On-Base Groundwater AOCs
Monitoring Program
Former Griffiss Air Force Base
Rome, New York

MONITORING REPORT (Annual 2009)

Contract No. F41624-03-D-8601
Delivery Order No. 0027

Revision 0.0
August 2009

FPM group

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MEMORANDUM

Date: August 4, 2009

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From: FPM Group, Ltd.

Re: Monitoring Report
On-Base Groundwater AOCs
2009 Annual
Former Griffiss Air Force Base, Rome, New York
Contract No. F41624-03-D-8601-0027
Revision 0.0
August 2009

On behalf of the Air Force Real Property Agency (AFRPA), through the Air Force Center for Engineering and the Environment (AFCEE) Performance-Based Contract (PBC) for Long-Term Monitoring (LTM) and Remedial Action-Operations (RA-O), FPM Group, Ltd. is pleased to submit the above-referenced report. This report is being distributed in accordance with the attached distribution list.

This version of the report incorporates data through March 2009.

If you have any questions or require additional information, please feel free to contact Cathy Jerrard, AFRPA Project Engineer, at 315-356-0810 ext. 204 or myself at 315-336-7721 ext. 202, or by e-mail at g.atik@fpm-group.com.

Very truly yours,

Gaby A. Atik, P.E.
Director, Regional Operations

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2009
ANNUAL
MONITORING
REPORT

Prepared for:

Building 35 AOC (SS-60)
On-Base Groundwater AOC
Former Griffiss Air Force Base
Rome, NY

through

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Contract No. F41624-03-D-8601
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TABLE OF CONTENTS

LIST OF FIGURES
(provided in Appendix A)

LIST OF TABLES
(provided in Appendix A)

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AFCEE	Air Force Center for Engineering and the Environmental
AOC	Area of Concern
bgs	below ground surface
COC	Contaminant of Concern
CQCR	Chemical Quality Control Report
DCE	dichloroethylene/dichloroethene
DO	Delivery Order
E&E	Ecology and Environment, Inc.
FPM	FPM Group, Ltd.
ft	feet
HRC®	Hydrogen Release Compound
HWSA	Hazardous Waste Storage Area
LAW	LAW Engineering and Environmental Services, Inc.
LTM	long term monitoring
LUC	land use control
MSL	mean sea level
NYSBC	New York State Barge Canal
NYSDEC	New York State Department of Environmental Conservation
OHM	OHM Remediation Services Corporation
PCB	polychlorinated biphenyl
PCE	tetrachloroethylene/perchloroethylene/tetrachloroethene/perchloroethene
POC	Point of compliance
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act of 1976
RI	Remedial Investigation

LIST OF ACRONYMS AND ABBREVIATIONS (cont'd.)

SI	Supplemental Investigation
SVOC	semi-volatile organic compound
TCE	trichloroethylene/trichloroethene
TOC	total organic carbon
USEPA	United States Environmental Protection Agency
VC	Vinyl Chloride
VOC	volatile organic compound
µg/L	micrograms per liter

1 INTRODUCTION

FPM Group, Ltd. (FPM), under contract with the Air Force Center for Engineering and the Environment (AFCEE), is conducting a groundwater monitoring program at several sites associated with the On-Base Groundwater Contamination Area of Concern (AOC) at the former Griffiss Air Force Base (AFB), New York (see Figure 1-1 in Appendix A). The monitoring program will be conducted in accordance with provisions of the Basic Contract # F41624-03-D-8601 and Delivery Order (DO) #0027.

The purpose of the program is to monitor the presence of contaminants of concern (COCs), assess the potential for migration of the COCs, identify statistically valid groundwater trends, and establish an early warning, monitoring well system for assuring compliance with potential COC receptors.

Data evaluation and report preparation for the On-Base Groundwater AOC groundwater monitoring program includes an annual report. The monitoring program will also be reviewed periodically to revise sampling location and/or sampling frequencies for optimal functioning. This annual groundwater monitoring report includes collection, analysis, and reporting of COCs for the following On-Base Groundwater Area of Concern:

- SS-60: Building 35 AOC

Closure was recommended for the following site in the April 2008 Annual On-base Groundwater AOCs Monitoring Report (FPM, April 2009) and no samples were collected after September 2008:

- ST-06: Building 101 AOC

Closure was recommended for the following site in the August 2007 Semi-annual On-base Groundwater AOCs Monitoring Report (FPM, August 2007) and no samples were collected after March 2007:

- FT-30: Fire Protection Training Area

As part of the performance based contract, it should be noted that the following sites were previously sampled under long-term monitoring (LTM), and No Further Sampling was proposed in November 2004 Groundwater Monitoring Report (FPM, November 2004) and sampling has ended.

- SS-23: Building 20 AOC
- DP-12: Building 301 AOC
- SS-17: Lot 69 AOC

The SD-52: Nosedocks/ Apron 2 Chlorinated Plume site is being sampled under another project.

The location of the On-Base Groundwater AOC can be viewed in Figure 1-2 in Appendix A. Groundwater samples were collected from the Building 35 AOC and analyzed for the COCs as identified during previous investigations. Both existing data and the information from new sampling are utilized for overall performance evaluation.

Reference is made to the AFCEE Quality Assurance Project Plan (QAPP), Version 3.1 (AFCEE, August 2001) or later, with project-specific variances. The QAPP together with the Field Sampling Plan form the Sampling and Analysis Plan.

1.1 GROUNDWATER MONITORING APPROACH

1.1.1 Groundwater Monitoring Background

To illustrate how this groundwater monitoring program will operate, the following highlights the overall objectives, components, and constraints of the groundwater monitoring program.

The objectives of groundwater monitoring are:

1. To continue refining the conceptual site model for groundwater flow so that the predictions regarding the fate and transport of COCs are accurate;
2. To provide data regarding groundwater and surface water elevations needed to evaluate groundwater flow and surface water/groundwater interactions which control the fate and transport of COCs;
3. To establish an early warning monitoring system for the protection of potential receptors prior to completion of exposure pathways;
4. To evaluate COC degradation due to remedial action or natural attenuation processes; and
5. To collect data that support attainment of regulatory requirements and site closure.

Typical components of a groundwater monitoring system include:

1. One or more upgradient well(s) representative of background conditions;
2. Monitoring wells that track the COC migration or degradation trend; and
3. Point-of-compliance (POC) well(s) located downgradient of the plume or contaminated area in unimpacted groundwater (downgradient background).

Constraints associated with a groundwater monitoring system include:

1. All monitoring wells must be screened in the same hydrogeologic unit as the COC plume or known/probable groundwater pathway from a potential source;
2. Downgradient monitoring wells must be located to detect unexpected variations in groundwater quality as efficiently as possible (i.e., with respect to groundwater migration rates and downgradient flow direction);

3. POC wells must be located upgradient from the potential receptors to provide sufficient early warning; and
4. Regulatory requirements must be taken into account.

Given the above objectives and constraints, the design of a monitoring system considers the following tasks:

1. Selecting water-level observation wells and water quality monitoring wells from existing monitoring wells and piezometers, or selecting locations for new wells, depending on the evaluation of existing data (i.e., well logs, water-level measurements, proximity to natural flow boundaries, trends and uncertainties in the existing data) and the specific intended and distinct role of that monitoring point;
2. Providing a statistical evaluation of water-level elevation data for groundwater flow direction, existing COC concentrations, and groundwater chemistry to predict long-term trends;
3. Identifying performance evaluation criteria (e.g., statistical tests), including appropriate analysis methods for evaluating data variations or closure attainment;
4. Identifying water quality sampling frequency at each monitoring point both for
    a. understanding the trends of COCs and/or their indicator analytes, and
    b. minimizing the costs and maximizing the benefits of the program;
5. Identify physical and chemical parameters (e.g., transport and attenuation properties) for the COCs; and
6. Periodically assessing the groundwater monitoring well network for possible decommissioning of monitoring wells from the program.

1.1.2 Purpose of Groundwater Monitoring Program

The groundwater monitoring plan has identified sampling locations that will best detect groundwater COCs that are known to exist at the Building 35 AOC, and track their transport over time to support a decision for continued monitoring, remedial measures, or site closure. The monitoring program will use historic data and new information from annual sampling rounds at specified existing monitoring wells.

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2 ENVIRONMENTAL SETTING

2.1 PHYSIOGRAPHY AND TOPOGRAPHY

The former Griffiss AFB is located in the city of Rome in Oneida County, New York (refer to Figure 1-1 in Appendix A). The former Base lies within the Mohawk Valley between the Appalachian plateau and the Adirondack Mountains. A rolling plateau northeast of the former Base reaches an elevation of 1300 feet (ft) above mean sea level (MSL). The New York State Barge Canal (NYSBC) and the Mohawk River valley south of the former Base lie below 430 ft above MSL. The topography across the former Base is relatively flat with elevations ranging from 435 ft above MSL in the southwest portion to 595 ft above MSL in the northwest portion of the former Base.

2.2 GEOLOGY

Unconsolidated sediments at the former Griffiss AFB consist primarily of glacial till with minor quantities of clay and sand and significant quantities of silt and gravel. The thickness of these sediments range from 0 ft in the northeast portion to more than 130 ft in the southern portion of the former Base. The average thickness of the unconsolidated sediments is 25 to 50 ft in the central portion and 100 to 130 ft in the south and southwest portions of the former Base. The bedrock beneath the former AFB generally dips from the northeast to the southwest and consists of Utica Shale, a gray and black carbonaceous unit with a high/medium organic content (LAW Engineering and Environmental Services, Inc. [LAW], December 1996).

2.3 HYDROLOGY

The shallow water table aquifer lies within the unconsolidated sediments, where depth to groundwater ranged from just below ground surface (bgs) to 59 ft bgs during the June 2003 synoptic Basewide water-level measurement of wells. Groundwater across the former Base generally flows from the topographic high in the northeast to the Mohawk River and the NYSBC to the south. Several creeks, drainage culverts, and sewers (mostly acting as drains for shallow groundwater), intercept surface water runoff.

A comprehensive description of regional and local geology, hydrogeology, lithology, and hydrology for the former Griffiss AFB was given in Section 4 of the Baseline Study (FPM, July 2000), in the Remedial Investigation (RI) (LAW, December 1996), and in the Supplemental Investigation (SI) prepared by Ecology and Environment, Inc. [E&E] (E&E, July 1998). A detailed site description and the hydrology for the Building 35 AOC are presented in the site-specific section.

2.4 CLIMATE

The former Griffiss AFB experiences a continental climate characterized by warm, humid, moderately wet summers and cold winters with moderately heavy snowfalls. The mean annual precipitation is 45.25 inches, which includes the mean annual snowfall of 97.7 inches. The annual evapotranspiration rate is 23 inches. The average temperature during the winter season is 20 degrees Fahrenheit; temperatures during the spring, summer, and fall vary from 31 to 81 degrees Fahrenheit. The prevailing winds are from the southwest, with an average wind speed of 5 knots.

The former Griffiss AFB is located in a region prone to acid precipitation; the annual average pH of precipitation recorded for 2007 at the three closest stations ranged from 4.54 to 4.63. Fluctuations in pH have an inverse correlation to precipitation, such that lower pH levels correlate with higher amounts of precipitation (NOAA, National Oceanic and Atmospheric Administration, Annual 2007).

3 BUILDING 35 AOC (SS-60)

3.1 SITE LOCATION AND HISTORY

Building 35 was located in the southeast-central section of the base (Figure 1-2 in Appendix A), near an area that was used for outside storage of drums and scrap material during the 1940s. An unknown quantity of drums and transformers were also stored in this area during the late 1960s and 1970s. Site closure was a requirement under the Building 35 Resource Conservation and Recovery Act (RCRA) Hazardous Waste Storage permit and the closure activities were performed in the late 1990s (OHM Remediation Services Corporation [OHM], July 1997).

The former Hazardous Waste Storage Area (HWSA) was located in the southwest corner of Building 35 and was approximately 30 by 50 feet in area. Although a hazardous waste inventory is not available for the area, the area was assumed to contain waste associated with aircraft maintenance activities such as corrosion control painting, degreasing, and routine engine, wheel and tire services. There is no record of any spills at the HWSA.

The former polychlorinated biphenyl (PCB) storage area was located in the northwest corner of Building 35 and occupied an approximate area of 37 by 46 feet. Inspection reports indicate that PCB items were stored in the area since at least 1985. Also, a spill in the PCB area was recorded on October 25, 1991, when approximately one quart of transformer oil leaked from a damaged terminal onto part of a wooden pallet and a 2-inch diameter spot on the concrete floor. The oil was tested and was reported below 5 ppm PCBs. Base records also report a small PCB spill on March 16, 1995, which reportedly happened when a PCB-containing transformer was moved from the containment area within Building 35. The spill area, approximately 20 square feet, was properly remediated.

3.2 HYDROGEOLOGICAL SETTING

Building 35, approximately 1 acre in size, is currently a parking lot for Birnie Bus Service, Inc. The site has a topographic relief of 3 to 4 ft. The soils are predominantly composed of silty, fine to coarse sands with gravel.

Surface water drainage from the site enters a shallow drainage swale, which leads to a drainage ditch informally referred to as Rainbow Creek, and ultimately Six Mile Creek.

During the Building 35 RCRA closure activities, groundwater elevations were recorded in May and July 1998. The depth to groundwater was approximately 6.9 to 7.2 ft bgs (approximately 456.4 –456.1 ft MSL). Groundwater contours created during the Building 35 closure report show the groundwater flow direction to be northeast (OHM, April 2000). This groundwater flow direction was confirmed during the March 2002, March 2003, and June 2004 sampling rounds.

The latest groundwater contours for the June 2004 sampling round are provided on Figure 3-1 in Appendix A.

3.3 SUMMARY OF PREVIOUS INVESTIGATIONS

Closure activities for the HWSA and PCB areas in association with RCRA New York State Department of Environmental Conservation (NYSDEC) Permit #6-3-13-00063/00020-0 were conducted by OHM in 1996 in accordance with Closure Plans approved by the NYSDEC in 1995. The Closure Plans were designed to ensure that the Building 35 storage areas would require no further maintenance after clean closure, and threats to human health and the environment would be minimized or eliminated. The closure activities included the collection of pre-closure wipe samples from each storage area and surface soil samples (0 to 1 ft bgs) from the outside perimeter of the building. Twelve surface soil samples were analyzed for PCBs, and all twelve samples indicated elevated concentrations of PCBs above the recommended action level of 1 ppm (OHM, July 1997).

An extensive soil investigation was conducted from January to March 1997 to delineate the extent of contaminated soil in the vicinity of Building 35 above cleanup levels, which were established at 1 ppm in surface soil and 10 ppm in subsurface soil to meet USEPA and NYSDEC guidelines. A total of 140 Geoprobe® borings were installed in both the surface and subsurface soils surrounding Building 35, including three borings conducted underneath the building floor. Soil samples were analyzed for total PCBs in the field using a gas chromatograph with an electron capture detector. In addition, eight groundwater samples were collected during the Geoprobe® activities, and were analyzed for total PCBs, Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), pesticides, and metals (OHM, July 1997).

Results indicated widespread PCB contamination throughout the subsurface soils and also indicated possible groundwater contamination. Soil detections for PCBs ranged from non-detectable levels to 3,079 ppm. Several hot spots were identified during the investigation, with PCB concentrations above regulatory action levels down to the 6 to 7 ft depth interval. No correlation was found between PCB concentration and sample depth, nor between PCB concentration and distance from the building, indicating that the contamination may have been due to numerous sources, or the result of using fill at the site which potentially contained PCBs (OHM, July 1997).

Of the eight groundwater samples collected, seven indicated PCB concentrations above the PCB action level (0.1 micrograms per liter [µg/L]). The highest total PCB concentration (210 µg/L) was reported from sample B035-GW05, located near the southeast corner of Building 35. No VOCs or SVOCs were detected above regulatory action levels, but two pesticides, dieldrin and endrin, and several metals were detected at concentrations above action levels. Two chlorinated VOCs were also reported above detection limits at B035-GW07, total 1,2-dichloroethylene (DCE) at 5 µg/L, and vinyl chloride at 1 µg/L. Results indicated that previous waste storage

activities had potentially impacted the local groundwater conditions, but were inconclusive because the Geoprobe® samples collected were characterized with high suspended solids content, which is associated with higher concentrations of pesticides and metals due to the adsorption of these contaminants to fine particulates (OHM, July 1997).

A remedial action was conducted in 1997 to demolish Building 35, excavate, transport, and dispose of PCB-contaminated soil and debris, and backfill the area with clean soil after analysis of confirmation samples. In total, approximately 24,414 tons of PCB-contaminated soil/concrete were removed. An estimated 20,078 tons were disposed of off-site as non-hazardous soil/concrete, and 4,336 tons as hazardous soil (IT, May 1999).

In Spring 1998, OHM installed four groundwater monitoring wells within the Building 35 area to characterize groundwater conditions and to determine the local groundwater flow direction. B035MW-4 is located near the intersection of two storm drains within the site boundaries – one 66-inch storm drain running from the northwest to the southeast near the southwest corner of Building 36 and one 30-inch drain running perpendicular from the southwest to the 66-inch drain – to assess any impacts the storm drains might have on groundwater flow. B035MW-3 is located near the highest concentration of PCBs detected in the soil samples, which was the same location with the highest PCB concentration in groundwater samples collected with the Geoprobe®. B035MW-1 and -2 were positioned to monitor areas southwest and north of Building 35, respectively. The total depth of each well is approximately 14 ft bgs.

Two groundwater monitoring rounds were conducted in May and July 1998, when samples were submitted for PCBs, VOCs, SVOCs, pesticides, and metals analyses. Results indicated two VOCs – vinyl chloride and total 1,2-DCE (including both the cis and trans isomers) – at levels above NYS Class GA Groundwater Standards in B035MW-4; total 1,2-DCE only was reported above the NYS Groundwater Standard in B035MW-3 (8 µg/L). Concentrations were reported up to 6 µg/L and 42 µg/L for vinyl chloride and 1,2-DCE, respectively, both in B035MW-4. No PCBs were reported above the detection limit during either sampling round (1 µg/L [2 µg/L for arochlor-1221 only] for May 1998 and 0.06 µg/L for July 1998) (OHM, April 2000).

In addition, during the two groundwater sampling rounds, several metals were reported at levels above NYS Groundwater Standards, including iron, manganese, sodium, lead, antimony, copper, zinc, chromium, arsenic, and thallium. Samples were collected using a disposable bailer and were submitted unfiltered for total metals analysis.

In accordance with the closure requirements under the RCRA Permit for Building 35, threats to human health and the environment have been minimized or eliminated (i.e., source areas have been removed). The Air Force plans to monitor, under the On-Base Groundwater Contamination AOC, residual groundwater contamination for the COCs on an annual basis with a joint review by NYSDEC, USEPA, and the AFRPA after 5 years; this intention was approved by NYSDEC

in a letter dated December 8, 1999 (OHM, April 2000). The site will be included in the next 5-year review which is scheduled for 2010.

3.4 BUILDING 35 GROUNDWATER SAMPLING PLAN

The original sample analysis summary, which has since been updated / modified, is provided in Table 3-1 in Appendix A. The site features and existing monitoring wells are illustrated in Figure 3-1 in Appendix A.

3.5 GROUNDWATER SAMPLING RESULTS 2002 THROUGH 2009

FPM performed annual groundwater sampling in March 2002, March 2003, June 2004, March 2005, March 2006, April 2007, April 2008, and March 2009. Additional sampling was performed in December 2008 and February 2009. This additional sampling was performed to assess groundwater conditions before and after the Newman's Zone® injection, which was performed on December 10th, 2008. In March 2002, the groundwater at the Building 35 site was monitored for VOCs (SW8260 AFCEE QAPP 3.1 List), SVOCs (SW8270 AFCEE QAPP 3.1 List), and total and dissolved metals (SW6010 AFCEE QAPP 3.1 List plus lead and mercury). Total metals analysis was performed on groundwater that contained suspended solids and dissolved metals analyses were performed on the groundwater after filtration removed the suspended solids. The recommendations in the Revised On-Base Groundwater Report (FPM, November 2004) were implemented during the March 2005 sampling round, and included only one well (B035MW-04) which was sampled for a short list of VOCs only.

The field activities summary table is provided in Table 3-2 in Appendix A. The daily Chemical Quality Control Reports (CQCRs) are attached in Appendix B. The validated lab data are attached in Appendix C and the raw lab data are attached in Appendix D. The analytical results for compounds detected in the groundwater (GW) at the Building 35 AOC are shown in Table 3-3 in Appendix A. Please note that no SVOCs were reported above the detection limits.

In order to increase the readability of the report, all discussion of past sampling rounds has been eliminated. Detailed descriptions of past sampling rounds can be found in the Annual 2008 Monitoring Report (FPM, April 2009). The discussion of site activities has been preserved to inform the reader of pertinent information.

In December 2008, baseline sampling was performed to assess the groundwater conditions before the planned Newman Zone® injection.

<u>December 2008:</u>
Monitoring well B035MW-4 was the only well sampled in December 2008 prior to the Newman Zone® injection. Analyses were performed for chlorinated ethenes only for VOCs, and alkalinity, chloride, nitrate, sulfate, and total organic carbon (TOC) for groundwater chemistry.

- VOC exceedance: 18.4 µg/L for cis-1,2-DCE in monitoring well B035MW-4.

The VOC results were similar to those reported in previous sampling rounds: one exceedance for cis-1,2-DCE at 18.4 µg/L and detections of perchloroethylene (PCE), trichloroethylene (TCE), trans-1,2-DCE, and vinyl chloride (VC) which were all below their respective NYSDEC Class GA Groundwater Standards (Table 3-3 in Appendix A). Groundwater chemistry analyses have not been performed before, therefore no comparison can be made.

The Newman Zone® injection was performed on December 10th, 2008. A weight of 1,000 pounds of Newman Zone® (a proprietary vegetable oil emulsion with lactate) was injected on December 10th, 2008. This Newman Zone® was injected in a 5% solution which resulted in a total injection volume of 2,360 gallons. Afterwards, a backflush was performed with 250 gallons of drinking water to increase the area of influence.

Injection performance monitoring was performed in February 2009 to evaluate the effectiveness of the Newman Zone® injection.

<u>February 2009:</u>
Monitoring well B035MW-4 was the only well sampled in February 2009. Analyses were performed for chlorinated ethenes only for VOCs, and alkalinity, chloride, nitrate, sulfate, and TOC for groundwater chemistry.

- VOC exceedance: 16.4 µg/L for cis-1,2-DCE in monitoring well B035MW-4.

The VOC results were similar to those reported in previous sampling rounds: one exceedance for cis-1,2-DCE at 16.4 µg/L and detections of PCE, TCE, trans-1,2-DCE, and VC which were all below their respective NYSDEC Class GA Groundwater Standards (Table 3-3 in Appendix A). Groundwater chemistry results were different from the past sampling round; chloride increased, sulfate decreased and TOC increased from December 2008 to February 2009.

<u>March 2009:</u>
Monitoring well B035MW-4 was the only well sampled in the March 2009 sampling round. Analyses were performed for chlorinated ethenes only for VOCs, and alkalinity, chloride, nitrate, sulfate, and TOC for groundwater chemistry.

The VOC results were similar to those reported in previous sampling rounds: one exceedance for cis-1,2-DCE at 17.4 µg/L and detections of PCE, TCE, trans-1,2-DCE, and VC which were all below their respective NYSDEC Class GA Groundwater Standards (Table 3-3 in Appendix A). Groundwater chemistry results were similar to the February 2009 results.

- VOC exceedance: 17.4 µg/L for cis-1,2-DCE in monitoring well B035MW-4.

The December 2008 sampling round was performed to assess the groundwater conditions before the Newman Zone® injection. The February 2009 sampling round was performed to assess the groundwater conditions after the Newman Zone® injection. The Newman Zone® injection was recommended in the 2008 Annual Monitoring Report (FPM, April 2009). Newman Zone® is a proprietary emulsion of soybean oil in water with surfactants, which is injected in the subsurface as a carbon source to enhance biological breakdown of chlorinated hydrocarbons.

The VOC results for the February 2009 and March 2009 sampling rounds (after injection) are similar to the results from the April 2008 and December 2008 sampling rounds (before injection); one exceedance is reported for cis-1,2-DCE (between 12.0 and 18.4 µg/L) and detections below NYS Class GA Groundwater Standards are reported for PCE, TCE, trans-1,2-DCE, and VC.

In the groundwater chemistry results, some changes for chloride, sulfate and TOC are reported between the samples collected before the Newman Zone® injection and after: chloride results sharply increased after the injection sulfate decreased, and TOC increased. The increase in chloride detections is likely the result of the injection, as drinking water was used to dilute the Newman Zone® material to a 5-percent solution and drinking water is treated with chlorine. The sulfate decrease is the result of the Newman Zone® injection. The Newman Zone® material is a soybean oil emulsion and is injected as a carbon source to enhance natural attenuation. According to the Principles and Practices of Enhanced Anaerobic Bioremediation of Chlorinated Solvents (AFCEE, August 2004), highly reducing environments due to high levels of carbon (Type 1 Environment) typically are characterized by low concentrations of dissolved oxygen, nitrate and sulfate. The sulfate level decreased from 13 mg/L before the injection to 1.4 mg/L after. The TOC increase is also a direct result of the Newman Zone® injection. As stated above, Newman Zone® is a carbon source injected to enhance natural attenuation. This results in a carbon increase in the injection zone which then results in higher TOC levels in the samples after injection. The TOC level increased from 2.0 mg/L before injection to 9.2 mg/L after.

3.6 CONCLUSIONS AND MONITORING RECOMMENDATIONS

At the time of sampling (three months after injection, the Newman Zone® injection has not shown a significant effect; little or no change was reported for the chlorinated solvent concentrations at the Building 35 AOC site. A small influence from the Newman Zone® injection was reported for groundwater chemistry, but the ultimate goal of all VOC concentrations below NYSDEC Class GA Groundwater Standards has not yet been achieved.

Enhanced bioremediation is a process that typically requires several years to see its full effect. No additional action is recommended at this time. Monitoring will continue on an annual basis at monitoring well B035MW-4. Table 3-4 in Appendix A shows the historical and proposed groundwater sampling and analysis plan.

4 REFERENCES

Air Force Center for Environmental Excellence, Quality Assurance Project Plan, Version 3.1, August 2001.

Air Force Center for Environmental Excellence, Principles and Practices of Enhanced Anaerobic Bioremediation of Chlorinated Solvents, Final, August 2004.

Ecology and Environment, Inc., Final Report for Supplemental Investigation of Areas of Concern, Former Griffiss Air Force Base, July 1998 (G-103A).

FPM Group Ltd., Draft Monitoring Report, On-Base Groundwater AOCs, Revision 1.0, November 2004 (G-353).

FPM Group Ltd., Draft April 2008 Annual On-base Groundwater AOCs Monitoring Report, Rev. 0.0, April 2009.

FPM Group, Ltd., Draft Report, AOC Long-Term Monitoring Baseline Study, Griffiss Air Force Base, Revision 1.0, July 2000 (G-208).

FPM Group Ltd., Monitoring Report (Spring 2007), On-Base Groundwater AOCs, Revision 0.0, August 2007 (G-353).

IT Corporation, Final Closure Report, Interim Remedial Action, Building 35 Area, former Griffiss Air Force Base, Rome, New York, May 1999.

LAW Engineering and Environmental Services, Inc., Draft Final Primary Report, Remedial Investigation at Griffiss Air Force Base, December 1996 (G-018).

NOAA National Oceanic and Atmospheric Administration. National Atmospheric Deposition Program/National Trends Network, 2007 Annual & Seasonal Data Summary for site NY52, NY29, NY20. Printed 11/13/2008

OHM Remediation Services Corporation, Remedial Investigation Results and Action Plan for the Building 35 and 36 Closure Area at the former Griffiss Air Force Base, Rome, New York, July 1997.

OHM Remediation Services Corporation, Final Building 35 Closure Report, former Griffiss Air Force Base, Rome, New York, April 2000.

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Appendix A
Groundwater Monitoring Sampling Results: Figures and Tables

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Figures

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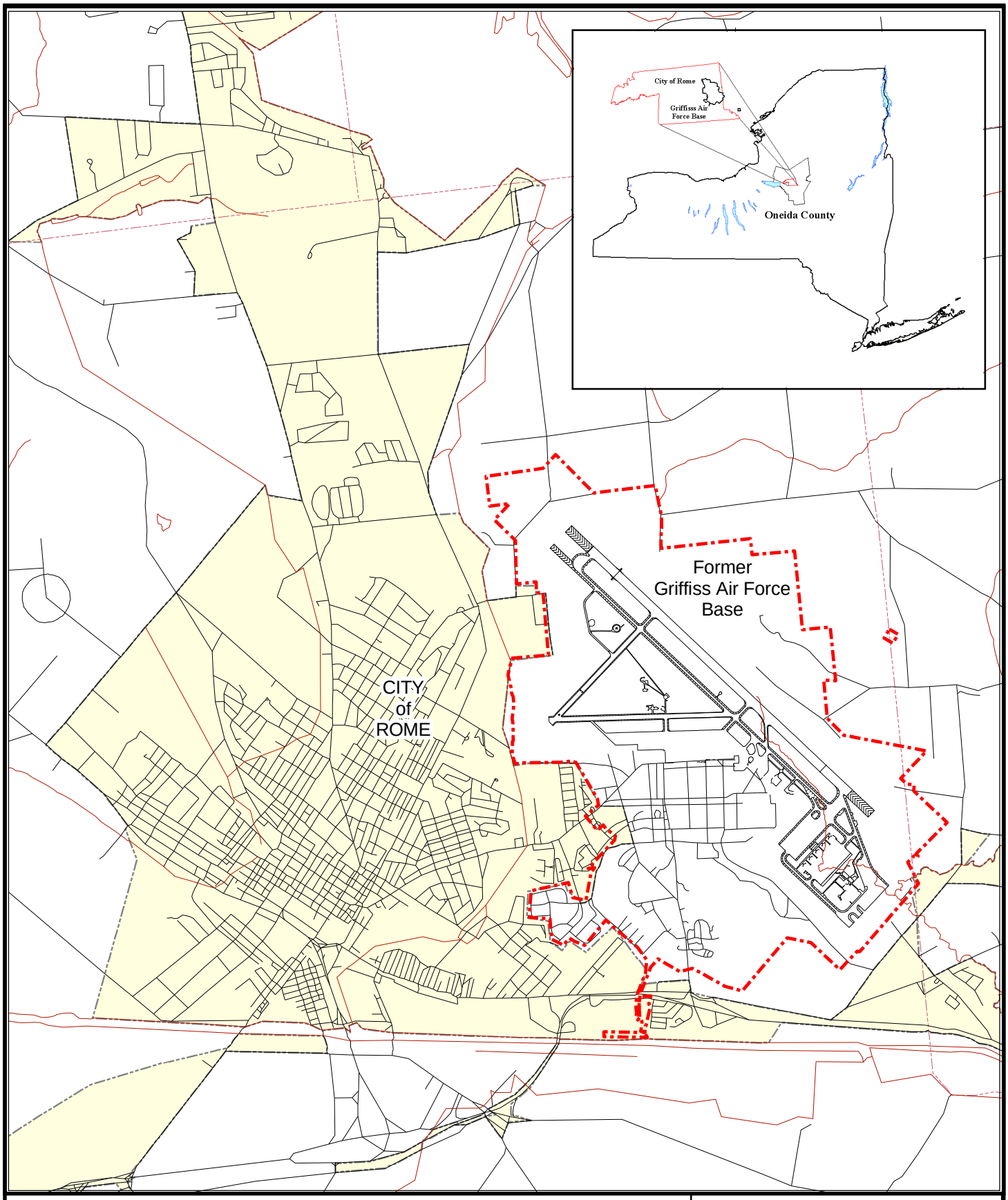

FIGURE 1-1
Base Location Map

N

4,800 2,400 0 4,800 9,600

Feet

UNITED STATES AIR FORCE
GRIFFISS AIR FORCE BASE
ROME,NEW YORK

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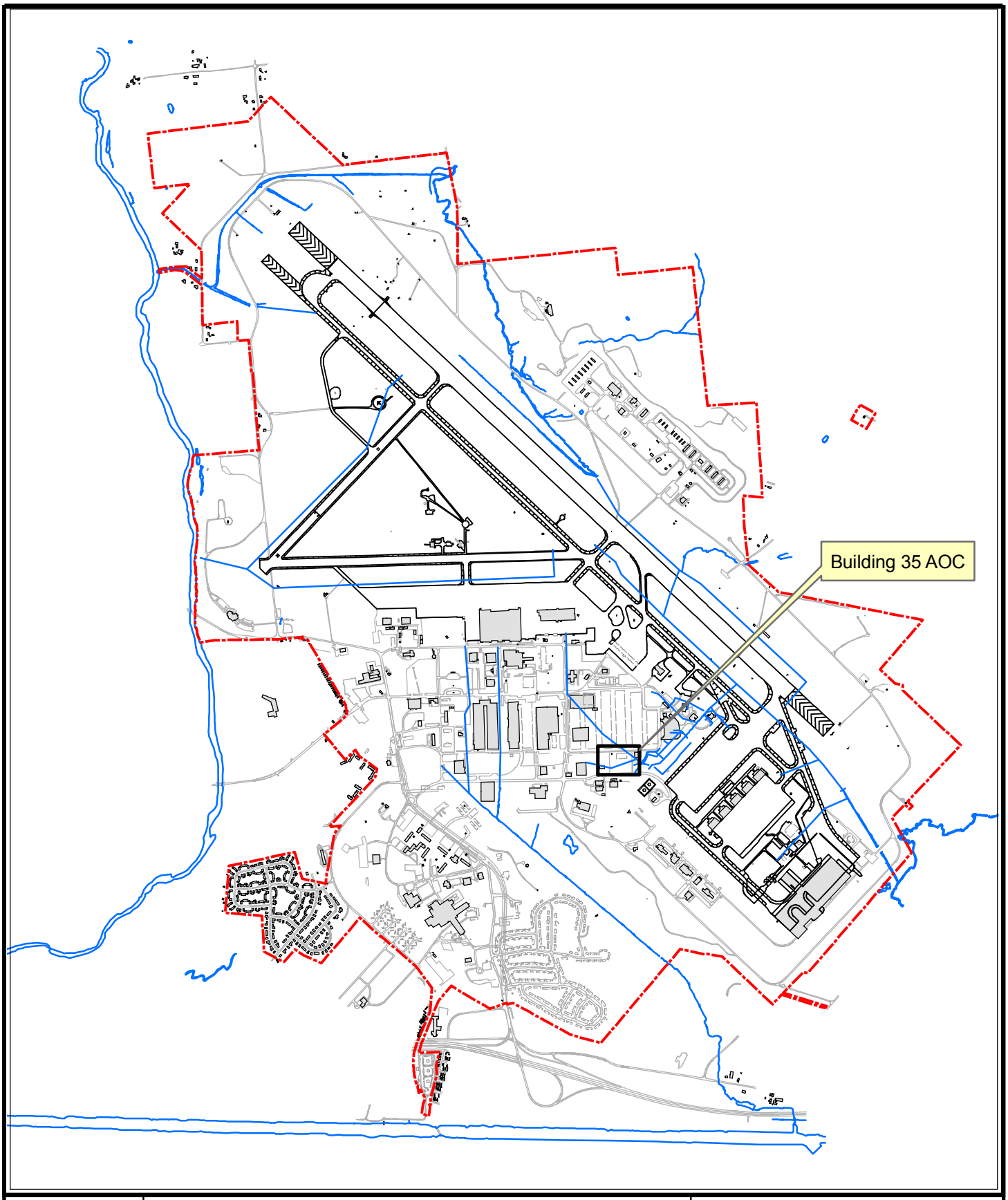
Y:\GIS_Projects\Griffiss\Projects\Misc\Base_Location_Map\fig1-1_Base_Location_Map-Holes_Left.mxd



