICV Date: 11/17/11 Time: 14:28
 Lab File ID: xnl7v01.d Init. Calib. Date(s): 11/17/11 11/17/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Styrene	1.3143	1.3505	19.18	20	-4
# Bromoform	0.2639	0.2716	19.48	20	-3 #
Isopropylbenzene	2.2624	2.3049	20.38	20	2
Cyclohexanone	0.4267	0.4597	538.69	500	8
Bromobenzene	0.9449	0.9606	20.33	20	2
# 1,1,2,2-Tetrachloroethane	1.0134	1.0646	21.01	20	5 #
1,2,3-Trichloropropane	0.2891	0.3010	20.82	20	4
trans-1,4-Dichloro-2-Butene	0.2750	0.3011	109.49	100	9
n-Propylbenzene	4.1732	4.2742	20.48	20	2
2-Chlorotoluene	0.8939	0.8963	20.05	20	0
1,3,5-Trimethylbenzene	3.1630	3.1511	19.92	20	0
4-Chlorotoluene	1.0088	1.0271	20.36	20	2
tert-Butylbenzene	0.7645	0.7515	19.66	20	-2
Pentachloroethane	0.5738	0.5873	20.47	20	2
1,2,4-Trimethylbenzene	3.1629	3.2185	20.35	20	2
sec-Butylbenzene	4.1538	4.1229	19.85	20	-1
1,3-Dichlorobenzene	1.6672	1.6362	19.63	20	-2
p-Isopropyltoluene	3.5031	3.4765	19.85	20	-1
1,4-Dichlorobenzene	2.0224	2.1269	21.03	20	5
1,2,3-Trimethylbenzene	3.3559	3.6220	21.59	20	8
Benzyl Chloride	1.6302	1.7101	19.02	20	-5
1,2-Dichlorobenzene	1.9068	1.9610	20.57	20	3
n-Butylbenzene	1.7955	1.7374	19.35	20	-3
1,3-Diethylbenzene	2.0428	2.1561	21.11	20	6
1,4-Diethylbenzene	2.2006	2.3345	21.22	20	6
1,2-Diethylbenzene	1.9755	2.0933	21.19	20	6
1,2-Dibromo-3-Chloropropane	0.1993	0.2144	21.52	20	8
1,3,5-Trichlorobenzene	1.5518	1.5586	20.09	20	0
1,2,4-Trichlorobenzene	1.4299	1.4420	20.17	20	1
Hexachlorobutadiene	0.7448	0.6527	17.53	20	-12
Naphthalene	3.6568	3.8694	21.16	20	6
1,2,3-Trichlorobenzene	1.4178	1.4554	20.53	20	3
2-Methylnaphthalene	2.3192	2.6458	22.82	20	14

Average %Drift 5

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane) GSK06 0000
 Maximum %Drift for CCC(*)=20%

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK06____
Lab File ID: xn17t01.d BFB Injection Date: 11/17/11
Instrument ID: HP09193 BFB Injection Time: 13:34
Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.81
75	30.0 - 60.0% of mass 95	47.20
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.82
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.54
175	5.0 - 9.0% of mass 174	5.97 (7.14)1
176	Greater than 95.0%, but less than 101.0% of mass 174	80.64 (96.53)1
177	5.0 - 9.0% of mass 176	5.29 (6.55)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	xn17c01.d	11/17/11	14:00
02	LCSXICV	xn17v01.d	11/17/11	14:28
03	VLKX60	xn17b02.d	11/17/11	15:14
04	LCSX60	xn17l01.d	11/17/11	15:37
05	LCDX60	xn17l02.d	11/17/11	16:02
06	6465507	xn17s01.d	11/17/11	16:43
07	6465508	xn17s02.d	11/17/11	17:06
08	6465509	xn17s03.d	11/17/11	17:28
09	6465510	xn17s04.d	11/17/11	17:52
10	6465512	xn17s06.d	11/17/11	18:39
11	6465513	xn17s07.d	11/17/11	19:04
12	6465514	xn17s08.d	11/17/11	19:27
13	6465515	xn17s09.d	11/17/11	19:50
14	6465516	xn17s10.d	11/17/11	20:13
15	6465517	xn17s11.d	11/17/11	20:36
16	6465518	xn17s12.d	11/17/11	20:59
17	6465519	xn17s13.d	11/17/11	21:21
18	6465520	xn17s14.d	11/17/11	21:45
19	6465521	xn17s15.d	11/17/11	22:07
20	6465522	xn17s16.d	11/17/11	22:36
21	6465511	xn17s21.d	11/17/11	22:59
22	6467805	xn17s17.d	11/17/11	23:22

GSK06 0061

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK06
 Lab File ID: xn17t01.d BFB Injection Date: 11/17/11
 Instrument ID: HP09193 BFB Injection Time: 13:34
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.81
75	30.0 - 60.0% of mass 95	47.20
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.82
173	Less than 2.0% of mass 174	0.00 (0.00)1
174	Greater than 50.0% of mass 95	83.54
175	5.0 - 9.0% of mass 174	5.97 (7.14)1
176	Greater than 95.0%, but less than 101.0% of mass 174	80.64 (96.53)1
177	5.0 - 9.0% of mass 176	5.29 (6.55)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6467806	xn17s18.d	11/17/11	23:45
24	6445883	xn17s19.d	11/18/11	00:08

GSK06 0062

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date: 11/17/11 Time: 14:00
 Lab File ID: xni7c01.d Init. Calib. Date(s): 11/16/11 11/16/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.3958	0.3804	48.06	50	-4
# Chloromethane	0.4494	0.4135	46.00	50	-8 #
* Vinyl Chloride	0.4052	0.3845	47.44	50	-5 *
Bromomethane	0.2538	0.2437	48.02	50	-4
Chloroethane	0.2282	0.2155	47.22	50	-6
Trichlorofluoromethane	0.4084	0.3932	48.14	50	-4
Ethanol	0.1358	0.1217	2239.30	2500	-10
Freon 123a	0.2499	0.2497	49.95	50	0
Acrolein	2.2969	2.0412	444.33	500	-11
* 1,1-Dichloroethene	0.2739	0.2742	50.06	50	0 *
Dichlorofluoromethane	0.5182	0.4901	47.28	50	-5
Freon 113	0.2864	0.2935	51.24	50	2
Acetone	0.1115	0.0966	86.58	100	-13
Methyl Iodide	0.4849	0.4848	49.99	50	0
2-Propanol	0.8540	0.9051	248.75	250	0
Carbon Disulfide	0.9116	0.8986	49.29	50	-1
Allyl Chloride	0.5809	0.5751	49.50	50	-1
Methyl Acetate	0.2519	0.2602	51.66	50	3
Methylene Chloride	0.3562	0.3305	46.39	50	-7
t-Butyl Alcohol	1.5007	1.4759	245.87	250	-2
Acrylonitrile	0.1084	0.1215	50.73	50	1
trans-1,2-Dichloroethene	0.3063	0.3102	50.64	50	1
Methyl Tertiary Butyl Ether	0.9442	0.9798	51.89	50	4
n-Hexane	0.5106	0.5105	49.99	50	0
# 1,1-Dichloroethane	0.6010	0.6062	50.44	50	1 #
2-Chloro-1,3-Butadiene	0.5061	0.5058	49.97	50	0
di-Isopropyl Ether	1.2337	1.2415	50.32	50	1
Ethyl t-Butyl Ether	1.0882	1.0931	50.22	50	0
cis-1,2-Dichloroethene	0.3367	0.3422	50.82	50	2
1,2-Dichloroethene (total)	0.3215	0.3262	101.46	100	1
2,2-Dichloropropane	0.4416	0.4593	52.00	50	4
2-Butanone	0.1593	0.1669	104.78	100	5
Propionitrile	1.5186	1.4931	245.81	250	-2
Methacrylonitrile	0.1349	0.1477	136.78	125	9
Bromochloromethane	0.1556	0.1620	52.08	50	4
Tetrahydrofuran	1.4065	1.3680	97.26	100	-3

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

63806 8898

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date: 11/17/11 Time: 14:00
 Lab File ID: xnl7c01.d Init. Calib. Date(s): 11/16/11 11/16/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====
* Chloroform	0.5302	0.5363	50.57	50	1 *
1,1,1-Trichloroethane	0.4594	0.4847	52.76	50	6
Cyclohexane	0.6290	0.6369	50.63	50	1
Cyclohexane(mz69)	0.1809	0.1829	50.55	50	1
Cyclohexane(mz84)	0.4949	0.5009	50.61	50	1
1,1-Dichloropropene	0.4312	0.4371	50.68	50	1
Carbon Tetrachloride	0.3634	0.3835	52.77	50	6
Benzene	1.3127	1.3280	50.58	50	1
Isobutyl Alcohol	0.4953	0.5268	664.72	625	6
1,2-Dichloroethane	0.4175	0.4176	50.01	50	0
1,2-Dichloroethane(mz98)	0.0382	0.0404	52.95	50	6
t-Amyl Methyl Ether	0.9449	0.9903	52.40	50	5
n-Heptane	0.6044	0.6081	50.30	50	1
n-Butanol	0.3676	0.4252	1322.70	1250	6
Trichloroethene	0.3185	0.3189	50.07	50	0
Methylcyclohexane	0.6126	0.6432	52.50	50	5
* 1,2-Dichloropropane	0.3652	0.3736	51.15	50	2 *
Dibromomethane	0.1809	0.1900	52.54	50	5
1,4-Dioxane	0.1311	0.1393	663.92	625	6
Methyl Methacrylate	0.2228	0.2591	58.14	50	16
Bromodichloromethane	0.3721	0.4043	54.32	50	9
2-Nitropropane	0.0934	0.0973	104.19	100	4
cis-1,3-Dichloropropene	0.4686	0.5155	55.01	50	10
4-Methyl-2-Pentanone	0.3695	0.4218	114.16	100	14
* Toluene	1.1891	1.2208	51.33	50	3 *
trans-1,3-Dichloropropene	0.5738	0.6638	50.90	50	2
Ethyl Methacrylate	0.6103	0.7189	58.89	50	18
1,1,2-Trichloroethane	0.4077	0.4383	53.76	50	8
Tetrachloroethene	0.5000	0.5244	52.45	50	5
1,3-Dichloropropane	0.7253	0.7679	52.93	50	6
2-Hexanone	0.3590	0.4034	112.37	100	12
Dibromochloromethane	0.4008	0.4582	51.95	50	4
1,2-Dibromoethane	0.3996	0.4442	55.58	50	11
# Chlorobenzene	1.2990	1.3480	51.89	50	4 #
1,1,1,2-Tetrachloroethane	0.4364	0.4741	54.31	50	9
* Ethylbenzene	2.1121	2.2307	52.81	50	6 *

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK06 0091

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date: 11/17/11 Time: 14:00
 Lab File ID: xn17c01.d Init. Calib. Date(s): 11/16/11 11/16/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
m+p-Xylene	0.8838	0.9146	103.48	100	3
Xylene (Total)	0.8954	0.9222	154.52	150	3
o-Xylene	0.9185	0.9375	51.03	50	2
Styrene	1.3143	1.4275	47.86	50	-4
# Bromoform	0.2639	0.3257	53.01	50	6 #
Isopropylbenzene	2.2624	2.3398	51.71	50	3
Cyclohexanone	0.4267	0.4669	683.82	625	9
Bromobenzene	0.9449	0.9836	52.05	50	4
# 1,1,2,2-Tetrachloroethane	1.0134	1.0930	53.93	50	8 #
1,2,3-Trichloropropane	0.2891	0.3011	52.07	50	4
trans-1,4-Dichloro-2-Butene	0.2750	0.3224	146.57	125	17
n-Propylbenzene	4.1732	4.3409	52.01	50	4
2-Chlorotoluene	0.8939	0.9135	51.09	50	2
1,3,5-Trimethylbenzene	3.1630	3.2270	51.01	50	2
4-Chlorotoluene	1.0088	1.0159	50.35	50	1
tert-Butylbenzene	0.7645	0.7825	51.18	50	2
Pentachloroethane	0.5738	0.6132	53.43	50	7
1,2,4-Trimethylbenzene	3.1629	3.3067	52.27	50	5
sec-Butylbenzene	4.1538	4.3157	51.95	50	4
1,3-Dichlorobenzene	1.6672	1.7527	52.56	50	5
p-Isopropyltoluene	3.5031	3.6771	52.48	50	5
1,4-Dichlorobenzene	2.0224	2.0458	50.58	50	1
1,2,3-Trimethylbenzene	3.3559	3.4465	51.35	50	3
Benzyl Chloride	1.6302	2.0075	53.17	50	6
1,2-Dichlorobenzene	1.9068	1.9548	51.26	50	3
n-Butylbenzene	1.7955	1.8670	51.99	50	4
1,3-Diethylbenzene	2.0428	2.1012	51.43	50	3
1,4-Diethylbenzene	2.2006	2.2860	51.94	50	4
1,2-Diethylbenzene	1.9755	1.9906	50.38	50	1
1,2-Dibromo-3-Chloropropane	0.1993	0.2276	57.11	50	14
1,3,5-Trichlorobenzene	1.5518	1.6426	52.92	50	6
1,2,4-Trichlorobenzene	1.4299	1.4989	52.41	50	5
Hexachlorobutadiene	0.7448	0.7858	52.75	50	6
Naphthalene	3.6568	4.1184	56.31	50	13
1,2,3-Trichlorobenzene	1.4178	1.4820	52.27	50	5
2-Methylnaphthalene	2.3192	2.5346	54.64	50	9

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK86 8892

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09193 Calibration Date: 11/17/11 Time: 14:00
 Lab File ID: xnl7c01.d Init. Calib. Date(s): 11/16/11 11/16/11
 Matrix: (soil/water) SOIL Level: (low/med) LOW GC Column: DB-624 ID: .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dibromofluoromethane	0.2243	0.2252	50.21	50	0
Dibromofluoromethane (mz111)	0.2277	0.2309	50.71	50	1
1,2-Dichloroethane-d4	0.0547	0.0535	48.93	50	-2
1,2-Dichloroethane-d4 (mz104)	0.0348	0.0354	50.92	50	2
1,2-Dichloroethane-d4 (mz65)	0.2635	0.2517	47.76	50	-4
Toluene-d8	1.3982	1.3949	49.88	50	0
Toluene-d8 (mz100)	0.9413	0.9419	50.03	50	0
4-Bromofluorobenzene	0.4929	0.4976	50.48	50	1
4-Bromofluorobenzene (mz174)	0.4392	0.4494	51.16	50	2

Average %Drift 4

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GS#06. 8893

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP09193.i/11nov16a.b/xn16i08.d
/chem2/HP09193.i/11nov16a.b/xn16i07.d
/chem2/HP09193.i/11nov16a.b/xn16i04.d
/chem2/HP09193.i/11nov16a.b/xn16i03.d
/chem2/HP09193.i/11nov16a.b/xn16i02.d
/chem2/HP09193.i/11nov16a.b/xn16i01.d

File /chem2/HP09193.i/11nov16a.b/xn16i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09193.i/11nov17a.b/xn17c01.d

RT Summary

File ID:

=====

Internal Standard Name	xn17c01.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	3.684	3.690	Yes
Fluorobenzene	7.139	7.145	Yes
Chlorobenzene-d5	10.765	10.765	Yes
1,4-Dichlorobenzene-d4	12.682	12.682	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	xn17c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	214313	186797	93398	373594	Yes
Fluorobenzene	1251485	1259145	629572	2518290	Yes
Chlorobenzene-d5	851446	854806	427403	1709612	Yes
1,4-Dichlorobenzene-d4	518196	506976	253488	1013952	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

63K06 0094

Comments: _____

report generated on 11/17/2011 at 14:25

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK06
 Lab File ID (Standard): xnl7c01.d Date Analyzed: 11/17/11
 Instrument ID: HP09193 Time Analyzed: 14:00
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

		IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD		1251485	7.139	851446	10.765	518196	12.682	214313	3.684
UPPER LIMIT		2502970	7.639	1702892	11.265	1036392	13.182	428626	4.184
LOWER LIMIT		625742	6.639	425723	10.265	259098	12.182	107156	3.184
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE									
ID									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
01	LCSXICV	1226913	7.133	814816	10.765	496300	12.682	198927	3.666
02	VBLKX60	1171643	7.139	867754	10.765	480616	12.682	224498	3.672
03	LCSX60	1199936	7.140	797120	10.765	483501	12.682	190058	3.684
04	LCDX60	1206069	7.139	810075	10.765	478335	12.681	190337	3.678
05	6465507	1080659	7.133	756449	10.765	368528	12.681		
06	6465508	1115033	7.145	836347	10.765	435353	12.682		
07	6465509	1063195	7.139	761490	10.765	389487	12.682		
08	6465510	1116791	7.139	726730	10.765	323922	12.682		
09	6465512	1158136	7.139	816454	10.765	393267	12.682		
10	6465513	1081708	7.139	718514	10.765	284469	12.681		
11	6465514	1134809	7.139	833295	10.765	462646	12.681		
12	6465515	1127465	7.140	787244	10.765	415055	12.682		
13	6465516	1124225	7.146	774818	10.765	318681	12.682		
14	6465517	1135738	7.145	851636	10.765	454352	12.682		
15	6465518	928739	7.139	638744	10.765	296873	12.681		
16	6465519	1133590	7.139	787106	10.765	357627	12.682		
17	6465520	1147372	7.139	848445	10.765	460136	12.681		
18	6465521	1059418	7.145	776744	10.765	417997	12.681		
19	6465522	1133426	7.139	822435	10.765	444041	12.682		
20	6465511	988403	7.139	661943	10.765	290145	12.681		
21	6467805	1131149	7.146	834746	10.765	443254	12.682	197293	3.678
22	6467806	1026054	7.139	758044	10.765	404282	12.681	148854	3.666

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

GSK06 0182

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK06____
 Lab File ID (Standard): xnl7c01.d Date Analyzed: 11/17/11
 Instrument ID: HP09193 Time Analyzed: 14:00
 Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1251485	7.139	851446	10.765	518196	12.682	214313	3.684
UPPER LIMIT	2502970	7.639	1702892	11.265	1036392	13.182	428626	4.184
LOWER LIMIT	625742	6.639	425723	10.265	259098	12.182	107156	3.184
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
23 6445883	828106	7.139	500744	10.765	165612 *	12.682	206422	3.660

not in
SDG

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.