Site Location

Legend

Boundary
Hydro
Airfield
Road

Facilities

Existing
Demolished

N

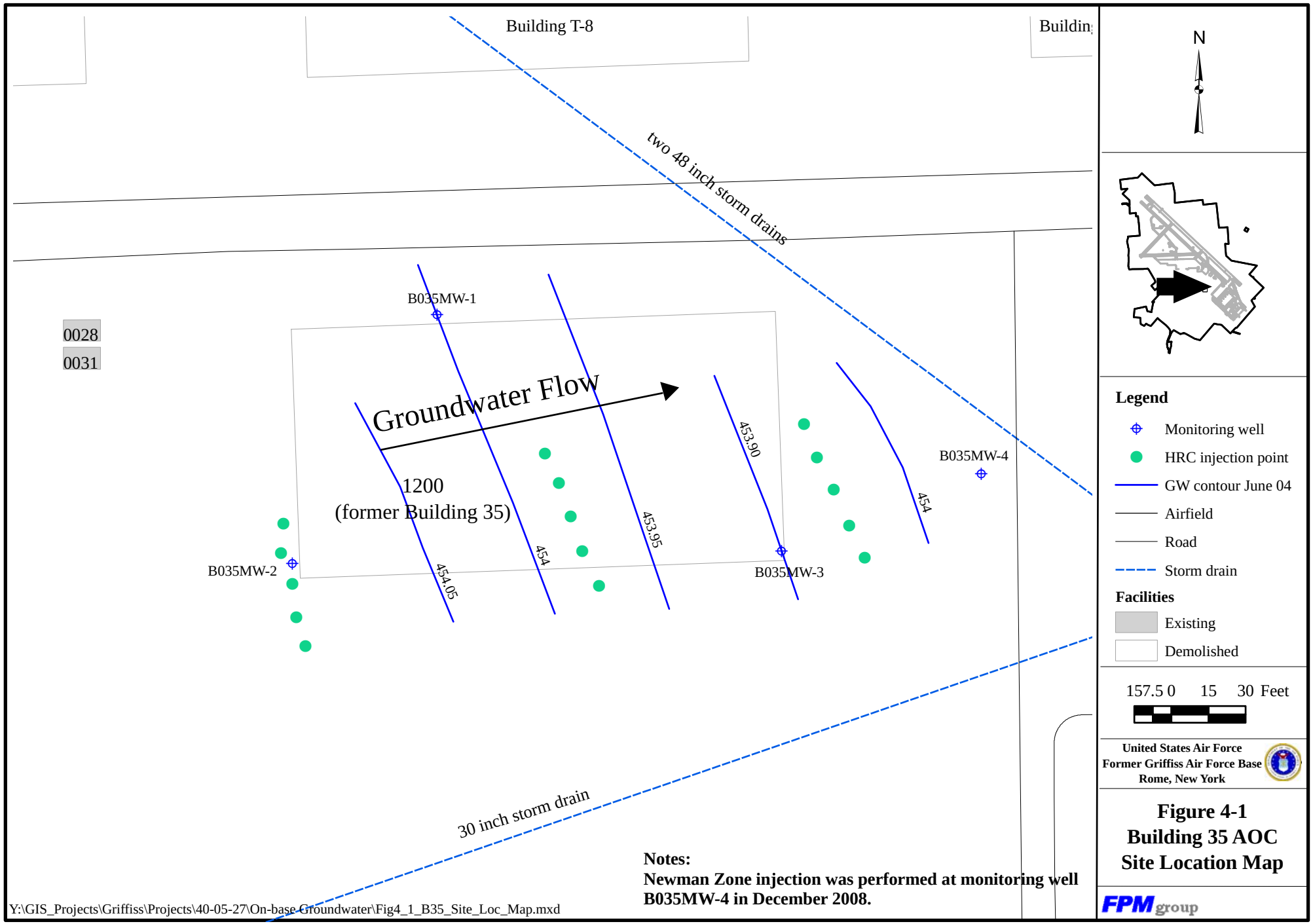
780 390 0 780 1,560 Feet

United States Air Force
Former Griffiss Air Force Base
Rome,New York

Figure 1-2
On-Base Groundwater AOC
Location Map

FPM group

Y:\GIS_Projects\Griffiss\Projects\40-05-27\On-base Groundwater\Fig1_2_AOC_Loc_Map.mxd


Building T-8
Buildin
two 48 inch storm drains
B035MW-1
0028
0031
Groundwater Flow
1200
(former Building 35)
B035MW-2
B035MW-3
B035MW-4
454.05
454
453.95
453.90
454
30 inch storm drain
Notes:
Newman Zone injection was performed at monitoring well B035MW-4 in December 2008.
Y:\GIS_Projects\Griffiss\Projects\40-05-27\On-base Groundwater\Fig4_1_B35_Site_Loc_Map.mxd
N
Legend
Monitoring well
HRC injection point
GW contour June 04
Airfield
Road
Storm drain
Facilities
Existing
Demolished
157.5 0 15 30 Feet
United States Air Force
Former Griffiss Air Force Base
Rome, New York
Figure 4-1
Building 35 AOC
Site Location Map
FPM group

Tables

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Table 3-1
Building 35 Initial Groundwater Monitoring Sample Analysis Summary

Sampling Locations	Screen Interval Depth (ft MSL)	Sampling Rationale	Target Analytes/EPA Method Numbers	# of Samples[1]	Sampling Frequency	Evaluation Criteria
B035MW-1 B035MW-2 B035MW-3 B035MW-4	449.2 – 459.2 449.2 – 459.2 449.0 – 459.0 449.3 – 459.3	Upgradient Crossgradient Potential Source Area Downgradient of potential source	VOCs – (AFCEE QAPP 3.1 List) / SW8260. SVOCs – (AFCEE QAPP 3.1 List) / SW8270. Total and Dissolved Metals – (AFCEE QAPP 3.1 List) / SW6010.	4	Annually	If downgradient wells do not exhibit exceedances of NYS Groundwater Standards for two successive monitoring events, evaluate monitoring frequency and number of wells.

Notes:
[1] Please refer to the FSP for details concerning the number of QA/QC samples and their locations. At least one MS/MSD and two field duplicates were collected per SDG; one equipment blank per day and one ambient blank per day; one trip blank per cooler containing VOCs

Table 3-2
Building 35 Site Field Activity Summary

Activity	Rationale	Analytical Parameters
Confirmation of groundwater flow direction.	The groundwater flow direction and elevation was confirmed using the existing and newly installed monitoring wells.	VOCs – (Specified COC Short List) / SW8260 COCs - PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and VC.
Sampling of four on-site monitoring wells.	Annual sampling was started in March 2002 for VOCs, SVOCs and total and dissolved metals. SVOC and metals sampling was discontinued after July 2004. Three sampling locations (B035MW-01, -02, and -03) were discontinued also due to the lack of detections/exceedances related to the site.	
HRC® injection at the Building 35 AOC.	HRC® was injected in December 2005 at the Building 35 AOC in a 50-ft wall with 5 injection points. HRC® was injected from 20 to 10 ft bgs at a rate of 8 pounds of product per foot.	
2nd HRC® injection at the Building 35 AOC.	HRC® was injected in August 2006 at the Building 35 AOC in two 50-ft walls with 5 injection points. HRC® was injected from 20 to 10 ft bgs at a rate of 8 pounds of product per foot.	
Newman Zone® injection at the Building 35 AOC.	1,000 pounds of Newman Zone® (a proprietary vegetable oil emulsion with lactate) was injected on 10 December 2008 in monitoring well B035MW-4 at the Building 35 AOC.	

Table 3-3
Building 35 Groundwater Sampling Results
March 2002 through March 2009 Sampling Rounds

Sample Location	**NYSDEC GW Standards (µg/L)**	**B035MW-1**					
Sample ID		**B035M0115AA**		**B035M0115BA**		**B035M0115CA**	
Date of Collection		**3/12/02**		**3/11/03**		**6/9/04**	
Sample Depth (ft BTOIC)		**15**		**15**		**15**	
VOCs (µg/L)							
acetone	5	U		U		U	
trichloroethylene (TCE)	5	0.48 F		0.48 F		0.82 F	
cis-1,2-dichloroethylene	5	2.2		2.4		3.5	
vinyl chloride	2	U		0.33 F		0.33 F	
SVOCs (µg/L)							
No SVOCs were detected.							
Metals (µg/L)		**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**
aluminum	--	233	U	43.0 F	U	U	U
arsenic	25	U	5.4 F	U	U	U	U
barium	1,000	47.6	35.8	33.7 F	33.3 F	78.0	73.2
calcium	--	122,000	95,600	90,600	94,400 B	188,000	178,000
chromium	50	U	U	U	1.1 F	U	U
copper	200	U	4.5 F	U	1.3 F	3.6 F	U
iron**	300	451	U	42.3 F	U	65.0 F	U
magnesium	--	10,400	9,660	8,270	8,830 B	19,400	19,000
manganese**	300	2,200	U	1800 B	1,670	3,370	3,220
nickel	100	U	U	U	U	1.8 F	U
potassium	--	2,120	1,940	1900	1,940 B	2,630 F	2,880 F
selenium	10	U	29.4	U	U	U	U
sodium	20,000	34,100	31,700	29,000	30,700	112,000	111,000
zinc	--	U	U	U	4.2 F	7.5 F	U

Notes:
BTOIC - below top of inner casing.
B - The analyte was also reported in a blank associated with this sample.
F - Analyte was positively identified but the associated numerical value is below the RL.
M - Matrix effect was present.
U - Analyte analyzed for, but not detected. The associated numerical value is at or below the method detection limit.
-- Indicates no NYS GA Groundwater Standard.
** - The NYS Groundwater Standard of 500 µg/L applies to the sum of iron and manganese.
- Indicates an exceedance of the NYS Groundwater Standard.

Table 3-3 (Continued)
Building 35 Groundwater Sampling Results
March 2002 through March 2009 Sampling Rounds

Sample Location	NYSDEC GW Standards (µg/L)	B035MW-2					
Sample ID		B035M0215AA		B035M0215BA		B035M0215CA	
Date of Collection		3/12/02		3/11/03		6/9/04	
Sample Depth (ft BTOIC)		15		15		15	
VOCs (µg/L)							
acetone	5	U		U		1.4 F	
trichloroethylene (TCE)	5	0.48 F		0.33 F		U	
cis-1,2-dichloroethylene	5	0.58		0.73		1.2	
vinyl chloride	2	U		U		U	
SVOCs (µg/L)							
No SVOCs were detected.							
Metals (µg/L)		**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**
aluminum	--	238	U	58.5 F	U	57.4 F	U
arsenic	25	U	4.9 F	U	U	U	U
barium	1,000	38.1	21.5	27.1 F	20.0 F	26.2 F	19.5 F
calcium	--	83,200	68,300	80,400	83,000 B	75,400	69,600
chromium	50	U	U	U	1.0 F	U	U
copper	200	U	2.8 F	1.9 F	4.2 F	4.2 F	2.8 F
iron**	300	515	U	168 F	U	U	U
magnesium	--	6,790	6,640	6,790	7,250 B	7,920	7,660
manganese**	300	3,530	615	2,990 B	1,510	2,340	423
nickel	100	U	1.9 F	U	U	1.8 F	U
potassium	--	1,660	1,570	1,490	1,540 B	1,440	1,290
selenium	10	U	25.4	U	U	U	U
sodium	20,000	89,100	86,800	65,700	71,200	47,200	36,600
zinc	--	U	U	U	3.1 F	U	U

Notes:
BTOIC - below top of inner casing.
B - The analyte was also reported in a blank associated with this sample.
F - Analyte was positively identified but the associated numerical value is below the RL.
M - Matrix effect was present.
U - Analyte analyzed for, but not detected. The associated numerical value is at or below the method detection limit.
-- Indicates no NYS GA Groundwater Standard.
** - The NYS Groundwater Standard of 500 µg/L applies to the sum of iron and manganese.
- Indicates an exceedance of the NYS Groundwater Standard.

Table 3-3 (Continued)
Building 35 Groundwater Sampling Results
March 2002 through March 2009 Sampling Rounds

Sample Location	NYSDEC GW Standards (µg/L)	B035MW-3					
Sample ID		B035M0315AA		B035M0315BA		B035M0315CA	
Date of Collection		3/12/02		3/11/03		6/9/04	
Sample Depth (ft BTOIC)		15		15		15	
VOC (µg/L)							
acetone	5	U		U		U	
tetrachloroethylene (PCE)	5	U		U		U	
trichloroethylene (TCE)	5	U		U		U	
cis-1,2-dichloroethylene	5	0.23 F		0.54 ♦		0.88 F	
trans-1,2-dichloroethylene	5	U		U		U	
vinyl chloride	2	U		0.24 F♦		U	
SVOCs (µg/L)							
No SVOCs were detected.							
Metals (µg/L)		**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**
aluminum	--	1,280	U	259 ♦	U	277	U
arsenic	25	U	U	U	U	U	U
barium	1,000	42.0	15.2	24.7 F	19.8 F♦	32.9 F	29.6 F
calcium	--	31,300	31,000	37,600	38,600 B♦	52,000	53,200
chromium	50	2.2 F	U	U	U	U	U
copper	200	U	2.6 F	U	2.5 F♦	4.2 F	3.0 F
iron**	300	1,400	U	255 ♦	U	324	U
magnesium	--	3,290	3,040	4,000	4180 B♦	5,640	5,900
manganese**	300	2,080	1.1 F	339 B	0.60 F♦	227	11.3
molybdenum	--	U	U	U	1.9 F	U	U
nickel	100	1.6 F	U	U	U	U	U
potassium	--	871	437 F	703 F	628 F♦	941 F	801 F
selenium	10	U	7.4 F	U	5.3 F	U	U
sodium	20,000	4,950	4,860	6,150	6,310 ♦	11,300	11,500
vanadium	--	3.4 F	U	U	U	0.90 F	U
zinc	--	8.5 F	U	8.5 F	1.1 F	U	U

Notes:
BTOIC - below top of inner casing.
B - The analyte was also reported in a blank associated with this sample.
F - Analyte was positively identified but the associated numerical value is below the RL.
M - Matrix effect was present.
U - Analyte analyzed for, but not detected. The associated numerical value is at or below the method detection limit.
-- Indicates no NYS GA Groundwater Standard.
♦ - Concentrations are from duplicate sample, which was greater than the original sample.
** - The NYS Groundwater Standard of 500 µg/L applies to the sum of iron and manganese.
- Indicates an exceedance of the NYS Groundwater Standard.

Table 3-3 (Continued)
Building 35 Groundwater Sampling Results
March 2002 through March 2009 Sampling Rounds

Sample Location	**NYSDEC GW Standards (µg/L)**	**B035MW-4**									
Sample ID		**B035M0415AA**	**B03M0415BA**	**B035M0415CA**	**B035M0415DA**	**B035M0415EA**	**B035M0416FA**	**B035M0416GA**	**B035M0416HA<>**	**B035M0416GB**	**B035M0416HA**
Date of Collection		**3/12/02**	**3/11/03**	**6/9/04**	**3/29/05**	**3/24/06**	**4/18/07**	**4/8/08**	**12/10/08**	**2/26/09**	**3/24/09**
Sample Depth (ft BTOIC)		**15**	**15**	**15**	**15**	**15**	**16**	**16**	**16**	**16**	**16**
VOC (µg/L)											
acetone	5	U	U	1.8 F	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tetrachloroethylene (PCE)	5	0.84	0.82	0.81 F	0.63	0.66	0.42 F	0.320 F	0.520 F	0.590 F	0.620 F
trichloroethylene (TCE)	5	0.75 ♦	0.55	0.97 F	0.28 F	0.35 F	0.35 F	0.250 F	0.450 F	0.510 F	0.520 F
cis-1,2-dichloroethylene	5	21	18	32	7.8	9.3	13.9	12.0	18.4	16.4	17.4
trans-1,2-dichloroethylene	5	0.37 F♦	0.22 F	0.69 F	U	U	0.39 F	0.310 F	0.360 F	0.400 F	0.380 F
vinyl chloride	2	0.75	0.54	1.1	0.45 F	0.55	0.88 F	0.560 F	0.670 F	0.550 F	1.11
SVOCs (µg/L)											
No SVOCs were detected.											
Wet Chemistry Data (mg/L)											
Alkalinity	--	N/S	N/S	N/S	N/S	N/S	N/S	N/S	280	290	280
Chloride	250	N/S	N/S	N/S	N/S	N/S	N/S	N/S	2.4	60 J	73
Nitrogen, Nitrate	10	N/S	N/S	N/S	N/S	N/S	N/S	N/S	U	U	U
Sulfate	250	N/S	N/S	N/S	N/S	N/S	N/S	N/S	13	1.4	2.7
TOC	--	N/S	N/S	N/S	N/S	N/S	N/S	N/S	2.0	9.2	8.2
Metals (µg/L)		**Total** / **Dissolved**	**Total** / **Dissolved**	**Total** / **Dissolved**							
aluminum	--	143 F	U	215	U	U	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
arsenic	25	U	6.9 F♦	U	U	U	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
barium	1,000	211	174	96.0	92.6	394	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
calcium	--	93,100♦	60,600 M	90,900	91,200 B	81,000	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
chromium	50	U	U	U	U	U	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
copper	200	U	2.3 F	U	1.6 F	5.7 F	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
iron**	300	187	U	242	U	80.0 F	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
magnesium	--	9,250	9,000	7,540	7,840 B	12,100	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
manganese**	300	625	U	364 B	11.9	1,170	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
molybdenum	--	U	U	U	U	U	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
nickel	100	U	U	U	U	U	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
potassium	--	1,130	1,110	1,280	1200 B	1,380	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
selenium	10	U	25.4 ♦	U	U	U	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
sodium	20,000	42,000	40,600	25,000	25,700	22,000	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
vanadium	--	U	U	U	U	U	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
zinc	--	U	U	4.5 F	U	U	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Notes:
BTOIC - below top of inner casing.
B - The analyte was also reported in a blank associated with this sample.
F - Analyte was positively identified but the associated numerical value is below the RL.
J - The analyte was positively identified, the quantity is an estimate.
M - Matrix effect was present.
N/A - Not analyzed.
N/S - Not sampled.
U - Analyte analyzed for, but not detected. The associated numerical value is at or below the method detection limit.
-- Indicates no NYS GA Groundwater Standard.
♦ - Concentrations are from duplicate sample, which was greater than the original sample.
** - The NYS Groundwater Standard of 500 µg/L applies to the sum of iron and manganese.
- Indicates an exceedance of the NYS Groundwater Standard.
<> - Sample is not included in the annual sampling round, sample was collected to monitor ground water before Newman Zone injection.

Table 3-4
Building 35 Proposed Groundwater Sampling and Analysis Plan

Sampling Locations	Sampling Rationale	Target Analytes / Method Numbers	Sampling Frequency	Evaluation Criteria / Modification Justification
B035MW-4	Downgradient of potential source	VOCs – (Specified COC Short List) / SW8260 COCs - PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and VC.	Annual	Continue to verify the cis-1,2- DCE attenuation. Analysis for VOCs (chlorinated ethenes short list only) will occur annually, after which the results will be evaluated to assess future monitoring frequency.
Recommended LTM Network Changes				
None				

Table 3-4 (Continued)
Building 35 Proposed Groundwater Sampling and Analysis Plan

Historical LTM Network Changes				
July 2004				
Analysis / Frequency Changes				
B035MW-4	Downgradient of potential source	VOCs – (Specified COC Short List) / SW8260 COCs - PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and VC.	Annual	Continue in the monitoring network to verify the attenuation of cis-1,2-DCE. Analysis for VOCs (chlorinated ethenes shortlist only) will occur for four rounds, after which the results will be evaluated to assess future monitoring frequency. Discontinue sampling for SVOCs since no detections have been reported in any sampling round. Discontinue metals sampling at the Building 35 Site since none of the reported exceedances can be attributed specifically to the site.
Removed Sampling Location				
B035MW-1	Upgradient		Discontinued from annual basis.	Discontinue sampling based on no reported exceedances.
B035MW-2	Crossgradient			
B035MW-3	Potential Source Area			

Appendix B
Daily Chemical Quality Control Reports

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Daily Chemical Quality Control Report

Project/Delivery Order Number: F41624-03-D-8601-0027 Date: 12/10/08

Project Name/Site Number: Griffiss Landfills Sites sampling (Landfill 6) and Site Building 35.

Weather conditions: Temperature: 54 Average barometric reading: 29.9
Wind direction and speed: Southwest 7.0 mph
Significant wind changes: None.

General description of tasks completed: Bladder pump sampling at Site Landfill 6 (TMCMW-9) and Site Building 35 (B035MW-4). Surface water sampling at Site Landfill 6 (LF6SW-1, -2, -3, and LF6WT-01). Leachate sampling at Site Landfill 6 (LF6LH-1 and -2).

Explain any departures from the SAP or deviations from approved procedures during the day's field activities: None.

Explain any technical problems encountered in the field or field equipment/field analytical instrument malfunction: None.

Corrective actions taken or instructions obtained from AFCEE personnel: No corrective actions necessary.

Sampling shipment completed: √ Yes □ No LSL Courier.

DCQCR Prepared by: Niels van Hoesel, FOM Date: 12 December 2008

CQCC Signature: Cornelia van Hoesel Date: 12/14/08

ATTACHMENTS:

Checklist	Daily Chemical Quality Control Report Attachments
√	✓ Field sampling forms
√	✓ Equipment Calibration Log
√	✓ Copies of COCs
	✓ SDG Table (See accompanying COCs)
√	✓ Daily Health and Safety Meeting Form

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: 40.05.27 Sampled by: JD IPC

Location and Site Code (SITEID): B35 (INJECTION OPERATIONS)

Well No. (LOCID): B35MW-4 Well Diameter (SDIAM): 2"

Date (LOGDATE): 12.10.06 Weather: Rain / 40°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (TOTDEPTH) _____ ft. (optional)

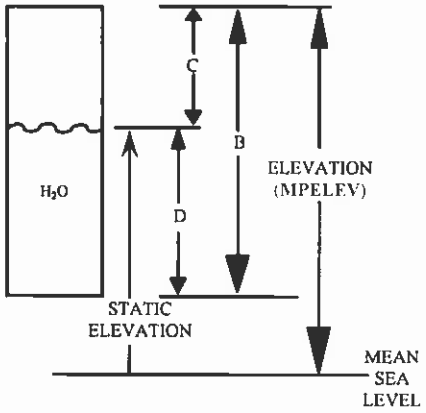
Measured Water Level Depth (C) (STATDEP) 9.16 ft

Length of Static Water Column (D) = (B) _____ - (C) _____ = (D) _____ ft (optional)

Pump Intake Depth (ft): 15

Depth during Purging/Sampling _____ ft
(provide range)

Comments (re Depth during purging/sampling): _____



Purge Date and Method: BLADDER PUMP _____

Physical Appearance/Comments: clear / no odor

Dissolved Ferrous Iron (mg/L): _____

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1134	9.16	5.97	65.2	10.67	81.9	10.55	284	400
1135		5.99	64.8	11.17	63.4	8.85	261	
1136		6.00	64.8	88.60	65.3	6.89	273	
1137		6.02	64.0	11.66	50.8	5.47	269	
1138		6.05	63.7	11.41	47.3	4.58	256	
1139		6.10	63.0	11.23	44.0	3.99	238	
1140		6.12	63.3	11.14	42.9	3.65	224	
1141		6.14	63.7	11.18	41.8	3.47	214	
1142		6.17	63.7	11.11	39.1	3.35	206	
1143		6.18	63.7	11.06	37.4	3.19	200	
1144		6.22	63.7	11.05	37.7	3.09	197	

Sample Time: 1150 Sample ID: ~~B35MW-4~~ B035M0416HA

Note: Maintain a flow rate of 200-500 mL/min during purging. Purge a minimum of 1L between readings. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: 40-05-27 Sampled by: JW/CS

Location and Site Code (SITEID): LF6

Well No. (LOCID): TMCMW-9 Well Diameter (SDIAM): 2"

Date (LOGDATE): 12/16/08 Weather: Snow/35°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (TOTDEPTH) _____ ft. (optional)

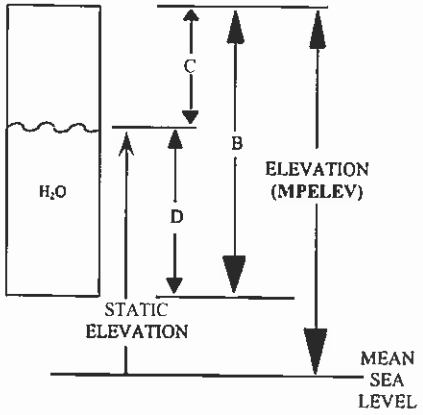
Measured Water Level Depth (C) (STATDEP) 2.29 ft.

Length of Static Water Column (D) = _____ (B) - _____ (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): 19

Depth during Purging/Sampling: 2.67 ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: BLADDER PUMP

Physical Appearance/Comments: clear/no odor

Dissolved Ferrous Iron (mg/L): _____

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1501	2.67	5.33	0.133	7.6	4.7	6.04	205	100 mL/min
1505		5.19	0.132	7.4	0.7	5.05	206	
1509		5.17	0.132	7.4	0.0	4.79	206	
1513		5.18	0.132	7.4	0.0	4.58	207	
1517		5.19	0.132	7.4	0.0	4.41	207	

Sample Time: 1520 Sample ID: [redacted] TMCM0919KA

Note: Maintain a flow rate of 200-500 mL/min during purging. Purge a minimum of 1L between readings. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

Page ___ of ___

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: 40-05-27 Sampled by: JW/CS

Location and Site Code (SITEID): LF6

Well No. (LOCID): LF6TMC54-1 Well Diameter (SDIAM): ___

Date (LOGDATE): 12/10/08 Weather: Rain/ 40°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (TOTDEPTH) _____ ft. (optional)

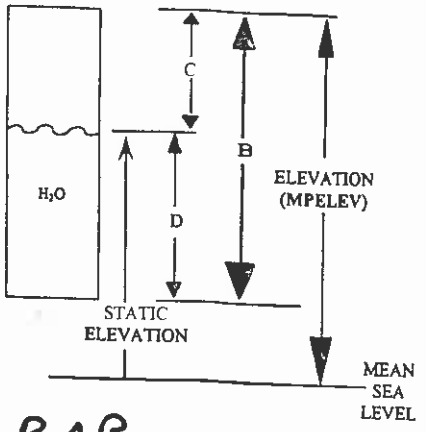
Measured Water Level Depth (C) (STATDEP) _____ ft.

Length of Static Water Column (D) = _____ (B) - _____ (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): _____

Depth during Purging/Sampling: _____ ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: ~~BLADDER PUMP~~ GRAB

Physical Appearance/Comments: clear/ no odor

Dissolved Ferrous Iron (mg/L): _____

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1030		5.38	80.4	6.3	47.4	10.37	238	

Sample Time: 1030 Sample ID: LF6SW0101KA

Note: Maintain a flow rate of 200-500 mL/min during purging. Purge a minimum of 1L between readings. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

Page ___ of ___

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: 40-05-27 Sampled by: JH/CS

Location and Site Code (SITEID): LF6

Well No. (LOCID): LF6TMCSW-2 Well Diameter (SDIAM): —

Date (LOGDATE): 12/10/08 Weather: Rain / 35°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (TOTDEPTH) _____ ft. (optional)

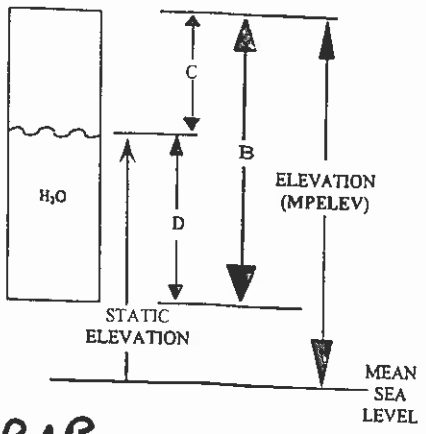
Measured Water Level Depth (C) (STATDEP) _____ ft.

Length of Static Water Column (D) = _____ (B) _____ (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): _____

Depth during Purging/Sampling: _____ ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: ~~BLADDER PUMP~~ GRAB

Physical Appearance/Comments: clear/no odor

Dissolved Ferrous Iron (mg/L): _____

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1045		5.24	73.9	4.9	62	10.54	215	

Sample Time: 1045 Sample ID: LF6SW0201KA

Note: Maintain a flow rate of 200-500 mL/min during purging. Purge a minimum of 1L between readings. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: 40-05-27 Sampled by: JWCS

Location and Site Code (SITEID): LF6

Well No. (LOCID): LF6TMCSW-3 ~~LF6SW0301KA~~ Well Diameter (SDIAM): —

Date (LOGDATE): 12/10/08 Weather: Rain/ 40°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (TOTDEPTH) _____ ft. (optional)

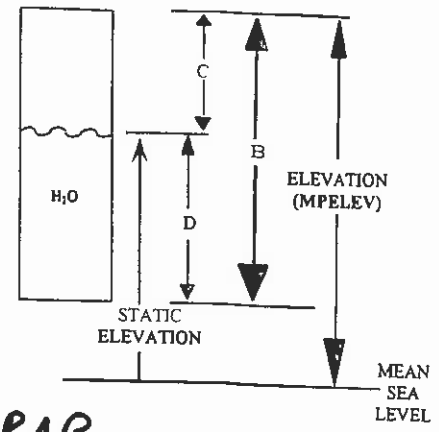
Measured Water Level Depth (C) (STATDEP) _____ ft

Length of Static Water Column (D) = _____ (B) - _____ (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): _____

Depth during Purging/Sampling: _____ ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: ~~BLADDER PUMP~~ GRAB

Physical Appearance/Comments: clear/no odor

Dissolved Ferrous Iron (mg/L): _____

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1100		6.27	71.2	6.2	61.4	10.2	137	

Sample Time: 1100 Sample ID: LF6SW0301KA

Note: Maintain a flow rate of 200-500 mL/min during purging. Purge a minimum of 1L between readings. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: 40-05-27 Sampled by: JH/CS

Location and Site Code (SITEID): LF6

Well No. (LOCID): RV-LF6LH-1 Well Diameter (SDIAM): —

Date (LOGDATE): 12/11/08 Weather: Rain/35°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (TOTDEPTH) _____ ft. (optional)

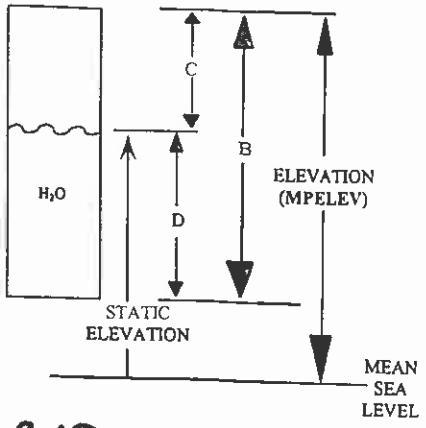
Measured Water Level Depth (C) (STATDEP) _____ ft.

Length of Static Water Column (D) = _____ (B) - _____ (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): _____

Depth during Purging/Sampling: _____ ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: BLADDER PUMP GRAB

Physical Appearance/Comments: clear/no odor

Dissolved Ferrous Iron (mg/L): _____

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1130		5.68	6.53	7.8	12.8	8.63	56	

Sample Time: 1130 Sample ID: LF6LH0101KA

Note: Maintain a flow rate of 200-500 mL/min during purging. Purge a minimum of 1L between readings. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: 40-05-27 Sampled by: SS JW/CS

Location and Site Code (SITEID): LF6

Well No. (LOCID): [redacted]RV-LF6LH-2 Well Diameter (SDIAM): ___

Date (LOGDATE): 12/16/08 Weather: Rain/ 35°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (TOTDEPTH) _____ ft. (optional)

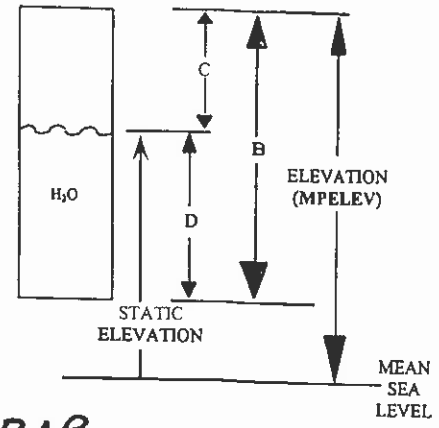
Measured Water Level Depth (C) (STATDEP) _____ ft.

Length of Static Water Column (D) = _____ (B) - _____ (C) = _____ (D) ft. (optional)

Pump Intake Depth (ft): _____

Depth during Purging/Sampling: _____ ft (provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: BLADDER PUMP GRAB

Physical Appearance/Comments: cloudy/ no odor

Dissolved Ferrous Iron (mg/L): _____

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1330		6.87	54.6	1.9	992	10.93	-12	

Sample Time: 1330 Sample ID: LF6LH0201KA

Note: Maintain a flow rate of 200-500 mL/min during purging. Purge a minimum of 1L between readings. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

Page ___ of ___

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: 10-05-27 Sampled by: JW/CS

Location and Site Code (**SITEID**): LF6

Well No. (**LOCID**): LF6W-1 Well Diameter (**SDIAM**): —

Date (**LOGDATE**): 12/10/18 Weather: ☃ snow / 32°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (TOTDEPTH) _____ ft. (optional)

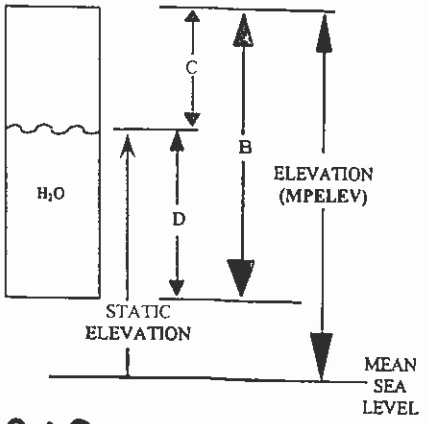
Measured Water Level Depth (C) (STATDEP) _____ ft.