Quality Control Summary
Surrogates
GC/MS Volatiles
SDG: GSK06
Matrix: LIQUID

Fraction: Volatiles by GC/MS

Y113142AA Sample	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKY84	109	80 - 116	107	77 - 113	95	80 - 113	87	78 - 113
LCSY84	104	80 - 116	105	77 - 113	99	80 - 113	98	78 - 113
LCDY84	102	80 - 116	106	77 - 113	99	80 - 113	97	78 - 113
6465505	111	80 - 116	108	77 - 113	93	80 - 113	86	78 - 113
6465506	111	80 - 116	107	77 - 113	93	80 - 113	86	78 - 113

GSK06 0056

Fraction: Volatiles by GC/MS

Y113142AA / VBLKY84 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	11/10/11	N.D.	ug/l	2	5
Chloromethane	11/10/11	N.D.	ug/l	1	5
Vinyl Chloride	11/10/11	N.D.	ug/l	1	5
Bromomethane	11/10/11	N.D.	ug/l	1	5
Chloroethane	11/10/11	N.D.	ug/l	1	5
Freon 123a	11/10/11	N.D.	ug/l	2	5
Freon 113	11/10/11	N.D.	ug/l	2	10
Trichlorofluoromethane	11/10/11	N.D.	ug/l	2	5
1,1-Dichloroethene	11/10/11	N.D.	ug/l	0.8	5
Ethylbenzene	11/10/11	N.D.	ug/l	0.8	5
1,1,1,2-Tetrachloroethane	11/10/11	N.D.	ug/l	1	5
Methylene Chloride	11/10/11	N.D.	ug/l	2	5
Bromoform	11/10/11	N.D.	ug/l	1	5
1,1-Dichloroethane	11/10/11	N.D.	ug/l	1	5
1,1,2,2-Tetrachloroethane	11/10/11	N.D.	ug/l	1	5
Bromobenzene	11/10/11	N.D.	ug/l	1	5
1,2-Dichloroethene (Total)	11/10/11	N.D.	ug/l	0.8	5
1,2,3-Trichloropropane	11/10/11	N.D.	ug/l	1	5
Chloroform	11/10/11	N.D.	ug/l	0.8	5
2-Chlorotoluene	11/10/11	N.D.	ug/l	1	5
1,1,1-Trichloroethane	11/10/11	N.D.	ug/l	0.8	5
4-Chlorotoluene	11/10/11	N.D.	ug/l	1	5
Benzene	11/10/11	N.D.	ug/l	0.5	5
Carbon Tetrachloride	11/10/11	N.D.	ug/l	1	5
1,2-Dichloroethane	11/10/11	N.D.	ug/l	1	5
Trichloroethene	11/10/11	N.D.	ug/l	1	5
1,2-Dichloropropane	11/10/11	N.D.	ug/l	1	5
Dibromomethane	11/10/11	N.D.	ug/l	1	5
Bromodichloromethane	11/10/11	N.D.	ug/l	1	5
1,3-Dichlorobenzene	11/10/11	N.D.	ug/l	1	5
cis-1,3-Dichloropropene	11/10/11	N.D.	ug/l	1	5
1,4-Dichlorobenzene	11/10/11	N.D.	ug/l	1	5
Toluene	11/10/11	N.D.	ug/l	0.7	5
trans-1,3-Dichloropropene	11/10/11	N.D.	ug/l	1	5
Benzyl Chloride	11/10/11	N.D.	ug/l	1	5
1,2-Dichlorobenzene	11/10/11	N.D.	ug/l	1	5
1,1,2-Trichloroethane	11/10/11	N.D.	ug/l	0.8	5
Tetrachloroethene	11/10/11	N.D.	ug/l	0.8	5
Dibromochloromethane	11/10/11	N.D.	ug/l	1	5
Chlorobenzene	11/10/11	N.D.	ug/l	0.8	5
Xylene (Total)	11/10/11	N.D.	ug/l	0.8	5

GSK06 0054



Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: GSK06
Matrix: LIQUID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSY84 LCSD: LCDY84		Batch: Y113142AA (Sample number(s): 6465505-6465506)						
Analyte	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	20	19.49	18.12	97	91	47-120	7	30
Chloromethane	20	17.57	16.92	88	85	60-129	4	30
Vinyl Chloride	20	18.46	17.57	92	88	65-125	5	30
Bromomethane	20	17.08	15.76	85	79	44-120	8	30
Chloroethane	20	13.48	12.75	67	64	49-129	6	30
Freon 123a	20	22.8	19.74	114	99	63-125	14	30
Freon 113	20	20.14	18.67	101	93	69-128	8	30
Trichlorofluoromethane	20	21.54	19.24	108	96	64-129	11	30
1,1-Dichloroethene	20	19.85	18.32	99	92	74-123	8	30
1,1,1,2-Tetrachloroethane	20	20.45	19.5	102	97	80-120	5	30
Ethylbenzene	20	18.7	17.81	94	89	79-120	5	30
Methylene Chloride	20	20.01	19.07	100	95	80-120	5	30
1,1-Dichloroethane	20	18.17	17.35	91	87	79-120	5	30
Bromoform	20	19.32	18.36	97	92	61-120	5	30
1,1,2,2-Tetrachloroethane	20	17.51	17.18	88	86	71-120	2	30
Bromobenzene	20	20.3	19.37	101	97	80-120	5	30
1,2-Dichloroethene (Total)	40	40.83	38.9	102	97	80-120	5	30
1,2,3-Trichloropropane	20	19.05	18.47	95	92	80-120	3	30
2-Chlorotoluene	20	19.62	18.97	98	95	80-120	3	30
Chloroform	20	19.86	18.8	99	94	77-122	5	30
1,1,1-Trichloroethane	20	20.02	18.7	100	93	75-127	7	30
4-Chlorotoluene	20	19.33	18.93	97	95	80-120	2	30
1,2-Dichloroethane	20	19.33	18.19	97	91	70-130	6	30
Benzene	20	18.84	18.08	94	90	79-120	4	30
Carbon Tetrachloride	20	20.32	18.75	102	94	75-123	8	30
Trichloroethene	20	20.12	19.22	101	96	80-120	5	30
1,2-Dichloropropane	20	17.36	16.72	87	84	78-120	4	30
Dibromomethane	20	19.89	18.69	99	93	80-120	6	30
1,3-Dichlorobenzene	20	20.3	19.47	102	97	80-120	4	30
Bromodichloromethane	20	18.83	17.39	94	87	80-120	8	30
cis-1,3-Dichloropropene	20	17.5	17.09	88	85	80-120	2	30
1,4-Dichlorobenzene	20	20.19	19.47	101	97	80-120	4	30
Toluene	20	19.18	18.44	96	92	79-120	4	30
trans-1,3-Dichloropropene	20	17.3	16.74	87	84	79-120	3	30
1,1,2-Trichloroethane	20	19.7	18.69	99	93	80-120	5	30
1,2-Dichlorobenzene	20	20.34	19.42	102	97	80-120	5	30
Benzyl Chloride	20	18.02	17.72	90	89	69-120	2	30
Tetrachloroethene	20	21.5	20.34	108	102	80-121	6	30
Dibromochloromethane	20	19.84	18.55	99	93	80-120	7	30
Chlorobenzene	20	20.2	19.03	101	95	80-120	6	30
Xylene (Total)	60	59.15	55.82	99	93	80-120	6	30

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK06
Lab File ID: yc31t05.d BFB Injection Date: 10/31/11
Instrument ID: HP09355 BFB Injection Time: 20:16
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.05
75	30.0 - 60.0% of mass 95	50.78
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.86
173	Less than 2.0% of mass 174	0.41 (0.51)1
174	Greater than 50.0% of mass 95	80.91
175	5.0 - 9.0% of mass 174	5.90 (7.29)1
176	Greater than 95.0%, but less than 101.0% of mass 174	78.36 (96.85)1
177	5.0 - 9.0% of mass 176	5.31 (6.77)2

1-Value is % mass 174

2 Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	yc31i01.d	10/31/11	20:54
02	VSTD100	yc31i02.d	10/31/11	21:15
03	VSTD50	yc31i03.d	10/31/11	21:35
04	VSTD20	yc31i04.d	10/31/11	21:56
05	VSTD10	yc31i05.d	10/31/11	22:45
06	VSTD4	yc31i06.d	10/31/11	23:05
07	MDL001 - MDL001	yc31m01.d	10/31/11	23:28
08	LCSY71	yc31l05.d	11/01/11	00:10

GSK06 3663

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date(s): 10/31/11 10/31/11
 Heated Purge: (Y/N) Y Calibration Times: 20:54 23:05
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID: RRF 4 = yc31i06.d RRF 10= yc31i05.d RRF 20= yc31i04.d RRF 50= yc31i03.d RRF100= yc31i02.d RRF300= yc31i01.d RRF =										
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.4823	0.4778	0.4596	0.4458	0.4027	0.4482		0.4527	6	AVG
Chloromethane	#0.4761	0.4817	0.4455	0.4448	0.3772	0.3486		0.4290	13	AVG
Vinyl Chloride	*0.4598	0.4681	0.4336	0.4264	0.3791	0.3448		0.4186	11	AVG
1,3-Butadiene	0.3333	0.2882	0.3005	0.2855	0.2436	0.2369		0.2813	13	AVG
Bromomethane	0.2933	0.2973	0.2672	0.2647	0.2435	0.2071		0.2622	13	AVG
Chloroethane	0.2575	0.2639	0.2411	0.2252	0.2010			0.2377	11	AVG
Dichlorofluoromethane	0.5123	0.5278	0.4996	0.4969	0.4675	0.4316		0.4893	7	AVG
Trichlorofluoromethane	0.5387	0.5269	0.4967	0.4925	0.4658	0.5125		0.5055	5	AVG
n-Pentane	0.5719	0.5492	0.5292	0.5154	0.4700	0.3950		0.5051	13	AVG
Ethyl Ether	0.3040	0.3158	0.2902	0.2923	0.2728	0.2393		0.2857	9	AVG
Freon 123a	0.3403	0.3327	0.3140	0.3111	0.2800	0.2717		0.3083	9	AVG
Acrolein	1.3717	1.4557	1.3768	1.2775	1.3111	1.0300		1.3038	11	AVG
1,1-Dichloroethene	*0.2878	0.2837	0.2636	0.2633	0.2477	0.2456		0.2653	7	AVG
Freon 113	0.3092	0.2977	0.2819	0.2930	0.2713	0.2951		0.2914	5	AVG
Acetone	0.0896	0.0881	0.0715	0.0692	0.0651			0.0767	15	AVG
Methyl Iodide	0.4860	0.5009	0.4756	0.4793	0.4547	0.4526		0.4749	4	AVG
2-Propanol	0.8924	0.9188	0.6819	0.8275	0.7428	0.7453		0.8015	12	AVG
Carbon Disulfide	0.8718	0.9064	0.8557	0.8695	0.8207	0.7717		0.8493	6	AVG
Allyl Chloride	0.5001	0.4926	0.4503	0.4566	0.4128	0.3966		0.4515	9	AVG
Methyl Acetate	0.5299	0.4951	0.4192	0.4467	0.3888	0.3694		0.4415	14	AVG
Methylene Chloride	0.3285	0.3326	0.3077	0.3074	0.2865	0.2695		0.3053	8	AVG
t-Butyl Alcohol	1.2843	1.3935	1.2975	1.3626	1.3136	1.3325		1.3306	3	AVG
Acrylonitrile	0.2703	0.2940	0.2484	0.2433	0.2298	0.2049		0.2484	13	AVG
trans-1,2-Dichloroethene	0.2986	0.3082	0.2870	0.2867	0.2700	0.2640		0.2858	6	AVG
Methyl Tertiary Butyl Ether	0.9896	1.0556	0.9805	1.0077	0.9581	0.9211		0.9854	5	AVG
n-Hexane	0.4927	0.4853	0.4684	0.4886	0.4414	0.4628		0.4732	4	AVG
1,2-Dichloroethene (total)	0.3074	0.3200	0.3011	0.3023	0.2844	0.2802		0.2992	5	AVG
1,1-Dichloroethane	#0.5696	0.5949	0.5585	0.5668	0.5327	0.5068		0.5549	6	AVG
di-Isopropyl Ether	1.0150	1.0872	1.0327	1.0550	0.9840	0.9123		1.0144	6	AVG
2-Chloro-1,3-Butadiene	0.4504	0.4847	0.4620	0.4817	0.4560	0.4667		0.4669	3	AVG
Ethyl t-Butyl Ether	0.9268	1.0091	0.9727	1.0209	0.9725	0.9318		0.9723	4	AVG
cis-1,2-Dichloroethene	0.3162	0.3318	0.3152	0.3178	0.2988	0.2964		0.3127	4	AVG
2-Butanone	0.3267	0.3800	0.3240	0.3347	0.3245	0.3021		0.3320	8	AVG
2,2-Dichloropropene	0.4242	0.4436	0.4226	0.4418	0.4264	0.4449		0.4339	2	AVG
Propionitrile	1.2725	1.3293	1.3129	1.2966	1.2875	1.2213		1.2867	3	AVG
Methacrylonitrile	0.2127	0.2320	0.2120	0.2196	0.2102	0.2057		0.2154	4	AVG
Bromochloromethane	0.1531	0.1594	0.1528	0.1597	0.1471	0.1549		0.1545	3	AVG
Tetrahydrofuran	1.1132	1.2100	1.1428	1.1215	1.1419	1.0617		1.1318	4	AVG
Chloroform	*0.5138	0.5315	0.4953	0.5093	0.4849	0.5010		0.5060	3	AVG
1,1,1-Trichloroethane	0.5700	0.5196	0.4944	0.4759	0.4582	0.4939		0.5020	8	AVG
Cyclohexane	0.5722	0.5767	0.5518	0.5882	0.5410	0.5809		0.5684	3	AVG
Cyclohexane(mz 84)	0.4813	0.4647	0.4437	0.4747	0.4367	0.4820		0.4638	4	AVG
Cyclohexane(mz 69)	0.1728	0.1752	0.1649	0.1744	0.1620	0.1751		0.1707	3	AVG
1,1-Dichloropropene	0.4171	0.4327	0.4112	0.4250	0.4059	0.4269		0.4198	2	AVG
Carbon Tetrachloride	0.3571	0.3701	0.3584	0.3739	0.3652	0.4128		0.3729	6	AVG
Isobutyl Alcohol	0.3778	0.3944	0.3746	0.3870	0.3888	0.4162		0.3898	4	AVG
Benzene	1.2944	1.3241	1.2301	1.2527	1.1898	1.1765		1.2446	5	AVG
1,2-Dichloroethane	0.4321	0.4568	0.4244	0.4429	0.4339	0.4640		0.4424	3	AVG
1,2-Dichloroethane(mz 98)	0.0371	0.0399	0.0375	0.0390	0.0375	0.0387		0.0383	3	AVG
t-Amyl Methyl Ether	0.8453	0.9233	0.8759	0.9339	0.9036	0.9172		0.8999	4	AVG
n-Heptane	0.5467	0.5293	0.5177	0.5042	0.4710	0.5228		0.5153	5	AVG
n-Butanol	0.2969	0.3215	0.3179	0.3340	0.3304	0.3683		0.3282	7	AVG

Minimum RRF for SPCC(*) = 0.10
 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %RSD for CCC(*) = 30%

CSK06 0001

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP09355 Calibration Date(s): 10/31/11 10/31/11
Heated Purge: (Y/N) Y Calibration Times: 20:54 23:05
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID: RRF 4 = yc31i06.d RRF 10= yc31i05.d RRF 20= yc31i04.d
RRF 50= yc31i03.d RRF100= yc31i02.d RRF300= yc31i01.d RRF =