Length of Static Water Column (D) = _____ - _____ = _____ ft. (optional)
(B) (C) (D)

Pump Intake Depth (ft): _____

Depth during Purging/Sampling: _____ ft
(provide range)

Comments (re: Depth during purging/sampling): _____



Purge Date and Method: BLADDER PUMP GRAB

Physical Appearance/Comments: clear/no odor

Dissolved Ferrous Iron (mg/L): _____

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1430		5.67	44.2	2.2	6.4	10.66	200	

Sample Time: 1430 Sample ID: LF6WT0101KA

Note: Maintain a flow rate of 200-500 mL/min during purging. Purge a minimum of 1L between readings. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

Equipment Calibration Log

Instrument Name: Horiba FPM #1

Model Number: _____

Date	First Standard Concentration	First Standard Reading	Second Standard Concentration	Second Standard Reading	Comments
6-9-08	4	3.99	–		
6-10-08	4.00	3.99			
6-12-08	4.00	3.99			
6-17-08	4.00	4.00	4.00	4.00	FPM1
6-18-08	4.00	3.97	4.00	4.00	
~~6/19/08~~					
9-16-08	4.00	3.99			
9-17-08	4.00	3.99			
9-18-08	4.00	4.00			
11-24-08	4.00	4.00			
CS ~~11/9/08~~	~~4.00~~	~~3.99~~			
12/9/08	4.00	3.96	4.00	4.00	
12/10	4.00	3.88	4.00	3.98	
12/11	4.00	3.98	4.00	3.99	

Equipment Calibration Log

Instrument Name: Horiba FPM #2

Model Number: _____

Date	First Standard Concentration	First Standard Reading	Second Standard Concentration	Second Standard Reading	Comments
6-12-08	4.00	4.00			
6-17-08	4.00	4.00			
6-18-08	4.00	3.98	4.00	3.99	
9-12-08	4.00	3.97	4.00	3.99	
9-15-08	4.00	3.96	4.00	3.99	FPM-1
9-15-08	4.00	3.96	4.00	4.00	FPM-2
12/9/08	4.00	3.99	~~4.00~~	4.00	
12/10/08	4.00	3.96	4.00	3.99	
12/11/08	4.00	4.00	—	—	

AFCEE
CHAIN OF CUSTODY RECORD

COC#: _1_ SDG#: _202_ Cooler ID: _A_

Ship to: Pamela Titus Life Science Laboratories, Inc. 5000 Brittonfield Pkwy, Suite 200 East Syracuse, NY 13057 Tel: (315)437-0200	Project Name: Griffiss AFB Site Building 35 sampling Sampler Name: Niels van Hoesel	Send Results to: Niels van Hoesel FPM Group 153 Brooks Road Rome, NY 13441
Carrier: LSL courier.	Sampler Signature:	Phone: (315) 336-7721 Ext 205

Analyses Requested

Field Sample ID	Location ID (LOCID)	Date 2008	Time	MATRIX	SMCODE	SBD/SED	SACODE	Preservative	Filt./UnFilt.	No. of Containers	VOCs Note 1 40 mL vial (HCl)	Anions, note 2 250 mL poly	TOC note3 40 mL vials (HCL)	Alkalinity note 4 8 oz glass (zero headspace)		Comments
B035M0416HA	B035MW04	12/10	1150	WG	B	0/0	N	HCl	Unf.	6	3	1	1	1		

Sample Condition Upon Receipt at Laboratory: Cooler Temperature:
Special Instructions/Comments: Analyses to be conducted in compliance with AFCEE QAPP 4.0
Note 1: VOC: method SW 8260: Target COCs: PCE, TCE, DCE, Vinyl Chloride and Chloroform.
Note 2: Anions: SW9056 **CHLORIDE, SULFATE AND NITRATE ONLY**
Note 3: TOC: SW9060.
Note 4: Alkalinity: 310.1.

#1 Released by: (Sig)	Date:	#2 Released by: (Sig)	Date: 12/10/08	#3 Released by: (Sig)	Date:
Company Name:	Time:	Company Name: FPM Group Ltd	Time: 18:45	Company Name:	Time:
#1 Received by: (Sig) Niels van Hoesel	Date: 12/10/08	#2 Received by: (Sig)	Date: 12/10/08	#3 Received by: (Sig)	Date:
Company Name: FPM Group Ltd	Time: 1020	Company Name: LSL	Time: 20:15	Company Name:	Time:

MATRIX
WG = Ground water
WQ = Water Quality Control Matrix
SO = Soil

SMCODE
B = Bailer
G = Grab (only for EB).
NA = Not Applicable (only for AB/TB)
PP = Peristaltic Pump
BP = Bladder Pump
SP = Submersible Pump
SS = Split spoon

SACODE
N = Normal Sample
AB = Ambient Blank
TB = Trip Blank
EB = Equipment Blank
FD = Field Duplicate
MS = Matrix Spike
SD = Matrix Spike Duplicate

AFCEE
CHAIN OF CUSTODY RECORD

COC#: _1_ SDG#: _201_ (Open/Closed) Cooler ID#: _A_

Ship to: Pamela Titus Life Science Laboratories, Inc. 5000 Brittonfield Pkwy, Suite 200 East Syracuse, NY 13057 Tel: (315)437-0200	Project Name: Griffiss AFB LF6 LTM Sampler Name: Justin Damann Niels van Hoesel for	Send Results to: Niels van Hoesel FPM Group Ltd. 153 Brooks Road Rome, NY 13441
Carrier: LSL courier.	Sampler Signature:	Phone: (315) 336-7721 Ext. 205

Analyses requested

Field Sample ID	LocID	Date 2008	Time	MATRIX	SMCODE	SACODE	SBD/SED	# of Containers	VOCs note 1 40mL vials (HCl)	Metals, Hardness note 2 250 mL poly (HNO_3)	Metals note 10 250 mL poly (HNO_3)	Phenols note 3 1 L amber (H_2SO_4)	Anions, TDS note 4 250 mL poly	NH3, COD, TKN note 5 125 mL poly (H_2SO_4)	TOC note 6 40 mL vial (HCL)	BOD Note 7 1 L Poly	Alkalinity Note 8 8 oz glass (no headspace)	Cyanide note 9 8 oz poly (NaOH)	Comments
TMCM0919KA	TMCMW-9	12/10	1520	WG	BP	N	0/0	11	3	1	1	1	1	1	1	1	1	-	
LF6SW0101KA	LF6TMCSW-1	12/10	1030	WS	G	N	0/0	11	3	1	1	1	1	1	1	1	1	-	
LF6SW0201KA	LF6TMCSW-2	12/10	1045	WS	G	N	0/0	11	3	1	1	1	1	1	1	1	1	-	
LF6SW0301KA	LF6TMCSW-3	12/10	1100	WS	G	N	0/0	11	3	1	1	1	1	1	1	1	1	-	
LF6LH0101KA	RV-LF6LH-1	12/10	1130	WG	G	N	0/0	11	3	1	1	1	1	1	1	1	1	-	
LF6LH0201KA	RV-LF6LH-2	12/10	1330	WG	G	N	0/0	11	3	1	1	1	1	1	1	1	1	-	
LF6WT0101KA	WT-LF6WT-1	12/10	1430	WG	G	N	0/0	11	3	1	1	1	1	1	1	1	1	-	
121008KE	FIELDQC	12/10	1600	WQ	BP	EB	0/0	11	3	1	1	1	1	1	1	1	1	-	
121008KF	FIELDQC	12/10	1530	WQ	NA	AB	0/0	3	3	-	-	-	-	-	-	-	-	-	
121008KR	FIELDQC	12/10	0945	WQ	NA	TB	0/0	3	3	-	-	-	-	-	-	-	-	-	

Sample Condition Upon Receipt at Laboratory: Cooler temperature:

Special Instructions/Comments: Parameter List: (According to AFCEE QAPP 4.0 and NYSDEC Landfill Part 360 Baseline Parameters)

Note 1: VOCs: SW8260 AFCEE QAPP 4.0 List + NYS Part 360 Baseline Parameters.

Note 2: Metals: SW6010 AFCEE QAPP 4.0 List (total). Hardness: 130.2.

Note 3: Phenols: SW9065.

Note 4: Anions: SW9056, TDS: 160.1.
Note 5: NH3: 350.2, COD: 410.4, TKN: 351.2.
Note 6: TOC: SW9060.
Note 7: BOD: 405.1.
Note 8: Alkalinity: 310.1
Note 9: Cyanide: SW9012.
Note 10: Metals: SW6010 AFCEE QAPP 4.0 List (Dissolved).

#1 Released by: (Sig)	Date.	#2 Released by: (Sig)	Date: 12/10/08	#3 Released by: (Sig)	Date
Company Name:	Time.	Company Name: FPM Group Ltd	Time: 17:03	Company Name:	Time.
#1 Received by: (Sig) Niels van Hoesel	Date: : 12/3/08	#2 Received by: (Sig)	Date 12/11/08	#3 Received by: (Sig)	Date:
Company Name: FPM Group Ltd	Time: 1000	Company Name	Time 10:15	Company Name	Time:

MATRIX
WG = Ground water
WQ = Water Quality Control Matrix
SO = Soil

SMCODE
B = Bailer
G = Grab (only for EB).
NA = Not Applicable (only for AB/TB)
PP = Peristaltic Pump
BP = Bladder Pump
SP = Submersible Pump
SS = Split Spoon

SACODE
N = Normal Sample
AB = Ambient Blank
TB = Trip Blank
EB = Equipment Blank
FD = Field Duplicate
MS = Matrix Spike
SD = Matrix Spike Duplicate

Daily Health and Safety Meeting Form

Date: 12/10/08 *Time :* 8:30

Location: FPM office (garage)

Weather Conditions: 40 s cold dropping temps

Meeting Type: Daily Health and Safety

Personnel Present:

Jose Pratt Caleb Smith Josh Wenzel Peter Longiano

Visitors Present: —

Visitor Training: —

PPE Required: Modified D

Possible risks, injuries, concerns:

slip trip fall. snow/ sleet/ rain

Anticipated Releases to Environment (if so, describe and detail response action/control measures implemented):

none

Property Damage:

—

Description (include sequence of events describing step by step how incident happened):

—

Analysis for, and Implementation of Corrective/Preventative Procedure to Prevent Future Occurrences (to be formulated by SSHO + FOM, approved by PM, and SSHO implemented):

—

Report made by (Name): Niels Van Hoesel

SSHP Organization Title: Site Safety and Health Officer

Daily Chemical Quality Control Report

Project/Delivery Order Number: F41624-03-D-8601-0027 Date: 02/26/09

Project Name/Site Number: Griffiss Petroleum Spills Sites sampling (Site Building 35).

Weather conditions: Average temperature: 50 Average barometric reading: 30.2
Wind direction and speed: East-southeast 2.3 mph
Significant wind changes: None.

General description of tasks completed: Bladder pump sampling at Site Building 35 (B035MW-4).

Explain any departures from the SAP or deviations from approved procedures during the day's field activities: None.

Explain any technical problems encountered in the field or field equipment/field analytical instrument malfunction: None.

Corrective actions taken or instructions obtained from AFCEE personnel: No corrective actions necessary.

Sampling shipment completed: √ Yes □ No LSL Courier.

DCQCR Prepared by: Niels van Hoesel, FOM Date: 27 February 2009

CQCC Signature: Concordia P. van Hoesel Date: 2/28/09

ATTACHMENTS:

Checklist	Daily Chemical Quality Control Report Attachments
V	✓ Field sampling forms
V	✓ Equipment Calibration Log
V	✓ Copies of COCs
	✓ SDG Table (See accompanying COCs)
V	✓ Daily Health and Safety Meeting Form

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: 40-05-27 Sampled by: PC JP

Location and Site Code (**SITEID**): B35

Well No. (**LOCID**): B35MW-4 Well Diameter (**SDIAM**): 2

Date (**LOGDATE**): 2-26-09 Weather: 36 overcast

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) _____ ft (optional)

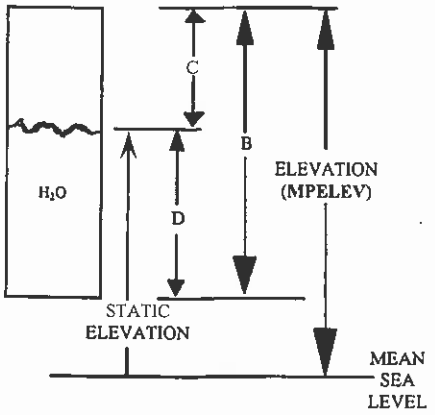
Measured Water Level Depth (C) (**STATDEP**) _____ ft.

Length of Static Water Column (D) = _____ (B) - _____ (C) = _____ (D) ft (optional)

Pump Intake Depth (ft). 16

Depth during Purging/Sampling. _____ ft (provide range)

Comments (re: Depth during purging/sampling): Set Rate @ 200



Purge Date and Method: BLADDER PUMP

Physical Appearance/Comments: well Damaged flow Rate set to last Round Rate milk white smells like ARC solution

Dissolved Ferrous Iron (mg/L): 1.7

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1100		7.58	43.4	6.5	>999	3.99	76	200
1102		8.87	77.7	6.9	710	1.46	-58	
1104		9.14	79.9	7.0	156	1.02	-82	
1106		9.27	79.7	7.1	118	0.76	-100	
1108		9.31	79.3	7.1	94.9	0.77	-108	
1110		9.35	78.8	7.1	76.5	0.68	-119	
1112		9.36	78.8	7.1	74.1	0.66	-120	
1114		9.36	78.8	7.1	70.9	0.64	-124	

Sample Time: 1120 Sample ID: B035M04116B

Note: Maintain a flow rate of 200-500 mL/min during purging. Purge a minimum of 1 L between readings. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

Equipment Calibration Log

Instrument Name: Horiba FPM #1

Model Number: _____

Date	First Standard Concentration	First Standard Reading	Second Standard Concentration	Second Standard Reading	Comments
6-9-08	4	3.99	-		
6-10-08	4.00	3.99			
6-12-08	4.00	3.99			
6-17-08	4.00	4.00	4.00	4.00	FPM1
6-19-08	4.00	3.97	4.00	4.00	
[illegible]					
9-16-08	4.00	3.99			
9-17-08	4.00	3.99			
9-18-08	4.00	4.00			
11-24-08	4.00	4.00			
CS 12/8/08	~~4.00~~	~~3.99~~			
12/9/08	4.00	3.96	4.00	4.00	
12/10	4.00	3.88	[illegible]	3.98	
12/11	4.00	3.98	4.00	3.99	
12/12	4.00	3.81	4.00	3.98	
12/15	4.00	3.96	4.00	3.99	
12/16	4.00	3.88	4.00	3.98	
12/17	4.00	3.97	4.00	3.98	
12/18	4.00	3.97	4.00	4.00	
12/23	4.00	3.99	4.00	4.00	
2-26	4.00	4.01			

AFCEE
CHAIN OF CUSTODY RECORD

COC#: _1_ SDG#: _215_ Cooler ID: _A_

Ship to: Pamela Titus Life Science Laboratories, Inc. 5000 Brittonfield Pkwy, Suite 200 East Syracuse, NY 13057 Tel: (315)437-0200	Project Name: Griffiss AFB Site Building 35 sampling Sampler Name: Niels van Hoesel	Send Results to: Niels van Hoesel FPM Group 153 Brooks Road Rome, NY 13441
Carrier: LSL courier.	Sampler Signature:	Phone: (315) 336-7721 Ext 205

Analyses Requested

Field Sample ID	Location ID (LOCID)	Date 2009	Time	MATRIX	SMCODE	SBD/SED	SACODE	Preservative	Filt./UnFilt.	No. of Containers	VOCs Note 1 40 mL vial (HCl)	Anions, note 2 250 mL poly	TOC note3 40 mL vials (HCL)	Alkalinity note 4 8 oz glass (zero headspace)		Comments
B035M0416GB	B035MW04	2/26	1120	WG	B	0/0	N	HCl	Unf.	7	3	1	2	1		

Sample Condition Upon Receipt at Laboratory: Cooler Temperature:
Special Instructions/Comments: Analyses to be conducted in compliance with AFCEE QAPP 4.0
Note 1: VOC: method SW 8260: Target COCs: PCE, TCE, DCE, Vinyl Chloride and Chloroform.
Note 2: Anions: SW9056 **CHLORIDE, SULFATE AND NITRATE ONLY**
Note 3: TOC: SW9060.
Note 4: Alkalinity: 310.1.

#1 Released by: (Sig)	Date:	#2 Released by: (Sig)	Date: 2/26/09	#3 Released by: (Sig)	Date:
Company Name:	Time:	Company Name: FPM Group Ltd	Time: 11:43	Company Name:	Time:
#1 Received by: (Sig) Niels van Hoesel	Date: 2/21/09	#2 Received by: (Sig)	Date: 2/26/09	#3 Received by: (Sig)	Date:
Company Name: FPM Group Ltd	Time: 10200	Company Name: LSL	Time: 1143	Company Name:	Time:

MATRIX
WG = Ground water
WQ = Water Quality Control Matrix
SO = Soil

SMCODE
B = Bailer
G = Grab (only for EB).
NA = Not Applicable (only for AB/TB)
PP = Peristaltic Pump
BP = Bladder Pump
SP = Submersible Pump
SS = Split spoon

SACODE
N = Normal Sample
AB = Ambient Blank
TB = Trip Blank
EB = Equipment Blank
FD = Field Duplicate
MS = Matrix Spike
SD = Matrix Spike Duplicate

Daily Health and Safety Meeting Form

Date: 2/26/09 *Time :* 10:00

Location: FPM office (garage)

Weather Conditions: 40° cloudy

Meeting Type: Daily Health and Safety

Personnel Present:

John Platt Peter Cangiano

Visitors Present: —

Visitor Training: —

PPE Required: Modified D

Possible risks, injuries, concerns:

slip trip fall. bosses at sampling location

Anticipated Releases to Environment (if so, describe and detail response action/control measures implemented):

None

Property Damage:

None

Description (include sequence of events describing step by step how incident happened):

—

Analysis for, and Implementation of Corrective/Preventative Procedure to Prevent Future Occurrences (to be formulated by SSHO + FOM, approved by PM, and SSHO implemented):

—

Report made by (Name): Nick van Hoesel

SSHP Organization Title: Site Safety and Health Officer

Daily Chemical Quality Control Report

Project/Delivery Order Number: F41624-03-D-8601-0027 Date: 03/24/09

Project Name/Site Number: Griffiss Petroleum Spills Sites sampling (Site Buildings 35 and 786).

Weather conditions: Average temperature: 29 Average barometric reading: 30.5
Wind direction and speed: North-northwest 2.1 mph
Significant wind changes: None.

General description of tasks completed: Bailer sampling at Site Building 786 (786MW-1, -2, -15, -16, -31, and 786TW-11). Bladder pump sampling at Site Building 35 (B035MW-4).

Explain any departures from the SAP or deviations from approved procedures during the day's field activities: None.

Explain any technical problems encountered in the field or field equipment/field analytical instrument malfunction: None.

Corrective actions taken or instructions obtained from AFCEE personnel: No corrective actions necessary.

Sampling shipment completed: √ Yes □ No LSL Courier.

DCQCR Prepared by: Niels van Hoesel, FOM Date: 26 March 2009

CQCC Signature: _____ Date: _____

ATTACHMENTS:

Checklist	Daily Chemical Quality Control Report Attachments
√	✓ Field sampling forms
√	✓ Equipment Calibration Log
	✓ Copies of COCs
√	✓ SDG Table (See accompanying COCs)
√	✓ Daily Health and Safety Meeting Form

WELL PURGING & SAMPLING FORM
(LOW FLOW)

Project: 40-05-27 Sampled by: KM/JW

Location and Site Code (**SITEID**): B-35

Well No. (**LOCID**): B035MW04 Well Diameter (**SDIAM**): 2"

Date (**LOGDATE**): 3-24-09 Weather: Sun / 40°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) (**TOTDEPTH**) _____ ft (optional)

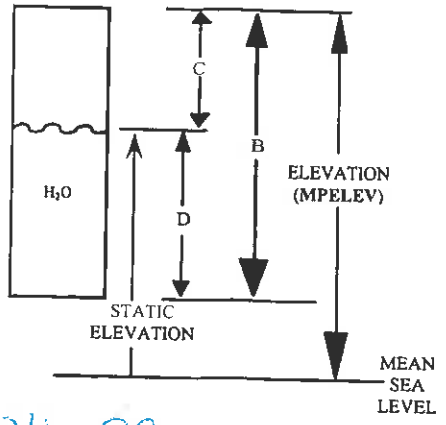
Measured Water Level Depth (C) (**STATDEP**) _____ ft

Length of Static Water Column (D) = _____ (B) - _____ (C) = _____ (D) ft (optional)

Pump Intake Depth (ft) 16

Depth during Purging/Sampling: _____ ft (provide range)

Comments (re Depth during purging/sampling) _____



Purge Date and Method: BLADDER PUMP 3-24-09

Physical Appearance/Comments: clear / ~~no odor~~ organic odor

Dissolved Ferrous Iron (mg/L): 2.0 mg/L

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 3%		± 10%	± 10%	± 10mV	
Time	Depth to Water (ft BTOC)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)	Flow Rate (mL/min)
1419		7.37	90.0	7.3	5.5	1.91	-24	200
1421		7.38	88.5	7.3	5.0	1.81	-27	
1423		7.40	87.2	7.3	3.4	1.64	-31	
1425		7.42	85.5	7.3	5.5	1.56	-36	
1427		7.42	84.9	7.1	3.9	1.81	-40	
1429		7.44	83.9	7.2	1.1	1.54	-46	
1431		7.46	82.6	7.2	2.0	1.47	-49	
1433		7.49	82.7	7.3	2.1	1.24	-54	
1435		7.52	82.1	7.3	3.4	0.50	-59	
1437		7.54	81.5	7.2	<9.99	1.26	-63	
1439		7.54	81.4	7.3	<9.99	1.15	-65	

Sample Time: 1447 Sample ID: B035MW04-HA

Note: Maintain a flow rate of 200-500 mL/min during purging. Purge a minimum of 1L between readings. Collect samples at a flow rate between 100-250 mL/min. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

1441		7.56	80.8	7.2	0.4	1.20	-67	
1443	~							↓

WELL PURGING & SAMPLING FORM

Project: 40-05-27 Sampled by: _____

Location and Site Code (**SITEID**): 786

Well No. (**LOCID**): WL-786MW-1 Well Diameter (**SDIAM**): 2"

Date (**LOGDATE**): 3-24-09 Weather: _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	
Unit Casing Volume (A) (gal ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

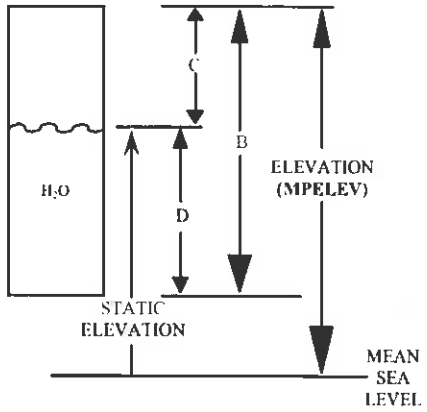
Measured Well Depth (B) (**TOTDEPTH**) 30.10 ft.

Measured Water Level Depth (C) (**STATDEP**) 14.91 ft.

Length of Static Water Column (D) = ____ (B) - ____ (C) = 15.19 (D) ft.

Casing Water Volume (E) = ____ (A) x ____ (D) = 2.4 gal

Minimum Purge Volume = 7.3 gal (3 well volumes)



Purge Date and Method: bailer / 3-24-09

Physical Appearance/Comments: clear / no odor

FIELD MEASUREMENTS:

Allowable Range: ± 0.1 ± 5% ±1°C

Time	Volume Removed (gal)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)
1003	1	5.26	24.6	6.9	55.2	8.87	112
1005	2	6.10	26.1	7.6	33.1	6.89	87
1007	3	6.29	27.1	7.9	23.1	6.71	43
1009	4	6.57	28.1	8.0	25.8	5.42	26
1011	5	6.92	28.6	8.1	33.9	5.12	5
1013	6	7.13	28.0	8.1	15.7	5.10	-1
1015	7	7.19	28.0	8.0	21.6	5.13	-7
1017	8	7.23	28.2	8.1	8.4	4.98	-9

Sample Time: 1019 Sample ID: 786MW15PA

Note: Attempt to get at least 5 sets of field measurements during purging. Sample may be collected after 3 to 5 well volumes have been removed and parameters have stabilized., Sample may be collected after 6 well volumes if parameters do not stabilize. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM

Project: 40-05-27 Sampled by: JW / KM

Location and Site Code (**SITEID**): B-746

Well No. (**LOCID**): wi-786mw-2 Well Diameter (**SDIAM**): 4

Date (**LOGDATE**): 3-24-09 Weather: sun / 30°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

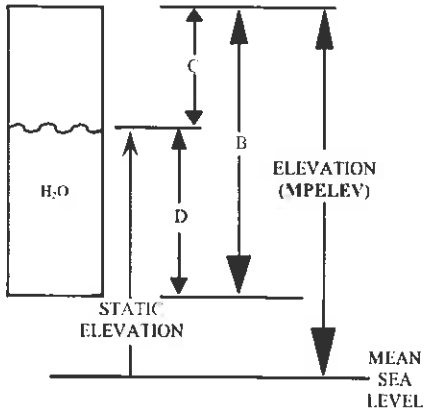
Measured Well Depth (B) (**TOTDEPTH**) 23.46 ft.

Measured Water Level Depth (C) (**STATDEP**) 6.10 ft.

Length of Static Water Column (D) = (B) 23.46 - (C) 6.10 = (D) 17.36 ft.

Casing Water Volume (E) = (A) ___ x (D) 17.36 = 11.2 gal

Minimum Purge Volume = 33.8 gal (3 well volumes)



Purge Date and Method: bailer / 3-24-09

Physical Appearance/Comments: cloudy / no odor

FIELD MEASUREMENTS:

Allowable Range: ± 0.1 ± 5% ±1°C

Time	Volume Removed (gal)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)
1031	0	6.13	22.4	3.6	449.0	11.62	108
1035	12	6.10	25.7	4.0	<1.99	9.77	119
1039	18	6.26	26.6	4.2	232.0	9.49	97
1043	24	6.34	27.0	4.4	410.0	9.02	28
1047	30	7.25	26.9	4.5	320.0	8.81	-1
1048	33.8	7.27	26.3	4.5	275.0	8.77	-11
1049	34.8	7.33	26.3	4.5	177.0	9.10	-16

Sample Time: 1049 Sample ID: 786MW206PA

Note: Attempt to get at least 5 sets of field measurements during purging. Sample may be collected after 3 to 5 well volumes have been removed and parameters have stabilized. Sample may be collected after 6 well volumes if parameters do not stabilize. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM

Project: 40-05-27 Sampled by: JW/KM

Location and Site Code (**SITEID**): B-786

Well No. (**LOCID**): Ni-786MW-15 Well Diameter (**SDIAM**): 4

Date (**LOGDATE**): 3-24-09 Weather: 25°/sun

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	
Unit Casing Volume (A) (gal ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

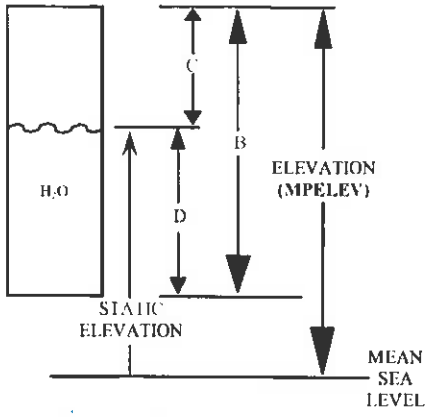
Measured Well Depth (B) (**TOTDEPTH**) 23.64 ft.

Measured Water Level Depth (C) (**STATDEP**) 8.65 ft.

Length of Static Water Column (D) = (B) 23.64 - (C) 8.65 = (D) 14.99 ft.

Casing Water Volume (E) = (A) ____ x (D) 14.99 = 9.75 gal

Minimum Purge Volume = 30 gal (3 well volumes)



Purge Date and Method: bailer / 3/24/09

Physical Appearance/Comments: clear / slight petro odor / sheen

FIELD MEASUREMENTS:

Allowable Range: ± 0.1 ± 5% ±1°C

Time	Volume Removed (gal)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)
1055	6	6.85	16.2	3.3	27.5	10.05	58
1057	12	6.87	16.9	3.5	40.0	8.17	66
1059	18	6.65	17.6	3.7	4.9	7.35	60
1101	24	6.77	17.6	3.7	5.7	6.48	47
1103	30	6.87	17.3	3.7	5.6	6.96	42
1104	31	6.86	17.6	3.8	4.9	7.20	39

Sample Time: 1107 Sample ID: 786M1509PA

Note: Attempt to get at least 5 sets of field measurements during purging. Sample may be collected after 3 to 5 well volumes have been removed and parameters have stabilized. Sample may be collected after 6 well volumes if parameters do not stabilize. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM

Project: 40-05-27 Sampled by: JW / KM

Location and Site Code (**SITEID**): B 786

Well No. (**LOCID**): Wi-786MW-16 Well Diameter (**SDIAM**): 4"

Date (**LOGDATE**): 3/24/09 Weather: SUN / 30°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

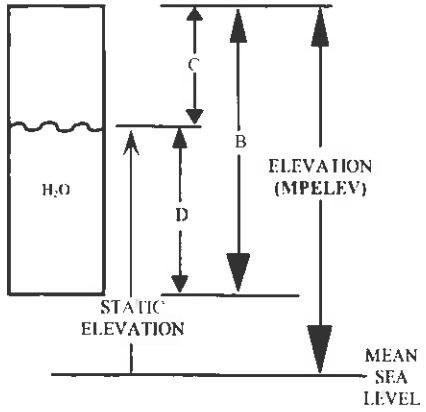
Measured Well Depth (B) (**TOTDEPTH**) 23.39 ft.

Measured Water Level Depth (C) (**STATDEP**) 4.80 ft.

Length of Static Water Column (D) = (B) 23.39 - (C) 4.80 = (D) 18.59 ft.

Casing Water Volume (E) = (A) ____ x (D) 18.59 = 12.08 gal

Minimum Purge Volume = 36.25 gal (3 well volumes)



Purge Date and Method: bailer / 3-24-09

Physical Appearance/Comments: clear / ~~no odor~~ ~~slight petro~~

FIELD MEASUREMENTS:

Allowable Range: ± 0.1 ± 5% ±1°C

Time	Volume Removed (gal)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)
1145	6	6.19	23.3	3.9	30.5	10.46	112
1147	12	6.96	24.1	3.5	24.0	6.00	11
1149	18	7.47	26.8	3.8	19.9	5.54	-35
1151	24	7.70	27.4	4.0	25.0	3.88	-59
1153	30	7.78	27.5	4.0	23.0	4.56	-70
1155	36.58	7.80	27.7	4.0	23.2	4.71	-75

Sample Time: 1207 Sample ID: 786MW16 05PA

Note: Attempt to get at least 5 sets of field measurements during purging. Sample may be collected after 3 to 5 well volumes have been removed and parameters have stabilized. Sample may be collected after 6 well volumes if parameters do not stabilize. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM

Project: 40-05-27 Sampled by: JW / KM

Location and Site Code (**SITEID**): B-756

Well No. (**LOCID**): WL-786MW-31 Well Diameter (**SDIAM**): 2"

Date (**LOGDATE**): 3-24-09 Weather: Sun / 30°

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

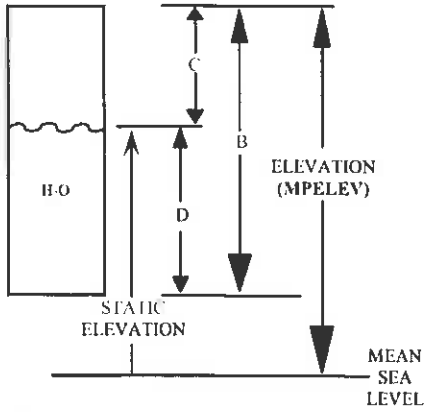
Measured Well Depth (B) (**TOTDEPTH**) 23.58 ft.

Measured Water Level Depth (C) (**STATDEP**) 13.05 ft.

Length of Static Water Column (D) = (B) 23.58 - (C) 13.05 = (D) 10.53 ft.

Casing Water Volume (E) = (A) ___ x (D) 10.53 = 1.70 gal

Minimum Purge Volume = 5.05 gal (3 well volumes)



Purge Date and Method: bailer / 3/24/09

Physical Appearance/Comments: cloudy / no odor

FIELD MEASUREMENTS:

Allowable Range: ± 0.1 ± 5% ±1°C

Time	Volume Removed (gal)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)
1219	1	6.77	23.5	7.2	716.0	10.34	40
1221	2	6.76	23.3	7.4	363.0	10.15	47
1223	3	6.75	22.9	7.8	871.0	9.76	48
1225	4	6.77	22.9	8.0	705.0	9.34	48
1227	5.25	6.79	22.8	8.1	705.0	9.38	46

Sample Time: 1229 Sample ID: 786M3113PA

Note: Attempt to get at least 5 sets of field measurements during purging. Sample may be collected after 3 to 5 well volumes have been removed and parameters have stabilized. Sample may be collected after 6 well volumes if parameters do not stabilize. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

WELL PURGING & SAMPLING FORM

Project: 40-05-27 Sampled by: JW / KM

Location and Site Code (**SITEID**): ~~786~~ 786

Well No. (**LOCID**): NL-786TW-11 Well Diameter (**SDIAM**): 1

Date (**LOGDATE**): 3-24-09 Weather: 30° / Sun

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

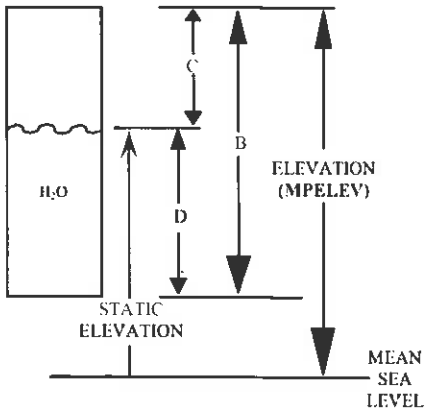
Measured Well Depth (B) (**TOTDEPTH**) 20.94 ft.

Measured Water Level Depth (C) (**STATDEP**) 6.70 ft.

Length of Static Water Column (D) = (B) 20.94 - (C) 6.70 = (D) 14.24 ft.

Casing Water Volume (E) = (A) ____ x (D) ____ = 0.56 gal

Minimum Purge Volume = 1.7 gal (3 well volumes)



Purge Date and Method: Bailer / 3.24.09

Physical Appearance/Comments: cloudy / Petro odor

FIELD MEASUREMENTS:

Allowable Range:		± 0.1	± 5%	±1°C			
Time	Volume Removed (gal)	pH	EC (mS/cm)	Temp. (F or C)	Turbidity (NTU)	D.O. (mg/L)	ORP (mV)
949	.25	6.43	28.3	6.0	45.5	5.77	180
950	.75	7.36	18.9	5.8	67.3	5.38	104
952	1.25	7.24	17.9	5.3	100.0	4.45	86
953	~~1.75~~ 1.5	7.28	17.7	5.1	134.0	4.61	71
954	1.75	7.18	17.5	5.0	68.7	4.48	67

Sample Time: 0957 Sample ID: 786T1107PA

Note: Attempt to get at least 5 sets of field measurements during purging. Sample may be collected after 3 to 5 well volumes have been removed and parameters have stabilized. Sample may be collected after 6 well volumes if parameters do not stabilize. VOC and gas sensitive (e.g. alkalinity, Fe^{2+}, CH_4, H_2S) parameters should be sampled first.