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD
Trichloroethene	0.3119	0.3279	0.3076	0.3132	0.3053	0.3164	0.3137	3	AVG
1,2-Dichloropropane	0.3284	0.3530	0.3311	0.3450	0.3288	0.3299	0.3360	3	AVG
Methylcyclohexane(mz98)	0.2401	0.2402	0.2481	0.2588	0.2341	0.2766	0.2496	6	AVG
Methylcyclohexane	0.5602	0.5475	0.5686	0.5880	0.5314	0.6126	0.5681	5	AVG
Methyl Methacrylate	0.2878	0.3242	0.3069	0.3364	0.3363	0.3524	0.3240	7	AVG
Dibromomethane	0.1974	0.2102	0.1958	0.2063	0.2008	0.2114	0.2036	3	AVG
1,4-Dioxane	0.0768	0.0864	0.0838	0.1022	0.0791		0.0856	12	AVG
Bromodichloromethane	0.3414	0.3735	0.3548	0.3871	0.3849	0.4158	0.3762	7	AVG
2-Nitropropane	0.1330	0.1498	0.1337	0.1472	0.1520	0.1631	0.1465	8	AVG
2-Chloroethyl Vinyl Ether	0.1900	0.2273	0.2294	0.2496	0.2472	0.2492	0.2321	10	AVG
cis-1,3-Dichloropropene	0.4226	0.4915	0.4730	0.5091	0.5021	0.5271	0.4876	8	AVG
4-Methyl-2-Pentanone	0.5214	0.6688	0.5883	0.6172	0.6083	0.5829	0.5978	8	AVG
Toluene	1.1139	1.1518	1.0751	1.0895	1.0457	1.0467	1.0871	4	AVG
trans-1,3-Dichloropropene	0.5653	0.6417	0.6195	0.6704	0.6721	0.6975	0.6444	7	AVG
Ethyl Methacrylate	0.5140	0.6233	0.6164	0.6847	0.6883	0.6940	0.6368	11	AVG
1,1,2-Trichloroethane	0.3959	0.4347	0.3986	0.4143	0.4012	0.4045	0.4082	4	AVG
Tetrachloroethane	0.4876	0.4958	0.4665	0.4787	0.4596	0.4904	0.4793	3	AVG
1,3-Dichloropropane	0.7017	0.7619	0.7082	0.7387	0.7201	0.7259	0.7261	3	AVG
2-Hexanone	0.5672	0.7126	0.6295	0.6718	0.6609	0.6178	0.6433	8	AVG
Dibromochloromethane	0.3480	0.3897	0.3866	0.4171	0.4221	0.4553	0.4031	9	AVG
1,2-Dibromoethane	0.3991	0.4462	0.4148	0.4341	0.4296	0.4439	0.4279	4	AVG
Chlorobenzene	1.2219	1.2851	1.1908	1.2221	1.1826	1.2123	1.2191	3	AVG
1,1,1,2-Tetrachloroethane	0.3751	0.4087	0.3858	0.4134	0.4059	0.4375	0.4044	5	AVG
Ethylbenzene	1.9812	2.1399	2.0527	2.1282	2.0560	2.0448	2.0671	3	AVG
m+p-Xylene	0.7711	0.8454	0.8163	0.8423	0.8205	0.8315	0.8212	3	AVG
Xylene (Total)	0.7585	0.8373	0.8087	0.8372	0.8189	0.8384	0.8165	4	AVG
o-Xylene	0.7332	0.8212	0.7935	0.8269	0.8157	0.8522	0.8071	5	AVG
Styrene	1.0987	1.2850	1.2703	1.3565	1.3449	1.4014	1.2928	8	AVG
Bromoform	0.2436	0.2876	0.2803	0.3157	0.3293	0.3712	0.3046	15	AVG
Isopropylbenzene	1.9017	2.1495	2.0510	2.1582	2.0877	2.0578	2.0677	4	AVG
Cyclohexanone	0.3095	0.3333	0.3394	0.4036	0.3494	0.4445	0.3633	14	AVG
1,1,2,2-Tetrachloroethane	1.1592	1.2489	1.1434	1.1765	1.1251	1.0474	1.1501	6	AVG
trans-1,4-Dichloro-2-Butene	0.3889	0.4462	0.4040	0.4180	0.4067	0.3826	0.4077	6	AVG
Bromobenzene	0.8549	0.8983	0.8635	0.8666	0.8232	0.8078	0.8490	4	AVG
1,2,3-Trichloropropane	0.3641	0.3846	0.3579	0.3643	0.3499	0.3401	0.3601	4	AVG
n-Propylbenzene	4.2950	4.5501	4.2769	4.3095	3.9963	3.1677	4.0992	12	AVG
2-Chlorotoluene	0.8267	0.8982	0.8528	0.8597	0.8182	0.8007	0.8427	4	AVG
1,3,5-Trimethylbenzene	2.9511	3.2043	3.0908	3.1471	3.0195	2.6425	3.0092	7	AVG
4-Chlorotoluene	0.8655	0.9373	0.8959	0.9039	0.8776	0.8399	0.8867	4	AVG
tert-Butylbenzene	0.5932	0.6669	0.6493	0.6897	0.6714	0.6822	0.6588	5	AVG
Pentachloroethane	0.4312	0.4933	0.4849	0.5229	0.5076	0.5502	0.4983	8	AVG
1,2,4-Trimethylbenzene	2.8875	3.2754	3.1645	3.2444	3.0680	2.6822	3.0537	8	AVG
sec-Butylbenzene	3.6733	4.0004	3.8225	3.9623	3.7307	3.0664	3.7093	9	AVG
p-Isopropyltoluene	3.3036	3.5628	3.3941	3.5452	3.3391	2.8131	3.3263	8	AVG
1,3-Dichlorobenzene	1.7160	1.8341	1.7240	1.7345	1.6574	1.6186	1.7141	4	AVG
1,4-Dichlorobenzene	1.8299	1.9275	1.7932	1.8046	1.7258	1.6857	1.7944	5	AVG
1,2,3-Trimethylbenzene	3.0633	3.2948	3.2399	3.3129	3.0238	2.6662	3.1002	8	AVG
Benzyl Chloride	1.9493	2.2906	2.2620	2.4566	2.4218	2.2312	2.2686	8	AVG
1,3-Diethylbenzene	1.7752	1.9814	1.9555	2.0426	1.8821	1.8618	1.9165	5	AVG
1,4-Diethylbenzene	1.9180	2.1404	2.0990	2.1969	2.0390	1.9619	2.0592	5	AVG
n-Butylbenzene	1.7180	1.8762	1.7595	1.8155	1.7111	1.6256	1.7510	5	AVG
1,2-Dichlorobenzene	1.7029	1.8651	1.7389	1.7844	1.7124	1.6022	1.7343	5	AVG

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

GSK86 8882

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: MP09355 Calibration Date(s): 10/31/11 10/31/11
Heated Purge: (Y/N) Y Calibration Times: 20:54 23:05
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

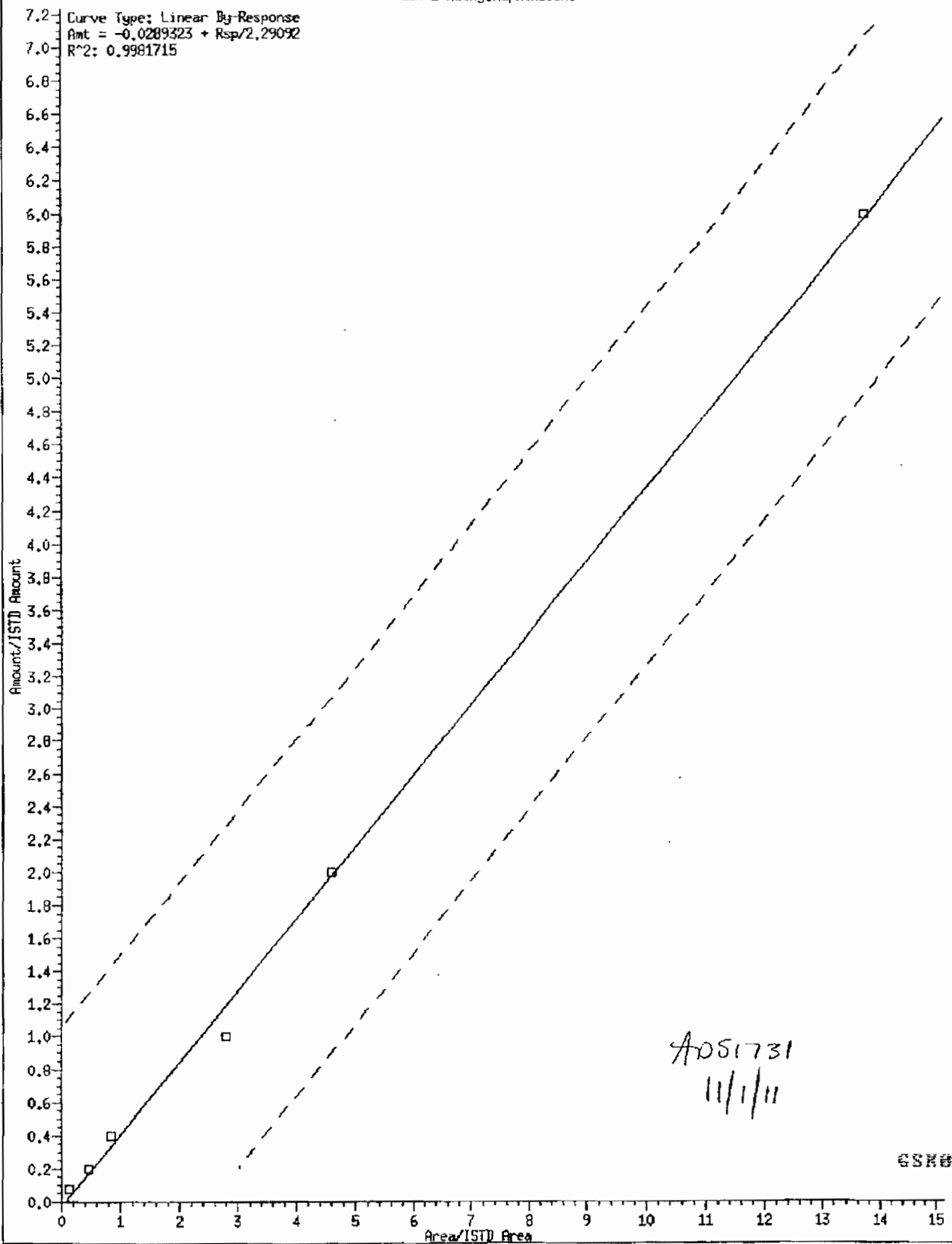
LAB FILE ID:	RRF 4 = yc31i06.d	RRF 10= yc31i05.d	RRF 20= yc31i04.d	RRF 50= yc31i03.d	RRF100= yc31i02.d	RRF300= yc31i01.d	RRF =				
COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	RRF	% RSD	CAL. METHOD	
1,2-Diethylbenzene	1.6147	1.7451	1.6856	1.7581	1.6219	1.6245		1.6750	4	AVG	
1,2-Dibromo-3-Chloropropane	0.2850	0.3245	0.3055	0.3380	0.3311	0.3434		0.3213	7	AVG	
1,3,5-Trichlorobenzene	1.3042	1.4547	1.3332	1.3949	1.3194	1.3332		1.3566	4	AVG	
1,2,4-Trichlorobenzene	1.1629	1.3107	1.2097	1.2953	1.2368	1.2287		1.2407	4	AVG	
Hexachlorobutadiene	0.5685	0.6186	0.5556	0.5849	0.5435	0.5779		0.5748	5	AVG	
Naphthalene	3.5919	4.5473	4.1221	4.5626	4.2187	3.0287		4.0119	15	AVG	
1,2,3-Trichlorobenzene	1.1955	1.3431	1.1897	1.3109	1.2011	1.2171		1.2429	5	AVG	
2-Methylnaphthalene	1.5725	2.2930	2.0910	2.8026	2.3008	2.2915		2.2252	18	1STD EG	
Dibromofluoromethane	0.2277	0.2284	0.2277	0.2296	0.2261	0.2298		0.2282	1	AVG	
Dibromofluoromethane(mz111)	0.2327	0.2338	0.2329	0.2336	0.2316	0.2345		0.2332	0	AVG	
1,2-Dichloroethane-d4	0.0607	0.0621	0.0613	0.0594	0.0601	0.0582		0.0603	2	AVG	
1,2-Dichloroethane-d4 (mz104)	0.0378	0.0391	0.0385	0.0381	0.0385	0.0377		0.0383	1	AVG	
Toluene-d8(mz100)	0.9012	0.9115	0.8998	0.9006	0.8925	0.8761		0.8969	1	AVG	
1,2-Dichloroethane-d4 (mz65)	0.3045	0.3071	0.3125	0.3252	0.3084	0.3162		0.3123	2	AVG	
4-Bromofluorobenzene(mz174)	0.4207	0.4200	0.4171	0.4198	0.4198	0.4399		0.4229	2	AVG	
Toluene-d8	1.4082	1.4157	1.4007	1.3963	1.3870	1.3414		1.3915	2	AVG	
4-Bromofluorobenzene	0.5212	0.5235	0.5159	0.5159	0.5184	0.5327		0.5213	1	AVG	

Average %RSD 6

Minimum RRF for SPCC(%) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(%) = 30%