Equipment Calibration Log

Instrument Name: Hanna #2

Model Number: _____

Date	First Standard Concentration	First Standard Reading	Second Standard Concentration	Second Standard Reading	Comments
3/17/09	4.0	3.95	4.0	4.00	
3-23-09	4.0	4.01	—	—	
3-24-09	4.0	3.98	4.0	3.97	

AFCEE
CHAIN OF CUSTODY RECORD

COC#: _1_ SDG#: _209_ Cooler ID: _A_

Ship to: Pamela Titus Life Science Laboratories, Inc. 5000 Brittonfield Pkwy, Suite 200 East Syracuse, NY 13057 Tel: (315)437-0200	Project Name: Griffiss AFB Site Building 35 sampling Sampler Name: Niels van Hoesel	Send Results to: Niels van Hoesel FPM Group 153 Brooks Road Rome, NY 13441
Carrier: LSL courier.	Sampler Signature:	Phone: (315) 336-7721 Ext 205

Analyses Requested

Field Sample ID	Location ID (LOCID)	Date 2009	Time	MATRIX	SMCODE	SBD/SED	SACODE	Preservative	Filt./UnFilt.	No. of Containers	VOCs Note 1 40 mL vial (HCl)	Anions, note 2 250 mL poly	TOC note 3 40 mL vials (HCL)	Alkalinity note 4 8 oz glass (zero headspace)		Comments
B035M0416HA	B035MW04	3/24	1447	WG	B	0/0	N	HCl	Unf.	7	3	1	2	1		

Sample Condition Upon Receipt at Laboratory: Cooler Temperature:
Special Instructions/Comments: Analyses to be conducted in compliance with AFCEE QAPP 4.0
Note 1: VOC: method SW 8260: Target COCs: PCE, TCE, DCE, Vinyl Chloride and Chloroform.
Note 2: Anions: SW9056 **CHLORIDE, SULFATE AND NITRATE ONLY**
Note 3: TOC: SW9060.
Note 4: Alkalinity: 310.1.

#1 Released by: (Sig)	Date:	#2 Released by: (Sig)	Date: 3/24/09	#3 Released by: (Sig)	Date:
Company Name:	Time:	Company Name: FPM Group Ltd	Time:	Company Name:	Time:
#1 Received by: (Sig) Niels van Hoesel	Date: 2/22/09	#2 Received by: (Sig)	Date: 3/24/09	#3 Received by: (Sig)	Date:
Company Name: FPM Group Ltd	Time: 10200	Company Name: LSL	Time: 17	Company Name:	Time:

MATRIX
WG = Ground water
WQ = Water Quality Control Matrix
SO = Soil

SMCODE
B = Bailer
G = Grab (only for EB).
NA = Not Applicable (only for AB/TB)
PP = Peristaltic Pump
BP = Bladder Pump
SP = Submersible Pump
SS = Split spoon

SACODE
N = Normal Sample
AB = Ambient Blank
TB = Trip Blank
EB = Equipment Blank
FD = Field Duplicate
MS = Matrix Spike
SD = Matrix Spike Duplicate

AFCEE
CHAIN OF CUSTODY RECORD

COC#: _2_ SDG#: _209_ Cooler ID: _A_

Ship to: Pamela Titus Life Science Laboratories, Inc. 5000 Brittonfield Pkwy, Suite 200 East Syracuse, NY 13057 Tel: (315)437-0200	Project Name: Griffiss AFB Building 786 Sampling Sampler Name: Daniel Baldyga Niels van Hoesel for	Send Results to: Niels van Hoesel FPM Group 153 Brooks Road Rome, NY 13441 Phone: (315) 336-7721 ext. 205
Carrier: LSL courier.	Sampler Signature:	

Analyses Requested

Field Sample ID	Location ID (LOCID)	Date 2009	Time	MATRIX	SMCODE	SBD/SED	SACODE	Preservative	Filt./UnFilt.	No. of Containers	VOCs Note 1 (HCl preserv.)	Comments
786M0115PA	786MW-1	3/24	1019	WG	B	0/0	N	HCl	Unf.	3	3	
786M0209PA	786MW-2	3/24	1049	WG	B	0/0	N	HCl	Unf.	3	3	
786M1509PA	WL-786MW-15	3/24	1107	WG	B	0/0	N	HCl	Unf.	3	3	
786M1605PA	WL-786MW-16	3/24	1207	WG	B	0/0	N	HCl	Unf.	3	3	
786M3113PA	WL-786MW-31	3/24	1229	WG	B	0/0	N	HCl	Unf.	3	3	
786T1107PA	PH-786TW-11	3/24	0957	WG	B	0/0	N	HCL	Unf	3	3	
032409PE	FIELDQC	3/24	1530	WQ	B	0/0	EB	HCl	Unf.	3	3	
032409PF	FIELDQC	3/24	1235	WQ	NA	0/0	AB	HCl	Unf.	3	3	
032409PR	FIELDQC	3/24	0907	WQ	NA	0/0	TB	HCl	Unf.	3	3	

Sample Condition Upon Receipt at Laboratory: Cooler Temperature:

Special Instructions/Comments: Analyses to be conducted in compliance with AFCEE QAPP 4.0

Note 1: VOCs – EPA Superfund TCL (Full List) including naphthalene and all STARS analytes.

#1 Released by: (Sig)	Date:	#2 Released by: (Sig)	Date: 3/24/09	#3 Released by: (Sig)	Date:
Company Name:	Time:	Company Name: FPM Group Ltd.	Time:	Company Name:	Time:
#1 Received by: (Sig) Niels van Hoesel	Date: 2/28/09	#2 Received by: (Sig)	Date: 3/24/09	#3 Received by: (Sig)	Date:
Company Name: FPM Group Ltd.	Time: 1000	Company Name: LSL	Time: 1730	Company Name:	Time:

MATRIX
WG = Ground water
WQ = Water Quality Control Matrix
SO = Soil
WS = Surface water

SMCODE
B = Bailer
G = Grab (only for EB).
NA = Not Applicable (only for AB/TB)
PP = Peristaltic Pump
BP = Bladder Pump
SP = Submersible Pump
SS = Split Spoon

SACODE
N = Normal Sample
AB = Ambient Blank
TB = Trip Blank
EB = Equipment Blank
FD = Field Duplicate
MS = Matrix Spike
SD = Matrix Spike Duplicate

Daily Health and Safety Meeting Form

Date: 3/24/09 *Time :* 8:45

Location: FPM office (garage)

Weather Conditions: 40's Sunny

Meeting Type: Daily Health and Safety

Personnel Present:

Josh Wenzel Katrina Mattice

Visitors Present:

Visitor Training:

PPE Required: Modified D

Possible risks, injuries, concerns:

Sun burn Wind burn

Anticipated Releases to Environment (if so, describe and detail response action/control measures implemented):

None

Property Damage:

—

Description (include sequence of events describing step by step how incident happened):

—

Analysis for, and Implementation of Corrective/Preventative Procedure to Prevent Future Occurrences (to be formulated by SSHO + FOM, approved by PM, and SSHO implemented):

—

Report made by (Name): Mike Van Hoesel

SSHP Organization Title: Site Safety and Health Officer

Appendix C
Validated Data

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FPM-GROUP
Data Verification and Usability Report
GRIFFISS AIR FORCE BASE
Site Griffiss AFB Building 35
Water Sampling
Contract No. F41624-03-D-8601

FPM Project No. 40-05-27

LSL Job # 0812087

Laboratory:	Life Sciences Laboratories, Inc.
Sample Matrix:	Water
Number of Samples:	1
Analytical Protocol:	AFCEE QAPP, Version 4.0, with AFCEE-approved lab variances
Data Reviewer:	Connie van Hoesel
Sample Date:	December 10, 2008

LIST OF DATA VERIFICATION SAMPLES

This verification report pertains to the following environmental samples and corresponding QC samples:

Sample ID	Date	QC Samples	Date
B035M0416HA	12/10/08		

Notes:

Refer to attached chain-of-custody for detailed sampling information and sample specific analyses requested.

HA – Primary environmental samples

DELIVERABLES

The data deliverable report was per requirements of the AFCEE QAPP 4.0 and approved variances. The report consisted of the following major sections: lab attachment letter, case narrative, chain-of-custody, lab qualifier definitions, analytical results (sheet 2) based on analytical batch, calibration summaries, method blank summaries, laboratory control sample summaries, matrix spike/matrix spike duplicate summaries, holding time forms, performance checks, surrogate and internal standard recoveries, as applicable.

ANALYTICAL METHODS

The analytical test methods and QA/QC requirements used for the groundwater sample analysis was per methods as specified in the AFCEE Quality Assurance Project Plan, Version 4.0 and AFCEE approved laboratory variances. The analytical methods employed included SW-846: Volatile Organic Compounds (VOC) by Method SW8260B (short list), Anions (chloride and sulfate only) by Method SW9056, Total Organic Carbon (TOC) by Method SW9060, and Alkalinity by Method SM 2320 B. Nitrate was derived from the difference between Nitrate-nitrite via Method 353.2 and nitrite by Method SM 4500-NO2 B.

VERIFICATION GUIDANCE

The analytical work was performed by Life Sciences Laboratories, Inc. in accordance with the Air Force Center for Environmental Excellence (AFCEE), Quality Assurance Project Plan (QAPP), Version 4.0, with AFCEE-approved laboratory variances. The data was verified according to the protocols and QC requirements of the respective analytical methods and of the QAPP Version 4.0. For data usability purposes all values were further evaluated, including positive and non-detect results that were qualified "Q" according to the QAPP. The data usability analysis was based on the reviewer's professional judgment and on an assessment of how this data would fare with respect to the U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for Organic (and Inorganic) Data Review (February 1994), and the AFCEE QAPP, Version 4.0.

QA/QC CRITERIA

The following QA/QC criteria were reviewed, as applicable and available:

- Method detection limits and reporting limits (MDL, RL)
- Holding times, sample preservation and storage
- MS tune performance
- Initial and Continuing calibration summaries
- Second source calibration verification summary
- Method blanks
- Ambient, equipment, and trip blanks (as applicable)

- Field duplicate results
- Surrogate spike recoveries
- Internal standard areas counts and retention times
- Laboratory control samples (LCS)
- Results reported between MDL and RL (F-flag)
- Sample storage and preservation
- Data system printouts
- Qualitative and quantitative compound identification
- Chain-of-custody (COC)
- Case narrative and deliverables compliance

The items listed above were in compliance with AFCEE QAPP and USEPA criteria and protocols with exceptions discussed in the text below. The data have been verified according to the procedures outlined above and qualified accordingly.

GENERAL NOTES:

MISSING SAMPLES

None. All samples documented on the chain of custody were received by the laboratory. However, the collection time for sample B035M0416HA was not documented on the chain of custody, but was verified per email that it was collected at 11:50 a.m. on 12/10/08.

BLANKS

Whenever blanks, including method, ambient, equipment, and trip, contained low levels of contaminants (between MDL and RL), the laboratory and/or data verifier qualified the subject results with an "F" flag. Since no qualification of associated field samples are required for blanks less than half the RL, no further action was taken in such instances.

VOLATILE ORGANIC COMPOUNDS (VOCs)

- There were no exceedances for VOCs.

WET CHEMISTRY ANALYSES

- Due to instrument malfunction, the laboratory sent the nitrate samples to another LSL laboratory for analysis via Method 353.2. This was done in an effort to analyze the nitrate samples within holding time and to avoid the need for reanalysis. The laboratory consulted FPM prior to executing this alternative analysis. Using professional judgment, Method 353.2 was deemed a reasonable alternative, and no further corrective action was deemed necessary. Nitrate results were derived by calculation: the nitrate-nitrite result minus the nitrite result.

- The following blank sample analyses indicated blank contaminants present at concentrations equal to or greater than half the reporting limit (RL). The Blank ID, detected contaminant, and concentration are listed.

Blank ID	Analyte	Concentration (mg/L)	Reporting Limit (mg/L)	Samples Affected
ICB, ICAL 1495	Chloride	0.52	1.0	None, all associated results greater than 5x blank concentration
MB-16250, ICAL 1495	Chloride	0.52	1.0	None, all associated results greater than 5x blank concentration
CCB1, ICAL 1495	Chloride	0.52	1.0	None; not associated with any field sample results
CCB2, ICAL 1495	Chloride	0.52	1.0	None, all associated results greater than 5x blank concentration
CCB3, ICAL 1495	Chloride	0.52	1.0	None; not associated with any field sample results
CCB4, ICAL 1495	Chloride	0.52	1.0	None; not associated with any field sample results

The purpose of laboratory, equipment or trip blank analysis is to determine the existence and magnitude of contamination resulting from lab or field activities. If contamination is found in blanks the associated sample results for these analytes may be considered suspect. As per the QAPP, based on the blank contaminants present above the RL, results for the specific analytes in the associated environmental samples are qualified with a "B" flag. However, in accordance with the EPA National Functional Guidelines and consistent with AFCEE QAPP Version 4.0, the "B" flag is **not** applied for sample results that are greater than five times (5x) the blank concentration. Thus the "B" flag is only applied to those samples for which the sample result is positive and less than five times (5x) the blank concentration.

Corrective Action: "B" flags were not applied to the associated field sample results, since the associated field sample results were more than 5x the associated blank concentrations.

DATA USABILITY RESULTS

VOCs

Based on the evaluation of all information in the analytical data groups, the results of the samples for VOCs are highly usable with the data qualifiers as noted. Using the verification approach as presented above, the results for all above samples are 100% usable.

Wet Chemistry

Based on the evaluation of all information in the analytical data groups, the wet chemistry results are highly usable with the data qualifiers as noted. Using the verification approach as presented above, the results for all above samples are 100% usable.

AFCEE SUMMARY

All data in Job # 0812087 are valid and usable with qualifications as noted in the data review.

Signed: Concordia van Hoesel Date: 2/22/09

ATTACHMENTS

- Chain-of-Custody
- Laboratory's Case Narrative
- Definition of AFCEE Data Qualifiers
- Definition of USEPA Data Qualifiers
- Qualified final data verification results on annotated Lab Sheet 2s

AFCEE
ORGANIC ANALYSES DATA PACKAGE

Analytical Method: SW8260B

AAB #: R15859

Lab Name: Life Science Laboratories, Inc.

Contract Number:

Base/Command:

Prime Contractor: FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0812087-001A

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus

Name: Pamela J. Titus

Date: 1/22/09

Title: Project Manager

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW8260B	**Preparatory Method:**		**AAB #:**	R15859
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**			
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0812087-001A	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1442	**File ID:**	J7869.D
Date Received:	11-Dec-08	**Date Extracted:**		**Date Analyzed:**	16-Dec-08
Concentration Units (ug/L or mg/Kg dry weight):	ug/L			**Sample Size:**	mL

Analyte	MDL	RL	Concentration	Dilution	CAS No.	Qualifier
cis-1,2-Dichloroethene	0.100	1.00	18.4	1		
Tetrachloroethene	0.100	1.00	0.520	1		F
trans-1,2-Dichloroethene	0.100	1.00	0.360	1		F
Trichloroethene	0.100	1.00	0.450	1		F
Vinyl chloride	0.330	1.00	0.670	1		F

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4	106	72 - 119	
4-Bromofluorobenzene	97	76 - 119	
Toluene-d8	99	81 - 120	

CNT 2/22/09

Internal Std	Area Count	Area Count Limits	Qualifier
1,4-Dichlorobenzene-d4	382445	278829 - 1115316	
Chlorobenzene-d5	590545	373282 - 1493128	
Fluorobenzene	1611835	1006889 - 4027556	

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SW9056	**AAB #:**	R16250
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

B035M0416HA	0812087-001B

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 1/29/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9056		**AAB #:**	R16250	
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0812087-001B	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1495		
Date Received:	11-Dec-08	**Date Prepared:**		**Date Analyzed:**	06-Jan-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Chloride	0.52	1.0	24	1	
Sulfate (as SO4)	0.44	1.0	13	1	

CWT 2/24/09

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SW9060	**AAB #:**	R15897
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

B035M0416HA	0812087-001C

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 1/22/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9060		**AAB #:** R15897		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0812087-001C	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1458		
Date Received:	11-Dec-08	**Date Prepared:**		**Date Analyzed:**	19-Dec-08

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Result	Dilution Factor	Lab Qualifiers
Total Organic Carbon	0.40	1.0	2.0	1	

CWA 2/22/09

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SM 2320 B	**AAB #:**	R15894
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab ID
B035M0416HA	0812087-001D
B035M0416HA	0812087-001DDUP

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 1/22/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SM 2320 B		**AAB #:**	R15894	
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0812087-001D	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	0		
Date Received:	11-Dec-08	**Date Prepared:**		**Date Analyzed:**	21-Dec-08

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	PQL	Result	Dilution Factor	Footnotes
Alkalinity, as CaCO3	10	10	280	1	

WT 2/22/09

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	E353.2	**AAB #:**	R15895
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

B035M0416HA	0812087-001B

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 1/22/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	E353.2		**AAB #:** R15895		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0812087-001B	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	0		
Date Received:	11-Dec-08	**Date Prepared:**		**Date Analyzed:**	21-Dec-08

Concentration Units (mg/L or mg/kg dry weight): mg/L

	MDL	RL	Dilution	
Nitrogen, Nitrate (as N)	0.050	0.050	0.050	1	U

CWK 2/22/09

Comments:

FPM-GROUP
Data Verification and Usability Report
GRIFFISS AIR FORCE BASE
Site Griffiss AFB Building 35
Water Sampling
Contract No. F41624-03-D-8601

FPM Project No. 40-05-27

LSL Job # 0903143

Laboratory:	Life Sciences Laboratories, Inc.
Sample Matrix:	Water
Number of Samples:	1
Analytical Protocol:	AFCEE QAPP, Version 4.0, with AFCEE-approved lab variances
Data Reviewer:	Connie van Hoesel
Sample Date:	March 24, 2009

LIST OF DATA VERIFICATION SAMPLES

This verification report pertains to the following environmental samples and corresponding QC samples:

Sample ID	Date	QC Samples	Date
B035M0416HA	3/24/09		

Notes:

Refer to attached chain-of-custody for detailed sampling information and sample specific analyses requested.

HA – Primary environmental samples

DELIVERABLES

The data deliverable report was per requirements of the AFCEE QAPP 4.0 and approved variances. The report consisted of the following major sections: lab attachment letter, case narrative, chain-of-custody, lab qualifier definitions, analytical results (sheet 2) based on analytical batch, calibration summaries, method blank summaries, laboratory control sample summaries, matrix spike/matrix spike duplicate summaries, holding time forms, performance checks, surrogate and internal standard recoveries, as applicable.

ANALYTICAL METHODS

The analytical test methods and QA/QC requirements used for the soil sample analysis was per methods as specified in the AFCEE Quality Assurance Project Plan, Version 4.0 and AFCEE approved laboratory variances. The analytical methods employed included SW-846: Volatile Organic Compounds (VOC) by Method SW8260B (short list), Total Organic Carbon (TOC) by Method SM 5310 B, Total Alkalinity by Method SM 2320 B, and Anions (chloride, nitrate, and sulfate only) by Method SW9056.

VERIFICATION GUIDANCE

The analytical work was performed by Life Sciences Laboratories, Inc. in accordance with the Air Force Center for Environmental Excellence (AFCEE), Quality Assurance Project Plan (QAPP), Version 4.0, with AFCEE-approved laboratory variances. The data was verified according to the protocols and QC requirements of the respective analytical methods and of the QAPP Version 4.0. For data usability purposes all values were further evaluated, including positive and non-detect results that were qualified "Q" according to the QAPP. The data usability analysis was based on the reviewer's professional judgment and on an assessment of how this data would fare with respect to the U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for Organic (and Inorganic) Data Review (February 1994), and the AFCEE QAPP, Version 4.0.

QA/QC CRITERIA

The following QA/QC criteria were reviewed, as applicable and available:

- Method detection limits and reporting limits (MDL, RL)
- Holding times, sample preservation and storage
- MS tune performance
- Initial and Continuing calibration summaries
- Second source calibration verification summary
- Method blanks
- Ambient, equipment, and trip blanks (as applicable)
- Field duplicate results
- Surrogate spike recoveries

- Internal standard areas counts and retention times
- Laboratory control samples (LCS)
- Results reported between MDL and RL (F-flag)
- Sample storage and preservation
- Data system printouts
- Qualitative and quantitative compound identification
- Chain-of-custody (COC)
- Case narrative and deliverables compliance

The items listed above were in compliance with AFCEE QAPP and USEPA criteria and protocols with exceptions discussed in the text below. The data have been verified according to the procedures outlined above and qualified accordingly.

GENERAL NOTES:

MISSING SAMPLES

None. All samples documented on the chain of custody were received by the laboratory.

BLANKS

Whenever blanks, including method, ambient, equipment, and trip, contained low levels of contaminants (between MDL and RL), the laboratory and/or data verifier qualified the subject results with an "F" flag. Since no qualification of associated field samples are required for blanks less than half the RL, no further action was taken in such instances.

VOLATILE ORGANIC COMPOUNDS (VOCs)

- There were no exceedances for VOCs.

WET CHEMISTRY ANALYTES

- According to the case narrative, sample B035M0416HA was analyzed at a dilution of 1:2 for anions (chloride, nitrate, and sulfate). The dilution results only are reported and are used in data verification as representing original results.

DATA USABILITY RESULTS

VOCs

Based on the evaluation of all information in the analytical data groups, the results of the samples for VOCs are highly usable with the data qualifiers as noted. Using the verification approach as presented above, the results for all above samples are 100% usable.

WET CHEMISTRY ANALYTES

Based on the evaluation of all information in the analytical data groups, the results of the samples for wet chemistry analytes are highly usable with the data qualifiers as noted. Using the verification approach as presented above, the results for all above samples are 100% usable.

AFCEE SUMMARY

All data in Job # 0903143 are valid and usable with qualifications as noted in the data review.

Signed: Concordia van Hoesel Date: 4/23/09

ATTACHMENTS

- Chain-of-Custody
- Laboratory's Case Narrative
- Definition of AFCEE Data Qualifiers
- Definition of USEPA Data Qualifiers
- Qualified final data verification results on annotated Lab Sheet 2s

AFCEE
ORGANIC ANALYSES DATA PACKAGE

Analytical Method:	SW8260B	**AAB #:**	R16810
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0903143-001C

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus

Name: Pamela J. Titus

Date: 4/9/09

Title: Project Manager

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW8260B	**Preparatory Method:**		**AAB #:**	R16810
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**			
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0903143-001C	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1527	**File ID:**	J8948.D
Date Received:	25-Mar-09	**Date Extracted:**		**Date Analyzed:**	27-Mar-09
Concentration Units (ug/L or mg/Kg dry weight):	ug/L			**Sample Size:**	mL

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Chloroform	0.100	0.500	0.100	1		U
cis-1,2-Dichloroethene	0.100	1.00	17.4	1		
Tetrachloroethene	0.100	1.00	0.620	1		F
trans-1,2-Dichloroethene	0.100	1.00	0.380	1		F
Trichloroethene	0.100	1.00	0.520	1		F
Vinyl chloride	0.330	1.00	1.11	1		

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4	105	72 - 119	
4-Bromofluorobenzene	88	76 - 119	
Toluene-d8	105	81 - 120	

CWA 4/23/09

Internal Std	Area Counts	Area Count Limits	Qualifier
1,4-Dichlorobenzene-d4	700267	269046 - 1076184	
Chlorobenzene-d5	851897	373660 - 1494642	
Fluorobenzene	2229089	939074 - 3756298	

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SW9060	**AAB #:**	R16864
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

FPM Sample ID	Lab Sample ID
B035M0416HA	0903143-001D

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus **Name:** Pamela J. Titus

Date: 4/9/09 **Title:** Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9060		**AAB #:**	R16864	
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0903143-001D	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1537		
Date Received:	25-Mar-09	**Date Prepared:**		**Date Analyzed:**	02-Apr-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Total Organic Carbon	0.35	1.0	8.2	1	

CVA 4/23/09

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SM 2320 B	**AAB #:**	R16619
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

B035M0416HA	0903143-001A

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus

Name: Pamela J. Titus

Date: 4/9/09

Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SM 2320 B		**AAB #:** R16819		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0903143-001A	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	0		
Date Received:	25-Mar-09	**Date Prepared:**		**Date Analyzed:**	30-Mar-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	RL	PQL	Concentration	Dilution	Qualifier
Alkalinity, as CaCO3	10	10	280	1	

CMA 4/23/09

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method: SW9056 **AAB #:** R16776

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Base/Command: **Prime Contractor:** FPM Group

Field Sample ID	Lab ID
B035M0416HA	0903143-001B
B035M0416HA	0903143-001BDUP
B035M0416HA	0903143-001BMS
B035M0416HA	0903143-001BMSD

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 4/9/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9056		**AAB #:**	R16776	
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0903143-001B	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1528		
Date Received:	25-Mar-09	**Date Prepared:**		**Date Analyzed:**	25-Mar-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Chloride	0.20	2.0	73	2	
Nitrate (as N)	0.020	0.20	0.020	2	U
Sulfate (as SO4)	0.20	2.0	2.7	2	

CWA 4/23/09

Comments:

Appendix D
Raw Lab Data

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Life Science Laboratories, Inc.
5000 Brittonfield Parkway, Suite 200
East Syracuse, NY 13057 (315) 437-0200

Friday, January 30, 2009

Niels van Hoesel
FPM Group
153 Brooks Road
Rome, NY 13441

TEL:

Project: GRIFFISS AFB - BUILDING 35
RE: Analytical Result Order No.: 0812087

Dear Niels van Hoesel:

Life Science Laboratories, Inc. received 1 sample(s) on 12/11/2008 for the analyses presented in the following report.

Very truly yours,
Life Science Laboratories, Inc.

Pamela J. Titus
Project Manager

Pam Titus

From: van Hoesel, Niels [n.vanhoesel@fpm-group.com]
Sent: Thursday, December 11, 2008 10:58 AM
To: Pam Titus
Subject: RE: bottle order for B781

Hi Pam,

You will see that the time for the B35 sample is missing .That should be 1150. Do you need a revised COC to replace the one Paul has with the coolers? Or can you just write 1150 in that box?

Thanks

Niels D.L. van Hoesel
Field Operations Manager
FPM group
153 Brooks Road
Rome, NY 13441
Phone: (315) 336-7721 ext. 205
Fax: (315) 336-7722

From: Pam Titus [mailto:titusp@lsl-inc.com]
Sent: Thursday, December 11, 2008 10:46 AM
To: van Hoesel, Niels
Subject: RE: bottle order for B781

Thank you!

From: van Hoesel, Niels [mailto:n.vanhoesel@fpm-group.com]
Sent: Thursday, December 11, 2008 10:31 AM
To: Pam Titus
Subject: RE: bottle order for B781

Hi Pam,

Here are the COCs for all the samples we have collected so far.

Thanks

Niels D.L. van Hoesel
Field Operations Manager
FPM group
153 Brooks Road
Rome, NY 13441
Phone: (315) 336-7721 ext. 205
Fax: (315) 336-7722

From: Pam Titus [mailto:titusp@lsl-inc.com]
Sent: Thursday, December 11, 2008 10:00 AM
To: van Hoesel, Niels
Subject: RE: bottle order for B781

Niels – I may have overlooked the Bldg 781 labels. If they were sent, they would have been together with LF6

Laboratory Report

Project Management Case Narrative

INTRODUCTION/ANALYTICAL RESULTS

This report summarizes the laboratory results for samples from FPM, for the Griffiss AFB-Building 35- Rome, NY project.

CONDITION UPON RECEIPT/CHAIN OF CUSTODY

The cooler(s) were received intact. When the cooler(s) were received by the laboratory, the sample custodian(s) opened and inspected the shipment(s) for damage and custody inconsistencies. Chains of custody documenting receipt are presented in the chain of custody section. Each sample was assigned a unique laboratory number and a custody file created. The samples were placed in a secured walk-in cooler and signed in and out by the chemists performing the tests. The sign out record, or lab chronicle, is presented in the chain of custody section.

Discrepancies noted upon receipt were recorded on the sample receipt checklist in the chain of custody section of the report .The temperature of the cooler was -1.2°C.

METHODOLOGY

The following methods were used to perform the analyses:

PARAMETER	METHOD	REFERENCE
Volatile Organics	SW8260B	1
Anions – Ion Chromatography	EPA300.0, Rev. 2.1	2
TOC	SW9060	1
Total Alkalinity	SM2320B	3
Nitrate	EPA353.2, Rev.2.0	2
Nitrate-nitrite	EPA353.2, Rev.2.0	2
Nitrite	SM4500-NO2B	3

1) Test Methods for Evaluating Solid Wastes, SW-846 Third Edition, Final Update III, December 1996 (including the QC requirements specified in AFCEE 4.0 + variances).

2) Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

3) Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992

QUALITY CONTROL

QA/QC results are summarized in the Laboratory Report.

RAW DATA

The raw data is not requested for this report. Life Science Laboratories, Inc. will keep the raw data on file.

Total # of pages in this report: _____

GC/MS Volatile Organics Case Narrative

Client:	FPM
Project/Order:	Griffiss AFB – Building 35
Work Order #:	0812087
Methodology:	8260B

Analyzed/Reviewed by (Initials/Date): GS 1/2/09

Supervisor/Reviewed by (Initials/Date): [illegible] 1-5-09

QA/QC Review (Initials/Date): [illegible] 1/5/09

File Name: G:\Narratives\MSVoa\0812087msvnar.doc

GC/MS Volatile Organics
The GC/MS Volatile instruments are equipped with a Restek Rtx-VMS, 40 m x 0.18 mm ID capillary column (MS01 & MS03), Restek Rtx-502.2, 105 m x 0.53 mm ID capillary column (MS02), and Restek Rtx-VMS, 60 m x 0.25mm ID capillary column (MS04), and a Vocarb 3000 adsorbent trap.

There were no excursions to note. All QC results were within established control limits.

Holding Times and Sample Preservation
All samples were prepared and analyzed within the method and/or QAPP specified holding time requirements. Samples had a pH of < 2.

Laboratory Control Sample
All spike recoveries met method and/or project specific QC criteria.

Surrogate Standards
All surrogate standard recoveries met method and/or project specific QC criteria.

Internal Standards
All internal standard areas met method and/or project specific QC criteria.

Calibrations
All initial calibrations and calibration verifications met method and/or project specific QC criteria.

Preparation Blanks
All preparation blanks met method and/or project specific QC criteria.

Wet Chemistry Case Narrative

Client ID:	FPM
Project/Order:	Griffiss AFB – Building 35
Work Order #:	0812087
Methodology:	Total Organic Carbon – SW9060 Alkalinity as CaCO3 – SM 2320 B Nitrate (as N) – EPA 353.2* Nitrate-nitrite (as N) – EPA 353.2 Nitrite (as N) – SM 4500-NO2 B

Analyzed/Reviewed by (Date/Initials): 1-14-09 mt

Supervisor/Reviewed by (Date/Initials): 1-14-09 mt

QA/QC Review (Date/Initials): 1/14/09

Wet Chemistry

Holding Times
All samples were prepared and analyzed within the method and/or QAPP specified holding times.

Laboratory Control Sample
All spike recoveries met method and/or project specified QC criteria.

Sample Duplicate
All sample duplicate RPD data met method and/or project specific QC criteria.

Calibrations
All calibrations and calibration verifications met method and/or project specific QC criteria.

Preparation Blanks
All preparation blanks met method and/or project specific QC criteria.

Miscellaneous
*The nitrate result is a calculation from the differences of nitrate-nitrite minus the nitrite concentration.

Wet Chemistry Case Narrative

Client ID:	FPM
Project/Order:	Griffiss AFB - Building 35
Work Order #:	0812087
Methodology:	Anions-Ion Chromatography EPA 300.0

Analyzed/Reviewed by (Date/Initials): MF 1/29/09

Supervisor/Reviewed by (Date/Initials): 1/29/09

QA/QC Review (Date/Initials): for DK 1/30/09

Wet Chemistry

Holding Times
All samples were prepared and analyzed within the method and/or QAPP specified holding times.

Laboratory Control Sample
All spike recoveries met method and/or project specified QC criteria.

Calibrations
All calibrations and calibration verifications met method and/or project specific QC criteria.

Preparation Blanks
All preparation blanks met method and/or project specific QC criteria.

Life Science Laboratories, Inc.

Date: *30-Jan-09*

CLIENT: FPM Group
Project: Griffiss AFB - Building 35
Lab Order: 0812087

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
0812087-001A	B035M0416HA	B035MW04	12/10/2008	12/11/2008
0812087-001B	B035M0416HA	B035MW04	12/10/2008	12/11/2008
0812087-001C	B035M0416HA	B035MW04	12/10/2008	12/11/2008
0812087-001D	B035M0416HA	B035MW04	12/10/2008	12/11/2008

Lab Order: 0812087
Client: FPM Group
Project: Griffiss AFB - Building 35

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0812087-001A	B035M0416HA	12/10/2008 11:50:00 AM	Groundwater	Volatile Organic Compounds by GC/MS			12/16/2008
0812087-001B				Inorganic anions by IC			1/6/2009
				Nitrate-nitrite (as N)			12/21/2008
				Nitrite (as N)			12/12/2008
				Nitrogen, Nitrate (As N)			12/21/2008
0812087-001C				Total Organic Carbon			12/19/2008
0812087-001D				Alkalinity, as CaCO3			12/21/2008

Chain of Custody

External Chain of Custody

AFCEE
CHAIN OF CUSTODY RECORD

COC#: _1_ SDG#: _202_ Cooler ID: _A_

Ship to: Pamela Titus Life Science Laboratories, Inc. 5000 Brittonfield Pkwy, Suite 200 East Syracuse, NY 13057 Tel: (315)437-0200	Project Name: Griffiss AFB Site Building 35 sampling Sampler Name: Niels van Hoesel	Send Results to: Niels van Hoesel FPM Group 153 Brooks Road Rome, NY 13441
Carrier: LSL courier.	Sampler Signature:	Phone: (315) 336-7721 Ext 205

Analyses Requested

Field Sample ID	Location ID (LOCID)	Date 2008	Time	MATRIX	SMCODE	SBD/SED	SACODE	Preservative	Filt/UnFilt.	No. of Containers	VOCs Note 1 40 mL vial (HCl)	Anions, note 2 250 mL poly	TOC note3 40 mL vials (HCL)	Alkalinity note 4 8 oz glass (zero headspace)		Comments
B035M0416HA	B035MW04	12/10		WG	B	0/0	N	HCl	Unf.	6	3	1	1	1		

Sample Condition Upon Receipt at Laboratory: Good, Custody Seals INTACT Cooler Temperature: ~1.2° C on ice

Special Instructions/Comments: Analyses to be conducted in compliance with AFCEE QAPP 4.0

Note 1: VOC: method SW 8260: Target COCs: PCE, TCE, DCE, Vinyl Chloride and Chloroform.

Note 2: Anions: SW9056 **CHLORIDE, SULFATE AND NITRATE ONLY**

Note 3: TOC: SW9060.

Note 4: Alkalinity: 310.1.

#1 Released by: (Sig)	Date:	#2 Released by: (Sig)	Date: 12/10/08	#3 Released by: (Sig)	Date:
Company Name:	Time:	Company Name: FPM Group Ltd	Time: 18:45	Company Name:	Time:
#1 Received by: (Sig) Niels van Hoesel	Date: 12/10/08	#2 Received by: (Sig)	Date: 12/10/08	#3 Received by: (Sig)	Date: 12/11/08
Company Name: FPM Group Ltd	Time: 1020	Company Name: LSL	Time: 20:15	Company Name: LSC	Time: 1400

MATRIX
WG = Ground water
WQ = Water Quality Control Matrix
SO = Soil

SMCODE
B = Bailer
G = Grab (only for EB).
NA = Not Applicable (only for AB/TB)
PP = Peristaltic Pump
BP = Bladder Pump
SP = Submersible Pump
SS = Split spoon

SACODE
N = Normal Sample
AB = Ambient Blank
TB = Trip Blank
EB = Equipment Blank
FD = Field Duplicate
MS = Matrix Spike
SD = Matrix Spike Duplicate

Life Science Laboratories, Inc.

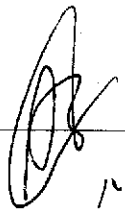
Sample Receipt Checklist

Client Name: **FPM**

Date and Time Received: **12/11/2008**

Work Order Number **0812087**

Received by: ads

Checklist completed by: _____ Initials  Date 12/11/08

Reviewed by: _____ Initials Date 12/11/08

Matrix: Carrier name: Courier

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

pH	Preservative	pH Acceptable	Sample ID	Volume of Preservative added in Lab.
>12	NaOH	Yes ☐ N ☐ NA ☑		
<2	HNO3	Yes ☐ N ☐ NA ☑		
<2	HSO4	Yes ☐ N ☐ NA ☑		
<2	1:1 HCL	Yes ☑ N ☐ NA ☐	(TOC)	
5-9	Pest/PCBs (608/8081)	Yes ☐ N ☐ NA ☑		

Comments:

Time of sample collection not recorded on COC.

Corrective Action::

Sample collected at 11:50 am on 12/10, per client email to pjt on 12/11/2008.

Life Science Laboratories, Inc.
5000 Brittonfield Parkway, Suite 200
East Syracuse, NY 13057
TEL: *(315) 437-0200* FAX: *(315) 437-0377*

CHAIN-OF-CUSTODY

0900073
LSL_BL

Subcontractor:
Life Science Laboratories, Inc.
5854 Butternut Drive
East Syracuse, NY 13057

TEL:
FAX:
Acct #:

05-Jan-09

					Requested Tests						
Client Sample ID	**Sample ID**	**Matrix**	**Collection Date**	**Bottle Type**	**SW9056**						
B035M0416HA	0812087-001B	Groundwater	12/10/08 11:50	PE-250ML	1	001					

Comments: AFCEE 4.0 deliverables. Include QC data. HOLD TIME UP: 1/7/09 at 11:50 A.M. Please analyze for Chloride and Sulfate.

		Date/Time			Date/Time
Relinquished by:		1/5/09, 1500	**Received by:**	Bill Donaldson	1-5-09 1500
Relinquished by:	Bill Donaldson		**Received by:**		1-5-09 1600

6.0°C

Client/Project FPM 0812087

Sample Control Record

Sample ID	Frac	Client Sample ID	Removed By	Date and Time Removed	Analysis	Date and Time Returned
0812087-001	B		JK	12/12/08 7:10	NO2	12/12/ 8:20
0812087-001	A		JK	12/16/08 12:00	8260	NR
0812087-001	C		JK	12/19/08 10:35	TOC	12/19/08 16:00
0812087-001	D		AL	12/21/08 10:30	ALK	12/21/08 16:00
0812087-001	B		AL	12/21/08 10:30	NO3 NO3	12/21/08 16:30

Analytical Results

AFCEE
ORGANIC ANALYSES DATA PACKAGE

Analytical Method: SW8260B

AAB #: R15859

Lab Name: Life Science Laboratories, Inc.

Contract Number:

Base/Command:

Prime Contractor: FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0812087-001A

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus

Name: Pamela J. Titus

Date: 1/22/09

Title: Project Manager

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW8260B	**Preparatory Method:**		**AAB #:**	R15859
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**			
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0812087-001A	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1442	**File ID:**	J7869.D
Date Received:	11-Dec-08	**Date Extracted:**		**Date Analyzed:**	16-Dec-08
Concentration Units (ug/L or mg/Kg dry weight):	ug/L			**Sample Size:**	mL

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
cis-1,2-Dichloroethene	0.100	1.00	18.4	1		
Tetrachloroethene	0.100	1.00	0.520	1		F
trans-1,2-Dichloroethene	0.100	1.00	0.360	1		F
Trichloroethene	0.100	1.00	0.450	1		F
Vinyl chloride	0.330	1.00	0.670	1		F

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4	106	72 - 119	
4-Bromofluorobenzene	97	76 - 119	
Toluene-d8	99	81 - 120	

Internal Std	Area Counts	Area Count Limits	Qualifier
1,4-Dichlorobenzene-d4	382445	278829 - 1115316	
Chlorobenzene-d5	590545	373282 - 1493128	
Fluorobenzene	1611835	1006889 - 4027556	

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SW9056	**AAB #:**	R16250
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0812087-001B

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 1/29/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9056		**AAB #:** R16250		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0812087-001B	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1495		
Date Received:	11-Dec-08	**Date Prepared:**		**Date Analyzed:**	06-Jan-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Chloride	0.52	1.0	24	1	
Sulfate (as SO4)	0.44	1.0	13	1	

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SW9060	**AAB #:**	R15897
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0812087-001C

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 1/22/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9060		**AAB #:** R15897		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0812087-001C	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1458		
Date Received:	11-Dec-08	**Date Prepared:**		**Date Analyzed:**	19-Dec-08

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Total Organic Carbon	0.40	1.0	2.0	1	

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SM 2320 B	**AAB #:**	R15894
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0812087-001D
B035M0416HA	0812087-001DDUP

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 1/22/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SM 2320 B		**AAB #:** R15894		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0812087-001D	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	0		
Date Received:	11-Dec-08	**Date Prepared:**		**Date Analyzed:**	21-Dec-08

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Alkalinity, as CaCO3	10	10	280	1	

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	E353.2	**AAB #:**	R15895
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0812087-001B

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 1/22/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	E353.2		**AAB #:** R15895		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0812087-001B	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	0		
Date Received:	11-Dec-08	**Date Prepared:**		**Date Analyzed:**	21-Dec-08

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Nitrogen, Nitrate (as N)	0.050	0.050	0.050	1	U

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	E353.2	**AAB #:**	R15907B
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0812087-001B

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 1/22/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	E353.2		**AAB #:** R15907B		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0812087-001B	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1464		
Date Received:	11-Dec-08	**Date Prepared:**		**Date Analyzed:**	21-Dec-08

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Nitrate-nitrite (as N)	0.0074	0.050	0.022	1	F

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SM 4500-NO2 B	**AAB #:**	R15779
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0812087-001B

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 1/22/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SM 4500-NO2 B		**AAB #:** R15779		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0812087-001B	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1347		
Date Received:	11-Dec-08	**Date Prepared:**		**Date Analyzed:**	12-Dec-08

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Nitrite (as N)	0.010	0.020	0.010	1	U

Comments:

Quality Control Results

GC/MS Volatile Organics Data

AFCEE
ORGANIC ANALYSES DATA SHEET 3
INITIAL MULTIPOINT CALIBRATION

Analytical Method:	8260B	**AAB #:**	R15738
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	MS03_10	**Date of Initial Calibration:**	05-DEC-08
Initial Calibration ID:	1442	**Concentration Units (ug/L or mg/kg):**	ug/L

SEE ATTACHED

Comments:

Response Factor Report #3MS10

Method : C:\HPCHEM\1\METHODS\JD05VOCW.M (RTE Integrator)
Title : VOC's w/Restek Rtx-VMS, 0.18 mm x 40 m, 1.0 df
Last Update : Fri Dec 26 10:11:08 2008
Response via : Initial Calibration

ICAL 1442

Calibration Files
0.5 =J7706.D 1.0 =J7707.D 2.0 =J7708.D
10 =J7709.D 20 =J7711.D 30 =J7712.D

		Compound	0.5	1.0	2.0	10	20	30	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------							
2)		Dichlorodifluoromet	0.344	0.319	0.320	0.374	0.408	0.401	0.367	10.60
3)	P	Chloromethane	0.357	0.370	0.373	0.379	0.380	0.364	0.367	3.26
4)	CP	Vinyl chloride	0.224	0.231	0.215	0.233	0.237	0.235	0.229	3.28
5)		Bromomethane		0.269	0.234	0.212	0.222	0.221	0.231	8.75
6)		Chloroethane	0.173	0.178	0.180	0.189	0.193	0.190	0.185	4.16
7)		Trichlorofluorometh	0.353	0.356	0.361	0.386	0.388	0.385	0.373	4.12
8)	CPM	1,1-Dichloroethene	0.242	0.229	0.224	0.243	0.249	0.249	0.240	4.18
9)		Carbon disulfide	0.726	0.670	0.676	0.752	0.762	0.760	0.729	5.54
10)		1,1,2-Trichloro-1,2	0.242	0.258	0.250	0.266	0.268	0.267	0.259	3.85
11)		Methyl iodide	0.143	0.168	0.216	0.327	0.340	0.340	0.268	33.11
12)		Acrolein	0.030	0.027	0.029	0.031	0.032	0.031	0.030	6.06
13)		Methylene chloride	0.323	0.278	0.272	0.269	0.268	0.265	0.277	7.74
14)		Acetone	0.053	0.051	0.044	0.046	0.045	0.044	0.046	9.03
15)		trans-1,2-Dichloroe	0.264	0.253	0.243	0.261	0.264	0.265	0.259	3.13
16)		Methyl acetate	0.127	0.125	0.123	0.128	0.129	0.126	0.126	1.81
7)		Methyl tert-Butyl e	0.579	0.561	0.580	0.610	0.617	0.618	0.596	3.74
18)	P	1,1-Dichloroethane	0.445	0.438	0.424	0.451	0.453	0.452	0.445	2.36
19)		Acrylonitrile	0.049	0.053	0.057	0.062	0.063	0.063	0.058	9.46
20)		Vinyl acetate	0.296	0.288	0.295	0.314	0.311	0.324	0.309	5.52
21)		cis-1,2-Dichloroeth	0.274	0.282	0.281	0.302	0.306	0.308	0.294	4.86
22)		2,2-Dichloropropane	0.404	0.364	0.356	0.377	0.382	0.387	0.379	4.19
23)		Bromochloromethane	0.117	0.116	0.120	0.128	0.128	0.128	0.123	4.37
24)		Cyclohexane	0.417	0.394	0.395	0.430	0.443	0.443	0.423	5.20
25)	CP	Chloroform	0.460	0.431	0.430	0.449	0.448	0.445	0.443	2.39
26)		Carbon tetrachlorid	0.262	0.269	0.274	0.312	0.326	0.328	0.300	10.11
27)		1,1,1-Trichloroetha	0.379	0.365	0.366	0.393	0.398	0.398	0.385	3.88
28)		2-Butanone	0.068	0.066	0.067	0.071	0.070	0.069	0.068	2.71
29)		1,1-Dichloropropene	0.319	0.328	0.325	0.353	0.359	0.358	0.343	5.22
30)	M	Benzene	1.113	1.132	1.132	1.188	1.202	1.198	1.163	3.10
31)	S	1,2-Dichloroethane-	0.231	0.232	0.235	0.247	0.242	0.240	0.237	2.40
32)		1,2-Dichloroethane	0.272	0.278	0.281	0.294	0.293	0.289	0.284	2.79
33)		Methylcyclohexane	0.383	0.377	0.372	0.407	0.412	0.415	0.397	4.78
34)	M	Trichloroethene	0.288	0.278	0.267	0.289	0.293	0.290	0.285	3.30
35)		Dibromomethane	0.126	0.134	0.133	0.144	0.143	0.142	0.137	4.59
36)	CP	1,2-Dichloropropane	0.239	0.247	0.251	0.263	0.259	0.260	0.254	3.37
37)		Bromodichloromethan	0.278	0.272	0.279	0.311	0.322	0.325	0.301	7.98
38)		2-Chloroethylvinyl	0.057	0.064	0.069	0.075	0.068	0.061	0.064	10.60
39)		cis-1,3-Dichloropro	0.347	0.351	0.362	0.403	0.412	0.416	0.387	8.23
40)	CPM	Toluene	0.659	0.671	0.671	0.736	0.746	0.754	0.712	5.91
41)		4-Methyl-2-pentanon		0.106	0.124	0.144	0.136	0.138	0.130	10.39
42)		trans-1,3-Dichlorop	0.271	0.277	0.287	0.327	0.337	0.344	0.312	10.30
43)		1,1,2-Trichloroetha	0.155	0.162	0.164	0.175	0.176	0.176	0.169	4.99

OK @ 12-26-08

(#) = Out of Range ### Number of calibration levels exceeded format ##

12-26-08

Response Factor Report #3MS10

Method : C:\HPCHEM\1\METHODS\JD05VOCW.M (RTE Integrator)
Title : VOC's w/Restek Rtx-VMS, 0.18 mm x 40 m, 1.0 df
Last Update : Fri Dec 26 10:11:08 2008
Response via : Initial Calibration

Calibration Files
0.5 =J7706.D 1.0 =J7707.D 2.0 =J7708.D
10 =J7709.D 20 =J7711.D 30 =J7712.D

		Compound	0.5	1.0	2.0	10	20	30	Avg	%RSD
44)		2-Hexanone	0.094	0.073	0.081	0.099	0.105	0.105	0.094	13.17
45)	I	Chlorobenzene-d5	ISTD							
46)	S	Toluene-d8	2.420	2.430	2.373	2.573	2.613	2.622	2.528	4.61
47)		Tetrachloroethene	0.709	0.695	0.706	0.733	0.748	0.749	0.730	3.73
48)		Dibromochloromethan	0.435	0.476	0.479	0.574	0.618	0.636	0.554	16.07
49)		1,3-Dichloropropane	0.909	0.901	0.900	0.949	0.955	0.954	0.932	2.90
50)		1,2-Dibromoethane	0.427	0.465	0.470	0.526	0.529	0.530	0.497	8.58
51)		1-Chlorohexane	0.772	0.788	0.779	0.878	0.917	0.944	0.864	9.61
52)	PM	Chlorobenzene	1.949	1.914	1.884	2.027	2.059	2.075	2.005	4.56
53)	CP	Ethylbenzene	3.161	3.086	3.023	3.478	3.665	3.730	3.411	9.22
54)		1,1,1,2-Tetrachloro	0.517	0.543	0.537	0.622	0.655	0.677	0.607	12.27
55)		(m+p)-Xylene	1.212	1.211	1.207	1.410	1.473	1.497	1.361	10.71
56)		o-Xylene	1.069	1.121	1.145	1.346	1.409	1.437	1.283	12.90
57)		Styrene	1.454	1.476	1.551	1.994	2.148	2.219	1.872	19.51
58)	P	Bromoform	0.232	0.226	0.232	0.300	0.326	0.340	0.287	19.48
9)	I	1,4-Dichlorobenzene-d	ISTD							
60)		Isopropylbenzene	3.594	3.591	3.543	3.867	3.887	3.913	3.761	4.66
61)	S	Bromofluorobenzene	1.182	1.229	1.186	1.162	1.123	1.126	1.163	3.34
62)		Bromobenzene	0.991	1.039	1.039	1.034	1.006	0.997	1.017	1.99
63)		n-Propylbenzene	4.121	3.953	3.957	4.302	4.415	4.498	4.248	5.60
64)	P	1,1,2,2-Tetrachloro	0.726	0.832	0.828	0.858	0.815	0.804	0.810	5.11
65)		2-Chlorotoluene	2.759	2.850	2.788	2.904	2.987	2.954	2.886	3.08
66)		1,3,5-Trimethylbenz	2.829	2.755	2.788	2.991	3.062	3.137	2.965	5.95
67)		1,2,3-Trichloroprop	0.625	0.616	0.616	0.622	0.645	0.624	0.624	1.60
68)		trans-1,4-Dichloro-		0.089	0.094	0.130	0.137	0.142	0.122	19.77
69)		4-Chlorotoluene	2.766	2.655	2.708	2.909	2.785	2.847	2.791	3.24
70)		tert-Butylbenzene	2.475	2.407	2.245	2.211	2.309	2.357	2.349	4.23
71)		1,2,4-Trimethylbenz	2.688	2.699	2.702	2.767	2.841	2.919	2.801	4.28
72)		sec-Butylbenzene	3.312	3.159	3.048	2.998	3.121	3.247	3.177	4.18
73)		p-Isopropyltoluene	2.705	2.654	2.572	2.478	2.528	2.659	2.623	3.83
74)		1,3-Dichlorobenzene	1.653	1.671	1.712	1.802	1.812	1.813	1.761	4.58
75)		1,4-Dichlorobenzene	1.672	1.634	1.594	1.692	1.700	1.715	1.678	2.97
76)		n-Butylbenzene	2.463	2.137	2.149	1.992	1.926	1.978	2.100	8.56
77)		1,2-Dichlorobenzene	1.512	1.559	1.586	1.690	1.676	1.698	1.634	4.93
78)		1,2-Dibromo-3-chlor	0.110	0.108	0.104	0.101	0.103	0.109	0.106	3.37
79)		Hexachlorobutadiene	0.279	0.265	0.276	0.254	0.240	0.250	0.259	5.57
80)		1,2,4-Trichlorobenz	0.791	0.740	0.751	0.769	0.771	0.779	0.772	2.74
81)		Naphthalene	1.403	1.281	1.485	1.820	1.771	1.748	1.610	13.37
82)		1,2,3-Trichlorobenz	0.570	0.537	0.592	0.659	0.638	0.648	0.616	8.17

(#) = Out of Range ### Number of calibration levels exceeded format ##"

Method : C:\HPCHEM\1\METHODS\JD05VOCW.M (RTE Integrator)
Title : VOC's w/Restek Rtx-VMS, 0.18 mm x 40 m, 1.0 df
Last Update : Fri Dec 26 11:18:01 2008
Response via : Initial Calibration

Calibration Files
40 =J7713.D = =
= = =

		Compound	40	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------		
2)		Dichlorodifluoromet	0.401		
3)	P	Chloromethane	0.347		
4)	CP	Vinyl chloride	0.228		
5)		Bromomethane	0.226		
6)		Chloroethane	0.191		
7)		Trichlorofluorometh	0.381		
8)	CPM	1,1-Dichloroethene	0.247		
9)		Carbon disulfide	0.758		
10)		1,1,2-Trichloro-1,2	0.265		
11)		Methyl iodide	0.339		
12)		Acrolein	0.032		
13)		Methylene chloride	0.260		
14)		Acetone	0.042		
15)		trans-1,2-Dichloroe	0.261		
16)		Methyl acetate	0.124		
17)		Methyl tert-Butyl e	0.605		
18)	P	1,1-Dichloroethane	0.449		
19)		Acrylonitrile	0.062		
20)		Vinyl acetate	0.335		
21)		cis-1,2-Dichloroeth	0.304		
22)		2,2-Dichloropropane	0.387		
23)		Bromochloromethane	0.126		
24)		Cyclohexane	0.442		
25)	CP	Chloroform	0.440		
26)		Carbon tetrachlorid	0.329		
27)		1,1,1-Trichloroetha	0.397		
28)		2-Butanone	0.067		
29)		1,1-Dichloropropene	0.357		
30)	M	Benzene	1.173		
31)	S	1,2-Dichloroethane-	0.235		
32)		1,2-Dichloroethane	0.283		
33)		Methylcyclohexane	0.414		
34)	M	Trichloroethene	0.289		
35)		Dibromomethane	0.139		
36)	CP	1,2-Dichloropropane	0.259		
37)		Bromodichloromethan	0.323		
38)		2-Chloroethylvinyl	0.056		
39)		cis-1,3-Dichloropro	0.416		
40)	CPM	Toluene	0.743		
41)		4-Methyl-2-pentanon	0.134		
42)		trans-1,3-Dichlorop	0.341		
43)		1,1,2-Trichloroetha	0.172		

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\JD05VOCW.M (RTE Integrator)
Title : VOC's w/Restek Rtx-VMS, 0.18 mm x 40 m, 1.0 df
Last Update : Fri Dec 26 11:18:01 2008
Response via : Initial Calibration

Calibration Files
40 =J7713.D = =
= = =

		Compound	40	Avg	%RSD
44)		2-Hexanone	0.102		
45)	I	Chlorobenzene-d5	----------ISTD----------		
46)	S	Toluene-d8	2.663		
47)		Tetrachloroethene	0.769		
48)		Dibromochloromethan	0.657		
49)		1,3-Dichloropropane	0.955		
50)		1,2-Dibromoethane	0.534		
51)		1-Chlorohexane	0.967		
52)	PM	Chlorobenzene	2.131		
53)	CP	Ethylbenzene	3.734		
54)		1,1,1,2-Tetrachloro	0.701		
55)		(m+p)-Xylene	1.521		
56)		o-Xylene	1.456		
57)		Styrene	2.265		
58)	P	Bromoform	0.354		
59)	I	1,4-Dichlorobenzene-d	----------ISTD----------		
60)		Isopropylbenzene	3.933		
61)	S	Bromofluorobenzene	1.134		
62)		Bromobenzene	1.011		
63)		n-Propylbenzene	4.489		
64)	P	1,1,2,2-Tetrachloro	0.810		
65)		2-Chlorotoluene	2.958		
66)		1,3,5-Trimethylbenz	3.195		
67)		1,2,3-Trichloroprop	0.620		
68)		trans-1,4-Dichloro-	0.141		
69)		4-Chlorotoluene	2.867		
70)		tert-Butylbenzene	2.442		
71)		1,2,4-Trimethylbenz	2.993		
72)		sec-Butylbenzene	3.351		
73)		p-Isopropyltoluene	2.761		
74)		1,3-Dichlorobenzene	1.861		
75)		1,4-Dichlorobenzene	1.739		
76)		n-Butylbenzene	2.058		
77)		1,2-Dichlorobenzene	1.720		
78)		1,2-Dibromo-3-chlor	0.108		
79)		Hexachlorobutadiene	0.251		
80)		1,2,4-Trichlorobenz	0.800		
81)		Naphthalene	1.761		
82)		1,2,3-Trichlorobenz	0.670		

(#) = Out of Range ### Number of calibration levels exceeded format ###

AFCEE
ORGANIC ANALYSES DATA SHEET 4
SECOND SOURCE CALIBRATION VERIFICATION

Analytical Method:	SW8260B	**AAB #:**	R15738
Lab Name:	Life Science Laboratories, In	**Contract Number:**	
Instrument ID:	MS03_10	**Initial Calibration ID:**	1442
Second Source ID:	2SRC-15738	**Concentration Units (mg/L or mg/kg):**	µg/L

Analyte	Expected	Found	%D	Q
1,2-Dichloroethane-d4	10	9.74	-2.6	
4-Bromofluorobenzene	10	9.91	-0.9	
cis-1,2-Dichloroethene	10	9.94	-0.6	
Tetrachloroethene	10	10.2	1.5	
Toluene-d8	10	10.1	1.3	
trans-1,2-Dichloroethene	10	10.1	1.2	
Trichloroethene	10	9.97	-0.3	
Vinyl chloride	10	11	9.8	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 5A
CALIBRATION VERIFICATION - GC/MS ANALYSIS

Analytical Method: SW8260B **AAB #:** MS03_10_081216

Lab Name: Life Science Laboratories, In **Contract Number:**

Instrument ID: MS03_10 **Initial Calibration ID:** 1442

ICV ID: **CCV #1 ID:** CCV-15859 **CCV #2 ID:**

Analyte	ICV		CCV #1		CCV #2		Q
	RF	%D	RF	%D	RF	%D	
Vinyl chloride #				10			
1,2-Dichloroethane-d4				-1.7			
4-Bromofluorobenzene				-7.6			
cis-1,2-Dichloroethene				-1.0			
Tetrachloroethene				-4.5			
Toluene-d8				-2.5			
trans-1,2-Dichloroethene				-2.7			
Trichloroethene				-5.6			

* SPCCs # CCCS

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 7
BLANKS

Analytical Method:	SW8260B	**AAB #:**	R15859
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Units:	µg/L	**Method Blank ID:**	MB-15859
Initial Calibration ID:	1442	**File ID:**	J7857.D

Analyte	Method Blank	RL	Q
cis-1,2-Dichloroethene	0.100	1.00	U
Tetrachloroethene	0.100	1.00	U
trans-1,2-Dichloroethene	0.100	1.00	U
Trichloroethene	0.100	1.00	U
Vinyl chloride	0.330	1.00	U

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4	104	72 - 119	
4-Bromofluorobenzene	100	76 - 119	
Toluene-d8	101	81 - 120	

Internal Std	Area Counts	Area Count Limits	Qualifier
1,4-Dichlorobenzene-d4	404531	278829 - 1115316	
Chlorobenzene-d5	623013	373282 - 1493128	
Fluorobenzene	1728139	1006889 - 4027556	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 8
LABORATORY CONTROL SAMPLE

Analytical Method: SW8260B **AAB #:** R15859

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-15859 **Initial Calibration ID:** 1442

Concentration Units (mg/L or mg/kg): µg/L **File ID:** J7853.D

Analyte	Expected	Found	%R	Control Limits	Q
cis-1,2-Dichloroethene	10	9.61	96	72 - 126	
Tetrachloroethene	10	9.26	93	66 - 128	
trans-1,2-Dichloroethene	10	9.38	94	63 - 137	
Trichloroethene	10	9.03	90	70 - 127	
Vinyl chloride	10	11.1	111	50 - 134	

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4	99	72 - 119	
4-Bromofluorobenzene	96	76 - 119	
Toluene-d8	99	81 - 120	

Internal Std	Area Counts	Area Count Limits	Qualifier
1,4-Dichlorobenzene-d4	506913	278829 - 1115316	
Chlorobenzene-d5	675841	373282 - 1493128	
Fluorobenzene	1847480	1006889 - 4027556	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 10
HOLDING TIMES

Analytical Method: SW8260B **AAB #:** R15859

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time E	Time Held Ext	Date Analyzed	Max Holding Time A	Time Held Anal	Q
B035M0416HA	0812087-001A	10-Dec-08	11-Dec-08	16-Dec-08			16-Dec-08	14	6.3	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 11
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SW8260B **AAB#:**

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: MS03_10 **Calibration ID:** 1442

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analysis Started	Time Analysis Started	Date Analysis Completed	Time Analysis Completed
TB120508A3	TB120508A3	05-Dec-08	9:15	05-Dec-08	10:52
ICAL 0.5 ppb	ICAL 0.5 ppb	05-Dec-08	10:52	05-Dec-08	11:24
ICAL 1.0 ppb	ICAL 1.0 ppb	05-Dec-08	11:24	05-Dec-08	11:56
ICAL 2.0 ppb	ICAL 2.0 ppb	05-Dec-08	11:56	05-Dec-08	12:28
ICAL 10 ppb	ICAL 10 ppb	05-Dec-08	12:28	05-Dec-08	13:00
ICAL 20 ppb	ICAL 20 ppb	05-Dec-08	13:00	05-Dec-08	13:32
ICAL 30 ppb	ICAL 30 ppb	05-Dec-08	13:32	05-Dec-08	14:03
ICAL 40 ppb	ICAL 40 ppb	05-Dec-08	14:03	05-Dec-08	15:28
2SRC-15738	2SRC-15738	05-Dec-08	15:28	05-Dec-08	15:28
TB121608A3	TB121608A3	16-Dec-08	9:20	16-Dec-08	9:52
CCV-15859	CCV-15859	16-Dec-08	9:52	16-Dec-08	10:24
LCS-15859	LCS-15859	16-Dec-08	10:24	16-Dec-08	12:41
MB-15859	MB-15859	16-Dec-08	12:41	16-Dec-08	19:04
B035M0416HA	0812087-001A	16-Dec-08	19:04	16-Dec-08	19:04

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 12
INSTRUMENT PERFORMANCE CHECK
(BFB or DFTPP)

Analytical Method:	SW8260B	**AAB #:**	MS03_10_081205A
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	MS03_10	**Injection Date/Time:**	12/5/2008 9:15:00 AM
Initial Calibration ID:	1442	**File ID:**	C:\HPCHEM\1\DATA\J7705.D
Compound:	SW8260B	**Sample ID:**	TB120508A3

Mass	Ion Abundance Criteria	% Relative Abundance	Q
50	15 - 40% of m/z 95	20.9	
75	30 - 60% of m/z 95	55.1	
95	Base peak, 100% relative abundance	100	
96	5 - 9% of m/z 95	7.5	
173	Less than 2% of m/z 174	0	
174	Greater than 50% of m/z 95	60.3	
175	5 - 9% of m/z 174	8.3	
176	Greater than 95% but less than 101% of m/z 174	99.8	
177	5 - 9% of m/z 176	7.4	

AFCEE
ORGANIC ANALYSES DATA SHEET 12
INSTRUMENT PERFORMANCE CHECK
(BFB or DFTPP)

Analytical Method:	SW8260B	**AAB #:**	MS03_10_081216B
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	MS03_10	**Injection Date/Time:**	12/16/2008 9:20:00 AM
Initial Calibration ID:	1442	**File ID:**	C:\HPCHEM\1\DATA\J7851.D
Compound:	SW8260B	**Sample ID:**	TB121608A3

Mass	Ion Abundance Criteria	% Relative Abundance	C
50	15 - 40% of m/z 95	16.7	
75	30 - 60% of m/z 95	47.0	
95	Base peak, 100% relative abundance	100	
96	5 - 9% of m/z 95	6.9	
173	Less than 2% of m/z 174	0.5	
174	Greater than 50% of m/z 95	81.1	
175	5 - 9% of m/z 174	7.3	
176	Greater than 95% but less than 101% of m/z 174	98.4	
177	5 - 9% of m/z 176	7.0	

Anions Data

AFCEE
WET CHEM ANALYSES DATA SHEET 3-10
INITIAL MULTIPOINT CALIBRATION

Analytical Method: SW9056
Lab Name: Life Science Laboratories, Inc.
Instrument ID: Dionex IC2
Initial Calibration ID: 1495

AAB #: R16250
Contract #:
Date of Initial Calibration: 05-Jan-09
Concentration Units (mg/L or mg/kg): mg/L

Analyte	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	STD 10	r	Q
Chloride	1	2	10	20	50	100	0	0	0	0	0.997	
Sulfate (as SO4)	1	2	10	20	50	100	0	0	0	0	0.998	

r = correlation coefficient

Comments:

AFCEE
WET CHEMISTRY ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method: SW9056 **AAB #:** R16250

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID: Dionex IC2 **Initial Calibration ID:** 1495

2nd Source ID: ICV **CCV #1 ID:** CCV1 **CCV #2 ID:** CCV2

Analyte	2nd Source Calibration Verification			Continuing Calibration Verification					Q
	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Chloride	50.0	47.2	-5.7	10.0	9.55	-4.5	9.57	-4.3	
Sulfate (as SO4)	50.0	47.2	-5.6	10.0	9.67	-3.3	9.82	-1.8	

Comments:

AFCEE
WET CHEMISTRY ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method: SW9056 **AAB #:** R16250

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID: Dionex IC2 **Initial Calibration ID:** 1495

2nd Source ID: ICV **CCV #1 ID:** CCV3 **CCV #2 ID:** CCV4

Analyte	2nd Source Calibration Verification			Continuing Calibration Verification					Q
	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Chloride	50.0	47.2	-5.7	10.0	9.53	-4.7	9.53	-4.7	
Sulfate (as SO4)	50.0	47.2	-5.6	10.0	9.75	-2.5	9.80	-2.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9056 **AAB #:** R16250

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: ICB **Initial Calibration ID:** 1495

Method Blank ID: MB-16250 **Initial Calibration ID:** 1495

Analyte	Calibration Blank	Method Blank	RL	Q
Chloride	0.52	0.52	1.0	
Sulfate (as SO4)	0.44	0.44	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9056 **AAB #:** R16250

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB1 **Initial Calibration ID:** 1495

Method Blank ID: MB-16250 **Initial Calibration ID:** 1495

Analyte	Calibration Blank	Method Blank	RL	Q
Chloride	0.52	0.52	1.0	
Sulfate (as SO4)	0.44	0.44	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9056 **AAB #:** R16250

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB2 **Initial Calibration ID:** 1495

Method Blank ID: MB-16250 **Initial Calibration ID:** 1495

Analyte	Calibration Blank	Method Blank	RL	Q
Chloride	0.52	0.52	1.0	
Sulfate (as SO4)	0.44	0.44	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9056 **AAB #:** R16250

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB3 **Initial Calibration ID:** 1495

Method Blank ID: MB-16250 **Initial Calibration ID:** 1495

Analyte	Calibration Blank	Method Blank	RL	Q
Chloride	0.52	0.52	1.0	
Sulfate (as SO4)	0.44	0.44	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9056 **AAB #:** R16250

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Callbraton Blank ID: CCB4 **Initial Calibration ID:** 1495

Method Blank ID: MB-16250 **Initial Calibration ID:** 1495

Analyte	Calibration Blank	Method Blank	RL	Q
Chloride	0.52	0.52	1.0	
Sulfate (as SO4)	0.44	0.44	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SW9056 **AAB #:** R16250

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-16250 **Initial Calibration ID:** 1495

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Chloride	50	47.2	94	85 - 115	
Sulfate (as SO4)	50	47.2	94	85 - 115	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: SW9056 **AAB #:** R16250

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Analyzed	Max. Holding Time (days)	Time Held (days)	Q
B035M0416HA	0812087-001B	10-Dec-08	11-Dec-08	06-Jan-09	28	26.7	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SW9056

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: Dionex IC2

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analyses Started	Time Analyses Started	Date Analyses Completed	Time Analyses Completed
CAL STD 1	CAL STD 1	05-Jan-09	17:16	05-Jan-09	17:34
CAL STD 2	CAL STD 2	05-Jan-09	17:34	05-Jan-09	17:51
CAL STD 3	CAL STD 3	05-Jan-09	17:51	05-Jan-09	18:09
CAL STD 4	CAL STD 4	05-Jan-09	18:09	05-Jan-09	18:26
CAL STD 5	CAL STD 5	05-Jan-09	18:26	05-Jan-09	18:44
CAL STD 6	CAL STD 6	05-Jan-09	18:44	05-Jan-09	19:02
ICV	ICV	05-Jan-09	19:02	05-Jan-09	19:02
LCS-16250	LCS-16250	05-Jan-09	19:02	05-Jan-09	19:19
ICB	ICB	05-Jan-09	19:19	05-Jan-09	19:19
MB-16250	MB-16250	05-Jan-09	19:19	05-Jan-09	19:54
CCV1	CCV1	05-Jan-09	23:08	05-Jan-09	23:26
CCB1	CCB1	05-Jan-09	23:26	06-Jan-09	3:14
CCV2	CCV2	06-Jan-09	3:14	06-Jan-09	3:32
CCB2	CCB2	06-Jan-09	3:32	06-Jan-09	3:50
B035M0416HA	0812087-001B	06-Jan-09	3:50	06-Jan-09	4:42
CCV3	CCV3	06-Jan-09	4:42	06-Jan-09	5:00
CCB3	CCB3	06-Jan-09	5:00	06-Jan-09	8:48
CCV4	CCV4	06-Jan-09	8:48	06-Jan-09	9:06
CCB4	CCB4	06-Jan-09	9:06	06-Jan-09	9:06