68866 8883

154 2-Methylnaphthalene



Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

```

/chem2/HP09355.i/11oct31c.b/yc31i01.d VSTD300
/chem2/HP09355.i/11oct31c.b/yc31i02.d VSTD100
/chem2/HP09355.i/11oct31c.b/yc31i03.d VSTD050
/chem2/HP09355.i/11oct31c.b/yc31i04.d VSTD020
/chem2/HP09355.i/11oct31c.b/yc31i05.d VSTD010
/chem2/HP09355.i/11oct31c.b/yc31i06.d VSTD004
    
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Area Summary

File ID:

Internal Standard Name	yc31i01.d	yc31i02.d	yc31i03.d	yc31i04.d	yc31i05.d	yc31i06.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	463372	525498	549260	530250	578758	540797	531322	7	Yes
Fluorobenzene	1204268	1421395	1399426	1452611	1409030	1411771	1383084	6	Yes
Chlorobenzene-d5	905312	1020330	997257	1020926	981013	981636	984262	4	Yes
1,4-Dichlorobenzene-d4	632955	634942	602110	604319	586052	587805	608030	4	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	yc31i01.d	yc31i02.d	yc31i03.d	yc31i04.d	yc31i05.d	yc31i06.d	Avg. RT
t-Butyl Alcohol-d10	2.133	2.127	2.133	2.139	2.121	2.133	2.131
Fluorobenzene	4.253	4.263	4.262	4.269	4.263	4.262	4.263
Chlorobenzene-d5	7.450	7.444	7.444	7.444	7.444	7.444	7.445
1,4-Dichlorobenzene-d4	9.446	9.440	9.439	9.440	9.440	9.440	9.441

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 11/01/2011 at 01:14.

63K06 0005

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 11/01/11 Time: 00:10
 Lab File ID: yc31105.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4527	0.4237	18.72	20	-6
# Chloromethane	0.4290	0.4499	20.97	20	5 #
* Vinyl Chloride	0.4186	0.4454	21.28	20	6 *
1,3-Butadiene	0.2813	0.2674	19.01	20	-5
Bromomethane	0.2622	0.2363	18.02	20	-10
Chloroethane	0.2377	0.1860	15.65	20	-22
Dichlorofluoromethane	0.4893	0.4958	20.27	20	1
Trichlorofluoromethane	0.5055	0.5014	19.84	20	-1
n-Pentane	0.5051	0.4021	15.92	20	-20
Ethyl Ether	0.2857	0.2639	18.47	20	-8
Freon 123a	0.3083	0.3211	20.83	20	4
Acrolein	1.3038	0.8646	99.48	150	-34
* 1,1-Dichloroethene	0.2653	0.2866	21.61	20	8 *
Freon 113	0.2914	0.2901	19.91	20	0
Acetone	0.0767	0.0665	130.08	150	-13
Methyl Iodide	0.4749	0.4892	20.61	20	3
2-Propanol	0.8015	0.8697	162.78	150	9
Carbon Disulfide	0.8493	0.8233	19.39	20	-3
Allyl Chloride	0.4515	0.4624	20.48	20	2
Methyl Acetate	0.4415	0.5609	25.41	20	27
Methylene Chloride	0.3053	0.3355	21.97	20	10
t-Butyl Alcohol	1.3306	1.3738	206.48	200	3
Acrylonitrile	0.2484	0.2262	91.03	100	-9
trans-1,2-Dichloroethene	0.2858	0.3135	21.94	20	10
Methyl Tertiary Butyl Ether	0.9854	1.0307	20.92	20	5
n-Hexane	0.4732	0.4741	20.04	20	0
1,2-Dichloroethene (total)	0.2992	0.3277	43.80	40	10
# 1,1-Dichloroethane	0.5549	0.6050	21.81	20	9 #
di-Isopropyl Ether	1.0144	1.0555	20.81	20	4
2-Chloro-1,3-Butadiene	0.4669	0.4934	21.14	20	6
Ethyl t-Butyl Ether	0.9723	1.0082	20.74	20	4
cis-1,2-Dichloroethene	0.3127	0.3418	21.86	20	9
2-Butanone	0.3320	0.3220	145.45	150	-3
2,2-Dichloropropane	0.4339	0.4598	21.19	20	6
Propionitrile	1.2867	1.3660	159.24	150	6
Methacrylonitrile	0.2154	0.2281	158.90	150	6

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

CSK05 0006

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 11/01/11 Time: 00:10
 Lab File ID: yc31105.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Bromochloromethane	0.1545	0.1551	20.07	20	0
Tetrahydrofuran	1.1318	1.1135	98.38	100	-2
* Chloroform	0.5060	0.5329	21.06	20	5 *
1,1,1-Trichloroethane	0.5020	0.5055	20.14	20	1
Cyclohexane	0.5684	0.5767	20.29	20	1
1,1-Dichloropropene	0.4198	0.4497	21.42	20	7
Carbon Tetrachloride	0.3729	0.3821	20.49	20	2
Isobutyl Alcohol	0.3898	0.3980	510.56	500	2
Benzene	1.2446	1.3489	21.68	20	8
1,2-Dichloroethane	0.4424	0.4631	20.94	20	5
t-Amyl Methyl Ether	0.8999	0.9163	20.37	20	2
n-Heptane	0.5153	0.4799	18.63	20	-7
n-Butanol	0.3282	0.3321	1011.86	1000	1
Trichloroethene	0.3137	0.3369	21.48	20	7
* 1,2-Dichloropropane	0.3360	0.3571	21.26	20	6 *
Methylcyclohexane	0.5681	0.5620	19.78	20	-1
Methyl Methacrylate	0.3240	0.3152	19.46	20	-3
Dibromomethane	0.2036	0.2129	20.91	20	5
1,4-Dioxane	0.0856	0.1007	587.58	500	18
Bromodichloromethane	0.3762	0.3779	20.09	20	0
2-Nitropropane	0.1465	0.1230	16.79	20	-16
2-Chloroethyl Vinyl Ether	0.2321	0.2390	20.60	20	3
cis-1,3-Dichloropropene	0.4876	0.5051	20.72	20	4
4-Methyl-2-Pentanone	0.5978	0.5824	97.42	100	-3
* Toluene	1.0871	1.1598	21.34	20	7 *
trans-1,3-Dichloropropene	0.6444	0.6648	20.63	20	3
Ethyl Methacrylate	0.6368	0.6767	21.25	20	6
1,1,2-Trichloroethane	0.4082	0.4325	21.19	20	6
Tetrachloroethene	0.4798	0.5023	20.94	20	5
1,3-Dichloropropane	0.7261	0.7666	21.12	20	6
2-Hexanone	0.6433	0.6363	98.92	100	-1
Dibromochloromethane	0.4031	0.4052	20.10	20	1
1,2-Dibromoethane	0.4279	0.4479	20.93	20	5
# Chlorobenzene	1.2191	1.2816	21.02	20	5 #
1,1,1,2-Tetrachloroethane	0.4044	0.4119	20.37	20	2
* Ethylbenzene	2.0671	2.1691	20.99	20	5 *

Minimum RRF for SPCC(#) = 0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*) = 20%

GSK86 8887

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 11/01/11 Time: 00:10
 Lab File ID: yc31105.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
m+p-Xylene	0.8212	0.8717	42.46	40	6
Xylene (Total)	0.8165	0.6106	63.50	60	6
o-Xylene	0.8071	0.8488	21.03	20	5
Styrene	1.2928	1.3595	21.03	20	5
# Bromoform	0.3046	0.2942	19.31	20	-3 #
Isopropylbenzene	2.0677	2.1856	21.14	20	6
Cyclohexanone	0.3633	0.3489	480.20	500	-4
# 1,1,2,2-Tetrachloroethane	1.1501	1.2424	21.60	20	8 #
trans-1,4-Dichloro-2-Butene	0.4077	0.4339	106.41	100	6
Bromobenzene	0.8490	0.9077	21.38	20	7
1,2,3-Trichloropropane	0.3601	0.3839	21.32	20	7
n-Propylbenzene	4.0992	4.5510	22.20	20	11
2-Chlorotoluene	0.8427	0.9107	21.61	20	8
1,3,5-Trimethylbenzene	3.0092	3.2770	21.78	20	9
4-Chlorotoluene	0.8867	0.9365	21.12	20	6
tert-Butylbenzene	0.6588	0.6948	21.09	20	5
Pentachloroethane	0.4983	0.4764	19.12	20	-4
1,2,4-Trimethylbenzene	3.0537	3.3601	22.01	20	10
sec-Butylbenzene	3.7093	4.0735	21.96	20	10
p-Isopropyltoluene	3.3263	3.6080	21.69	20	8
1,3-Dichlorobenzene	1.7141	1.8090	21.11	20	6
1,4-Dichlorobenzene	1.7944	1.9066	21.25	20	6
1,2,3-Trimethylbenzene	3.1002	3.2753	21.13	20	6
Benzyl Chloride	2.2686	2.4036	21.19	20	6
1,3-Diethylbenzene	1.9165	1.9913	20.78	20	4
1,4-Diethylbenzene	2.0592	2.0975	20.37	20	2
n-Butylbenzene	1.7510	1.8530	21.17	20	6
1,2-Dichlorobenzene	1.7343	1.8166	20.95	20	5
1,2-Diethylbenzene	1.6750	1.6951	20.24	20	1
1,2-Dibromo-3-Chloropropane	0.3213	0.3290	20.48	20	2
1,3,5-Trichlorobenzene	1.3566	1.4284	21.06	20	5
1,2,4-Trichlorobenzene	1.2407	1.3037	21.02	20	5
Hexachlorobutadiene	0.5748	0.5858	20.38	20	2
Naphthalene	4.0119	4.5648	22.76	20	14
1,2,3-Trichlorobenzene	1.2429	1.3098	21.08	20	5
2-Methylnaphthalene	2.2252	2.3383	18.97	20	-5

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK56 0000

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 ICV Date: 11/01/11 Time: 00:10
 Lab File ID: yc31105.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====

Average %Drift 6

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

GSK05. 0009

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK06
Lab File ID: yn10t05.d BFB Injection Date: 11/10/11
Instrument ID: HP09355 BFB Injection Time: 16:02
Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.88
75	30.0 - 60.0% of mass 95	47.38
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.85
173	Less than 2.0% of mass 174	0.12 (0.13)1
174	Greater than 50.0% of mass 95	85.99
175	5.0 - 9.0% of mass 174	6.12 (7.11)1
176	Greater than 95.0%, but less than 101.0% of mass 174	82.27 (95.67)1
177	5.0 - 9.0% of mass 176	5.69 (6.91)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	yn10c05.d	11/10/11	16:20
02	VSTD50	yn10c06.d	11/10/11	16:41
03	VLKY84	yn10b05.d	11/10/11	17:02
04	LCSY84	yn10l05.d	11/10/11	17:23
05	LCDY84	yn10l06.d	11/10/11	17:44
06	LCS1Y84	yn10l07.d	11/10/11	18:05
07	LCD1Y84	yn10l08.d	11/10/11	18:26
08	6463885	yn10s52.d	11/10/11	20:01
09	6463894	yn10s53.d	11/10/11	20:22
10	6465505	yn10s54.d	11/10/11	20:43
11	6465506	yn10s55.d	11/10/11	21:04
12	6464740	yn10s56.d	11/10/11	21:25
13	6464820	yn10s57.d	11/10/11	21:46
14	6462384	yn10s58.d	11/10/11	22:06
15	6462385	yn10s59.d	11/10/11	22:27
16	6463613	yn10s60.d	11/10/11	22:48
17	6463614	yn10s61.d	11/10/11	23:08
18	6465254	yn10s62.d	11/10/11	23:29
19	6465255	yn10s63.d	11/10/11	23:50
20	6462256	yn10s64.d	11/11/11	00:11
21	6462257	yn10s65.d	11/11/11	00:31
22	6462258	yn10s66.d	11/11/11	00:52

GSK06 8864

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK06____
 Lab File ID: yn10t05.d BFB Injection Date: 11/10/11
 Instrument ID: HP09355 BFB Injection Time: 16:02
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.88
75	30.0 - 60.0% of mass 95	47.38
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.85
173	Less than 2.0% of mass 174	0.12 (0.13)1
174	Greater than 50.0% of mass 95	85.99
175	5.0 - 9.0% of mass 174	6.12 (7.11)1
176	Greater than 95.0%, but less than 101.0% of mass 174	82.27 (95.67)1
177	5.0 - 9.0% of mass 176	5.69 (6.91)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	6462259	yn10s67.d	11/11/11	01:13
24	6459302	yn10s68.d	11/11/11	01:34
25	6459624RE	yn10s69.d	11/11/11	01:55

GSK06 8865

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories

Contract: _____

Lab Code: LANCAS

Case No.: _____

SAS No.: _____

SDG No.: _____

Instrument ID: HP09355

Calibration Date: 11/10/11

Time: 16:20

Lab File ID: yn10c05.d

Init. Calib. Date(s): 10/31/11

10/31/11

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	0.4527	0.4543	50.17	50	0
# Chloromethane	0.4290	0.3415	39.81	50	-20 #
* Vinyl Chloride	0.4186	0.3677	43.92	50	-12 *
1,3-Butadiene	0.2813	0.2372	42.15	50	-16
Bromomethane	0.2622	0.2409	45.93	50	-8
Chloroethane	0.2377	0.1906	40.09	50	-20
Dichlorofluoromethane	0.4893	0.5417	55.35	50	11
Trichlorofluoromethane	0.5055	0.5323	52.65	50	5
n-Pentane	0.5051	0.4668	46.21	50	-8
Ethyl Ether	0.2857	0.4475	78.31	50	57 NTC
Freon 123a	0.3083	0.3323	53.90	50	8
Acrolein	1.3038	1.0611	406.93	500	-19
* 1,1-Dichloroethene	0.2653	0.2717	51.20	50	2 *
Freon 113	0.2914	0.3288	56.43	50	13
Acetone	0.0767	0.0595	77.61	100	-22 NTC
Methyl Iodide	0.4749	0.5174	54.47	50	9
2-Propanol	0.8015	0.7095	221.30	250	-11
Carbon Disulfide	0.8493	0.8164	48.06	50	-4
Allyl Chloride	0.4515	0.3523	39.01	50	-22 NTC
Methyl Acetate	0.4415	0.3601	40.78	50	-18
Methylene Chloride	0.3053	0.3008	49.26	50	-1
t-Butyl Alcohol	1.3306	1.1600	217.93	250	-13
Acrylonitrile	0.2484	0.1805	36.32	50	-27 NTC
trans-1,2-Dichloroethene	0.2858	0.2854	49.94	50	0
Methyl Tertiary Butyl Ether	0.9854	0.8939	45.35	50	-9
n-Hexane	0.4732	0.4287	45.29	50	-9
1,2-Dichloroethene (total)	0.2992	0.2976	99.47	100	-1
# 1,1-Dichloroethane	0.5549	0.4866	43.85	50	-12 #
di-Isopropyl Ether	1.0144	0.7742	38.16	50	-24 NTC
2-Chloro-1,3-Butadiene	0.4669	0.4217	45.16	50	-10
Ethyl t-Butyl Ether	0.9723	0.8084	41.57	50	-17
cis-1,2-Dichloroethene	0.3127	0.3097	49.53	50	-1
2-Butanone	0.3320	0.2403	72.37	100	-28 NTC
2,2-Dichloropropane	0.4339	0.4185	48.22	50	-4
Propionitrile	1.2867	1.0547	204.93	250	-18
Methacrylonitrile	0.2154	0.1929	111.99	125	-10

Minimum RRF for SPCC(=)0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(=)20%

65K06 0096

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 11/10/11 Time: 16:20
 Lab File ID: yn10c05.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
Bromochloromethane	0.1545	0.1668	53.98	50	8	
Tetrahydrofuran	1.1318	0.8971	79.26	100	-21	NTC
* Chloroform	0.5060	0.4953	48.95	50	-2	*
1,1,1-Trichloroethane	0.5020	0.4719	47.01	50	-6	
Cyclohexane	0.5684	0.4939	43.44	50	-13	
Cyclohexane(mz 84)	0.4638	0.4638	50.00	50	0	
Cyclohexane(mz 69)	0.1707	0.1614	47.26	50	-5	
1,1-Dichloropropene	0.4198	0.3915	46.63	50	-7	
Carbon Tetrachloride	0.3729	0.3958	53.07	50	6	
Isobutyl Alcohol	0.3898	0.3185	510.74	625	-18	
Benzene	1.2446	1.1493	46.17	50	-8	
1,2-Dichloroethane	0.4424	0.4235	47.87	50	-4	
1,2-Dichloroethane(mz 98)	0.0383	0.0383	50.06	50	0	
t-Amyl Methyl Ether	0.8999	0.7996	44.43	50	-11	
n-Heptane	0.5153	0.4238	41.12	50	-18	
n-Butanol	0.3282	0.2855	1087.45	1250	-13	
Trichloroethene	0.3137	0.3130	49.88	50	0	
* 1,2-Dichloropropane	0.3360	0.2870	42.71	50	-15	*
Methylcyclohexane(mz98)	0.2496	0.2680	53.68	50	7	
Methylcyclohexane	0.5681	0.5785	50.91	50	2	
Methyl Methacrylate	0.3240	0.2923	45.10	50	-10	
Dibromomethane	0.2036	0.2007	49.26	50	-1	
1,4-Dioxane	0.0856	0.1031	752.51	625	20	
Bromodichloromethane	0.3762	0.3721	49.46	50	-1	
2-Nitropropane	0.1465	0.1255	85.65	100	-14	
2-Chloroethyl Vinyl Ether	0.2321	0.2089	44.99	50	-10	
cis-1,3-Dichloropropene	0.4876	0.4513	46.28	50	-7	
4-Methyl-2-Pentanone	0.5978	0.4515	75.53	100	-24	NTC
* Toluene	1.0871	1.0237	47.08	50	-6	*
trans-1,3-Dichloropropene	0.6444	0.5842	45.33	50	-9	
Ethyl Methacrylate	0.6368	0.5637	44.26	50	-11	
1,1,2-Trichloroethane	0.4082	0.3957	48.47	50	-3	
Tetrachloroethene	0.4798	0.5060	52.73	50	5	
1,3-Dichloropropane	0.7261	0.6517	44.88	50	-10	
2-Hexanone	0.6433	0.4813	74.81	100	-25	NTC
Dibromochloromethane	0.4031	0.4222	52.37	50	5	

Minimum RRF for SPCC(##)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

CSK06 0097

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP09355 Calibration Date: 11/10/11 Time: 16:20

Lab File ID: yn10c05.d Init. Calib. Date(s): 10/31/11 10/31/11

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,2-Dibromoethane	0.4279	0.4273	49.92	50	0
# Chlorobenzene	1.2191	1.2116	49.69	50	-1 #
1,1,1,2-Tetrachloroethane	0.4044	0.4213	52.09	50	4
* Ethylbenzene	2.0671	2.0016	48.42	50	-3 *
m+p-Xylene	0.8212	0.8226	100.17	100	0
Xylene (Total)	0.8165	0.8144	149.60	150	0
o-Xylene	0.8071	0.7980	49.43	50	-1
Styrene	1.2928	1.3258	51.28	50	3
# Bromoform	0.3046	0.3293	54.05	50	8 #
Isopropylbenzene	2.0677	2.1362	51.66	50	3
Cyclohexanone	0.3633	0.3280	564.18	625	-10
# 1,1,2,2-Tetrachloroethane	1.1501	1.0290	44.74	50	-11 #
trans-1,4-Dichloro-2-Butene	0.4077	0.3230	99.03	125	-21 NTL
Bromobenzene	0.8490	0.8431	49.65	50	-1
1,2,3-Trichloropropane	0.3601	0.3415	47.41	50	-5
n-Propylbenzene	4.0992	3.8607	47.09	50	-6
2-Chlorotoluene	0.8427	0.8263	49.03	50	-2
1,3,5-Trimethylbenzene	3.0092	2.9487	48.99	50	-2
4-Chlorotoluene	0.8867	0.8523	48.06	50	-4
tert-Butylbenzene	0.6588	0.6674	50.65	50	1
Pentachloroethane	0.4983	0.5304	53.21	50	6
1,2,4-Trimethylbenzene	3.0537	3.0374	49.73	50	-1
sec-Butylbenzene	3.7093	3.7774	50.92	50	2
p-Isopropyltoluene	3.3263	3.4359	51.65	50	3
1,3-Dichlorobenzene	1.7141	1.7316	50.51	50	1
1,4-Dichlorobenzene	1.7944	1.7992	50.13	50	0
1,2,3-Trimethylbenzene	3.1002	3.0614	49.37	50	-1
Benzyl Chloride	2.2686	2.1951	48.38	50	-3
1,3-Diethylbenzene	1.9165	1.9690	51.37	50	3
1,4-Diethylbenzene	2.0592	2.0987	50.96	50	2
n-Butylbenzene	1.7510	1.6908	48.28	50	-3
1,2-Dichlorobenzene	1.7343	1.7448	50.30	50	1
1,2-Diethylbenzene	1.6750	1.7135	51.15	50	2
1,2-Dibromo-3-Chloropropane	0.3213	0.3008	46.82	50	-6
1,3,5-Trichlorobenzene	1.3566	1.4898	54.91	50	10
1,2,4-Trichlorobenzene	1.2407	1.3389	53.96	50	8

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

63K06 0090

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP09355 Calibration Date: 11/10/11 Time: 16:20
 Lab File ID: yn10c05.d Init. Calib. Date(s): 10/31/11 10/31/11
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Hexachlorobutadiene	0.5748	0.6336	55.11	50	10
Naphthalene	4.0119	4.4479	55.43	50	11
1,2,3-Trichlorobenzene	1.2429	1.3340	53.66	50	7
2-Methylnaphthalene	2.2252	2.5235	53.63	50	7
Dibromofluoromethane	0.2282	0.2402	52.61	50	5
Dibromofluoromethane(mz111)	0.2332	0.2445	52.43	50	5
1,2-Dichloroethane-d4	0.0603	0.0619	51.33	50	3
1,2-Dichloroethane-d4 (mz104)	0.0383	0.0404	52.81	50	6
1,2-Dichloroethane-d4 (mz65)	0.3123	0.2992	47.90	50	-4
Toluene-d8 (mz100)	0.8969	0.8858	49.38	50	-1
4-Bromofluorobenzene (mz174)	0.4229	0.4665	55.16	50	10
Toluene-d8	1.3915	1.3624	48.95	50	-2
4-Bromofluorobenzene	0.5213	0.5165	49.54	50	-1

Average %Drift 8

Minimum RRF for SPCC(=)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
 Maximum %Drift for CCC(*)=20%

68K86 8899

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP09355.i/11oct31c.b/yc31i06.d
/chem2/HP09355.i/11oct31c.b/yc31i05.d
/chem2/HP09355.i/11oct31c.b/yc31i04.d
/chem2/HP09355.i/11oct31c.b/yc31i03.d
/chem2/HP09355.i/11oct31c.b/yc31i02.d
/chem2/HP09355.i/11oct31c.b/yc31i01.d

File /chem2/HP09355.i/11oct31c.b/yc31i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09355.i/11nov10b.b/yn10c05.d

RT Summary

File ID:

=====

Internal Standard Name	yn10c05.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	2.133	2.133	Yes
Fluorobenzene	4.268	4.262	Yes
Chlorobenzene-d5	7.450	7.444	Yes
1,4-Dichlorobenzene-d4	9.446	9.439	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	yn10c05.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	449422	549260	274630	1098520	Yes
Fluorobenzene	1135050	1399426	699713	2798852	Yes
Chlorobenzene-d5	843985	997257	498628	1994514	Yes
1,4-Dichlorobenzene-d4	557412	602110	301055	1204220	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

63K06 8109

Comments: _____