Comments:

TOC DATA

AFCEE
WET CHEM ANALYSES DATA SHEET 3-10
INITIAL MULTIPOINT CALIBRATION

Analytical Method: SW9060
Lab Name: Life Science Laboratories, Inc.
Instrument ID: TOC-5000A
Initial Calibration ID: 1458

AAB #: R15897
Contract #:
Date of Initial Calibration: 19-Dec-08
Concentration Units (mg/L or mg/kg): mg/L

Analyte	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	STD 10	r	Q
Total Organic Carbon	0	1	10	20	0	0	0	0	0	0	0.999364	

r = correlation coefficient

Comments:

AFCEE
WET CHEMISTRY ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method:	SW9060	**AAB #:**	R15897
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	TOC-5000A	**Initial Calibration ID:**	1458
2nd Source ID:	ICV	**CCV #1 ID:** CCV1	**CCV #2 ID:** CCV2

Analyte	2nd Source Calibration Verification			Continuing Calibration Verification					Q
	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Total Organic Carbon	10.0	10.4	4.0	10.0	10.6	6.2	10.5	5.2	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9060 **AAB #:** R15897

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: ICB **Initial Calibration ID:** 1458

Method Blank ID: MB-R15897 **Initial Calibration ID:** 1458

Analyte	Calibration Blank	Method Blank	RL	Q
Total Organic Carbon	0.30	0.40	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9060 **AAB #:** R15897

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB1 **Initial Calibration ID:** 1458

Method Blank ID: MB-R15897 **Initial Calibration ID:** 1458

Analyte	Calibration Blank	Method Blank	RL	Q
Total Organic Carbon	0.37	0.40	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9060 **AAB #:** R15897

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB2 **Initial Calibration ID:** 1458

Method Blank ID: MB-R15897 **Initial Calibration ID:** 1458

Analyte	Calibration Blank	Method Blank	RL	Q
Total Organic Carbon	0.13	0.40	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SW9060 **AAB #:** R15897

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-R15897 **Initial Calibration ID:** 1458

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Total Organic Carbon	10	10.2	102	90 - 110	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: SW9060 **AAB #:** R15897

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Analyzed	Max. Holding Time (days)	Time Held (days)	Q
B035M0416HA	0812087-001C	10-Dec-08	11-Dec-08	19-Dec-08	28	9.2	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SW9060

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: TOC-5000A

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analyses Started	Time Analyses Started	Date Analyses Completed	Time Analyses Completed
S0	S0	19-Dec-08	11:55	19-Dec-08	12:05
S1	S1	19-Dec-08	12:05	19-Dec-08	12:19
S10	S10	19-Dec-08	12:19	19-Dec-08	12:34
S20	S20	19-Dec-08	12:34	19-Dec-08	12:55
ICV	ICV	19-Dec-08	12:55	19-Dec-08	13:04
ICB	ICB	19-Dec-08	13:04	19-Dec-08	13:14
MB-R15897	MB-R15897	19-Dec-08	13:14	19-Dec-08	13:26
LCS-R15897	LCS-R15897	19-Dec-08	13:26	19-Dec-08	14:22
CCV1	CCV1	19-Dec-08	15:20	19-Dec-08	15:29
CCB1	CCB1	19-Dec-08	15:29	19-Dec-08	17:08
B035M0416HA	0812087-001C	19-Dec-08	17:08	19-Dec-08	17:17
CCV2	CCV2	19-Dec-08	17:41	19-Dec-08	17:50
CCB2	CCB2	19-Dec-08	17:50	19-Dec-08	18:02
LCSD-R15897A	LCSD-R15897A	19-Dec-08	18:02	19-Dec-08	19:48
CCV3	CCV3	19-Dec-08	19:48	19-Dec-08	19:57
CCB3	CCB3	19-Dec-08	19:57	19-Dec-08	19:57

Comments:

Total Alkalinity Data

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SM 2320 B **AAB #:** R15894

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: **Initial Calibration ID:** 0

Method Blank ID: MB-R15894 **Initial Calibration ID:** 0

Analyte	Calibration Blank	Method Blank	RL	Q
Alkalinity, as CaCO3		10	10	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SM 2320 B **AAB #:** R15894

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-R15894 **Initial Calibration ID:** 0

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Alkalinity, as CaCO3	50	48	96	90 - 110	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: SM 2320 B **AAB #:** R15894

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Analyzed	Max Holding Time (days)	Time Held (days)	Q
B035M0416HA	0812087-001D	10-Dec-08	11-Dec-08	21-Dec-08	14	10.5	
B035M0416HA	0812087-001DDUP	10-Dec-08	11-Dec-08	21-Dec-08	14	10.5	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SM 2320 B

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: pH meter

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analyses Started	Time Analyses Started	Date Analyses Completed	Time Analyses Completed
LCS-R15894	LCS-R15894	21-Dec-08	0:00	21-Dec-08	0:00
MB-R15894	MB-R15894	21-Dec-08	0:00	21-Dec-08	0:00
B035M0416HA	0812087-001DDUP	21-Dec-08	0:00	21-Dec-08	0:00
B035M0416HA	0812087-001D	21-Dec-08	0:00	21-Dec-08	0:00

Comments:

Life Science Laboratories, Inc.

5000 Brittonfield Parkway, Suite 200

East Syracuse, NY 13057 (315) 437-0200

ANALYTICAL QC SUMMARY REPORT

Method: SM 18-20 2320 B
Work Order: 0812087
Project: Griffiss AFB - Building 35

CLIENT: FPM Group

Sample ID:	0812087-001DDUP	SampType:	DUP	TestCode:	ALKT 2320B	Units:	mg/L	Prep Date:		RunNo:	15894	
Client ID:	B035M0416HA	Batch ID:	R15894	Method:	SM 18-20 232			Analysis Date:	12/21/2008	SeqNo:	413894	
Instrument:		ColumnID:										

Analyte	QC Sample Result	PQL	SPK Added	Parent Sample Result	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, as CaCO3	284	10						284	0	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value exceeds the instrument calibration range	J	Analyte detected below the PQL
ND	Not Detected at the Practical Quantitation Limit (PQL)	R	RPD exceeds accepted precision limit	S	Spike Recovery outside accepted recovery limits
U	Not Detected at the MDC or RL				

Nitrate-Nitrite Nitrogen Data

AFCEE
WET CHEM ANALYSES DATA SHEET 3-10
INITIAL MULTIPOINT CALIBRATION

Analytical Method: E353.2
Lab Name: Life Science Laboratories, Inc.
Instrument ID: AA3
Initial Calibration ID: 1464

AAB #: R15907B
Contract #:
Date of Initial Calibration: 21-Dec-08
Concentration Units (mg/L or mg/kg): mg/L

Analyte	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	STD 10	r	Q
Nitrate-nitrite (as N)	0	0.05	0.1	0.25	0.5	1	2	0	0	0	0.9999	

r = correlation coefficient

Comments:

AFCEE
WET CHEMISTRY ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method:	E353.2	**AAB #:**	R15907
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	AA3	**Initial Calibration ID:**	1464
2nd Source ID:	ICV	**CCV #1 ID:** CCV1	**CCV #2 ID:** CCV2

Analyte	2nd Source Calibration Verification			Continuing Calibration Verification					Q
	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Nitrate-nitrite (as N)	1.00	0.999	-0.1	1.00	1.01	1.2	1.02	1.6	

Comments:

AFCEE
WET CHEMISTRY ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method:	E353.2	**AAB #:**	R15907
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	AA3	**Initial Calibration ID:**	1464
2nd Source ID:	ICV	**CCV #1 ID:** CCV3	**CCV #2 ID:** CCV4

Analyte	2nd Source Calibration Verification			Continuing Calibration Verification					Q
	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Nitrate-nitrite (as N)	1.00	0.999	-0.1	1.00	1.02	1.6	1.01	1.3	

Comments:

AFCEE
WET CHEMISTRY ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method: E353.2 **AAB #:** R15907

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID: AA3 **Initial Calibration ID:** 1464

2nd Source ID: ICV **CCV #1 ID:** CCV5 **CCV #2 ID:** CCV6

Analyte	2nd Source Calibration Verification			Continuing Calibration Verification					Q
	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Nitrate-nitrite (as N)	1.00	0.999	-0.1	1.00	1.01	1.3	1.00	0.4	

Comments:

AFCEE
WET CHEMISTRY ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method: E353.2 **AAB #:** R15907

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID: AA3 **Initial Calibration ID:** 1464

2nd Source ID: ICV **CCV #1 ID:** CCV7 **CCV #2 ID:** CCV8

Analyte	2nd Source Calibration Verification			Continuing Calibration Verification					R
	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Nitrate-nitrite (as N)	1.00	0.999	-0.1	1.00	1.02	1.9	0.998	-0.2	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: E353.2 **AAB #:** R15907B

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: ICB **Initial Calibration ID:** 1464

Method Blank ID: MB-R15907B **Initial Calibration ID:** 1464

Analyte	Calibration Blank	Method Blank	RL	Q
Nitrate-nitrite (as N)	0.0026	0.0074	0.050	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: E353.2 **AAB #:** R15907B

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB1 **Initial Calibration ID:** 1464

Method Blank ID: MB-R15907B **Initial Calibration ID:** 1464

Analyte	Calibration Blank	Method Blank	RL	Q
Nitrate-nitrite (as N)	0.0027	0.0074	0.050	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: E353.2 **AAB #:** R15907B

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB2 **Initial Calibration ID:** 1464

Method Blank ID: MB-R15907B **Initial Calibration ID:** 1464

Analyte	Calibration Blank	Method Blank	RL	Q
Nitrate-nitrite (as N)	0.0097	0.0074	0.050	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: E353.2 **AAB #:** R15907B

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB3 **Initial Calibration ID:** 1464

Method Blank ID: MB-R15907B **Initial Calibration ID:** 1464

Analyte	Calibration Blank	Method Blank	RL	Q
Nitrate-nitrite (as N)	0.0072	0.0074	0.050	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: E353.2 **AAB #:** R15907B

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB4 **Initial Calibration ID:** 1464

Method Blank ID: MB-R15907B **Initial Calibration ID:** 1464

Analyte	Calibration Blank	Method Blank	RL	Q
Nitrate-nitrite (as N)	0.011	0.0074	0.050	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: E353.2 **AAB #:** R15907B

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB5 **Initial Calibration ID:** 1464

Method Blank ID: MB-R15907B **Initial Calibration ID:** 1464

Analyte	Calibration Blank	Method Blank	RL	D
Nitrate-nitrite (as N)	0.011	0.0074	0.050	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method:	E353.2	**AAB #:**	R15907B
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Concentration Units (mg/L or mg/kg):	mg/L		
Calibraton Blank ID:	CCB6	**Initial Calibration ID:**	1464
Method Blank ID:	MB-R15907B	**Initial Calibration ID:**	1464

Analyte	Calibration Blank	Method Blank	RL	Q
Nitrate-nitrite (as N)	0.014	0.0074	0.050	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method:	E353.2	**AAB #:**	R15907B
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Concentration Units (mg/L or mg/kg):	mg/L		
Calibraton Blank ID:	CCB7	**Initial Calibration ID:**	1464
Method Blank ID:	MB-R15907B	**Initial Calibration ID:**	1464

Analyte	Calibration Blank	Method Blank	RL	Q
Nitrate-nitrite (as N)	0.015	0.0074	0.050	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: E353.2 **AAB #:** R15907B

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB8 **Initial Calibration ID:** 1464

Method Blank ID: MB-R15907B **Initial Calibration ID:** 1464

Analyte	Calibration Blank	Method Blank	RL	Q
Nitrate-nitrite (as N)	0.016	0.0074	0.050	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: E353.2 **AAB #:** R15907B

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-R15907B **Initial Calibration ID:** 1464

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Nitrate-nitrite (as N)	1	0.997	100	90 - 110	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: E353.2 **AAB #:** R15907B

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Analyzed	Max Holding Time (days)	Time Held (days)	Q
B035M0416HA	0812087-001B	10-Dec-08	11-Dec-08	21-Dec-08	28	11.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: E353.2

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: AA3

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analyses Started	Time Analyses Started	Date Analyses Completed	Time Analyses Completed
Cal. 2.0	Cal. 2.0	21-Dec-08	12:57	21-Dec-08	12:57
Cal. 1.0	Cal. 1.0	21-Dec-08	12:57	21-Dec-08	12:57
Cal. 0.5	Cal. 0.5	21-Dec-08	12:57	21-Dec-08	12:57
Cal. 0.25	Cal. 0.25	21-Dec-08	12:57	21-Dec-08	12:57
Cal. 0.1	Cal. 0.1	21-Dec-08	12:57	21-Dec-08	12:57
Cal. 0.05	Cal. 0.05	21-Dec-08	12:57	21-Dec-08	12:57
Cal. 0.0	Cal. 0.0	21-Dec-08	12:57	21-Dec-08	12:57
ICV	ICV	21-Dec-08	12:57	21-Dec-08	12:57
ICB	ICB	21-Dec-08	12:57	21-Dec-08	12:57
CCV1	CCV1	21-Dec-08	12:57	21-Dec-08	12:57
CCB1	CCB1	21-Dec-08	12:57	21-Dec-08	12:57
CCV2	CCV2	21-Dec-08	12:57	21-Dec-08	12:57
CCB2	CCB2	21-Dec-08	12:57	21-Dec-08	12:57
CCV3	CCV3	21-Dec-08	12:57	21-Dec-08	12:57
CCB3	CCB3	21-Dec-08	12:57	21-Dec-08	12:57
CCV4	CCV4	21-Dec-08	12:57	21-Dec-08	12:57
CCB4	CCB4	21-Dec-08	12:57	21-Dec-08	12:57
CCV5	CCV5	21-Dec-08	12:58	21-Dec-08	12:58
CCB5	CCB5	21-Dec-08	12:58	21-Dec-08	12:58
CCV6	CCV6	21-Dec-08	12:58	21-Dec-08	12:58
CCB6	CCB6	21-Dec-08	12:58	21-Dec-08	12:58
MB-R15907B	MB-R15907B	21-Dec-08	12:58	21-Dec-08	12:58
LCS-R15907B	LCS-R15907B	21-Dec-08	12:58	21-Dec-08	12:58
B035M0416HA	0812087-001B	21-Dec-08	12:58	21-Dec-08	12:58
CCV7	CCV7	21-Dec-08	12:58	21-Dec-08	12:58
CCB7	CCB7	21-Dec-08	12:58	21-Dec-08	12:58
CCV8	CCV8	21-Dec-08	12:58	21-Dec-08	12:58
CCB8	CCB8	21-Dec-08	12:58	21-Dec-08	12:58
CCV9	CCV9	21-Dec-08	12:58	21-Dec-08	12:58
CCB9	CCB9	21-Dec-08	12:58	21-Dec-08	12:58

Comments:

Nitrite Data

AFCEE
WET CHEM ANALYSES DATA SHEET 3-10
INITIAL MULTIPOINT CALIBRATION

Analytical Method: SM 4500-NO2 B
Lab Name: Life Science Laboratories, Inc.
Instrument ID: GENESYS 20
Initial Calibration ID: 1347

AAB #: R15779
Contract #:
Date of Initial Calibration: 22-Aug-08
Concentration Units (mg/L or mg/kg): mg/L

Analyte	STD 1	STD 2	STD 3	STD 4	STD 6	STD 5	STD 7	STD 8	STD 9	STD 10	r	Q
Nitrite (as N)	0	0.01	0.02	0.04	0.08	0.1	0.2	0	0	0	0.9997	

r = correlation coefficient

Comments:

AFCEE
WET CHEMISTRY ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method:	SM 4500-NO2 B	**AAB #:**	R15779
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	GENESYS 20	**Initial Calibration ID:**	1347
2nd Source ID:	ICV	**CCV #1 ID:** CCV1	**CCV #2 ID:** CCV2

Analyte	2nd Source Calibration Verification			Continuing Calibration Verification					Q
	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Nitrite (as N)	0.100	0.0939	-6.1	0.100	0.0961	-3.9	0.0964	-3.6	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SM 4500-NO2 B **AAB #:** R15779

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: ICB **Initial Calibration ID:** 1347

Method Blank ID: MB-R15779 **Initial Calibration ID:** 1347

Analyte	Calibration Blank	Method Blank	RL	Q
Nitrite (as N)	-0.0013	0.010	0.020	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SM 4500-NO2 B **AAB #:** R15779

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB1 **Initial Calibration ID:** 1347

Method Blank ID: MB-R15779 **Initial Calibration ID:** 1347

Analyte	Calibration Blank	Method Blank	RL	Q
Nitrite (as N)	-0.00070	0.010	0.020	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method:	SM 4500-NO2 B	**AAB #:**	R15779
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Concentration Units (mg/L or mg/kg):	mg/L		
Calibraton Blank ID:	CCB2	**Initial Calibration ID:**	1347
Method Blank ID:	MB-R15779	**Initial Calibration ID:**	1347

Analyte	Calibration Blank	Method Blank	RL	Q
Nitrite (as N)	-0.00099	0.010	0.020	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SM 4500-NO2 B **AAB #:** R15779

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-R15779 **Initial Calibration ID:** 1347

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Nitrite (as N)	0.1	0.0936	94	90 - 110	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: SM 4500-NO2 B **AAB #:** R15779

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Analyzed	Max. Holding Time (days) *	Time Held (days)	Q
B035M0416HA	0812087-001B	10-Dec-08	11-Dec-08	12-Dec-08	2	1.8	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SM 4500-NO2 B

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: GENESYS 20

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analyses Started	Time Analyses Started	Date Analyses Completed	Time Analyses Completed
0.01mg/L	0.01mg/L	22-Aug-08	14:33	22-Aug-08	14:34
0.02mg/L	0.02mg/L	22-Aug-08	14:34	22-Aug-08	14:36
0.0mg/L	0.0mg/L	22-Aug-08	14:36	22-Aug-08	14:36
0.04mg/L	0.04mg/L	22-Aug-08	14:36	22-Aug-08	14:36
0.08mg/L	0.08mg/L	22-Aug-08	14:36	22-Aug-08	14:37
0.1mg/L	0.1mg/L	22-Aug-08	14:37	22-Aug-08	14:37
0.2mg/L	0.2mg/L	22-Aug-08	14:37	22-Aug-08	14:37
ICV	ICV	12-Dec-08	7:40	12-Dec-08	7:40
ICB	ICB	12-Dec-08	7:40	12-Dec-08	7:40
MB-R15779	MB-R15779	12-Dec-08	7:40	12-Dec-08	7:40
LCS-R15779	LCS-R15779	12-Dec-08	7:40	12-Dec-08	7:54
CCV1	CCV1	12-Dec-08	7:59	12-Dec-08	7:59
CCB1	CCB1	12-Dec-08	7:59	12-Dec-08	8:02
B035M0416HA	0812087-001B	12-Dec-08	8:02	12-Dec-08	8:03
CCV2	CCV2	12-Dec-08	8:03	12-Dec-08	8:04
CCB2	CCB2	12-Dec-08	8:04	12-Dec-08	8:04

Comments:

Life Science Laboratories, Inc.
5000 Brittonfield Parkway, Suite 200
East Syracuse, NY 13057 **(315) 437-0200**

Thursday, March 12, 2009

Niels van Hoesel
FPM Group
153 Brooks Road
Rome, NY 13441

TEL:

Project: GRIFFISS AFB - BUILDING 35
RE: Analytical Result Order No.: 0902124

Dear Niels van Hoesel:

Life Science Laboratories, Inc. received 1 sample(s) on 2/26/2009 for the analyses presented in the following report.

Very truly yours,
Life Science Laboratories, Inc.

Pamela J. Titus
Project Manager

Laboratory Report

Project Management Case Narrative

INTRODUCTION/ANALYTICAL RESULTS

This report summarizes the laboratory results for samples from FPM, for the Griffiss AFB-Building 35- Rome, NY project.

CONDITION UPON RECEIPT/CHAIN OF CUSTODY

The cooler(s) were received intact. When the cooler(s) were received by the laboratory, the sample custodian(s) opened and inspected the shipment(s) for damage and custody inconsistencies. Chains of custody documenting receipt are presented in the chain of custody section. Each sample was assigned a unique laboratory number and a custody file created. The samples were placed in a secured walk-in cooler and signed in and out by the chemists performing the tests. The sign out record, or lab chronicle, is presented in the chain of custody section.

There were no discrepancies noted upon receipt. The temperature of the cooler was 1.6°C.

METHODOLOGY

The following methods were used to perform the analyses:

PARAMETER	METHOD	REFERENCE
Volatile Organics	SW8260B	1
Total Organic Carbon	SW9060	1
Alkalinity as CaCO3	SM2320B	2
Anions	SW9056	1

1) Test Methods for Evaluating Solid Wastes, SW-846 Third Edition, Final Update III, December 1996 (including the QC requirements specified in AFCEE 4.0 + variances).

2) Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992

QUALITY CONTROL

QA/QC results are summarized in the Laboratory Report.

RAW DATA

The raw data is not requested for this report. Life Science Laboratories, Inc. will keep the raw data on file.

Total # of pages in this report: _____

GC/MS Volatile Organics Case Narrative

Client:	FPM
Project/Order:	Griffiss AFB – Building 35
Work Order #:	0902124
Methodology:	8260B

Analyzed/Reviewed by (Initials/Date): YA 3/9/09

Supervisor/Reviewed by (Initials/Date): [illegible] 3-9-09

QA/QC Review (Initials/Date): [illegible] 3/11/09

File Name: G:\Narratives\MSVoa\0902124msvnar.doc

GC/MS Volatile Organics
The GC/MS Volatile instruments are equipped with a Restek Rtx-VMS, 40 m x 0.18 mm ID capillary column (MS01), Restek Rtx-502.2, 105 m x 0.53 mm ID capillary column (MS02), Restek Rtx-502.2, 60 m x 0.25 mm ID capillary column (MS03) and Restek Rtx-VMS, 60 m x 0.25mm ID capillary column (MS04), and a Vocarb 3000 adsorbent trap.

There were no excursions to note. All QC results were within established control limits.

Holding Times and Sample Preservation
All samples were prepared and analyzed within the method and/or QAPP specified holding time requirements. Samples had a pH of < 2.

Laboratory Control Sample
All spike recoveries met method and/or project specific QC criteria.

Surrogate Standards
All surrogate standard recoveries met method and/or project specific QC criteria.

Internal Standards
All internal standard areas met method and/or project specific QC criteria.

Calibrations
All initial calibrations and calibration verifications met method and/or project specific QC criteria.

Preparation Blanks
All preparation blanks met method and/or project specific QC criteria.

Wet Chemistry Case Narrative

Client ID:	FPM
Project/Order:	Griffiss AFB – Building 35
Work Order #:	0902124
Methodology:	Total Organic Carbon – SW9060 Alkalinity as CaCO3 – SM 2320 B Anions – SW9056

Analyzed/Reviewed by (Date/Initials): 3-5-09 mt

Supervisor/Reviewed by (Date/Initials): 3-5-09 mt

QA/QC Review (Date/Initials): 3/5/09 tlh

Wet Chemistry

Holding Times
All samples were prepared and analyzed within the method and/or QAPP specified holding times.

Laboratory Control Sample
All spike recoveries met method and/or project specified QC criteria.

MS/MSD AND MS/MSD RPD
All spike recovery and RPD data met method and/or project specific QC criteria.

Sample Duplicate
All sample duplicate RPD data met method and/or project specific QC criteria.

Calibrations
All calibrations and calibration verifications met method and/or project specific QC criteria.

Preparation Blanks
All preparation blanks met method and/or project specific QC criteria.

Life Science Laboratories, Inc.

Date: *12-Mar-09*

CLIENT: FPM Group
Project: Griffiss AFB - Building 35
Lab Order: 0902124

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
0902124-001A	B035M0416GB	B035MW04	2/26/2009	2/26/2009
0902124-001B	B035M0416GB	B035MW04	2/26/2009	2/26/2009
0902124-001C	B035M0416GB	B035MW04	2/26/2009	2/26/2009
0902124-001D	B035M0416GB	B035MW04	2/26/2009	2/26/2009

Life Science Laboratories, Inc.

Lab Order: 0902124
Client: FPM Group
Project: Griffiss AFB - Building 35

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0902124-001A	B035M0416GB	2/26/2009 11:20:00 AM	Water	Volatile Organic Compounds by GC/MS			2/27/2009
0902124-001B				Inorganic anions by IC			2/27/2009
				Inorganic anions by IC			2/27/2009
0902124-001C				Total Organic Carbon			3/4/2009
				Total Organic Carbon			3/4/2009
				Total Organic Carbon			3/4/2009
0902124-001D				Alkalinity, as CaCO3			3/1/2009

External Chain of Custody

AFCEE
CHAIN OF CUSTODY RECORD

COC#: _1_ SDG#: _215_ Cooler ID: _A_

Ship to: Pamela Titus Life Science Laboratories, Inc. 5000 Brittonfield Pkwy, Suite 200 East Syracuse, NY 13057 Tel: (315)437-0200	Project Name: Griffiss AFB Site Building 35 sampling Sampler Name: Niels van Hoesel	Send Results to: Niels van Hoesel FPM Group 153 Brooks Road Rome, NY 13441
Carrier: LSL courier.	Sampler Signature:	Phone: (315) 336-7721 Ext 205

Analyses Requested

Field Sample ID	Location ID (LOCID)	Date 2009	Time	MATRIX	SMCODE	SBD/SED	SACODE	Preservative	Filt./UnFilt.	No. of Containers	VOCs Note 1 40 mL vial (HCl)	Anions, note 2 250 mL poly	TOC note3 40 mL vials (HCL)	Alkalinity note 4 8 oz glass (zero headspace)		Comments
B035M0416GB	B035MW04	2/26	1120	WG	B	0/0	N	HCl	Unf.	7	3	1	2	1		

Sample Condition Upon Receipt at Laboratory: Cooler Temperature:
Special Instructions/Comments: Analyses to be conducted in compliance with AFCEE QAPP 4.0
Note 1: VOC: method SW 8260: Target COCs: PCE, TCE, DCE, Vinyl Chloride and Chloroform.
Note 2: Anions: SW9056 **CHLORIDE, SULFATE AND NITRATE ONLY**
Note 3: TOC: SW9060.
Note 4: Alkalinity: 310.1.

#1 Released by: (Sig)	Date:	#2 Released by: (Sig)	Date: 2/26/09	#3 Released by: (Sig)	Date: 2/24/09
Company Name:	Time:	Company Name: FPM Group Ltd	Time: 11:43	Company Name: LSL	Time: 1435
#1 Received by: (Sig) Niels van Hoesel	Date: 2/21/09	#2 Received by: (Sig)	Date: 2/26/09	#3 Received by: (Sig)	Date: 2/26/09
Company Name: FPM Group Ltd	Time: 10200	Company Name: LSL	Time: 1143	Company Name: LSLBL	Time: 1430

MATRIX
WG = Ground water
WQ = Water Quality Control Matrix
SO = Soil

SMCODE
B = Bailer
G = Grab (only for EB).
NA = Not Applicable (only for AB/TB)
PP = Peristaltic Pump
BP = Bladder Pump
SP = Submersible Pump
SS = Split spoon

SACODE
N = Normal Sample
AB = Ambient Blank
TB = Trip Blank
EB = Equipment Blank
FD = Field Duplicate
MS = Matrix Spike
SD = Matrix Spike Duplicate

8

5°C on ice

Life Science Laboratories, Inc.

Sample Receipt Checklist

Client Name: **FPM** Date and Time Received: **2/26/2009**

Work Order Number: **0902124** Received by: pt

Checklist completed by: Initials PJP 2/26/09 Date Reviewed by: Initials PJP 2/26/09 Date

Delivery Method: Hand Delivered

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Applicable ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

pH	Preservative	pH Acceptable	Sample ID	Volume of Preservative added in Lab.
>12	NaOH	Yes ☐ N ☐ NA ☑		
<2	HNO3	Yes ☐ N ☐ NA ☑		
<2	HSO4	Yes ☐ N ☐ NA ☑		
<2	1:1 HCL	Yes ☑ N ☐ NA ☐		
5-9	Pest/PCBs (608/8081)	Yes ☐ N ☐ NA ☑		

Comments:

Corrective Action:

Analytical Results

AFCEE
ORGANIC ANALYSES DATA PACKAGE

Analytical Method:	SW8260B	**AAB #:**	R16559
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416GB	0902124-001A

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus

Name: Pamela J. Titus

Date: 3/12/09

Title: Project Manager

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW8260B	**Preparatory Method:**		**AAB #:**	R16559
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**			
Field Sample ID:	B035M0416GB	**Lab Sample ID:**	0902124-001A	**Matrix:**	Water
% Solids:	0	**Initial Calibration ID:**	1515	**File ID:**	J8715.D
Date Received:	26-Feb-09	**Date Extracted:**		**Date Analyzed:**	27-Feb-09
Concentration Units (ug/L or mg/Kg dry weight):	ug/L			**Sample Size:**	10 mL

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
cis-1,2-Dichloroethene	0.100	1.00	16.4	1		
Tetrachloroethene	0.100	1.00	0.590	1		F
trans-1,2-Dichloroethene	0.100	1.00	0.400	1		F
Trichloroethene	0.100	1.00	0.510	1		F
Vinyl chloride	0.330	1.00	0.550	1		F

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4	99	72 - 119	
4-Bromofluorobenzene	93	76 - 119	
Toluene-d8	93	81 - 120	

Internal Std	Area Counts	Area Count Limits	Qualifier
1,4-Dichlorobenzene-d4	389559	210140 - 840560	
Chlorobenzene-d5	743703	363092 - 1452366	
Fluorobenzene	2017980	1001210 - 4004840	

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SW9060	**AAB #:**	R16585
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416GB	0902124-001C
B035M0416GB	0902124-001CMS
B035M0416GB	0902124-001CMSD

Comments:

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Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 3/12/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9060		**AAB #:** R16585		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416GB	**Lab Sample ID:**	0902124-001C	**Matrix:**	Water
% Solids:	0	**Initial Calibration ID:**	1518		
Date Received:	26-Feb-09	**Date Prepared:**		**Date Analyzed:**	04-Mar-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Total Organic Carbon	0.80	2.0	9.2	2	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9060		**AAB #:** R16585		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416GB	**Lab Sample ID:**	0902124-001CMS	**Matrix:**	Aqueous
% Solids:	0	**Initial Calibration ID:**	1518		
Date Received:	26-Feb-09	**Date Prepared:**		**Date Analyzed:**	04-Mar-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Total Organic Carbon	0.800	2.00	18.4	2	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9060	**AAB #:**	R16585		
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**			
Field Sample ID:	B035M0416GB	**Lab Sample ID:**	0902124-001CMSD	**Matrix:**	Aqueous
% Solids:	0	**Initial Calibration ID:**	1518		
Date Received:	26-Feb-09	**Date Prepared:**		**Date Analyzed:**	04-Mar-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Total Organic Carbon	0.800	2.00	18.4	2	

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method: SM 2320 B **AAB #:** R16544

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Base/Command: **Prime Contractor:** FPM Group

Field Sample ID	Lab Sample ID
B035M0416GB	0902124-001D
B035M0416GB	0902124-001DDUP

Comments:

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Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 3/12/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SM 2320 B		**AAB #:**	R16544	
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416GB	**Lab Sample ID:**	0902124-001D	**Matrix:**	Water
% Solids:	0	**Initial Calibration ID:**	0		
Date Received:	26-Feb-09	**Date Prepared:**		**Date Analyzed:**	01-Mar-09
Concentration Units (mg/L or mg/kg dry weight):	mg/L				

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Alkalinity, as CaCO3	10	10	290	1	

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SW9056	**AAB #:**	R16538
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416GB	0902124-001B
B035M0416GB DL	0902124-001BDL

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 3/12/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9056		**AAB #:**	R16538	
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416GB	**Lab Sample ID:**	0902124-001B	**Matrix:**	Water
% Solids:	0	**Initial Calibration ID:**	1509		
Date Received:	26-Feb-09	**Date Prepared:**		**Date Analyzed:**	27-Feb-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Chloride	0.099	1.0	60	1	J
Nitrate (as N)	0.015	1.0	0.015	1	U
Sulfate (as SO4)	0.20	1.0	1.4	1	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9056		**AAB #:** R16538		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416GB DL	**Lab Sample ID:**	0902124-001BDL	**Matrix:**	Water
% Solids:	0	**Initial Calibration ID:**	1509		
Date Received:	26-Feb-09	**Date Prepared:**		**Date Analyzed:**	27-Feb-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Chloride	0.50	5.0	61	5	

Comments:

Quality Control Results

GC/MS Volatile Organics Data

AFCEE
ORGANIC ANALYSES DATA SHEET 3
INITIAL MULTIPOINT CALIBRATION

Analytical Method:	8260B	**AAB #:**	
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	MS03_10	**Date of Initial Calibration:**	27-FEB-09
Initial Calibration ID:	1515	**Concentration Units (ug/L or mg/kg):**	ug/L

SEE ATTACHED

Comments:

Response Factor Report #3MS10

Method : C:\HPCHEM\1\METHODS\J227VOCW.M (RTE Integrator)
Title : VOC's w/Restek Rtx-502.2, 0.25 mm x 60 M, 1.4 df
Last Update : Fri Feb 27 10:26:13 2009
Response via : Continuing Calibration

ICAL #1515

Calibration Files
0.5 =J8701.D 1.0 =J8702.D 2.0 =J8703.D
10 =J8704.D 20 =J8705.D 30 =J8706.D