report generated on 11/10/2011 at 16:38

GSK06 0161

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK06
 Lab File ID (Standard): ynl0c05.d Date Analyzed: 11/10/11
 Instrument ID: HP09355 Time Analyzed: 16:20
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1135050	4.268	843985	7.450	557412	9.446	449422	2.133
UPPER LIMIT	2270100	4.768	1687970	7.950	1114824	9.946	898844	2.633
LOWER LIMIT	567525	3.768	421992	6.950	278706	8.946	224711	1.633
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE								
ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
01 VBLKY84	1012326	4.262	738141	7.444	437223	9.440	382002	2.133
02 LCSY84	1092016	4.262	796516	7.444	512826	9.440	367137	2.139
03 LCDY84	1185312	4.262	859189	7.444	542900	9.439	409621	2.139
04 LCS1Y84	1143001	4.256	822347	7.444	479661	9.440	414929	2.133
05 LCD1Y84	1091584	4.256	789468	7.444	456372	9.440	398822	2.127
06 6463885	1002941	4.262	736133	7.444	439982	9.440	351937	2.133
07 6463894	983224	4.262	711071	7.444	429481	9.439	336927	2.139
08 6465505	953312	4.262	708911	7.444	422709	9.440	336827	2.127
09 6465506	947373	4.262	690219	7.444	413253	9.439	330490	2.127
10 6464740	926020	4.262	682594	7.444	413266	9.439		
11 6464820	913446	4.262	671318	7.444	407596	9.440		
12 6462384	893494	4.262	655071	7.444	399669	9.440	327741	2.133
13 6462385	896439	4.262	661519	7.444	402777	9.440	309577	2.133
14 6463613	905869	4.256	666816	7.444	407018	9.440	316439	2.121
15 6463614	867267	4.262	639966	7.444	390167	9.439	294980	2.127
16 6465254	854303	4.262	630460	7.444	381909	9.439	297471	2.127
17 6465255	868122	4.262	642286	7.444	390174	9.440	294128	2.133
18 6462256	936876	4.256	688829	7.444	440775	9.440	322505	2.133
19 6462257	916957	4.262	666973	7.444	416349	9.440	307083	2.133
20 6462258	932683	4.256	682273	7.444	433697	9.440	268212	2.127
21 6462259	887319	4.256	648810	7.444	392232	9.439	348880	2.133
22 6459302	942704	4.262	730992	7.438	448359	9.434		

IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

GSK06 8154

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: GSK06____
 Lab File ID (Standard): ynl0c05.d Date Analyzed: 11/10/11
 Instrument ID: HP09355 Time Analyzed: 16:20
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

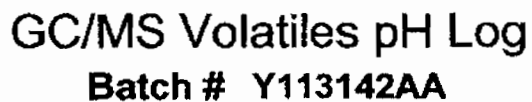
	IS1 (FBZ)		IS2 (CBZ)		IS3 (DCB)		IS4 (TBA)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1135050	4.268	843985	7.450	557412	9.446	449422	2.133
UPPER LIMIT	2270100	4.768	1687970	7.950	1114824	9.946	898844	2.633
LOWER LIMIT	567525	3.768	421992	6.950	278706	8.946	224711	1.633
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
23 6459624RE	1010505	4.262	752269	7.438	497328	9.440	106226 *	2.206

Wt LA
SDG

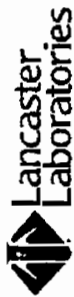
IS1 (FBZ)=Fluorobenzene
 IS2 (CBZ)=Chlorobenzene-d5
 IS3 (DCB)=1,4-Dichlorobenzene-d4
 IS4 (TBA)=t-Butyl Alcohol-d10

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.



2284 2285



VOA Prep Summary by SDG: GSK06
21 - GC/MS Volatiles

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	Final Extraction Vol (mL)	Problem Codes
6465507	169A	07578	11376746	N	11/09/11 09:56	11/10/11 14:13	28.89 g	33.70 g	4.81 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6465507	193A	08389	11379412	Y	11/09/11 09:56	11/10/11 14:14	33.12 g	37.80 g	4.68 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465507	193B	08389	11379411	N	11/09/11 09:56	11/10/11 14:14	33.14 g	37.80 g	4.66 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465508	169A	07578	11376750	N	11/09/11 10:13	11/10/11 14:15	29.16 g	34.23 g	5.07 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6465508	193A	08389	11379416	N	11/09/11 10:13	11/10/11 14:15	32.99 g	37.91 g	4.92 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465508	193B	08389	11379415	Y	11/09/11 10:13	11/10/11 14:16	33.32 g	38.38 g	5.06 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465509	169A	07578	11376780	N	11/09/11 10:39	11/10/11 14:17	28.93 g	33.40 g	4.47 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6465509	193A	08389	11379414	N	11/09/11 10:39	11/10/11 14:17	33.09 g	37.64 g	4.55 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465509	193B	08389	11379413	Y	11/09/11 10:39	11/10/11 14:17	33.04 g	37.70 g	4.66 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465510	169A	07578	11376748	N	11/09/11 10:57	11/10/11 14:18	28.96 g	34.34 g	5.38 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6465510	193A	08389	11379408	N	11/09/11 10:57	11/10/11 14:19	33.00 g	38.54 g	5.54 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6465510	193B	08389	11379407	Y	11/09/11 10:57	11/10/11 14:19	33.17 g	38.43 g	5.26 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465511	169A	07578	11376749	N	11/09/11 11:21	11/10/11 14:20	28.90 g	33.73 g	4.83 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6465511	193A	08389	11379410	Y	11/09/11 11:21	11/10/11 14:21	33.16 g	37.85 g	4.69 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465511	193B	08389	11379409	N	11/09/11 11:21	11/10/11 14:21	33.00 g	38.44 g	5.44 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465512	169A	07578	11376747	N	11/09/11 11:37	11/10/11 14:22	28.98 g	34.65 g	5.67 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6465512	193A	08389	11379406	Y	11/09/11 11:37	11/10/11 14:22	33.20 g	38.91 g	5.71 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6465512	193B	08389	11379405	N	11/09/11 11:37	11/10/11 14:23	33.07 g	38.92 g	5.85 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6465513	169A	07578	11376744	N	11/09/11 11:59	11/10/11 14:24	28.75 g	34.25 g	5.50 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6465513	193A	08389	11379400	Y	11/09/11 11:59	11/10/11 14:24	33.27 g	38.37 g	5.10 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465513	193B	08389	11379399	N	11/09/11 11:59	11/10/11 14:25	33.30 g	38.74 g	5.44 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465514	169A	07578	11376741	N	11/09/11 12:17	11/10/11 14:26	29.01 g	34.78 g	5.77 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6465514	193A	08389	11379402	N	11/09/11 12:17	11/10/11 14:26	33.14 g	39.06 g	5.92 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6465514	193B	08389	11379401	Y	11/09/11 12:17	11/10/11 14:26	33.31 g	39.05 g	5.74 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A

Final Extraction Vol (mL) = Preservative Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt does not meet requirements
D = sampler not full

B = vial leaked
C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)
E = effervescence observed
F = pH >= 2
G = headspace in container

VOA Prep Summary by SDG: GSK06 21 - GC/MS Volatiles

Sample Number	Bottle Code	Prep Analysis#	Vial ID	Used for Analysis?	Collected	Prepared	Initial Weight	Final Weight	Net soil weight	Weight requirement	Meets requirements?	Preserv. lot #	Preservative (volume)	Final Extraction Vol (mL)	Problem Codes
6465515	169A	07578	11376765	N	11/09/11 12:47	11/10/11 14:28	29.06 g	33.90 g	4.84 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6465515	193A	08389	11379404	Y	11/09/11 12:47	11/10/11 14:29	33.05 g	38.30 g	5.25 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465515	193B	08389	11379403	N	11/09/11 12:47	11/10/11 14:29	33.22 g	38.51 g	5.29 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465516	169A	07578	11376782	N	11/09/11 13:01	11/10/11 14:30	29.14 g	35.06 g	5.92 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6465516	193A	08389	11379394	N	11/09/11 13:01	11/10/11 14:31	33.07 g	38.96 g	5.89 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6465516	193B	08389	11379393	Y	11/09/11 13:01	11/10/11 14:31	33.11 g	38.94 g	5.83 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6465517	169A	07578	11376784	N	11/09/11 13:37	11/10/11 14:33	28.52 g	33.28 g	4.74 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6465517	193A	08389	11379395	Y	11/09/11 13:37	11/10/11 14:34	33.02 g	37.77 g	4.75 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465517	193B	08389	11379396	N	11/09/11 13:37	11/10/11 14:34	33.12 g	37.73 g	4.61 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465518	169A	07578	11376803	N	11/09/11 13:51	11/10/11 14:35	28.84 g	34.00 g	5.16 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6465518	193A	08389	11379388	N	11/09/11 13:51	11/10/11 14:36	33.01 g	38.43 g	5.42 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465518	193B	08389	11379387	Y	11/09/11 13:51	11/10/11 14:36	33.08 g	38.33 g	5.25 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465519	169A	07578	11376768	N	11/09/11 14:16	11/10/11 14:38	29.20 g	34.07 g	4.87 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6465519	193A	08389	11379390	Y	11/09/11 14:16	11/10/11 14:38	33.29 g	38.19 g	4.90 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465519	193B	08389	11379389	N	11/09/11 14:16	11/10/11 14:38	33.16 g	37.95 g	4.79 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465520	169A	07578	11376770	N	11/09/11 14:31	11/10/11 14:40	28.94 g	34.28 g	5.32 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6465520	193A	08389	11379398	Y	11/09/11 14:31	11/10/11 14:41	33.09 g	38.63 g	5.54 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6465520	193B	08389	11379397	N	11/09/11 14:31	11/10/11 14:42	33.09 g	38.78 g	5.69 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6465521	169A	07578	11376800	N	11/09/11 15:04	11/10/11 14:43	28.97 g	34.16 g	5.19 g	4.50 g - 5.50 g	Y	112941	MeOH w/surrogate (5 mL)	5.000	
6465521	193A	08389	11379392	Y	11/09/11 15:04	11/10/11 14:43	33.11 g	38.31 g	5.20 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465521	193B	08389	11379391	N	11/09/11 15:04	11/10/11 14:44	33.04 g	38.29 g	5.25 g	4.50 g - 5.50 g	Y	1131301	NaHSO4 (5 mL)	5.000	
6465522	169A	07578	11376797	N	11/09/11 15:21	11/10/11 14:45	29.24 g	35.71 g	6.47 g	4.50 g - 5.50 g	N	112941	MeOH w/surrogate (5 mL)	5.000	A
6465522	193A	08389	11379382	N	11/09/11 15:21	11/10/11 14:45	33.10 g	39.55 g	6.45 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A
6465522	193B	08389	11379381	Y	11/09/11 15:21	11/10/11 14:46	32.92 g	39.11 g	6.19 g	4.50 g - 5.50 g	N	1131301	NaHSO4 (5 mL)	5.000	A

Final Extraction Vol (mL) = Preservative Vol + Added MeOH (if applicable)

KEY to problem codes:

A = wt. does not meet requirements
D = sampler not full

B = vial leaked
E = effervescence observed
C# where # = volume of MeOH added in mL due to sample not covered/matrix (lot #)
F = pH >= 2
G = headspace in container

Moisture Data



CLIENT: Groundwater Science Co
SDG: GSK06

MOISTURE

SAMPLE NUMBERS:

<u>Sample #</u>	<u>Sample Code</u>
6465507	O2C04
6465508	O2C13
6465509	O2E04
6465510	O2E13
6465511	O2H04
6465512	O2H13
6465513	O2D04
6465514	O2D13
6465515	O2A04
6465516	O2A13
6465517	O2G04
6465518	O2G13
6465519	O2F04
6465520	O2F13
6465521	O2B04
6465522	O2B13

COMMENTS:

Due to limitations of the data package software, Form I's are unavailable for wet chemistry data. Please refer to analysis reports for this information.

The moisture value calculation is:

$$\% \text{ moisture} = \frac{A - B}{C} \times 100$$

Where: A = weight of sample and container before drying
B = weight of sample and container after drying
C = weight of sample before drying

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>LCS</u> <u>%REC</u>	<u>LCSD</u> <u>%REC</u>	<u>LCS/LCSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 11318820006A					
Moisture	100		99-101		

Sample Matrix Quality Control

<u>Analysis Name</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 11318820006A				
Moisture	16.0	16.0	0	15

GSK06 8617

* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.



CLIENT: Groundwater Science Co
SDG: GSK06

MOISTURE

Moisture Data Report

Batch #: 11318820006

Sample ID	Batch ID	Analysis#	Tare Wt	Sample Wt	Dry Wt	%Moisture	Analysis Date (Emp#)	Verified Date (Emp#)
LCS 89.5% Std.			1.0880	5.0463	1.6355	89.15	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465507	A	00111	1.1156	8.3872	6.8750	31.33	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465508	A	00111	1.0815	9.1362	7.4358	30.45	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465509	A	00111	1.0844	8.0052	6.1413	36.83	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465510	A	00111	1.1037	9.9711	8.7094	23.72	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465511	A	00111	1.1267	9.1976	6.5654	40.87	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465512BKG	A	00111	1.1035	8.3825	8.1487	15.95	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465512DUP	A	00111	1.1235	8.2206	8.0286	16.00	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465513	A	00111	1.0830	9.7664	8.7143	21.86	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465514	A	00111	1.0896	6.6462	6.4389	19.51	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465515	A	00111	1.0974	7.1738	6.8382	19.98	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465516	A	00111	1.0864	8.1319	8.1012	13.74	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465517	A	00111	1.1155	7.5986	6.2288	32.71	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465518	A	00111	1.0815	8.6185	7.7316	22.84	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465519	A	00111	1.1050	8.5258	6.9806	31.08	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465520	A	00111	1.0755	6.4747	6.0000	23.94	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465521	A	00111	1.1281	8.0818	6.9879	27.49	11/14/11 (1201/SWF11/15/11 (0236/CW)	
6465522	A	00111	1.1070	9.0520	9.0506	12.24	11/14/11 (1201/SWF11/15/11 (0236/CW)	

GSK06-0618

Analysis Report



Page 1 of 2

Sample Description: TTBA11091109 Water
Tech City Surficial Soils

LLI Sample # WW 6465505
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011

Groundwater Science Co

Submitted: 11/10/2011 09:00

560 Route 53

Reported: 11/21/2011 16:37

Suite 202

Beacon NY 12508

TCTB9 SDG#: GSK06-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-57-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	108-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK06-0010

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

2216 Rev. 3/27/06

Analysis Report



Page 2 of 2

Sample Description: TTBA11091109 Water
Tech City Surficial Soils

LLI Sample # WW 6465505
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011

Groundwater Science Co

Submitted: 11/10/2011 09:00

550 Route 53

Reported: 11/21/2011 16:37

Suite 202

Beacon NY 12508

TCTB9 SDG#: GSK06-01TB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113142AA	11/10/2011 20:43	Frank A Valla, Jr	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113142AA	11/10/2011 20:43	Frank A Valla, Jr	1

GSK06 0611

Analysis Report



Page 1 of 2

Sample Description: TEQ11109SHVL Water
Tech City Surficial Soils

LLI Sample # WW 6465506
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 08:51 by DAB

Groundwater Science Co

Submitted: 11/10/2011 09:00

560 Route 53

Reported: 11/21/2011 16:37

Suite 202

Beacon NY 12508

TCEB9 SDG#: GSK06-02EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10904	Benzene	71-43-2	N.D.	0.5	5	1
10904	Benzyl Chloride	100-44-7	N.D.	1	5	1
10904	Bromobenzene	108-86-1	N.D.	1	5	1
10904	Bromodichloromethane	75-27-4	N.D.	1	5	1
10904	Bromoform	75-25-2	N.D.	1	5	1
10904	Bromomethane	74-83-9	N.D.	1	5	1
10904	Carbon Tetrachloride	56-23-5	N.D.	1	5	1
10904	Chlorobenzene	108-90-7	N.D.	0.8	5	1
10904	Chloroethane	75-00-3	N.D.	1	5	1
10904	Chloroform	67-66-3	N.D.	0.8	5	1
10904	Chloromethane	74-87-3	N.D.	1	5	1
10904	2-Chlorotoluene	95-49-8	N.D.	1	5	1
10904	4-Chlorotoluene	106-43-4	N.D.	1	5	1
10904	Dibromochloromethane	124-48-1	N.D.	1	5	1
10904	Dibromomethane	74-95-3	N.D.	1	5	1
10904	1,2-Dichlorobenzene	95-50-1	N.D.	1	5	1
10904	1,3-Dichlorobenzene	541-73-1	N.D.	1	5	1
10904	1,4-Dichlorobenzene	106-46-7	N.D.	1	5	1
10904	Dichlorodifluoromethane	75-71-8	N.D.	2	5	1
10904	1,1-Dichloroethane	75-34-3	N.D.	1	5	1
10904	1,2-Dichloroethane	107-06-2	N.D.	1	5	1
10904	1,1-Dichloroethene	75-35-4	N.D.	0.8	5	1
10904	1,2-Dichloroethene (Total)	540-59-0	N.D.	0.8	5	1
10904	1,2-Dichloropropane	78-87-5	N.D.	1	5	1
10904	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	5	1
10904	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	5	1
10904	Ethylbenzene	100-41-4	N.D.	0.8	5	1
10904	Freon 113	76-13-1	N.D.	2	10	1
10904	Freon 123a	354-23-4	N.D.	2	5	1
10904	Methylene Chloride	75-09-2	N.D.	2	5	1
10904	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	5	1
10904	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	5	1
10904	Tetrachloroethene	127-18-4	N.D.	0.8	5	1
10904	Toluene	106-88-3	N.D.	0.7	5	1
10904	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	5	1
10904	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	5	1
10904	Trichloroethene	79-01-6	N.D.	1	5	1
10904	Trichlorofluoromethane	75-69-4	N.D.	2	5	1
10904	1,2,3-Trichloropropane	96-18-4	N.D.	1	5	1
10904	Vinyl Chloride	75-01-4	N.D.	1	5	1
10904	Xylene (Total)	1330-20-7	N.D.	0.8	5	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

GSK06 0012

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report



Page 2 of 2

Sample Description: TEQ11109SHVL Water
Tech City Surficial Soils

LLI Sample # WW 6465506
LLI Group # 1275716
Account # 06911

Project Name: TechCity Surficial Soil

Collected: 11/09/2011 08:51 by DAB

Groundwater Science Co

560 Route 53

Submitted: 11/10/2011 09:00

Suite 202

Reported: 11/21/2011 16:37

Beacon NY 12508

TCEB9 SDG#: GSK06-02EB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10904	Volatiles by 8260B	SW-846 8260B	1	Y113142AA	11/10/2011 21:04	Frank A Valle, Jr	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y113142AA	11/10/2011 21:04	Frank A Valle, Jr	1

GSK06 0013

ATTACHMENT E
PROJECT CORRESPONDENCE

No Project Correspondence associated with this SDG

Appendix C
Surficial Soil Data Summary and
Evaluation (Tabular Summaries)

Appendix C: Summary of Surficial Soil Sampling Results
TechCity Site
Operable Unit: OU2

Parameter Name	Reporting Units	Analytical Method	CAS Number	6NYCRR Part 375-6.8(b) SCO COMMERCIAL ug/kg	OU2: SS-A		OU2: SS-B		OU2: SS-C		OU2: SS-D		OU2: SS-E	
					Surface 11/9/2011 OU02A0411109 LabID: 6465515 Dry Result	1 foot 11/9/2011 OU02A1311109 LabID: 6465516 Dry Result	Surface 11/9/2011 OU02B0411109 LabID: 6465521 Dry Result	1 foot 11/9/2011 OU02B1311109 LabID: 6465522 Dry Result	Surface 11/9/2011 OU02C0411109 LabID: 6465507 Dry Result	1 foot 11/9/2011 OU02C1311109 LabID: 6465508 Dry Result	Surface 11/9/2011 OU02D0411109 LabID: 6465513 Dry Result	1 foot 11/9/2011 OU02D1311109 LabID: 6465514 Dry Result	Surface 11/9/2011 OU02E0411109 LabID: 6465509 Dry Result	1 foot 11/9/2011 OU02E1311109 LabID: 6465510 Dry Result
Benzene	ug/kg	SW-846 8260B	71-43-2	44,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Benzyl Chloride	ug/kg	SW-846 8260B	100-44-7	NS	ND@5	ND@4	ND@5	ND@4	ND@6	ND@6	ND@5	ND@4	ND@7	ND@5
Bromobenzene	ug/kg	SW-846 8260B	108-86-1	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Bromodichloromethane	ug/kg	SW-846 8260B	75-27-4	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Bromoform	ug/kg	SW-846 8260B	75-25-2	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Bromomethane	ug/kg	SW-846 8260B	74-83-9	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Carbon Tetrachloride	ug/kg	SW-846 8260B	56-23-5	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Chlorobenzene	ug/kg	SW-846 8260B	108-90-7	500,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Chloroethane	ug/kg	SW-846 8260B	75-00-3	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Chloroform	ug/kg	SW-846 8260B	67-66-3	350,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Chloromethane	ug/kg	SW-846 8260B	74-87-3	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
2-Chlorotoluene	ug/kg	SW-846 8260B	95-49-8	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
4-Chlorotoluene	ug/kg	SW-846 8260B	106-43-4	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Dibromochloromethane	ug/kg	SW-846 8260B	124-48-1	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Dibromomethane	ug/kg	SW-846 8260B	74-95-3	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,2-Dichlorobenzene	ug/kg	SW-846 8260B	95-50-1	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,3-Dichlorobenzene	ug/kg	SW-846 8260B	541-73-1	280,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,4-Dichlorobenzene	ug/kg	SW-846 8260B	106-46-7	130,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Dichlorodifluoromethane	ug/kg	SW-846 8260B	75-71-8	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,1-Dichloroethane	ug/kg	SW-846 8260B	75-34-3	240,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,2-Dichloroethane	ug/kg	SW-846 8260B	107-06-2	30,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,1-Dichloroethene	ug/kg	SW-846 8260B	75-35-4	500,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,2-Dichloroethene (Total)	ug/kg	SW-846 8260B	540-59-0	500,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,2-Dichloropropane	ug/kg	SW-846 8260B	78-87-5	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
cis-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-01-5	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
trans-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-02-6	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Ethylbenzene	ug/kg	SW-846 8260B	100-41-4	390,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Freon 113	ug/kg	SW-846 8260B	76-13-1	NS	ND@12	ND@10	ND@13	ND@9	ND@16	ND@14	ND@13	ND@11	ND@17	ND@12
Freon 123a	ug/kg	SW-846 8260B	354-23-4	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Methylene Chloride	ug/kg	SW-846 8260B	75-09-2	500,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,1,1,2-Tetrachloroethane	ug/kg	SW-846 8260B	630-20-6	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,1,2,2-Tetrachloroethane	ug/kg	SW-846 8260B	79-34-5	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Tetrachloroethene	ug/kg	SW-846 8260B	127-18-4	150,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Toluene	ug/kg	SW-846 8260B	108-88-3	500,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,1,1-Trichloroethane	ug/kg	SW-846 8260B	71-55-6	500,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,1,2-Trichloroethane	ug/kg	SW-846 8260B	79-00-5	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Trichloroethene	ug/kg	SW-846 8260B	79-01-6	200,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Trichlorofluoromethane	ug/kg	SW-846 8260B	75-69-4	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
1,2,3-Trichloropropane	ug/kg	SW-846 8260B	96-18-4	NS	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Vinyl Chloride	ug/kg	SW-846 8260B	75-01-4	13,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Xylene (Total)	ug/kg	SW-846 8260B	1330-20-7	500,000	ND@6	ND@5	ND@7	ND@5	ND@8	ND@7	ND@6	ND@5	ND@8	ND@6
Moisture	%	SM20 2540 G	NA	NA	20.0	13.7	27.5	12.2	31.3	30.4	21.9	19.5	36.8	23.7

Notes:
NA = Not Applicable
NS = No SCO
ND = Not Detected at Dry Limit of Quantitation
Surface Sample collected at nominal 2-3 inches below grade
1 Foot Sample collected at nominal 12-inches below grade

Appendix C: Summary of Surficial Soil Sampling Results
TechCity Site
Operable Unit: OU2

Parameter Name	Reporting Units	Analytical Method	CAS Number	6NYCRR Part 375-6.8(b) SCO COMMERCIAL ug/kg	OU2: SS-F		OU2: SS-G		OU2: SS-H	
					Surface 11/9/2011 OU02F0411109 LabID: 6465519 Dry Result	1 foot 11/9/2011 OU02F1311109 LabID: 6465520 Dry Result	Surface 11/9/2011 OU02G0411109 LabID: 6465517 Dry Result	1 foot 11/9/2011 OU02G1311109 LabID: 6465518 Dry Result	Surface 11/9/2011 OU02H0411109 LabID: 6465511 Dry Result	1 foot 11/9/2011 OU02H1311109 LabID: 6465512 Dry Result
Benzene	ug/kg	SW-846 8260B	71-43-2	44,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Benzyl Chloride	ug/kg	SW-846 8260B	100-44-7	NS	ND@6	ND@5	ND@6	ND@5	ND@7	ND@4
Bromobenzene	ug/kg	SW-846 8260B	108-86-1	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Bromodichloromethane	ug/kg	SW-846 8260B	75-27-4	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Bromoform	ug/kg	SW-846 8260B	75-25-2	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Bromomethane	ug/kg	SW-846 8260B	74-83-9	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Carbon Tetrachloride	ug/kg	SW-846 8260B	56-23-5	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Chlorobenzene	ug/kg	SW-846 8260B	108-90-7	500,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Chloroethane	ug/kg	SW-846 8260B	75-00-3	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Chloroform	ug/kg	SW-846 8260B	67-66-3	350,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Chloromethane	ug/kg	SW-846 8260B	74-87-3	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
2-Chlorotoluene	ug/kg	SW-846 8260B	95-49-8	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
4-Chlorotoluene	ug/kg	SW-846 8260B	106-43-4	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Dibromochloromethane	ug/kg	SW-846 8260B	124-48-1	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Dibromomethane	ug/kg	SW-846 8260B	74-95-3	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,2-Dichlorobenzene	ug/kg	SW-846 8260B	95-50-1	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,3-Dichlorobenzene	ug/kg	SW-846 8260B	541-73-1	280,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,4-Dichlorobenzene	ug/kg	SW-846 8260B	106-46-7	130,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Dichlorodifluoromethane	ug/kg	SW-846 8260B	75-71-8	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,1-Dichloroethane	ug/kg	SW-846 8260B	75-34-3	240,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,2-Dichloroethane	ug/kg	SW-846 8260B	107-06-2	30,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,1-Dichloroethene	ug/kg	SW-846 8260B	75-35-4	500,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,2-Dichloroethene (Total)	ug/kg	SW-846 8260B	540-59-0	500,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,2-Dichloropropane	ug/kg	SW-846 8260B	78-87-5	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
cis-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-01-5	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
trans-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-02-6	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Ethylbenzene	ug/kg	SW-846 8260B	100-41-4	390,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Freon 113	ug/kg	SW-846 8260B	76-13-1	NS	ND@15	ND@12	ND@16	ND@12	ND@18	ND@10
Freon 123a	ug/kg	SW-846 8260B	354-23-4	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Methylene Chloride	ug/kg	SW-846 8260B	75-09-2	500,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,1,1,2-Tetrachloroethane	ug/kg	SW-846 8260B	630-20-6	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,1,2,2-Tetrachloroethane	ug/kg	SW-846 8260B	79-34-5	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Tetrachloroethene	ug/kg	SW-846 8260B	127-18-4	150,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Toluene	ug/kg	SW-846 8260B	108-88-3	500,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,1,1-Trichloroethane	ug/kg	SW-846 8260B	71-55-6	500,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,1,2-Trichloroethane	ug/kg	SW-846 8260B	79-00-5	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Trichloroethene	ug/kg	SW-846 8260B	79-01-6	200,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Trichlorofluoromethane	ug/kg	SW-846 8260B	75-69-4	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
1,2,3-Trichloropropane	ug/kg	SW-846 8260B	96-18-4	NS	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Vinyl Chloride	ug/kg	SW-846 8260B	75-01-4	13,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Xylene (Total)	ug/kg	SW-846 8260B	1330-20-7	500,000	ND@7	ND@6	ND@8	ND@6	ND@9	ND@5
Moisture	%	SM20 2540 G	NA	NA	31.1	23.9	32.7	22.8	40.9	16.0

Notes:
NA = Not Applicable
NS = No SCO
ND = Not Detected at Dry Limit of Quantitation
Surface Sample collected at nominal 2-3 inches below grade
1 Foot Sample collected at nominal 12-inches below grade

Appendix C: Summary of Surficial Soil Sampling Results
TechCity Site
Operable Unit: OU3

Parameter Name	Reporting Units	Analytical Method	CAS Number	6NYCRR Part 375-6.8(b) SCO COMMERCIAL ug/kg	OU3: SS-A		OU3: SS-B		OU3: SS-C		OU3: SS-D	
					Surface 10/26/2011 OU03A0411026 LabID: 6451500 Dry Result	1 foot 10/26/2011 OU03A1311026 LabID: 6451501 Dry Result	Surface 10/28/2011 OU03B0411028 LabID: 6454507 Dry Result	1 foot 10/28/2011 OU03B1311028 LabID: 6454508 Dry Result	Surface 10/28/2011 OU03C0411028 LabID: 6454511 Dry Result	1 foot 10/28/2011 OU03C1311028 LabID: 6454512 Dry Result	Surface 10/28/2011 OU03D0411028 LabID: 6454509 Dry Result	1 foot 10/28/2011 OU03D1311028 LabID: 6454510 Dry Result
Benzene	ug/kg	SW-846 8260B	71-43-2	44,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Benzyl Chloride	ug/kg	SW-846 8260B	100-44-7	NS	ND@5	ND@4 J	ND@4	ND@4	ND@4	ND@4	ND@5	ND@4
Bromobenzene	ug/kg	SW-846 8260B	108-86-1	NS	ND@6	ND@5 J	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Bromodichloromethane	ug/kg	SW-846 8260B	75-27-4	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Bromoform	ug/kg	SW-846 8260B	75-25-2	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Bromomethane	ug/kg	SW-846 8260B	74-83-9	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Carbon Tetrachloride	ug/kg	SW-846 8260B	56-23-5	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Chlorobenzene	ug/kg	SW-846 8260B	108-90-7	500,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Chloroethane	ug/kg	SW-846 8260B	75-00-3	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Chloroform	ug/kg	SW-846 8260B	67-66-3	350,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Chloromethane	ug/kg	SW-846 8260B	74-87-3	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
2-Chlorotoluene	ug/kg	SW-846 8260B	95-49-8	NS	ND@6	ND@5 J	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
4-Chlorotoluene	ug/kg	SW-846 8260B	106-43-4	NS	ND@6	ND@5 J	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Dibromochloromethane	ug/kg	SW-846 8260B	124-48-1	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Dibromomethane	ug/kg	SW-846 8260B	74-95-3	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
1,2-Dichlorobenzene	ug/kg	SW-846 8260B	95-50-1	NS	ND@6	ND@5 J	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
1,3-Dichlorobenzene	ug/kg	SW-846 8260B	541-73-1	280,000	ND@6	ND@5 J	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
1,4-Dichlorobenzene	ug/kg	SW-846 8260B	106-46-7	130,000	ND@6	ND@5 J	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Dichlorodifluoromethane	ug/kg	SW-846 8260B	75-71-8	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
1,1-Dichloroethane	ug/kg	SW-846 8260B	75-34-3	240,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
1,2-Dichloroethane	ug/kg	SW-846 8260B	107-06-2	30,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
1,1-Dichloroethene	ug/kg	SW-846 8260B	75-35-4	500,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
1,2-Dichloroethene (Total)	ug/kg	SW-846 8260B	540-59-0	500,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
1,2-Dichloropropane	ug/kg	SW-846 8260B	78-87-5	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
cis-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-01-5	NS	ND@6 J	ND@5	ND@5 J	ND@5 J	ND@5 J	ND@5 J	ND@6 J	ND@5 J
trans-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-02-6	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Ethylbenzene	ug/kg	SW-846 8260B	100-41-4	390,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Freon 113	ug/kg	SW-846 8260B	76-13-1	NS	ND@11	ND@10	ND@10	ND@10	ND@11	ND@10	ND@11	ND@10
Freon 123a	ug/kg	SW-846 8260B	354-23-4	NS	ND@6 J	ND@5	ND@5 J	ND@5 J	ND@5 J	ND@5 J	ND@6 J	ND@5 J
Methylene Chloride	ug/kg	SW-846 8260B	75-09-2	500,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
1,1,1,2-Tetrachloroethane	ug/kg	SW-846 8260B	630-20-6	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
1,1,2,2-Tetrachloroethane	ug/kg	SW-846 8260B	79-34-5	NS	ND@6	ND@5 J	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Tetrachloroethene	ug/kg	SW-846 8260B	127-18-4	150,000	ND@6	ND@5	ND@5	3 J	ND@5	ND@5	ND@6	ND@5
Toluene	ug/kg	SW-846 8260B	108-88-3	500,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
1,1,1-Trichloroethane	ug/kg	SW-846 8260B	71-55-6	500,000	ND@6	ND@5	6	24	ND@5	ND@5	ND@6	ND@5
1,1,2-Trichloroethane	ug/kg	SW-846 8260B	79-00-5	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Trichloroethene	ug/kg	SW-846 8260B	79-01-6	200,000	ND@6	ND@5	10	31	ND@5	ND@5	ND@6	ND@5
Trichlorofluoromethane	ug/kg	SW-846 8260B	75-69-4	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
1,2,3-Trichloropropane	ug/kg	SW-846 8260B	96-18-4	NS	ND@6	ND@5 J	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Vinyl Chloride	ug/kg	SW-846 8260B	75-01-4	13,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Xylene (Total)	ug/kg	SW-846 8260B	1330-20-7	500,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5
Moisture	%	SM20 2540 G	NA	NA	14.3	10.6	14.6	9.9	9.7	10.9	19.8	11.9

Notes:
NA = Not Applicable
NS = No SCO
ND = Not Detected at Dry Limit of Quantitation
Surface Sample collected at nominal 2-3 inches below grade
1 Foot Sample collected at nominal 12-inches below grade

Appendix C: Summary of Surficial Soil Sampling Results
TechCity Site
Operable Unit: OU3a

Parameter Name	Reporting Units	Analytical Method	CAS Number	6NYCRR Part 375-6.8(b) SCO COMMERCIAL ug/kg	OU3a: SS-A		OU3a: SS-B		OU3a: SS-C		OU3a: SS-D		OU3a: SS-E	
					Surface 10/26/2011 OU3AA0411026 LabID: 6451485 Dry Result	1 foot 10/26/2011 OU3AA1311026 LabID: 6451486 Dry Result	Surface 10/26/2011 OU3AB0411026 LabID: 6451483 Dry Result	1 foot 10/26/2011 OU3AB1311026 LabID: 6451484 Dry Result	Surface 10/26/2011 OU3AC0411026 LabID: 6451491 Dry Result	1 foot 10/26/2011 OU3AC1311026 LabID: 6451492 Dry Result	Surface 10/26/2011 OU3AD0411026 LabID: 6451489 Dry Result	1 foot 10/26/2011 OU3AD1311026 LabID: 6451490 Dry Result	Surface 10/26/2011 OU3AE0411026 LabID: 6451487 Dry Result	1 foot 10/26/2011 OU3AE1311026 LabID: 6451488 Dry Result