		Compound	0.5	1.0	2.0	10	20	30	Avg	%RSD
			ISTD							
1)	I	Fluorobenzene								
2)		Dichlorodifluoromet	0.308	0.305	0.309	0.311	0.306	0.312	0.309	0.83
3)	P	Chloromethane	0.322	0.290	0.292	0.263	0.265	0.258	0.278	8.70
4)	CP	Vinyl chloride	0.138	0.140	0.150	0.145	0.144	0.147	0.144	2.86
5)		Bromomethane		0.210	0.185	0.165	0.173	0.192	0.186	8.58
6)		Chloroethane	0.198	0.205	0.196	0.191	0.190	0.197	0.196	2.51
7)		Trichlorofluorometh	0.314	0.313	0.311	0.313	0.315	0.320	0.314	0.92
8)	CPM	1,1-Dichloroethene	0.234	0.237	0.234	0.233	0.233	0.236	0.234	0.75
9)		Carbon disulfide	0.782	0.738	0.748	0.735	0.746	0.756	0.751	2.07
10)		1,1,2-Trichloro-1,2	0.245	0.241	0.243	0.239	0.242	0.243	0.242	0.83
11)		Methyl iodide	0.060	0.112	0.165	0.253	0.267	0.274	0.202	44.24
12)		Acrolein	0.028	0.030	0.029	0.030	0.029	0.029	0.029	2.30
13)		Methylene chloride	0.309	0.304	0.281	0.258	0.254	0.259	0.274	8.69
14)		Acetone		0.056	0.053	0.046	0.045	0.046	0.049	9.74
15)		Methyl acetate		0.163	0.151	0.141	0.140	0.140	0.146	6.56
16)		Methyl tert-Butyl e	0.629	0.638	0.632	0.624	0.633	0.629	0.631	0.68
17)		trans-1,2-Dichloroe	0.251	0.245	0.253	0.249	0.251	0.252	0.250	1.02
18)	P	1,1-Dichloroethane	0.469	0.446	0.452	0.449	0.451	0.456	0.453	1.63
19)		Acrylonitrile	0.064	0.065	0.062	0.067	0.068	0.068	0.066	3.17
20)		Vinyl acetate	0.331	0.317	0.313	0.306	0.312	0.316	0.316	2.43
21)		cis-1,2-Dichloroeth	0.296	0.288	0.287	0.290	0.292	0.294	0.291	1.19
22)		2,2-Dichloropropane	0.383	0.366	0.357	0.358	0.361	0.367	0.365	2.35
23)		Bromochloromethane	0.113	0.106	0.114	0.111	0.112	0.111	0.111	2.29
24)		Cyclohexane	0.494	0.476	0.470	0.467	0.468	0.468	0.473	2.00
25)	CP	Chloroform	0.442	0.413	0.409	0.412	0.413	0.413	0.417	2.71
26)		Carbon tetrachlorid	0.226	0.208	0.209	0.225	0.235	0.244	0.228	6.89
27)		1,1,1-Trichloroetha	0.333	0.331	0.319	0.329	0.337	0.339	0.332	2.17
28)		2-Butanone	0.084	0.080	0.077	0.076	0.075	0.074	0.077	4.87
29)		1,1-Dichloropropene	0.365	0.338	0.351	0.348	0.349	0.350	0.350	2.27
30)	M	Benzene	1.200	1.185	1.166	1.168	1.176	1.176	1.178	0.97
31)	S	1,2-Dichloroethane-	0.246	0.237	0.237	0.235	0.234	0.232	0.236	1.99
32)		1,2-Dichloroethane	0.274	0.281	0.287	0.282	0.284	0.282	0.282	1.46
33)		Methylcyclohexane	0.423	0.401	0.406	0.418	0.418	0.415	0.415	1.91
34)	M	Trichloroethene	0.261	0.251	0.259	0.254	0.254	0.257	0.256	1.44
35)		Dibromomethane	0.120	0.126	0.124	0.128	0.131	0.129	0.127	3.02
36)	CP	1,2-Dichloropropane	0.275	0.260	0.270	0.266	0.269	0.268	0.268	1.70
37)		Bromodichloromethan	0.254	0.244	0.252	0.274	0.286	0.295	0.272	8.16
38)		2-Chloroethylvinyl	0.044	0.044	0.045	0.047	0.044	0.041	0.044	3.54
39)		cis-1,3-Dichloropro	0.359	0.366	0.384	0.397	0.403	0.408	0.390	5.37
40)	CPM	Toluene	0.687	0.687	0.690	0.706	0.720	0.719	0.705	2.47
41)		4-Methyl-2-pentanon	0.142	0.140	0.137	0.150	0.152	0.152	0.148	6.13
42)		trans-1,3-Dichlorop	0.277	0.281	0.284	0.311	0.325	0.328	0.305	7.91
43)		1,1,2-Trichloroetha	0.159	0.164	0.167	0.167	0.171	0.171	0.167	2.68

(#) = Out of Range ### Number of calibration levels exceeded format #f

2-27-09

Response Factor Report #3MS10

Method : C:\HPCHEM\1\METHODS\J227VOCW.M (RTE Integrator)
Title : VOC's w/Restek Rtx-502.2, 0.25 mm x 60 M, 1.4 df
Last Update : Fri Feb 27 10:26:13 2009
Response via : Continuing Calibration

Calibration Files
0.5 =J8701.D 1.0 =J8702.D 2.0 =J8703.D
10 =J8704.D 20 =J8705.D 30 =J8706.D

		Compound	0.5	1.0	2.0	10	20	30	Avg	%RSD
44)		2-Hexanone	0.078	0.083	0.103	0.110	0.111	0.100		15.14
45)	I	Chlorobenzene-d5	ISTD							
46)	S	Toluene-d8	2.717	2.611	2.541	2.514	2.557	2.584	2.586	2.54
47)		Tetrachloroethene	0.633	0.640	0.619	0.616	0.620	0.634	0.628	1.54
48)		Dibromochloromethan	0.353	0.374	0.357	0.428	0.480	0.504	0.431	16.71
49)		1,3-Dichloropropane	0.967	0.935	0.968	0.957	0.949	0.963	0.956	1.21
50)		1,2-Dibromoethane	0.458	0.473	0.478	0.486	0.490	0.493	0.482	2.67
51)		1-Chlorohexane	0.802	0.825	0.831	0.897	0.940	0.957	0.889	7.87
52)	PM	Chlorobenzene	1.882	1.842	1.816	1.836	1.899	1.922	1.878	2.59
53)	CP	Ethylbenzene	3.064	3.115	3.138	3.258	3.443	3.489	3.290	5.84
54)		1,1,1,2-Tetrachloro	0.450	0.460	0.450	0.497	0.541	0.563	0.506	11.13
55)		(m+p)-Xylene	1.140	1.145	1.201	1.284	1.353	1.384	1.274	8.89
56)		o-Xylene	1.108	1.160	1.138	1.235	1.299	1.332	1.233	8.14
57)		Styrene	1.498	1.543	1.627	1.855	2.012	2.076	1.819	14.43
58)	P	Bromoform	0.134	0.139	0.151	0.186	0.223	0.248	0.192	27.70
59)	I	1,4-Dichlorobenzene-d	ISTD							
60)		Isopropylbenzene	4.212	4.216	4.243	4.304	4.357	4.429	4.306	1.99
61)	S	Bromofluorobenzene	1.730	1.569	1.495	1.424	1.384	1.371	1.475	9.25
62)		Bromobenzene	1.133	1.118	1.137	1.094	1.063	1.063	1.093	3.40
63)		n-Propylbenzene	5.046	4.977	4.814	4.801	4.990	5.096	4.970	2.38
64)	P	1,1,2,2-Tetrachloro	1.001	1.045	1.072	1.068	1.022	1.010	1.029	3.19
65)		2-Chlorotoluene	3.456	3.458	3.690	3.683	3.758	3.699	3.587	4.34
66)		1,3,5-Trimethylbenz	3.391	3.365	3.354	3.366	3.424	3.499	3.418	2.04
67)		1,2,3-Trichloroprop	0.945	0.869	0.881	0.845	0.809	0.804	0.848	6.49
68)		trans-1,4-Dichloro-		0.102	0.099	0.138	0.153	0.162	0.137	21.88
69)		4-Chlorotoluene	3.108	3.103	3.000	3.038	2.992	3.063	3.088	3.50
70)		tert-Butylbenzene	2.745	2.647	2.593	2.299	2.329	2.368	2.489	6.95
71)		1,2,4-Trimethylbenz	3.281	3.260	3.213	3.018	3.112	3.194	3.189	2.93
72)		sec-Butylbenzene	3.875	3.769	3.627	3.204	3.296	3.381	3.517	7.08
73)		p-Isopropyltoluene	3.135	3.065	3.045	2.560	2.591	2.678	2.833	8.57
74)		1,3-Dichlorobenzene	1.782	1.809	1.777	1.810	1.854	1.884	1.828	2.42
75)		1,4-Dichlorobenzene	1.709	1.710	1.688	1.675	1.720	1.747	1.717	1.93
76)		n-Butylbenzene	2.754	2.776	2.729	2.285	2.104	2.152	2.426	12.82
77)		1,2-Dichlorobenzene	1.626	1.592	1.642	1.660	1.691	1.728	1.668	3.20
78)		1,2-Dibromo-3-chlor	0.102	0.088	0.091	0.099	0.109	0.114	0.103	10.39
79)		Hexachlorobutadiene	0.257	0.246	0.244	0.211	0.197	0.197	0.222	11.85
80)		1,2,4-Trichlorobenz	0.684	0.747	0.741	0.742	0.694	0.697	0.717	3.62
81)		Naphthalene		1.448	1.621	1.794	1.722	1.720	1.670	7.30
82)		1,2,3-Trichlorobenz	0.468	0.537	0.601	0.588	0.567	0.574	0.559	8.03

(#) = Out of Range ### Number of calibration levels exceeded format ##

Response Factor Report #3MS10

Method : C:\HPCHEM\1\METHODS\J227VOCW.M (RTE Integrator)
Title : VOC's w/Restek Rtx-502.2, 0.25 mm x 60 M, 1.4 df
Last Update : Fri Feb 27 10:57:28 2009
Response via : Initial Calibration

Calibration Files
40 =J8707.D = =
= = =

		Compound	40	Avg	%RSD
1)	I	Fluorobenzene	ISTD		
2)		Dichlorodifluoromet	0.309		
3)	P	Chloromethane	0.259		
4)	CP	Vinyl chloride	0.145		
5)		Bromomethane	0.192		
6)		Chloroethane	0.192		
7)		Trichlorofluorometh	0.314		
8)	CPM	1,1-Dichloroethene	0.234		
9)		Carbon disulfide	0.752		
10)		1,1,2-Trichloro-1,2	0.244		
11)		Methyl iodide	0.280		
12)		Acrolein	0.029		
13)		Methylene chloride	0.256		
14)		Acetone	0.045		
15)		Methyl acetate	0.140		
16)		Methyl tert-Butyl e	0.633		
17)		trans-1,2-Dichloroe	0.251		
18)	P	1,1-Dichloroethane	0.452		
19)		Acrylonitrile	0.068		
20)		Vinyl acetate	0.315		
21)		cis-1,2-Dichloroeth	0.294		
22)		2,2-Dichloropropane	0.365		
23)		Bromochloromethane	0.111		
24)		Cyclohexane	0.469		
25)	CP	Chloroform	0.414		
26)		Carbon tetrachlorid	0.248		
27)		1,1,1-Trichloroetha	0.339		
28)		2-Butanone	0.074		
29)		1,1-Dichloropropene	0.351		
30)	M	Benzene	1.177		
31)	S	1,2-Dichloroethane-	0.232		
32)		1,2-Dichloroethane	0.280		
33)		Methylcyclohexane	0.421		
34)	M	Trichloroethene	0.259		
35)		Dibromomethane	0.129		
36)	CP	1,2-Dichloropropane	0.269		
37)		Bromodichloromethan	0.299		
38)		2-Chloroethylvinyl	0.044		
39)		cis-1,3-Dichloropro	0.413		
40)	CPM	Toluene	0.728		
41)		4-Methyl-2-pentanon	0.163		
42)		trans-1,3-Dichlorop	0.332		
43)		1,1,2-Trichloroetha	0.172		

(#) = Out of Range ### Number of calibration levels exceeded format ###

Response Factor Report #3MS10

Method : C:\HPCHEM\1\METHODS\J227VOCW.M (RTE Integrator)
Title : VOC's w/Restek Rtx-502.2, 0.25 mm x 60 M, 1.4 df
Last Update : Fri Feb 27 10:57:28 2009
Response via : Initial Calibration

Calibration Files
40 =J8707.D = =
= = =

		Compound	40	Avg	%RSD
44)		2-Hexanone	0.113		
45)	I	Chlorobenzene-d5	----------ISTD----------		
46)	S	Toluene-d8	2.580		
47)		Tetrachloroethene	0.637		
48)		Dibromochloromethan	0.523		
49)		1,3-Dichloropropane	0.956		
50)		1,2-Dibromoethane	0.493		
51)		1-Chlorohexane	0.974		
52)	PM	Chlorobenzene	1.948		
53)	CP	Ethylbenzene	3.520		
54)		1,1,1,2-Tetrachloro	0.584		
55)		(m+p)-Xylene	1.411		
56)		o-Xylene	1.360		
57)		Styrene	2.124		
58)	P	Bromoform	0.263		
59)	I	1,4-Dichlorobenzene-d	----------ISTD----------		
60)		Isopropylbenzene	4.379		
61)	S	Bromofluorobenzene	1.350		
62)		Bromobenzene	1.045		
63)		n-Propylbenzene	5.065		
64)	P	1,1,2,2-Tetrachloro	0.988		
65)		2-Chlorotoluene	3.364		
66)		1,3,5-Trimethylbenz	3.529		
67)		1,2,3-Trichloroprop	0.787		
68)		trans-1,4-Dichloro-	0.167		
69)		4-Chlorotoluene	3.310		
70)		tert-Butylbenzene	2.444		
71)		1,2,4-Trimethylbenz	3.244		
72)		sec-Butylbenzene	3.468		
73)		p-Isopropyltoluene	2.754		
74)		1,3-Dichlorobenzene	1.878		
75)		1,4-Dichlorobenzene	1.772		
76)		n-Butylbenzene	2.180		
77)		1,2-Dichlorobenzene	1.737		
78)		1,2-Dibromo-3-chlor	0.116		
79)		Hexachlorobutadiene	0.200		
80)		1,2,4-Trichlorobenz	0.715		
81)		Naphthalene	1.716		
82)		1,2,3-Trichlorobenz	0.580		

(#) = Out of Range ### Number of calibration levels exceeded format ###

AFCEE
ORGANIC ANALYSES DATA SHEET 4
SECOND SOURCE CALIBRATION VERIFICATION

Analytical Method:	SW8260B	**AAB #:**	R16558
Lab Name:	Life Science Laboratories, In	**Contract Number:**	
Instrument ID:	MS03_10	**Initial Calibration ID:**	1515
Second Source ID:	2SRC-16558	**Concentration Units (mg/L or mg/kg):**	µg/L

Analyte	Expected	Found	%D	Q
cis-1,2-Dichloroethene	10	9.56	-4.4	
Tetrachloroethene	10	9.4	-6.0	
trans-1,2-Dichloroethene	10	9.46	-5.4	
Trichloroethene	10	9.54	-4.6	
Vinyl chloride	10	10.3	2.7	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 5A
CALIBRATION VERIFICATION - GC/MS ANALYSIS

Analytical Method: SW8260B **AAB #:** MS03_10_090227

Lab Name: Life Science Laboratories, In **Contract Number:**

Instrument ID: MS03_10 **Initial Calibration ID:** 1515

ICV ID: **CCV #1 ID:** CCV-16559 **CCV #2 ID:**

Analyte	ICV		CCV #1		CCV #2		
	RF	%D	RF	%D	RF	%D	Q
Vinyl chloride #				4.9			
1,2-Dichloroethane-d4				-0.4			
4-Bromofluorobenzene				-2.8			
cis-1,2-Dichloroethene				2.1			
Tetrachloroethene				-1.1			
Toluene-d8				-0.8			
trans-1,2-Dichloroethene				2.0			
Trichloroethene				-0.8			

* SPCCs # CCCS

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 7
BLANKS

Analytical Method:	SW8260B	**AAB #:**	R16559
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Units:	µg/L	**Method Blank ID:**	MB-16559
Initial Calibration ID:	1515	**File ID:**	J8714.D

Analyte	Method Blank	RL	Q
cis-1,2-Dichloroethene	0.100	1.00	U
Tetrachloroethene	0.100	1.00	U
trans-1,2-Dichloroethene	0.100	1.00	U
Trichloroethene	0.100	1.00	U
Vinyl chloride	0.330	1.00	U

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4	97	72 - 119	
4-Bromofluorobenzene	93	76 - 119	
Toluene-d8	95	81 - 120	

Internal Std	Area Counts	Area Count Limits	Qualifier
1,4-Dichlorobenzene-d4	374012	210140 - 840560	
Chlorobenzene-d5	699178	363092 - 1452366	
Fluorobenzene	1949378	1001210 - 4004840	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 8
LABORATORY CONTROL SAMPLE

Analytical Method: SW8260B **AAB #:** R16559

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-16559 **Initial Calibration ID:** 1515

Concentration Units (mg/L or mg/kg): µg/L **File ID:** J8711.D

Analyte	Expected	Found	%R	Control Limits	Q
cis-1,2-Dichloroethene	10	9.37	94	72 - 126	
Tetrachloroethene	10	9.32	93	66 - 128	
trans-1,2-Dichloroethene	10	9.24	92	63 - 137	
Trichloroethene	10	9.36	94	70 - 127	
Vinyl chloride	10	10.2	102	50 - 134	

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4	93	72 - 119	
4-Bromofluorobenzene	91	76 - 119	
Toluene-d8	94	81 - 120	

Internal Std	Area Counts	Area Count Limits	Qualifier
1,4-Dichlorobenzene-d4	458076	210140 - 840560	
Chlorobenzene-d5	774561	363092 - 1452366	
Fluorobenzene	2167605	1001210 - 4004840	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 8
LABORATORY CONTROL SAMPLE

Analytical Method: SW8260B **AAB #:** R16559

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCSD-16559 **Initial Calibration ID:** 1515

Concentration Units (mg/L or mg/kg): µg/L **File ID:** J8712.D

Analyte	Expected	Found	%R	Control Limits	Q
cis-1,2-Dichloroethene	10	9.37	94	72 - 126	
Tetrachloroethene	10	9.49	95	66 - 128	
trans-1,2-Dichloroethene	10	9.43	94	63 - 137	
Trichloroethene	10	9.52	95	70 - 127	
Vinyl chloride	10	10.1	101	50 - 134	

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4	93	72 - 119	
4-Bromofluorobenzene	91	76 - 119	
Toluene-d8	93	81 - 120	

Internal Std	Area Counts	Area Count Limits	Qualifier
1,4-Dichlorobenzene-d4	451499	210140 - 840560	
Chlorobenzene-d5	777024	363092 - 1452366	
Fluorobenzene	2143840	1001210 - 4004840	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 9
MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Analytical Method: SW8260B **AAB #:** R16559

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Concentration Units (mg/L or mg/kg): µg/L **% Solids:** 0

Parent Field Sample ID: LCSD-16559 **MS ID:** LCS-16559 **MSD ID:** LCSD-16559

Calibration ID: 1515

Analyte	Parent Sample Result	Spike Added	Spiked Sample Result	%R	Duplicate Spiked Sample Result	%R	%RPD	Control Limits %R	Control Limits %RPD	Q
cis-1,2-Dichloroethene		10.0	9.37	94	9.37	94	0	72 - 126	20	
Tetrachloroethene		10.0	9.32	93	9.49	95	2	66 - 128	20	
trans-1,2-Dichloroethene		10.0	9.24	92	9.43	94	2	63 - 137	20	
Trichloroethene		10.0	9.36	94	9.52	95	2	70 - 127	20	
Vinyl chloride		10.0	10.2	102	10.1	101	1	50 - 134	20	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 10
HOLDING TIMES

Analytical Method: SW8260B **AAB #:** R16559

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Max. Holding Time E	Time Held Ext.	Date Analyzed	Max. Holding Time A	Time Held Anal.	Q
B035M0416GB	0902124-001A	26-Feb-09	26-Feb-09	27-Feb-09			27-Feb-09	14	1.1	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 11
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SW8260B **AAB#:**

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: MS03_10 **Calibration ID:** 1515

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analysis Started	Time Analysis Started	Date Analysis Completed	Time Analysis Completed
TB022709A3	TB022709A3	27-Feb-09	5:57	27-Feb-09	6:29
ICAL 0.5 ppb	ICAL 0.5 ppb	27-Feb-09	6:29	27-Feb-09	7:00
ICAL 1.0 ppb	ICAL 1.0 ppb	27-Feb-09	7:00	27-Feb-09	7:31
ICAL 2.0 ppb	ICAL 2.0 ppb	27-Feb-09	7:31	27-Feb-09	8:03
ICAL 10 ppb	ICAL 10 ppb	27-Feb-09	8:03	27-Feb-09	8:34
ICAL 20 ppb	ICAL 20 ppb	27-Feb-09	8:34	27-Feb-09	9:05
ICAL 30 ppb	ICAL 30 ppb	27-Feb-09	9:05	27-Feb-09	9:37
ICAL 40 ppb	ICAL 40 ppb	27-Feb-09	9:37	27-Feb-09	10:40
2SRC-16558	2SRC-16558	27-Feb-09	10:40	27-Feb-09	10:40
CCV-16559	CCV-16559	27-Feb-09	11:11	27-Feb-09	11:42
TB022709B3	TB022709B3	27-Feb-09	11:11	27-Feb-09	11:42
LCS-16559	LCS-16559	27-Feb-09	11:42	27-Feb-09	12:14
LCSD-16559	LCSD-16559	27-Feb-09	12:14	27-Feb-09	13:17
MB-16559	MB-16559	27-Feb-09	13:17	27-Feb-09	13:48
B035M0416GB	0902124-001A	27-Feb-09	13:48	27-Feb-09	13:48

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 12
INSTRUMENT PERFORMANCE CHECK
(BFB or DFTPP)

Analytical Method:	SW8260B	**AAB #:**	MS03_10_090227A
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	MS03_10	**Injection Date/Time:**	2/27/09 5:57:00 AM
Initial Calibration ID:	1515	**File ID:**	C:\HPCHEM\1\DATA\J8700.D
Compound:	SW8260B	**Sample ID:**	TB022709A3

Mass	Ion Abundance Criteria	% Relative Abundance	Q
50	15 - 40% of m/z 95	17.4	
75	30 - 60% of m/z 95	46.1	
95	Base peak, 100% relative abundance	100	
96	5 - 9% of m/z 95	6.9	
173	Less than 2% of m/z 174	0.4	
174	Greater than 50% of m/z 95	68.4	
175	5 - 9% of m/z 174	7.0	
176	Greater than 95% but less than 101% of m/z 174	96.0	
177	5 - 9% of m/z 176	6.6	

AFCEE
ORGANIC ANALYSES DATA SHEET 12
INSTRUMENT PERFORMANCE CHECK
(BFB or DFTPP)

Analytical Method:	SW8260B	**AAB #:**	MS03_10_090227B
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	MS03_10	**Injection Date/Time:**	2/27/09 11:11:00 AM
Initial Calibration ID:	1515	**File ID:**	C:\HPCHEM\1\DATA\J8710.D
Compound:	SW8260B	**Sample ID:**	TB022709B3

Mass	Ion Abundance Criteria	% Relative Abundance	Q
50	15 - 40% of m/z 95	18.7	
75	30 - 60% of m/z 95	47.6	
95	Base peak, 100% relative abundance	100	
96	5 - 9% of m/z 95	7.0	
173	Less than 2% of m/z 174	0	
174	Greater than 50% of m/z 95	64.2	
175	5 - 9% of m/z 174	7.3	
176	Greater than 95% but less than 101% of m/z 174	96.8	
177	5 - 9% of m/z 176	6.8	

Wet Chemistry Data

TOC DATA

AFCEE
WET CHEM ANALYSES DATA SHEET 3-10
INITIAL MULTIPOINT CALIBRATION

Analytical Method: SW9060
Lab Name: Life Science Laboratories, Inc.
Instrument ID: TOC-5000A
Initial Calibration ID: 1518

AAB #: R16585
Contract #:
Date of Initial Calibration: 04-Mar-09
Concentration Units (mg/L or mg/kg): mg/L

Analyte	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	STD 10	r	Q
Total Organic Carbon	0	1	10	20	0	0	0	0	0	0	0.99957	

r = correlation coefficient

Comments:

AFCEE
WET CHEMISTRY ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method:	SW9060	**AAB #:**	R16585
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	TOC-5000A	**Initial Calibration ID:**	1518
2nd Source ID:	ICV	**CCV #1 ID:** CCV1	**CCV #2 ID:** CCV2

Analyte	2nd Source Calibration Verification			Continuing Calibration Verification					Q
	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Total Organic Carbon	10.0	9.80	-2.0	10.0	9.81	-1.9	9.81	-1.9	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9060 **AAB #:** R16585

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: ICB **Initial Calibration ID:** 1518

Method Blank ID: MB-R16585 **Initial Calibration ID:** 1518

Analyte	Calibration Blank	Method Blank	RL	Q
Total Organic Carbon	0.093	0.40	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9060 **AAB #:** R16585

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB1 **Initial Calibration ID:** 1518

Method Blank ID: MB-R16585 **Initial Calibration ID:** 1518

Analyte	Calibration Blank	Method Blank	RL	Q
Total Organic Carbon	0.064	0.40	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method:	SW9060	**AAB #:**	R16585
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Concentration Units (mg/L or mg/kg):	mg/L		
Calibraton Blank ID:	CCB2	**Initial Calibration ID:**	1518
Method Blank ID:	MB-R16585	**Initial Calibration ID:**	1518

Analyte	Calibration Blank	Method Blank	RL	Q
Total Organic Carbon	0.16	0.40	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SW9060 **AAB #:** R16585

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-R16585 **Initial Calibration ID:** 1518

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Total Organic Carbon	10	9.79	98	90 - 110	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SW9060 **AAB #:** R16585

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCSD-R16585 **Initial Calibration ID:** 1518

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Total Organic Carbon	10	9.76	98	90 - 110	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 7
MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Analytical Method: SW9060 **AAB #:** R16585

Lab Name: Life Science Laboratories, Inc. **Contract #:**

% Solids: 0 **Initial Calibration ID:** 1518

Parent Field Sample ID: B035M0416GB **MS ID:** 0902124-001CMS **MSD ID:** 0902124-001CMSD

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Parent Sample Result	Spike Added	Spiked Sample Result	%R	Duplicate Spiked Sample Result	%R	%RPD	Control Limits %R	Control Limits %RPD	Q
Total Organic Carbon	9.16	10.0	18.4	92	18.4	93	0	75 - 125	20	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: SW9060 **AAB #:** R16585

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Analyzed	Max. Holding Time (days)	Time Held (days)	Q
B035M0416GB	0902124-001C	26-Feb-09	26-Feb-09	04-Mar-09	28	6.1	
B035M0416GB	0902124-001CMS	26-Feb-09	26-Feb-09	04-Mar-09	28	6.1	
B035M0416GB	0902124-001CMSD	26-Feb-09	26-Feb-09	04-Mar-09	28	6.2	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SW9060

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: TOC-5000A

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analyses Started	Time Analyses Started	Date Analyses Completed	Time Analyses Completed
S0	S0	04-Mar-09	10:30	04-Mar-09	10:42
S1	S1	04-Mar-09	10:42	04-Mar-09	10:58
S10	S10	04-Mar-09	10:58	04-Mar-09	11:12
S20	S20	04-Mar-09	11:12	04-Mar-09	11:25
ICV	ICV	04-Mar-09	11:25	04-Mar-09	11:35
ICB	ICB	04-Mar-09	11:35	04-Mar-09	11:44
MB-R16585	MB-R16585	04-Mar-09	11:44	04-Mar-09	11:57
LCS-R16585	LCS-R16585	04-Mar-09	11:57	04-Mar-09	12:11
LCSD-R16585	LCSD-R16585	04-Mar-09	12:11	04-Mar-09	12:24
LCS3-R16585	LCS3-R16585	04-Mar-09	12:24	04-Mar-09	12:37
LCS4-R16585	LCS4-R16585	04-Mar-09	12:37	04-Mar-09	13:15
CCV1	CCV1	04-Mar-09	13:15	04-Mar-09	13:24
CCB1	CCB1	04-Mar-09	13:24	04-Mar-09	14:34
B035M0416GB	0902124-001C	04-Mar-09	14:34	04-Mar-09	14:47
B035M0416GB	0902124-001CMS	04-Mar-09	14:47	04-Mar-09	15:00
B035M0416GB	0902124-001CMSD	04-Mar-09	15:00	04-Mar-09	15:24
CCV2	CCV2	04-Mar-09	15:24	04-Mar-09	15:33
CCB2	CCB2	04-Mar-09	15:33	04-Mar-09	15:33

Comments:

Total Alkalinity Data

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SM 2320 B **AAB #:** R16544

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: **Initial Calibration ID:** 0

Method Blank ID: MB-R16544 **Initial Calibration ID:** 0

Analyte	Calibration Blank	Method Blank	RL	Q
Alkalinity, as CaCO3		10	10	

Comments:

QAPP 4.0 AFCEE FORM W-5

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SM 2320 B **AAB #:** R16544

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-R16544 **Initial Calibration ID:** 0

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Alkalinity, as CaCO3	50	48	96	90 - 110	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: SM 2320 B **AAB #:** R16544

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Analyzed	Max. Holding Time (days)	Time Held (days)	Q
B035M0416GB	0902124-001D	26-Feb-09	26-Feb-09	01-Mar-09	14	2.5	
B035M0416GB	0902124-001DDUP	26-Feb-09	26-Feb-09	01-Mar-09	14	2.5	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SM 2320 B

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: Buret Type A

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analyses Started	Time Analyses Started	Date Analyses Completed	Time Analyses Completed
LCS-R16544	LCS-R16544	01-Mar-09	0:00	01-Mar-09	0:00
MB-R16544	MB-R16544	01-Mar-09	0:00	01-Mar-09	0:00
B035M0416GB	0902124-001DDUP	01-Mar-09	0:00	01-Mar-09	0:00
B035M0416GB	0902124-001D	01-Mar-09	0:00	01-Mar-09	0:00

Comments:

Life Science Laboratories, Inc.

5000 Brittonfield Parkway, Suite 200

East Syracuse, NY 13057 (315) 437-0200

ANALYTICAL QC SUMMARY REPORT

Method: SM 18-20 2320 B

Work Order: 0902124

CLIENT: FPM Group

Project: Griffiss AFB - Building 35

Sample ID: **0902124-001DDUP**	SampType: **DUP**	TestCode: **ALKT 2320B**	Units: **mg/L**	Prep Date:		RunNo: **16544**			
Client ID: **B035M0416GB**	Batch ID: **R16544**	Method: **SM 18-20 232**		Analysis Date: **3/1/2009**		SeqNo: **431498**			
Instrument:	ColumnID:								

Analyte	QC Sample Result	PQL	SPK Added	Parent Sample Result	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, as CaCO3	282	10						286	1.4	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value exceeds the instrument calibration range	J	Analyte detected below the PQL
ND	Not Detected at the Practical Quantitation Limit (PQL)	R	RPD exceeds accepted precision limit	S	Spike Recovery outside accepted recovery limits
U	Not Detected at the MDC or RL				

Anions Data

AFCEE
WET CHEM ANALYSES DATA SHEET 3-10
INITIAL MULTIPOINT CALIBRATION

Analytical Method: SW9056 **AAB #:** R16538

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID: IC **Date of Initial Calibration:** 17-Feb-09

Initial Calibration ID: 1509 **Concentration Units (mg/L or mg/kg):** mg/L

Analyte	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	STD 10	r	Q
Chloride	0	0.2	0.5	1	5	10	20	40	0	0	1	
Nitrate (as N)	0	0.02	0.05	0.1	0.5	1	2	0	0	0	0.99999	
Sulfate (as SO4)	0	0.2	0.5	1	5	10	20	40	0	0	1	

r = correlation coefficient

Comments:

AFCEE
WET CHEMISTRY ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method: SW9056 **AAB #:** R16538

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID: IC **Initial Calibration ID:** 1509

2nd Source ID: 2S CV **CCV #1 ID:** ICV **CCV #2 ID:** CCV1

Analyte	2nd Source Calibration Verification			Continuing Calibration Verification					Q
	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Chloride	5.00	5.05	1.1	10.0	10.0	0.3	10.1	1.3	
Nitrate (as N)	0.500	0.506	1.1	1.00	1.00	0.3	1.01	0.8	
Sulfate (as SO4)	5.00	4.97	-0.7	10.0	10.0	0	10.0	0.5	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9056 **AAB #:** R16538

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: ICB **Initial Calibration ID:** 1509

Method Blank ID: MB-R16538 **Initial Calibration ID:** 1509

Analyte	Calibration Blank	Method Blank	RL	Q
Chloride	-0.020	0.099	1.0	
Nitrate (as N)	0.015	0.015	1.0	
Sulfate (as SO4)	0.20	0.20	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9056 **AAB #:** R16538

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB1 **Initial Calibration ID:** 1509

Method Blank ID: MB-R16538 **Initial Calibration ID:** 1509

Analyte	Calibration Blank	Method Blank	RL	Q
Chloride	-0.0095	0.099	1.0	
Nitrate (as N)	0.015	0.015	1.0	
Sulfate (as SO4)	0.20	0.20	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SW9056 **AAB #:** R16538

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-R16538 **Initial Calibration ID:** 1509

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Chloride	5	5.05	101	85 - 115	
Nitrate (as N)	0.5	0.506	101	85 - 115	
Sulfate (as SO4)	5	4.99	100	85 - 115	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SW9056 **AAB #:** R16538

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCSD-R16538 **Initial Calibration ID:** 1509

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Chloride	5	5.05	101	85 - 115	
Nitrate (as N)	0.5	0.506	101	85 - 115	
Sulfate (as SO4)	5	4.99	100	85 - 115	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: SW9056 **AAB #:** R16538

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Analyzed	Max. Holding Time (days)	Time Held (days)	Q
B035M0416GB	0902124-001B	26-Feb-09	26-Feb-09	27-Feb-09	28	1.0	
B035M0416GB DL	0902124-001BDL	26-Feb-09	26-Feb-09	27-Feb-09	28	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SW9056

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: IC

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analyses Started	Time Analyses Started	Date Analyses Completed	Time Analyses Completed
ICAL 0	ICAL 0	17-Feb-09	11:17	17-Feb-09	11:37
ICAL 7	ICAL 7	17-Feb-09	11:37	17-Feb-09	11:57
ICAL 6	ICAL 6	17-Feb-09	11:57	17-Feb-09	12:16
ICAL 5	ICAL 5	17-Feb-09	12:16	17-Feb-09	12:36
ICAL 4	ICAL 4	17-Feb-09	12:36	17-Feb-09	12:56
ICAL 3	ICAL 3	17-Feb-09	12:56	17-Feb-09	13:16
ICAL 2	ICAL 2	17-Feb-09	13:16	17-Feb-09	13:36
ICAL 1	ICAL 1	17-Feb-09	13:36	17-Feb-09	13:36
ICV	ICV	27-Feb-09	9:13	27-Feb-09	9:33
2S CV	2S CV	27-Feb-09	9:33	27-Feb-09	9:53
ICB	ICB	27-Feb-09	9:53	27-Feb-09	10:13
MB-R16538	MB-R16538	27-Feb-09	10:13	27-Feb-09	10:32
LCS-R16538	LCS-R16538	27-Feb-09	10:32	27-Feb-09	10:52
LCSD-R16538	LCSD-R16538	27-Feb-09	10:52	27-Feb-09	11:16
B035M0416GB DL	0902124-001BDL	27-Feb-09	11:16	27-Feb-09	11:55
B035M0416GB	0902124-001B	27-Feb-09	11:55	27-Feb-09	12:42
CCV1	CCV1	27-Feb-09	12:42	27-Feb-09	13:02
CCB1	CCB1	27-Feb-09	13:02	27-Feb-09	13:02

Comments:

Life Science Laboratories, Inc.