Benzene	ug/kg	SW-846 8260B	71-43-2	44,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Benzyl Chloride	ug/kg	SW-846 8260B	100-44-7	NS	ND@4 J	ND@4	ND@5	ND@4	ND@4	ND@4	ND@4	ND@4	ND@4 J	ND@4
Bromobenzene	ug/kg	SW-846 8260B	108-86-1	NS	ND@5 J	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5 J	ND@5
Bromodichloromethane	ug/kg	SW-846 8260B	75-27-4	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Bromoform	ug/kg	SW-846 8260B	75-25-2	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Bromomethane	ug/kg	SW-846 8260B	74-83-9	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Carbon Tetrachloride	ug/kg	SW-846 8260B	56-23-5	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Chlorobenzene	ug/kg	SW-846 8260B	108-90-7	500,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Chloroethane	ug/kg	SW-846 8260B	75-00-3	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Chloroform	ug/kg	SW-846 8260B	67-66-3	350,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Chloromethane	ug/kg	SW-846 8260B	74-87-3	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
2-Chlorotoluene	ug/kg	SW-846 8260B	95-49-8	NS	ND@5 J	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5 J	ND@5
4-Chlorotoluene	ug/kg	SW-846 8260B	106-43-4	NS	ND@5 J	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5 J	ND@5
Dibromochloromethane	ug/kg	SW-846 8260B	124-48-1	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Dibromomethane	ug/kg	SW-846 8260B	74-95-3	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
1,2-Dichlorobenzene	ug/kg	SW-846 8260B	95-50-1	NS	ND@5 J	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5 J	ND@5
1,3-Dichlorobenzene	ug/kg	SW-846 8260B	541-73-1	280,000	ND@5 J	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5 J	ND@5
1,4-Dichlorobenzene	ug/kg	SW-846 8260B	106-46-7	130,000	ND@5 J	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5 J	ND@5
Dichlorodifluoromethane	ug/kg	SW-846 8260B	75-71-8	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
1,1-Dichloroethane	ug/kg	SW-846 8260B	75-34-3	240,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
1,2-Dichloroethane	ug/kg	SW-846 8260B	107-06-2	30,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
1,1-Dichloroethene	ug/kg	SW-846 8260B	75-35-4	500,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
1,2-Dichloroethene (Total)	ug/kg	SW-846 8260B	540-59-0	500,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
1,2-Dichloropropane	ug/kg	SW-846 8260B	78-87-5	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
cis-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-01-5	NS	ND@5	ND@5	ND@6	ND@5	ND@5 J	ND@5	ND@5	ND@5	ND@5	ND@5
trans-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-02-6	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Ethylbenzene	ug/kg	SW-846 8260B	100-41-4	390,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Freon 113	ug/kg	SW-846 8260B	76-13-1	NS	ND@11	ND@10	ND@13	ND@9	ND@10	ND@10	ND@11	ND@10	ND@11	ND@9
Freon 123a	ug/kg	SW-846 8260B	354-23-4	NS	ND@5	ND@5	ND@6	ND@5	ND@5 J	ND@5	ND@5	ND@5	ND@5	ND@5
Methylene Chloride	ug/kg	SW-846 8260B	75-09-2	500,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
1,1,1,2-Tetrachloroethane	ug/kg	SW-846 8260B	630-20-6	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
1,1,2,2-Tetrachloroethane	ug/kg	SW-846 8260B	79-34-5	NS	ND@5 J	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5 J	ND@5
Tetrachloroethene	ug/kg	SW-846 8260B	127-18-4	150,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Toluene	ug/kg	SW-846 8260B	108-88-3	500,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
1,1,1-Trichloroethane	ug/kg	SW-846 8260B	71-55-6	500,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
1,1,2-Trichloroethane	ug/kg	SW-846 8260B	79-00-5	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Trichloroethene	ug/kg	SW-846 8260B	79-01-6	200,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Trichlorofluoromethane	ug/kg	SW-846 8260B	75-69-4	NS	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
1,2,3-Trichloropropane	ug/kg	SW-846 8260B	96-18-4	NS	ND@5 J	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5 J	ND@5
Vinyl Chloride	ug/kg	SW-846 8260B	75-01-4	13,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Xylene (Total)	ug/kg	SW-846 8260B	1330-20-7	500,000	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5	ND@5
Moisture	%	SM20 2540 G	NA	NA	16.9	11.7	24.5	13.9	16.2	9.1	16.7	11.1	15.0	9.0

Appendix C: Summary of Surficial Soil Sampling Results
TechCity Site
Operable Unit: OU4

Parameter Name	Reporting Units	Analytical Method	CAS Number	6NYCRR Part 375-6.8(b) SCO RESTRICTED RESIDENTIAL ug/kg	OU4: SS-A			OU4: SS-B			OU4: SS-C		
					Surface 10/25/2011 OU04A0411025 LabID: 6449985 Dry Result	1 foot 10/25/2011 OU04A1311025 LabID: 6449986 Dry Result	2 foot 10/25/2011 OU04A2511025 LabID: 6449987 Dry Result	Surface 10/26/2011 OU04B0411026 LabID: 6451497 Dry Result	1 foot 10/26/2011 OU04B1311026 LabID: 6451498 Dry Result	2 foot 10/26/2011 OU04B2511026 LabID: 6451499 Dry Result	Surface 10/28/2011 OU04C0411028 LabID: 6454513 Dry Result	1 foot 10/28/2011 OU04C1311028 LabID: 6454514 Dry Result	2 foot 10/28/2011 OU04C2511028 LabID: 6454515 Dry Result
Benzene	ug/kg	SW-846 8260B	71-43-2	4,800	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Benzyl Chloride	ug/kg	SW-846 8260B	100-44-7	NS	ND@5	ND@4	ND@4	ND@4 J	ND@4	ND@4	ND@4	ND@4	ND@5
Bromobenzene	ug/kg	SW-846 8260B	108-86-1	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5	ND@5	ND@5	ND@6
Bromodichloromethane	ug/kg	SW-846 8260B	75-27-4	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Bromoform	ug/kg	SW-846 8260B	75-25-2	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Bromomethane	ug/kg	SW-846 8260B	74-83-9	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Carbon Tetrachloride	ug/kg	SW-846 8260B	56-23-5	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Chlorobenzene	ug/kg	SW-846 8260B	108-90-7	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Chloroethane	ug/kg	SW-846 8260B	75-00-3	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Chloroform	ug/kg	SW-846 8260B	67-66-3	49,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Chloromethane	ug/kg	SW-846 8260B	74-87-3	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
2-Chlorotoluene	ug/kg	SW-846 8260B	95-49-8	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5	ND@5	ND@5	ND@6
4-Chlorotoluene	ug/kg	SW-846 8260B	106-43-4	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5	ND@5	ND@5	ND@6
Dibromochloromethane	ug/kg	SW-846 8260B	124-48-1	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Dibromomethane	ug/kg	SW-846 8260B	74-95-3	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
1,2-Dichlorobenzene	ug/kg	SW-846 8260B	95-50-1	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5	ND@5	ND@5	ND@6
1,3-Dichlorobenzene	ug/kg	SW-846 8260B	541-73-1	49,000	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5	ND@5	ND@5	ND@6
1,4-Dichlorobenzene	ug/kg	SW-846 8260B	106-46-7	13,000	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5	ND@5	ND@5	ND@6
Dichlorodifluoromethane	ug/kg	SW-846 8260B	75-71-8	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
1,1-Dichloroethane	ug/kg	SW-846 8260B	75-34-3	26,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
1,2-Dichloroethane	ug/kg	SW-846 8260B	107-06-2	3,100	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
1,1-Dichloroethene	ug/kg	SW-846 8260B	75-35-4	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
1,2-Dichloroethene (Total)	ug/kg	SW-846 8260B	540-59-0	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
1,2-Dichloropropane	ug/kg	SW-846 8260B	78-87-5	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
cis-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-01-5	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5 J	ND@5 J	ND@6 J
trans-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-02-6	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Ethylbenzene	ug/kg	SW-846 8260B	100-41-4	41,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Freon 113	ug/kg	SW-846 8260B	76-13-1	NS	ND@11	ND@10	ND@10	ND@11	ND@10	ND@10	ND@11	ND@10	ND@12
Freon 123a	ug/kg	SW-846 8260B	354-23-4	NS	ND@6 J	ND@5 J	ND@5 J	ND@6	ND@5	ND@5	ND@5 J	ND@5 J	ND@6 J
Methylene Chloride	ug/kg	SW-846 8260B	75-09-2	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
1,1,1,2-Tetrachloroethane	ug/kg	SW-846 8260B	630-20-6	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
1,1,2,2-Tetrachloroethane	ug/kg	SW-846 8260B	79-34-5	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5	ND@5	ND@5	ND@6
Tetrachloroethene	ug/kg	SW-846 8260B	127-18-4	19,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Toluene	ug/kg	SW-846 8260B	108-88-3	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
1,1,1-Trichloroethane	ug/kg	SW-846 8260B	71-55-6	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
1,1,2-Trichloroethane	ug/kg	SW-846 8260B	79-00-5	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Trichloroethene	ug/kg	SW-846 8260B	79-01-6	21,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Trichlorofluoromethane	ug/kg	SW-846 8260B	75-69-4	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
1,2,3-Trichloropropane	ug/kg	SW-846 8260B	96-18-4	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5	ND@5	ND@5	ND@6
Vinyl Chloride	ug/kg	SW-846 8260B	75-01-4	900	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Xylene (Total)	ug/kg	SW-846 8260B	1330-20-7	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6
Moisture	%	SM20 2540 G	NA	NA	11.0	8.3	5.8	10.0	7.5	8.6	10.7	8.9	5.6

Notes:
NA = Not Applicable
NS = No SCO
ND = Not Detected at Dry Limit of Quantitation
Surface Sample collected at nominal 2-3 inches below grade
1 Foot Sample collected at nominal 12-inches below grade
2 Foot Sample collected at nominal 24 inches below grade

Appendix C: Summary of Surficial Soil Sampling Results
TechCity Site
Operable Unit: OU4

Parameter Name	Reporting Units	Analytical Method	CAS Number	6NYCRR Part 375-6.8(b) SCO RESTRICTED RESIDENTIAL ug/kg	OU4: SS-D			OU4: SS-E			OU4: SS-F		
					Surface 10/25/2011	1 foot 10/25/2011	2 foot 10/25/2011	Surface 10/25/2011	1 foot 10/25/2011	2 foot 10/25/2011	Surface 10/26/2011	1 foot 10/26/2011	2 foot 10/26/2011
					OU04D0211025 LabID: 6449976 Dry Result	OU04D1311025 LabID: 6449977 Dry Result	OU04D2511025 LabID: 6449978 Dry Result	OU04E0411025 LabID: 6449982 Dry Result	OU04E1311025 LabID: 6449983 Dry Result	OU04E2511025 LabID: 6449984 Dry Result	OU04F0411026 LabID: 6451494 Dry Result	OU04F1311026 LabID: 6451495 Dry Result	OU04F2511026 LabID: 6451496 Dry Result
Benzene	ug/kg	SW-846 8260B	71-43-2	4,800	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Benzyl Chloride	ug/kg	SW-846 8260B	100-44-7	NS	ND@5	ND@4	ND@4	ND@4	ND@4	ND@5	ND@4 J	ND@4	ND@4
Bromobenzene	ug/kg	SW-846 8260B	108-86-1	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5 J	ND@5	ND@6
Bromodichloromethane	ug/kg	SW-846 8260B	75-27-4	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Bromoform	ug/kg	SW-846 8260B	75-25-2	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Bromomethane	ug/kg	SW-846 8260B	74-83-9	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Carbon Tetrachloride	ug/kg	SW-846 8260B	56-23-5	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Chlorobenzene	ug/kg	SW-846 8260B	108-90-7	100,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Chloroethane	ug/kg	SW-846 8260B	75-00-3	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Chloroform	ug/kg	SW-846 8260B	67-66-3	49,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Chloromethane	ug/kg	SW-846 8260B	74-87-3	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
2-Chlorotoluene	ug/kg	SW-846 8260B	95-49-8	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5 J	ND@5	ND@6
4-Chlorotoluene	ug/kg	SW-846 8260B	106-43-4	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5 J	ND@5	ND@6
Dibromochloromethane	ug/kg	SW-846 8260B	124-48-1	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Dibromomethane	ug/kg	SW-846 8260B	74-95-3	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
1,2-Dichlorobenzene	ug/kg	SW-846 8260B	95-50-1	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5 J	ND@5	ND@6
1,3-Dichlorobenzene	ug/kg	SW-846 8260B	541-73-1	49,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5 J	ND@5	ND@6
1,4-Dichlorobenzene	ug/kg	SW-846 8260B	106-46-7	13,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5 J	ND@5	ND@6
Dichlorodifluoromethane	ug/kg	SW-846 8260B	75-71-8	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
1,1-Dichloroethane	ug/kg	SW-846 8260B	75-34-3	26,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
1,2-Dichloroethane	ug/kg	SW-846 8260B	107-06-2	3,100	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
1,1-Dichloroethene	ug/kg	SW-846 8260B	75-35-4	100,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
1,2-Dichloroethene (Total)	ug/kg	SW-846 8260B	540-59-0	100,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
1,2-Dichloropropane	ug/kg	SW-846 8260B	78-87-5	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
cis-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-01-5	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
trans-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-02-6	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Ethylbenzene	ug/kg	SW-846 8260B	100-41-4	41,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Freon 113	ug/kg	SW-846 8260B	76-13-1	NS	ND@12	ND@11	ND@11	ND@10	ND@10	ND@12	ND@11	ND@11	ND@11
Freon 123a	ug/kg	SW-846 8260B	354-23-4	NS	ND@6 J	ND@5 J	ND@5 J	ND@5 J	ND@5 J	ND@6 J	ND@5	ND@5	ND@6
Methylene Chloride	ug/kg	SW-846 8260B	75-09-2	100,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
1,1,1,2-Tetrachloroethane	ug/kg	SW-846 8260B	630-20-6	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
1,1,2,2-Tetrachloroethane	ug/kg	SW-846 8260B	79-34-5	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5 J	ND@5	ND@6
Tetrachloroethene	ug/kg	SW-846 8260B	127-18-4	19,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Toluene	ug/kg	SW-846 8260B	108-88-3	100,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
1,1,1-Trichloroethane	ug/kg	SW-846 8260B	71-55-6	100,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
1,1,2-Trichloroethane	ug/kg	SW-846 8260B	79-00-5	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Trichloroethene	ug/kg	SW-846 8260B	79-01-6	21,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Trichlorofluoromethane	ug/kg	SW-846 8260B	75-69-4	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
1,2,3-Trichloropropane	ug/kg	SW-846 8260B	96-18-4	NS	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5 J	ND@5	ND@6
Vinyl Chloride	ug/kg	SW-846 8260B	75-01-4	900	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Xylene (Total)	ug/kg	SW-846 8260B	1330-20-7	100,000	ND@6	ND@5	ND@5	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6
Moisture	%	SM20 2540 G	NA	NA	9.5	5.1	6.6	10.2	5.3	10.5	8.6	5.6	5.0

Notes:
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ND = Not Detected at Dry Limit of Quantitation
Surface Sample collected at nominal 2-3 inches below grade
1 Foot Sample collected at nominal 12-inches below grade
2 Foot Sample collected at nominal 24 inches below grade

Appendix C: Summary of Surficial Soil Sampling Results
TechCity Site
Operable Unit: OU4

Parameter Name	Reporting Units	Analytical Method	CAS Number	6NYCRR Part 375-6.8(b) SCO RESTRICTED RESIDENTIAL ug/kg	OU4: SS-G			OU4: SS-H			OU4: SS-I		
					Surface 10/25/2011 OU04G0411025 LabID: 6449988 Dry Result	1 foot 10/25/2011 OU04G1311025 LabID: 6449989 Dry Result	2 foot 10/25/2011 OU04G2511025 LabID: 6449990 Dry Result	Surface 10/28/2011 OU04H0411028 LabID: 6454518 Dry Result	1 foot 10/28/2011 OU04H1311028 LabID: 6454519 Dry Result	2 foot 10/28/2011 OU04H2511028 LabID: 6454520 Dry Result	Surface 10/25/2011 OU04I0411025 LabID: 6449992 Dry Result	1 foot 10/25/2011 OU04I1311025 LabID: 6449993 Dry Result	2 foot 10/25/2011 OU04I2511025 LabID: 6449994 Dry Result
Benzene	ug/kg	SW-846 8260B	71-43-2	4,800	ND@6	ND@5	ND@5	ND@6	0.6 J	3 J	ND@6	ND@5	ND@5
Benzyl Chloride	ug/kg	SW-846 8260B	100-44-7	NS	ND@4	ND@4	ND@4	ND@5 J	ND@4	ND@4 J	ND@4	ND@4	ND@4
Bromobenzene	ug/kg	SW-846 8260B	108-86-1	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5 J	ND@6	ND@5	ND@5
Bromodichloromethane	ug/kg	SW-846 8260B	75-27-4	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Bromoform	ug/kg	SW-846 8260B	75-25-2	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Bromomethane	ug/kg	SW-846 8260B	74-83-9	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Carbon Tetrachloride	ug/kg	SW-846 8260B	56-23-5	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Chlorobenzene	ug/kg	SW-846 8260B	108-90-7	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Chloroethane	ug/kg	SW-846 8260B	75-00-3	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Chloroform	ug/kg	SW-846 8260B	67-66-3	49,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Chloromethane	ug/kg	SW-846 8260B	74-87-3	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
2-Chlorotoluene	ug/kg	SW-846 8260B	95-49-8	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5 J	ND@6	ND@5	ND@5
4-Chlorotoluene	ug/kg	SW-846 8260B	106-43-4	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5 J	ND@6	ND@5	ND@5
Dibromochloromethane	ug/kg	SW-846 8260B	124-48-1	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Dibromomethane	ug/kg	SW-846 8260B	74-95-3	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
1,2-Dichlorobenzene	ug/kg	SW-846 8260B	95-50-1	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5 J	ND@6	ND@5	ND@5
1,3-Dichlorobenzene	ug/kg	SW-846 8260B	541-73-1	49,000	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5 J	ND@6	ND@5	ND@5
1,4-Dichlorobenzene	ug/kg	SW-846 8260B	106-46-7	13,000	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5 J	ND@6	ND@5	ND@5
Dichlorodifluoromethane	ug/kg	SW-846 8260B	75-71-8	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
1,1-Dichloroethane	ug/kg	SW-846 8260B	75-34-3	26,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
1,2-Dichloroethane	ug/kg	SW-846 8260B	107-06-2	3,100	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
1,1-Dichloroethene	ug/kg	SW-846 8260B	75-35-4	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
1,2-Dichloroethene (Total)	ug/kg	SW-846 8260B	540-59-0	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
1,2-Dichloropropane	ug/kg	SW-846 8260B	78-87-5	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
cis-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-01-5	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5 J	ND@5 J	ND@6	ND@5	ND@5
trans-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-02-6	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Ethylbenzene	ug/kg	SW-846 8260B	100-41-4	41,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Freon 113	ug/kg	SW-846 8260B	76-13-1	NS	ND@11	ND@10	ND@11	ND@12	ND@10	ND@10	ND@11	ND@10	ND@11
Freon 123a	ug/kg	SW-846 8260B	354-23-4	NS	ND@6 J	ND@5 J	ND@5 J	ND@6 J	ND@5 J	ND@5 J	ND@6 J	ND@5 J	ND@5 J
Methylene Chloride	ug/kg	SW-846 8260B	75-09-2	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
1,1,1,2-Tetrachloroethane	ug/kg	SW-846 8260B	630-20-6	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
1,1,2,2-Tetrachloroethane	ug/kg	SW-846 8260B	79-34-5	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5 J	ND@6	ND@5	ND@5
Tetrachloroethene	ug/kg	SW-846 8260B	127-18-4	19,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Toluene	ug/kg	SW-846 8260B	108-88-3	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	1 J	ND@6	ND@5	ND@5
1,1,1-Trichloroethane	ug/kg	SW-846 8260B	71-55-6	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
1,1,2-Trichloroethane	ug/kg	SW-846 8260B	79-00-5	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Trichloroethene	ug/kg	SW-846 8260B	79-01-6	21,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Trichlorofluoromethane	ug/kg	SW-846 8260B	75-69-4	NS	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
1,2,3-Trichloropropane	ug/kg	SW-846 8260B	96-18-4	NS	ND@6	ND@5	ND@5	ND@6 J	ND@5	ND@5 J	ND@6	ND@5	ND@5
Vinyl Chloride	ug/kg	SW-846 8260B	75-01-4	900	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Xylene (Total)	ug/kg	SW-846 8260B	1330-20-7	100,000	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5	ND@6	ND@5	ND@5
Moisture	%	SM20 2540 G	NA	NA	10.7	6.5	5.0	15.6	10	8.6	11.2	4.7	5.4

Notes:
NA = Not Applicable
NS = No SCO
ND = Not Detected at Dry Limit of Quantitation
Surface Sample collected at nominal 2-3 inches below grade
1 Foot Sample collected at nominal 12-inches below grade
2 Foot Sample collected at nominal 24 inches below grade

Appendix C: Summary of Surficial Soil Sampling Results
TechCity Site
Operable Unit: OU4

Parameter Name	Reporting Units	Analytical Method	CAS Number	6NYCRR Part 375-6.8(b) SCO RESTRICTED RESIDENTIAL ug/kg	OU4: SS-J		
					Surface 10/25/2011 OU04J0211025 LabID: 6449979 Dry Result	1 foot 10/25/2011 OU04J1311025 LabID: 6449980 Dry Result	2 foot 10/25/2011 OU04J2511025 LabID: 6449981 Dry Result
Benzene	ug/kg	SW-846 8260B	71-43-2	4,800	ND@6	ND@5	ND@6
Benzyl Chloride	ug/kg	SW-846 8260B	100-44-7	NS	ND@5	ND@4	ND@5
Bromobenzene	ug/kg	SW-846 8260B	108-86-1	NS	ND@6	ND@5	ND@6
Bromodichloromethane	ug/kg	SW-846 8260B	75-27-4	NS	ND@6	ND@5	ND@6
Bromoform	ug/kg	SW-846 8260B	75-25-2	NS	ND@6	ND@5	ND@6
Bromomethane	ug/kg	SW-846 8260B	74-83-9	NS	ND@6	ND@5	ND@6
Carbon Tetrachloride	ug/kg	SW-846 8260B	56-23-5	NS	ND@6	ND@5	ND@6
Chlorobenzene	ug/kg	SW-846 8260B	108-90-7	100,000	ND@6	ND@5	ND@6
Chloroethane	ug/kg	SW-846 8260B	75-00-3	NS	ND@6	ND@5	ND@6
Chloroform	ug/kg	SW-846 8260B	67-66-3	49,000	ND@6	ND@5	ND@6
Chloromethane	ug/kg	SW-846 8260B	74-87-3	NS	ND@6	ND@5	ND@6
2-Chlorotoluene	ug/kg	SW-846 8260B	95-49-8	NS	ND@6	ND@5	ND@6
4-Chlorotoluene	ug/kg	SW-846 8260B	106-43-4	NS	ND@6	ND@5	ND@6
Dibromochloromethane	ug/kg	SW-846 8260B	124-48-1	NS	ND@6	ND@5	ND@6
Dibromomethane	ug/kg	SW-846 8260B	74-95-3	NS	ND@6	ND@5	ND@6
1,2-Dichlorobenzene	ug/kg	SW-846 8260B	95-50-1	NS	ND@6	ND@5	ND@6
1,3-Dichlorobenzene	ug/kg	SW-846 8260B	541-73-1	49,000	ND@6	ND@5	ND@6
1,4-Dichlorobenzene	ug/kg	SW-846 8260B	106-46-7	13,000	ND@6	ND@5	ND@6
Dichlorodifluoromethane	ug/kg	SW-846 8260B	75-71-8	NS	ND@6	ND@5	ND@6
1,1-Dichloroethane	ug/kg	SW-846 8260B	75-34-3	26,000	ND@6	ND@5	ND@6
1,2-Dichloroethane	ug/kg	SW-846 8260B	107-06-2	3,100	ND@6	ND@5	ND@6
1,1-Dichloroethene	ug/kg	SW-846 8260B	75-35-4	100,000	ND@6	ND@5	ND@6
1,2-Dichloroethene (Total)	ug/kg	SW-846 8260B	540-59-0	100,000	ND@6	ND@5	ND@6
1,2-Dichloropropane	ug/kg	SW-846 8260B	78-87-5	NS	ND@6	ND@5	ND@6
cis-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-01-5	NS	ND@6	ND@5	ND@6
trans-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-02-6	NS	ND@6	ND@5	ND@6
Ethylbenzene	ug/kg	SW-846 8260B	100-41-4	41,000	ND@6	ND@5	ND@6
Freon 113	ug/kg	SW-846 8260B	76-13-1	NS	ND@11	ND@11	ND@12
Freon 123a	ug/kg	SW-846 8260B	354-23-4	NS	ND@6 J	ND@5 J	ND@6 J
Methylene Chloride	ug/kg	SW-846 8260B	75-09-2	100,000	ND@6	ND@5	ND@6
1,1,1,2-Tetrachloroethane	ug/kg	SW-846 8260B	630-20-6	NS	ND@6	ND@5	ND@6
1,1,2,2-Tetrachloroethane	ug/kg	SW-846 8260B	79-34-5	NS	ND@6	ND@5	ND@6
Tetrachloroethene	ug/kg	SW-846 8260B	127-18-4	19,000	ND@6	ND@5	ND@6
Toluene	ug/kg	SW-846 8260B	108-88-3	100,000	ND@6	ND@5	ND@6
1,1,1-Trichloroethane	ug/kg	SW-846 8260B	71-55-6	100,000	ND@6	ND@5	ND@6
1,1,2-Trichloroethane	ug/kg	SW-846 8260B	79-00-5	NS	ND@6	ND@5	ND@6
Trichloroethene	ug/kg	SW-846 8260B	79-01-6	21,000	ND@6	ND@5	ND@6
Trichlorofluoromethane	ug/kg	SW-846 8260B	75-69-4	NS	ND@6	ND@5	ND@6
1,2,3-Trichloropropane	ug/kg	SW-846 8260B	96-18-4	NS	ND@6	ND@5	ND@6
Vinyl Chloride	ug/kg	SW-846 8260B	75-01-4	900	ND@6	ND@5	ND@6
Xylene (Total)	ug/kg	SW-846 8260B	1330-20-7	100,000	ND@6	ND@5	ND@6
Moisture	%	SM20 2540 G	NA	NA	11.3	5.0	5.0

Notes:
NA = Not Applicable
NS = No SCO
ND = Not Detected at Dry Limit of Quantitation
Surface Sample collected at nominal 2-3 inches below grade
1 Foot Sample collected at nominal 12-inches below grade
2 Foot Sample collected at nominal 24 inches below grade

Appendix C: Summary of Surficial Soil Sampling Results
TechCity Site
Operable Unit: OU6

Parameter Name	Reporting Units	Analytical Method	CAS Number	6NYCRR Part 375-6.8(b) SCO COMMERCIAL ug/kg	OU6: SS-A		OU6: SS-B		OU6: SS-C		OU6: SS-D		OU6: SS-E	
					Surface 11/8/2011 OU06A0411108 LabID: 6463890 Dry Result	1 foot 11/8/2011 OU06A1311108 LabID: 6463891 Dry Result	Surface 11/8/2011 OU06B0411108 LabID: 6463886 Dry Result	1 foot 11/8/2011 OU06B1311108 LabID: 6463887 Dry Result	Surface 10/28/2011 OU06C0411028 LabID: 6454521 Dry Result	1 foot 10/28/2011 OU06C1311028 LabID: 6454522 Dry Result	Surface 11/8/2011 OU06D0411108 LabID: 6463888 Dry Result	1 foot 11/8/2011 OU06D1311108 LabID: 6463889 Dry Result	Surface 11/8/2011 OU06E0411108 LabID: 6463892 Dry Result	1 foot 11/8/2011 OU06E0811108 LabID: 6463893 Dry Result
Benzene	ug/kg	SW-846 8260B	71-43-2	44,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Benzyl Chloride	ug/kg	SW-846 8260B	100-44-7	NS	ND@6	ND@4	ND@5	ND@4 J	ND@5	ND@4	ND@5	ND@4	ND@5	ND@4
Bromobenzene	ug/kg	SW-846 8260B	108-86-1	NS	ND@7	ND@6	ND@6	ND@5 J	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Bromodichloromethane	ug/kg	SW-846 8260B	75-27-4	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Bromoform	ug/kg	SW-846 8260B	75-25-2	NS	ND@7	ND@6 J	ND@6	ND@5 J	ND@6	ND@5 J	ND@6 J	ND@5 J	ND@6 J	ND@5 J
Bromomethane	ug/kg	SW-846 8260B	74-83-9	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Carbon Tetrachloride	ug/kg	SW-846 8260B	56-23-5	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Chlorobenzene	ug/kg	SW-846 8260B	108-90-7	500,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Chloroethane	ug/kg	SW-846 8260B	75-00-3	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Chloroform	ug/kg	SW-846 8260B	67-66-3	350,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Chloromethane	ug/kg	SW-846 8260B	74-87-3	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
2-Chlorotoluene	ug/kg	SW-846 8260B	95-49-8	NS	ND@7	ND@6	ND@6	ND@5 J	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
4-Chlorotoluene	ug/kg	SW-846 8260B	106-43-4	NS	ND@7	ND@6	ND@6	ND@5 J	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Dibromochloromethane	ug/kg	SW-846 8260B	124-48-1	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Dibromomethane	ug/kg	SW-846 8260B	74-95-3	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
1,2-Dichlorobenzene	ug/kg	SW-846 8260B	95-50-1	NS	ND@7	ND@6	ND@6	ND@5 J	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
1,3-Dichlorobenzene	ug/kg	SW-846 8260B	541-73-1	280,000	ND@7	ND@6	ND@6	ND@5 J	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
1,4-Dichlorobenzene	ug/kg	SW-846 8260B	106-46-7	130,000	ND@7	ND@6	ND@6	ND@5 J	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Dichlorodifluoromethane	ug/kg	SW-846 8260B	75-71-8	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
1,1-Dichloroethane	ug/kg	SW-846 8260B	75-34-3	240,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
1,2-Dichloroethane	ug/kg	SW-846 8260B	107-06-2	30,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
1,1-Dichloroethene	ug/kg	SW-846 8260B	75-35-4	500,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
1,2-Dichloroethene (Total)	ug/kg	SW-846 8260B	540-59-0	500,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
1,2-Dichloropropane	ug/kg	SW-846 8260B	78-87-5	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
cis-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-01-5	NS	ND@7	ND@6 J	ND@6	ND@5 J	ND@6 J	ND@5	ND@6 J	ND@5 J	ND@6 J	ND@5 J
trans-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-02-6	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Ethylbenzene	ug/kg	SW-846 8260B	100-41-4	390,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Freon 113	ug/kg	SW-846 8260B	76-13-1	NS	ND@14	ND@11	ND@12	ND@10	ND@12	ND@11	ND@12	ND@10	ND@13	ND@10
Freon 123a	ug/kg	SW-846 8260B	354-23-4	NS	ND@7	ND@6	ND@6	ND@5	ND@6 J	ND@5	ND@6	ND@5	ND@6	ND@5
Methylene Chloride	ug/kg	SW-846 8260B	75-09-2	500,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
1,1,1,2-Tetrachloroethane	ug/kg	SW-846 8260B	630-20-6	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
1,1,2,2-Tetrachloroethane	ug/kg	SW-846 8260B	79-34-5	NS	ND@7	ND@6	ND@6	ND@5 J	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Tetrachloroethene	ug/kg	SW-846 8260B	127-18-4	150,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Toluene	ug/kg	SW-846 8260B	108-88-3	500,000	ND@7	ND@6	ND@6	2 J	ND@5	ND@6	ND@5	ND@6	ND@5	ND@5
1,1,1-Trichloroethane	ug/kg	SW-846 8260B	71-55-6	500,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
1,1,2-Trichloroethane	ug/kg	SW-846 8260B	79-00-5	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Trichloroethene	ug/kg	SW-846 8260B	79-01-6	200,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Trichlorofluoromethane	ug/kg	SW-846 8260B	75-69-4	NS	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
1,2,3-Trichloropropane	ug/kg	SW-846 8260B	96-18-4	NS	ND@7	ND@6	ND@6	ND@5 J	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Vinyl Chloride	ug/kg	SW-846 8260B	75-01-4	13,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Xylene (Total)	ug/kg	SW-846 8260B	1330-20-7	500,000	ND@7	ND@6	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5	ND@6	ND@5
Moisture	%	SM20 2540 G	NA	NA	28.8	6.4	19.9	9.5	21.1	19.3	24.8	15.4	25.9	15.7

Notes:
NA = Not Applicable
NS = No SCO
ND = Not Detected at Dry Limit of Quantitation
Surface Sample collected at nominal 2-3 inches below grade
1 Foot Sample collected at nominal 12-inches below grade

Appendix C: Summary of Surficial Soil Sampling Results
TechCity Site
Operable Unit: OU7

Parameter Name	Reporting Units	Analytical Method	CAS Number	6NYCRR Part 375-6.8(b) SCO COMMERCIAL ug/kg	OU7: SS-A			OU7: SS-B	
					Surface 10/24/2011 OU07A0211024 LabID: 6448136 Dry Result	5 inches 10/24/2011 OU07A0511024 LabID: 6448134 Dry Result	16 inches 10/24/2011 OU07A1611024 LabID: 6448135 Dry Result	Surface 10/24/2011 OU07B0211024 LabID: 6448137 Dry Result	1 foot 10/24/2011 OU07B1311024 LabID: 6448138 Dry Result
Benzene	ug/kg	SW-846 8260B	71-43-2	44,000	ND@7	ND@6	ND@5	ND@6	ND@5
Benzyl Chloride	ug/kg	SW-846 8260B	100-44-7	NS	ND@5	ND@5	ND@4	ND@4 J	ND@4 J
Bromobenzene	ug/kg	SW-846 8260B	108-86-1	NS	ND@7	ND@6	ND@5	ND@6 J	ND@5 J
Bromodichloromethane	ug/kg	SW-846 8260B	75-27-4	NS	ND@7	ND@6	ND@5	ND@6	ND@5
Bromoform	ug/kg	SW-846 8260B	75-25-2	NS	ND@7	ND@6	ND@5	ND@6	ND@5
Bromomethane	ug/kg	SW-846 8260B	74-83-9	NS	ND@7	ND@6	ND@5	ND@6	ND@5
Carbon Tetrachloride	ug/kg	SW-846 8260B	56-23-5	NS	ND@7	ND@6	ND@5	ND@6	ND@5
Chlorobenzene	ug/kg	SW-846 8260B	108-90-7	500,000	ND@7	ND@6	ND@5	ND@6	ND@5
Chloroethane	ug/kg	SW-846 8260B	75-00-3	NS	ND@7	ND@6	ND@5	ND@6	ND@5
Chloroform	ug/kg	SW-846 8260B	67-66-3	350,000	ND@7	ND@6	ND@5	ND@6	ND@5
Chloromethane	ug/kg	SW-846 8260B	74-87-3	NS	ND@7	ND@6	ND@5	ND@6	ND@5
2-Chlorotoluene	ug/kg	SW-846 8260B	95-49-8	NS	ND@7	ND@6	ND@5	ND@6 J	ND@5 J
4-Chlorotoluene	ug/kg	SW-846 8260B	106-43-4	NS	ND@7	ND@6	ND@5	ND@6 J	ND@5 J
Dibromochloromethane	ug/kg	SW-846 8260B	124-48-1	NS	ND@7	ND@6	ND@5	ND@6	ND@5
Dibromomethane	ug/kg	SW-846 8260B	74-95-3	NS	ND@7	ND@6	ND@5	ND@6	ND@5
1,2-Dichlorobenzene	ug/kg	SW-846 8260B	95-50-1	NS	ND@7	ND@6	ND@5	ND@6 J	ND@5 J
1,3-Dichlorobenzene	ug/kg	SW-846 8260B	541-73-1	280,000	ND@7	ND@6	ND@5	ND@6 J	ND@5 J
1,4-Dichlorobenzene	ug/kg	SW-846 8260B	106-46-7	130,000	ND@7	ND@6	ND@5	ND@6 J	ND@5 J
Dichlorodifluoromethane	ug/kg	SW-846 8260B	75-71-8	NS	ND@7	ND@6	ND@5	ND@6	ND@5
1,1-Dichloroethane	ug/kg	SW-846 8260B	75-34-3	240,000	ND@7	ND@6	ND@5	ND@6	ND@5
1,2-Dichloroethane	ug/kg	SW-846 8260B	107-06-2	30,000	ND@7	ND@6	ND@5	ND@6	ND@5
1,1-Dichloroethene	ug/kg	SW-846 8260B	75-35-4	500,000	ND@7	ND@6	ND@5	ND@6	ND@5
1,2-Dichloroethene (Total)	ug/kg	SW-846 8260B	540-59-0	500,000	ND@7	ND@6	ND@5	ND@6	ND@5
1,2-Dichloropropane	ug/kg	SW-846 8260B	78-87-5	NS	ND@7	ND@6	ND@5	ND@6	ND@5
cis-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-01-5	NS	ND@7	ND@6	ND@5	ND@6	ND@5
trans-1,3-Dichloropropene	ug/kg	SW-846 8260B	10061-02-6	NS	ND@7	ND@6	ND@5	ND@6	ND@5
Ethylbenzene	ug/kg	SW-846 8260B	100-41-4	390,000	ND@7	ND@6	ND@5	ND@6	ND@5
Freon 113	ug/kg	SW-846 8260B	76-13-1	NS	ND@13	ND@11	ND@10	ND@11	ND@10
Freon 123a	ug/kg	SW-846 8260B	354-23-4	NS	ND@7	ND@6	ND@5	ND@6	ND@5
Methylene Chloride	ug/kg	SW-846 8260B	75-09-2	500,000	ND@7	ND@6	ND@5	ND@6	ND@5
1,1,1,2-Tetrachloroethane	ug/kg	SW-846 8260B	630-20-6	NS	ND@7	ND@6	ND@5	ND@6	ND@5
1,1,2,2-Tetrachloroethane	ug/kg	SW-846 8260B	79-34-5	NS	ND@7	ND@6	ND@5	ND@6 J	ND@5 J
Tetrachloroethene	ug/kg	SW-846 8260B	127-18-4	150,000	ND@7	ND@6	ND@5	ND@6	ND@5
Toluene	ug/kg	SW-846 8260B	108-88-3	500,000	ND@7	ND@6	ND@5	ND@6	ND@5
1,1,1-Trichloroethane	ug/kg	SW-846 8260B	71-55-6	500,000	ND@7	ND@6	ND@5	ND@6	ND@5
1,1,2-Trichloroethane	ug/kg	SW-846 8260B	79-00-5	NS	ND@7	ND@6	ND@5	ND@6	ND@5
Trichloroethene	ug/kg	SW-846 8260B	79-01-6	200,000	ND@7	ND@6	ND@5	ND@6	ND@5
Trichlorofluoromethane	ug/kg	SW-846 8260B	75-69-4	NS	ND@7	ND@6	ND@5	ND@6	ND@5
1,2,3-Trichloropropane	ug/kg	SW-846 8260B	96-18-4	NS	ND@7	ND@6	ND@5	ND@6 J	ND@5 J
Vinyl Chloride	ug/kg	SW-846 8260B	75-01-4	13,000	ND@7	ND@6	ND@5	ND@6	ND@5
Xylene (Total)	ug/kg	SW-846 8260B	1330-20-7	500,000	ND@7	ND@6	ND@5	ND@6	ND@5
Moisture	%	SM20 2540 G	NA	NA	21.3	13.2	11.7	15.9	9.7

Notes:
NA = Not Applicable
NS = No SCO
ND = Not Detected at Dry Limit of Quantitation
Surface Sample collected at nominal 2-3 inches below grade
1 Foot Sample collected at nominal 12-inches below grade
All other samples collected at depths noted.