5000 Brittonfield Parkway, Suite 200
East Syracuse, NY 13057 **(315) 437-0200**

Friday, April 10, 2009

Niels van Hoesel
FPM Group
153 Brooks Road
Rome, NY 13441

TEL:

Project: GRIFFISS AFB - BUILDING 35
RE: Analytical Results Order No.: 0903143

Dear Niels van Hoesel:

Life Science Laboratories, Inc. received 1 sample(s) on 3/25/2009 for the analyses presented in the following report. Sample results relate only to the samples as received by the laboratory.

Very truly yours,
Life Science Laboratories, Inc.

Pamela J. Titus
Project Manager

Laboratory Report

Project Management Case Narrative

INTRODUCTION/ANALYTICAL RESULTS

This report summarizes the laboratory results for samples from FPM, for the Griffiss AFB-Building 35- Rome, NY project.

CONDITION UPON RECEIPT/CHAIN OF CUSTODY

The cooler(s) were received intact. When the cooler(s) were received by the laboratory, the sample custodian(s) opened and inspected the shipment(s) for damage and custody inconsistencies. Chains of custody documenting receipt are presented in the chain of custody section. Each sample was assigned a unique laboratory number and a custody file created. The samples were placed in a secured walk-in cooler and signed in and out by the chemists performing the tests. The sign out record, or lab chronicle, is presented in the chain of custody section.

Discrepancies noted upon receipt are listed on the sample receipt checklist in the chain of custody section. The temperature of the well iced cooler was -0.2°C.

METHODOLOGY

The following methods were used to perform the analyses:

PARAMETER	METHOD	REFERENCE
Volatile Organics	SW8260B	1
Total Organic Carbon	SW9060	1
Alkalinity as CaCO3	SM2320B	2
Anions	SW9056	1

1) Test Methods for Evaluating Solid Wastes, SW-846 Third Edition, Final Update III, December 1996 (including the QC requirements specified in AFCEE 4.0 + variances).

2) Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992

QUALITY CONTROL

QA/QC results are summarized in the Laboratory Report.

RAW DATA

The raw data is not requested for this report. Life Science Laboratories, Inc. will keep the raw data on file.

Total # of pages in this report: _____

GC/MS Volatile Organics Case Narrative

Client:	FPM
Project/Order:	Griffiss AFB – Building 35
Work Order #:	0903143
Methodology:	8260B

Analyzed/Reviewed by (Initials/Date): JK 4/7/09

Supervisor/Reviewed by (Initials/Date): JW 4-9-09

QA/QC Review (Initials/Date): JJO for LK 4/9/09

File Name: G:\Narratives\MSVoa\0903143msvnar.doc

GC/MS Volatile Organics
The GC/MS Volatile instruments are equipped with a Restek Rtx-VMS, 60 m x 0.25 mm ID capillary column (MS01), Restek Rtx-502.2, 105 m x 0.53 mm ID capillary column (MS02), Restek Rtx-502.2, 60 m x 0.25 mm ID capillary column (MS03) and Restek Rtx-VMS, 60 m x 0.25mm ID capillary column (MS04), and a Vocarb 3000 adsorbent trap.

There were no excursions to note. All QC results were within established control limits.

Holding Times and Sample Preservation
All samples were prepared and analyzed within the method and/or QAPP specified holding time requirements. Samples had a pH of < 2.

Laboratory Control Sample
All spike recoveries met method and/or project specific QC criteria.

Surrogate Standards
All surrogate standard recoveries met method and/or project specific QC criteria.

Internal Standards
All internal standard areas met method and/or project specific QC criteria.

Calibrations
All initial calibrations and calibration verifications met method and/or project specific QC criteria.

Preparation Blanks
All preparation blanks met method and/or project specific QC criteria.

Wet Chemistry Case Narrative

Client ID:	FPM
Project/Order:	Griffiss AFB – Building 35
Work Order #:	0903143
Methodology:	Total Organic Carbon – SW9060 Alkalinity as CaCO3 – SM 2320 B Anions – SW9056

Analyzed/Reviewed by (Date/Initials): 4-5-09 MM

Supervisor/Reviewed by (Date/Initials): 4-5-09 MM

QA/QC Review (Date/Initials): 4/6/09

Wet Chemistry

Holding Times
All samples were prepared and analyzed within the method and/or QAPP specified holding times.

Laboratory Control Sample
All spike recoveries met method and/or project specified QC criteria.

MS/MSD AND MS/MSD RPD
All spike recovery and RPD data met method and/or project specific QC criteria.

Sample Duplicate
All sample duplicate RPD data met method and/or project specific QC criteria.

Calibrations
All calibrations and calibration verifications met method and/or project specific QC criteria.

Preparation Blanks
All preparation blanks met method and/or project specific QC criteria.

Life Science Laboratories, Inc.

Date: *10-Apr-09*

CLIENT: FPM Group
Project: Griffiss AFB - Building 35
Lab Order: 0903143

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
0903143-001A	B035M0416HA	B035MW04	3/24/2009	3/25/2009
0903143-001B	B035M0416HA	B035MW04	3/24/2009	3/25/2009
0903143-001C	B035M0416HA	B035MW04	3/24/2009	3/25/2009
0903143-001D	B035M0416HA	B035MW04	3/24/2009	3/25/2009

Lab Order: 0903143
Client: FPM Group
Project: Griffiss AFB - Building 35

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0903143-001A	B035M0416HA	3/24/2009 2:47:00 PM	Groundwater	Alkalinity, as CaCO3			3/30/2009
0903143-001B				Inorganic anions by IC			3/25/2009
0903143-001C				Volatile Organic Compounds by GC/MS			3/27/2009
0903143-001D				Total Organic Carbon			4/2/2009

External Chain of Custody

AFCEE
CHAIN OF CUSTODY RECORD

COC#: _1_ SDG#: _209_ Cooler ID: _A_

Ship to: Pamela Titus Life Science Laboratories, Inc. 5000 Brittonfield Pkwy, Suite 200 East Syracuse, NY 13057 Tel: (315)437-0200	Project Name: Griffiss AFB Site Building 35 sampling Sampler Name: Niels van Hoesel	Send Results to: Niels van Hoesel FPM Group 153 Brooks Road Rome, NY 13441
Carrier: LSL courier.	Sampler Signature:	Phone: (315) 336-7721 Ext 205

Analyses Requested

Field Sample ID	Location ID (LOCID)	Date 2009	Time	MATRIX	SMCODE	SBD/SED	SACODE	Preservative	Filt./UnFilt.	No. of Containers	VOCs Note 1 40 mL vial (HCl)	Anions, note 2 250 mL poly	TOC note3 40 mL vials (HCL)	Alkalinity note 4 8 oz glass (zero headspace)		Comments
B035M0416HA	B035MW04	3/24	1447	WG	B	0/0	N	HCl	Unf.	7	3	1	2	1		

Sample Condition Upon Receipt at Laboratory: Good, Custody Seal INTACT Cooler Temperature: -0.2°C on ice

Special Instructions/Comments: Analyses to be conducted in compliance with AFCEE QAPP 4.0

Note 1: VOC: method SW 8260: Target COCs: PCE, TCE, DCE, Vinyl Chloride and Chloroform.

Note 2: Anions: SW9056 **CHLORIDE, SULFATE AND NITRATE ONLY**

Note 3: TOC: SW9060.

Note 4: Alkalinity: 310.1.

#1 Released by: (Sig)	Date:	#2 Released by: (Sig)	Date: 3/24/09	#3 Released by: (Sig)	Date: 3/25/09
Company Name:	Time:	Company Name: FPM Group Ltd	Time:	Company Name: LSL	Time: 5T
#1 Received by: (Sig) Niels van Hoesel	Date: 2/22/09	#2 Received by: (Sig) LSL	Date: 3/24/09	#3 Received by: (Sig)	Date: 3/25/09
Company Name: FPM Group Ltd	Time: 10200	Company Name:	Time: 17	Company Name: LSL	Time: 0805

MATRIX
WG = Ground water
WQ = Water Quality Control Matrix
SO = Soil

SMCODE
B = Bailer
G = Grab (only for EB).
NA = Not Applicable (only for AB/TB)
PP = Peristaltic Pump
BP = Bladder Pump
SP = Submersible Pump
SS = Split spoon

SACODE
N = Normal Sample
AB = Ambient Blank
TB = Trip Blank
EB = Equipment Blank
FD = Field Duplicate
MS = Matrix Spike
SD = Matrix Spike Duplicate

Life Science Laboratories, Inc.

Sample Receipt Checklist

Client Name: **FPM**

Date and Time Received: **3/25/2009 8:05:00 AM**

Work Order Number: **0903143**

Received by: ads

Checklist completed by: _____ 3/25/09 Reviewed by: _____ 3/25/09
Initials Date Initials Date

Delivery Method: Courier

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Applicable ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

pH	Preservative	pH Acceptable	Sample ID	Volume of Preservative added in Lab.
>12	NaOH	Yes ☐ N ☐ NA ☑		
<2	HNO3	Yes ☐ N ☐ NA ☑		
<2	HSO4	Yes ☐ N ☐ NA ☑		
<2	1:1 HCL	Yes ☑ N ☐ NA ☐	TOC	
5-9	Pest/PCBs (608/8081)	Yes ☐ N ☐ NA ☑		

Comments:

Client's COC lists 2 bottles for TOC, only one shipped.

Corrective Action:

TOC: logged in as 1 vial.

Client/Project FPM 0903143

Sample Control Record

Sample ID	Frac	Client Sample ID	Removed By	Date and Time Removed	Analysis	Date and Time Returned
0903143-001	C		JK	3/27/09 15:00	8260	NR

Client/Project FPM 0903143

Sample Control Record

Sample ID	Frac	Client Sample ID	Removed By	Date and Time Removed	Analysis	Date and Time Returned
0903143-001	B		gc	3/25/09 8:45	9056	3/25/09 16:00
0903143-001			HK	3-30-09 1625	ALKT	3-30-09 18[illegible]

Analytical Results

AFCEE
ORGANIC ANALYSES DATA PACKAGE

Analytical Method:	SW8260B	**AAB #:**	R16810
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0903143-001C

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 4/9/09 Title: Project Manager

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW8260B	**Preparatory Method:**		**AAB #:**	R16810
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**			
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0903143-001C	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1527	**File ID:**	J8948.D
Date Received:	25-Mar-09	**Date Extracted:**		**Date Analyzed:**	27-Mar-09
Concentration Units (ug/L or mg/Kg dry weight):	ug/L			**Sample Size:**	mL

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Chloroform	0.100	0.500	0.100	1		U
cis-1,2-Dichloroethene	0.100	1.00	17.4	1		
Tetrachloroethene	0.100	1.00	0.620	1		F
trans-1,2-Dichloroethene	0.100	1.00	0.380	1		F
Trichloroethene	0.100	1.00	0.520	1		F
Vinyl chloride	0.330	1.00	1.11	1		

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4	105	72 - 119	
4-Bromofluorobenzene	88	76 - 119	
Toluene-d8	105	81 - 120	

Internal Std	Area Counts	Area Count Limits	Qualifier
1,4-Dichlorobenzene-d4	700267	269046 - 1076184	
Chlorobenzene-d5	851897	373660 - 1494642	
Fluorobenzene	2229089	939074 - 3756298	

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SW9060	**AAB #:**	R16864
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0903143-001D

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 4/9/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9060		**AAB #:** R16864		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0903143-001D	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1537		
Date Received:	25-Mar-09	**Date Prepared:**		**Date Analyzed:**	02-Apr-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Total Organic Carbon	0.35	1.0	8.2	1	

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method:	SM 2320 B	**AAB #:**	R16819
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Base/Command:		**Prime Contractor:**	FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0903143-001A

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus

Name: Pamela J. Titus

Date: 4/9/09

Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SM 2320 B		**AAB #:**	R16819	
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0903143-001A	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	0		
Date Received:	25-Mar-09	**Date Prepared:**		**Date Analyzed:**	30-Mar-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Alkalinity, as CaCO3	10	10	280	1	

Comments:

AFCEE
WET CHEM ANALYSES DATA PACKAGE

Analytical Method: SW9056 **AAB #:** R16776

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Base/Command: **Prime Contractor:** FPM Group

Field Sample ID	Lab Sample ID
B035M0416HA	0903143-001B
B035M0416HA	0903143-001BDUP
B035M0416HA	0903143-001BMS
B035M0416HA	0903143-001BMSD

Comments:

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager's designee, as verified by the following signature.

Signature: Pamela J. Titus Name: Pamela J. Titus

Date: 4/9/09 Title: Project Manager

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9056		**AAB #:** R16776		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0903143-001B	**Matrix:**	Groundwater
% Solids:	0	**Initial Calibration ID:**	1528		
Date Received:	25-Mar-09	**Date Prepared:**		**Date Analyzed:**	25-Mar-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Chloride	0.20	2.0	73	2	
Nitrate (as N)	0.020	0.20	0.020	2	U
Sulfate (as SO4)	0.20	2.0	2.7	2	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SW9056 **AAB #:** R16776

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID: B035M0416HA **Lab Sample ID:** 0903143-001BMS **Matrix:** Aqueous

% Solids: 0 **Initial Calibration ID:** 1528

Date Received: 25-Mar-09 **Date Prepared:** **Date Analyzed:** 25-Mar-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Chloride	0.500	5.00	81.6	5	
Nitrate (as N)	0.0500	0.500	1.02	5	
Sulfate (as SO4)	0.500	5.00	12.5	5	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method:	SW9056		**AAB #:** R16776		
Lab Name:	Life Science Laboratories, Inc.		**Contract #:**		
Field Sample ID:	B035M0416HA	**Lab Sample ID:**	0903143-001BMSD	**Matrix:**	Aqueous
% Solids:	0	**Initial Calibration ID:**	1528		
Date Received:	25-Mar-09	**Date Prepared:**		**Date Analyzed:**	25-Mar-09

Concentration Units (mg/L or mg/kg dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Chloride	0.500	5.00	81.8	5	
Nitrate (as N)	0.0500	0.500	1.02	5	
Sulfate (as SO4)	0.500	5.00	12.4	5	

Comments:

Quality Control Results

GC/MS Volatile Organics Data

AFCEE
ORGANIC ANALYSES DATA SHEET 3
INITIAL MULTIPOINT CALIBRATION-GC/MS ANALYSIS

Analytical Method: 8260B

AAB #:

Lab Name: Life Science Laboratories, Inc.

Contract #:

Instrument ID: HP5973 GCMS#3

Date of Initial Calibration: 24 March 09

Initial Calibration ID: 1527

Concentration Units (ug/L or mg/Kg): ug/L

SEE ATTACHED

Comments:

AFCEE FORM O-3

Response Factor Report #3MS10

Method : C:\HPCHEM\1\METHODS\J324VOCW.M (RTE Integrator)
Title : VOC's w/Restek Rtx-502.2, 0.25 mm x 60 M, 1.4 df
Last Update : Tue Mar 24 11:44:28 2009
Response via : Continuing Calibration

ICAL #1527

Calibration Files
0.5 =J8827.D 1.0 =J8828.D 2.0 =J8829.D
10 =J8830.D 20 =J8831.D 30 =J8832.D

		Compound	0.5	1.0	2.0	10	20	30	Avg	%RSD
1)	I	Fluorobenzene	ISTD							
2)		Dichlorodifluoromet	0.217	0.225	0.217	0.383	0.381	0.375	0.310	27.21
3)	P	Chloromethane	0.505	0.395	0.317	0.387	0.366	0.360	0.385	15.19
4)	CP	Vinyl chloride	0.159	0.153	0.155	0.208	0.208	0.207	0.185	14.77
5)		Bromomethane	0.169	0.146	0.135	0.141	0.144	0.150	0.150	7.81
6)		Chloroethane	0.180	0.175	0.176	0.211	0.203	0.198	0.191	7.51
7)		Trichlorofluorometh	0.320	0.318	0.302	0.375	0.369	0.368	0.345	8.78
8)	CPM	1,1-Dichloroethene	0.194	0.188	0.182	0.228	0.231	0.231	0.213	11.30
9)		Carbon disulfide	0.721	0.697	0.673	0.811	0.805	0.805	0.758	7.77
10)		1,1,2-Trichloro-1,2	0.222	0.222	0.215	0.255	0.256	0.251	0.239	7.74
11)		Methyl iodide	0.194	0.132	0.094	0.131	0.161	0.174	0.151	22.45
12)		Acrolein	0.027	0.029	0.032	0.038	0.038	0.039	0.035	15.16
13)		Methylene chloride	0.276	0.256	0.254	0.263	0.261	0.252	0.260	3.12
14)		Acetone	0.067	0.058	0.054	0.055	0.051	0.050	0.055	10.91
15)		Methyl acetate	0.219	0.177	0.155	0.144	0.143	0.138	0.159	18.90
16)		Methyl tert-Butyl e	0.500	0.529	0.548	0.603	0.609	0.600	0.571	7.87
7)		trans-1,2-Dichloroe	0.227	0.226	0.223	0.245	0.251	0.248	0.239	5.64
18)	P	1,1-Dichloroethane	0.444	0.429	0.443	0.478	0.490	0.479	0.463	5.10
19)		Acrylonitrile	0.054	0.059	0.061	0.070	0.068	0.068	0.064	9.18
20)		Vinyl acetate	0.251	0.260	0.275	0.303	0.317	0.323	0.291	9.83
21)		cis-1,2-Dichloroeth	0.241	0.249	0.249	0.281	0.288	0.282	0.268	7.81
22)		2,2-Dichloropropane	0.204	0.239	0.269	0.262	0.292	0.299	0.264	12.66
23)		Bromochloromethane	0.088	0.096	0.092	0.104	0.105	0.102	0.098	6.80
24)		Cyclohexane	0.432	0.419	0.416	0.499	0.512	0.501	0.470	9.63
25)	CP	Chloroform	0.419	0.417	0.408	0.427	0.435	0.425	0.423	2.18
26)		Carbon tetrachlorid	0.227	0.215	0.219	0.263	0.279	0.280	0.253	12.48
27)		1,1,1-Trichloroetha	0.306	0.313	0.318	0.353	0.364	0.359	0.340	7.78
28)		2-Butanone	0.070	0.068	0.073	0.077	0.075	0.074	0.073	4.56
29)		1,1-Dichloropropene	0.330	0.318	0.327	0.370	0.376	0.370	0.353	7.46
30)	M	Benzene	1.141	1.109	1.110	1.204	1.223	1.191	1.168	4.03
31)	S	1,2-Dichloroethane-	0.241	0.233	0.235	0.249	0.246	0.242	0.241	2.34
32)		1,2-Dichloroethane	0.275	0.286	0.291	0.305	0.304	0.294	0.293	3.53
33)		Methylcyclohexane	0.369	0.368	0.363	0.435	0.438	0.437	0.408	9.71
34)	M	Trichloroethene	0.221	0.229	0.229	0.247	0.250	0.249	0.240	5.57
35)		Dibromomethane	0.129	0.124	0.128	0.134	0.136	0.131	0.131	3.27
36)	CP	1,2-Dichloropropane	0.269	0.267	0.272	0.292	0.292	0.288	0.282	4.22
37)		Bromodichloromethan	0.245	0.239	0.254	0.296	0.306	0.306	0.280	11.74
38)		2-Chloroethylvinyl	0.055	0.061	0.072	0.084	0.084	0.084	0.075	16.70
39)		cis-1,3-Dichloropro	0.314	0.333	0.343	0.406	0.427	0.422	0.383	13.22
40)	CPM	Toluene	0.633	0.620	0.652	0.738	0.750	0.738	0.699	8.77
41)		4-Methyl-2-pentanon	0.121	0.131	0.152	0.156	0.168	0.167	0.153	13.19
42)		trans-1,3-Dichlorop	0.245	0.242	0.270	0.324	0.340	0.345	0.302	15.99
43)		1,1,2-Trichloroetha	0.149	0.156	0.166	0.173	0.174	0.172	0.166	5.94

OK (LW) 4-1-09

(#) = Out of Range ### Number of calibration levels exceeded format ###

3/24/09

Response Factor Report #3MS10

Method : C:\HPCHEM\1\METHODS\J324VOCW.M (RTE Integrator)
Title : VOC's w/Restek Rtx-502.2, 0.25 mm x 60 M, 1.4 df
Last Update : Tue Mar 24 11:44:28 2009
Response via : Continuing Calibration

Calibration Files
0.5 =J8827.D 1.0 =J8828.D 2.0 =J8829.D
10 =J8830.D 20 =J8831.D 30 =J8832.D

		Compound	0.5	1.0	2.0	10	20	30	Avg	%RSD
44)		2-Hexanone	0.075	0.084	0.098	0.118	0.118	0.119	0.105	18.12
45)	I	Chlorobenzene-d5	----------	----------	ISTD	----------	----------	----------		
46)	S	Toluene-d8	2.251	2.129	2.209	2.408	2.431	2.408	2.330	5.69
47)		Tetrachloroethene	0.508	0.541	0.528	0.561	0.568	0.570	0.553	5.41
48)		Dibromochloromethan	0.314	0.326	0.361	0.442	0.479	0.494	0.418	20.03
49)		1,3-Dichloropropane	0.806	0.852	0.884	0.913	0.925	0.916	0.888	4.97
50)		1,2-Dibromoethane	0.347	0.390	0.398	0.441	0.450	0.452	0.421	10.16
51)		1-Chlorohexane	0.708	0.741	0.748	0.903	0.933	0.942	0.850	13.23
52)	PM	Chlorobenzene	1.713	1.673	1.670	1.810	1.828	1.823	1.773	4.90
53)	CP	Ethylbenzene	2.916	3.030	3.089	3.443	3.503	3.459	3.270	7.57
54)		1,1,1,2-Tetrachloro	0.338	0.394	0.405	0.487	0.529	0.551	0.469	19.48
55)		(m+p)-Xylene	1.138	1.156	1.213	1.335	1.382	1.387	1.288	8.97
56)		o-Xylene	1.049	1.107	1.136	1.277	1.338	1.345	1.232	10.70
57)		Styrene	1.464	1.521	1.671	1.987	2.091	2.098	1.851	15.65
58)	P	Bromoform	0.141	0.137	0.157	0.211	0.233	0.252	0.200	27.28
59)	I	1,4-Dichlorobenzene-d	----------	----------	ISTD	----------	----------	----------		
60)		Isopropylbenzene	3.439	3.466	3.661	4.089	4.067	4.055	3.851	8.27
61)	S	Bromofluorobenzene	1.351	1.229	1.215	1.215	1.207	1.211	1.243	4.22
62)		Bromobenzene	0.821	0.830	0.821	0.902	0.900	0.894	0.874	5.71
63)		n-Propylbenzene	4.554	4.436	4.797	5.306	5.253	5.175	4.953	7.15
64)	P	1,1,2,2-Tetrachloro	0.740	0.764	0.771	0.856	0.832	0.837	0.810	6.36
65)		2-Chlorotoluene	3.005	3.164	3.007	3.393	3.155	3.139	3.189	5.51
66)		1,3,5-Trimethylbenz	2.689	2.813	3.008	3.408	3.431	3.445	3.188	10.77
67)		1,2,3-Trichloroprop	0.670	0.627	0.669	0.689	0.665	0.664	0.669	3.47
68)		trans-1,4-Dichloro-	0.053	0.083	0.099	0.127	0.142	0.150	0.117	34.45
69)		4-Chlorotoluene	2.772	2.727	2.954	2.964	3.177	3.153	2.961	5.76
70)		tert-Butylbenzene	2.407	2.468	2.534	2.895	2.838	2.885	2.710	8.46
71)		1,2,4-Trimethylbenz	2.625	2.748	2.941	3.339	3.371	3.382	3.120	10.90
72)		sec-Butylbenzene	3.462	3.573	3.801	4.306	4.245	4.276	3.995	9.31
73)		p-Isopropyltoluene	2.626	2.710	2.946	3.384	3.415	3.508	3.160	12.31
74)		1,3-Dichlorobenzene	1.624	1.608	1.640	1.741	1.762	1.766	1.709	4.88
75)		1,4-Dichlorobenzene	1.594	1.553	1.595	1.687	1.695	1.679	1.650	4.20
76)		n-Butylbenzene	2.391	2.456	2.601	3.092	3.082	3.154	2.848	12.23
77)		1,2-Dichlorobenzene	1.495	1.458	1.547	1.637	1.627	1.640	1.586	5.54
78)		1,2-Dibromo-3-chlor	0.078	0.095	0.106	0.114	0.120	0.122	0.110	16.43
79)		Hexachlorobutadiene	0.282	0.287	0.297	0.335	0.323	0.346	0.317	8.97
80)		1,2,4-Trichlorobenz	0.451	0.516	0.571	0.719	0.772	0.803	0.665	22.52
81)		Naphthalene	0.449	0.597	0.824	1.219	1.375	1.452	1.061	40.77
82)		1,2,3-Trichlorobenz	0.302	0.351	0.425	0.577	0.616	0.645	0.511	29.10

(#) = Out of Range ### Number of calibration levels exceeded format ##"

Response Factor Report #3MS10

Method : C:\HPCHEM\1\METHODS\J324VOCW.M (RTE Integrator)
Title : VOC's w/Restek Rtx-502.2, 0.25 mm x 60 M, 1.4 df
Last Update : Tue Mar 24 11:53:42 2009
Response via : Initial Calibration

Calibration Files
40 =J8833.D = =
= = =

		Compound	40	Avg	%RSD
1)	I	Fluorobenzene	ISTD		
2)		Dichlorodifluoromet	0.372		
3)	P	Chloromethane	0.365		
4)	CP	Vinyl chloride	0.203		
5)		Bromomethane	0.161		
6)		Chloroethane	0.196		
7)		Trichlorofluorometh	0.363		
8)	CPM	1,1-Dichloroethene	0.239		
9)		Carbon disulfide	0.793		
10)		1,1,2-Trichloro-1,2	0.254		
11)		Methyl iodide	0.171		
12)		Acrolein	0.039		
13)		Methylene chloride	0.257		
14)		Acetone	0.051		
15)		Methyl acetate	0.135		
16)		Methyl tert-Butyl e	0.609		
17)		trans-1,2-Dichloroe	0.255		
18)	P	1,1-Dichloroethane	0.479		
19)		Acrylonitrile	0.068		
20)		Vinyl acetate	0.308		
21)		cis-1,2-Dichloroeth	0.289		
22)		2,2-Dichloropropane	0.284		
23)		Bromochloromethane	0.101		
24)		Cyclohexane	0.511		
25)	CP	Chloroform	0.432		
26)		Carbon tetrachlorid	0.289		
27)		1,1,1-Trichloroetha	0.367		
28)		2-Butanone	0.075		
29)		1,1-Dichloropropene	0.378		
30)	M	Benzene	1.198		
31)	S	1,2-Dichloroethane-	0.243		
32)		1,2-Dichloroethane	0.294		
33)		Methylcyclohexane	0.450		
34)	M	Trichloroethene	0.256		
35)		Dibromomethane	0.133		
36)	CP	1,2-Dichloropropane	0.293		
37)		Bromodichloromethan	0.316		
38)		2-Chloroethylvinyl	0.083		
39)		cis-1,3-Dichloropro	0.434		
40)	CPM	Toluene	0.764		
41)		4-Methyl-2-pentanon	0.174		
42)		trans-1,3-Dichlorop	0.351		
43)		1,1,2-Trichloroetha	0.174		

(#) = Out of Range ### Number of calibration levels exceeded format ##

Response Factor Report #3MS10

Method : C:\HPCHEM\1\METHODS\J324VOCW.M (RTE Integrator)
Title : VOC's w/Restek Rtx-502.2, 0.25 mm x 60 M, 1.4 df
Last Update : Tue Mar 24 11:53:42 2009
Response via : Initial Calibration

Calibration Files
40 =J8833.D = =
= = =

		Compound	40	Avg	%RSD
44)		2-Hexanone	0.121		
45)	I	Chlorobenzene-d5	----------ISTD----------		
46)	S	Toluene-d8	2.477		
47)		Tetrachloroethene	0.598		
48)		Dibromochloromethan	0.515		
49)		1,3-Dichloropropane	0.919		
50)		1,2-Dibromoethane	0.464		
51)		1-Chlorohexane	0.974		
52)	PM	Chlorobenzene	1.891		
53)	CP	Ethylbenzene	3.448		
54)		1,1,1,2-Tetrachloro	0.581		
55)		(m+p)-Xylene	1.405		
56)		o-Xylene	1.372		
57)		Styrene	2.125		
58)	P	Bromoform	0.268		
59)	I	1,4-Dichlorobenzene-d	----------ISTD----------		
60)		Isopropylbenzene	4.182		
61)	S	Bromofluorobenzene	1.271		
62)		Bromobenzene	0.949		
63)		n-Propylbenzene	5.151		
64)	P	1,1,2,2-Tetrachloro	0.874		
65)		2-Chlorotoluene	3.458		
66)		1,3,5-Trimethylbenz	3.523		
67)		1,2,3-Trichloroprop	0.702		
68)		trans-1,4-Dichloro-	0.165		
69)		4-Chlorotoluene	2.976		
70)		tert-Butylbenzene	2.940		
71)		1,2,4-Trimethylbenz	3.437		
72)		sec-Butylbenzene	4.299		
73)		p-Isopropyltoluene	3.532		
74)		1,3-Dichlorobenzene	1.820		
75)		1,4-Dichlorobenzene	1.745		
76)		n-Butylbenzene	3.159		
77)		1,2-Dichlorobenzene	1.700		
78)		1,2-Dibromo-3-chlor	0.131		
79)		Hexachlorobutadiene	0.350		
80)		1,2,4-Trichlorobenz	0.821		
81)		Naphthalene	1.508		
82)		1,2,3-Trichlorobenz	0.660		

(#) = Out of Range ### Number of calibration levels exceeded format ##"

AFCEE
ORGANIC ANALYSES DATA SHEET 4
SECOND SOURCE CALIBRATION VERIFICATION

Analytical Method:	SW8260B	**AAB #:**	R16764
Lab Name:	Life Science Laboratories, In	**Contract Number:**	
Instrument ID:	MS03_10	**Initial Calibration ID:**	1527
Second Source ID:	2SRC-16764	**Concentration Units (mg/L or mg/kg):**	ug/L

Analyte	Expected	Found	%D	Q
Chloroform	10	10.4	4.2	
cis-1,2-Dichloroethene	10	10.2	2.4	
Tetrachloroethene	10	10.3	3.4	
trans-1,2-Dichloroethene	10	10.6	5.5	
Trichloroethene	10	10.3	2.6	
Vinyl chloride	10	11.6	16.4	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 5A
CALIBRATION VERIFICATION - GC/MS ANALYSIS

Analytical Method: SW8260B **AAB #:** MS03_10_090327

Lab Name: Life Science Laboratories, In **Contract Number:**

Instrument ID: MS03_10 **Initial Calibration ID:** 1527

ICV ID: **CCV #1 ID:** CCV-16810 **CCV #2 ID:**

Analyte	ICV		CCV #1		CCV #2		
	RF	%D	RF	%D	RF	%D	Q
Chloroform #				3.3			
Vinyl chloride #				16.2			
1,2-Dichloroethane-d4				2.9			
4-Bromofluorobenzene				-14.8			
cis-1,2-Dichloroethene				2.2			
Tetrachloroethene				17.4			
Toluene-d8				4.1			
trans-1,2-Dichloroethene				1.3			
Trichloroethene				10.4			

* SPCCs # CCCS

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 7
BLANKS

Analytical Method:	SW8260B	**AAB #:**	R16810
Lab Name:	Life Science Laboratories, Inc.	**Contract Number:**	
Units:	µg/L	**Method Blank ID:**	MB-16810
Initial Calibration ID:	1527	**File ID:**	J8940.D

Analyte	Method Blank	RL	Q
Chloroform	0.100	0.500	U
cis-1,2-Dichloroethene	0.100	1.00	U
Tetrachloroethene	0.100	1.00	U
trans-1,2-Dichloroethene	0.100	1.00	U
Trichloroethene	0.100	1.00	U
Vinyl chloride	0.330	1.00	U

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4	108	72 - 119	
4-Bromofluorobenzene	90	76 - 119	
Toluene-d8	104	81 - 120	

Internal Std	Area Counts	Area Count Limits	Qualifier
1,4-Dichlorobenzene-d4	643873	269046 - 1076184	
Chlorobenzene-d5	806083	373660 - 1494642	
Fluorobenzene	2082187	939074 - 3756298	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 8
LABORATORY CONTROL SAMPLE

Analytical Method: SW8260B **AAB #:** R16810

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-16810 **Initial Calibration ID:** 1527

Concentration Units (mg/L or mg/kg): µg/L **File ID:** J8933.D

Analyte	Expected	Found	%R	Control Limits	Q
Chloroform	10	10.8	108	69 - 128	
cis-1,2-Dichloroethene	10	10.6	106	72 - 126	
Tetrachloroethene	10	12.1	121	66 - 128	
trans-1,2-Dichloroethene	10	10.5	105	63 - 137	
Trichloroethene	10	11.3	113	70 - 127	
Vinyl chloride	10	12.4	124	50 - 134	

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4	101	72 - 119	
4-Bromofluorobenzene	84	76 - 119	
Toluene-d8	102	81 - 120	

Internal Std	Area Counts	Area Count Limits	Qualifier
1,4-Dichlorobenzene-d4	721649	269046 - 1076184	
Chlorobenzene-d5	827071	373660 - 1494642	
Fluorobenzene	2091873	939074 - 3756298	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 10
HOLDING TIMES

Analytical Method: SW8260B **AAB #:** R16810

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Max. Holding Time E	Time Held Ext.	Date Analyzed	Max. Holding Time A	Time Held Anal.	Q
B035M0416HA	0903143-001C	24-Mar-09	25-Mar-09	27-Mar-09			27-Mar-09	14	3.2	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 11
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SW8260B **AAB#:**

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: MS03_10 **Calibration ID:** 1527

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analysis Started	Time Analysis Started	Date Analysis Completed	Time Analysis Completed
TB032409A3	TB032409A3	24-Mar-09	7:13	24-Mar-09	7:49
ICAL 0.5 PPB	ICAL 0.5 PPB	24-Mar-09	7:49	24-Mar-09	8:22
ICAL 1.0 PPB	ICAL 1.0 PPB	24-Mar-09	8:22	24-Mar-09	8:53
ICAL 2.0 PPB	ICAL 2.0 PPB	24-Mar-09	8:53	24-Mar-09	9:28
ICAL 10 PPB	ICAL 10 PPB	24-Mar-09	9:28	24-Mar-09	10:02
ICAL 20 PPB	ICAL 20 PPB	24-Mar-09	10:02	24-Mar-09	10:36
ICAL 30 PPB	ICAL 30 PPB	24-Mar-09	10:36	24-Mar-09	11:17
ICAL 40 PPB	ICAL 40 PPB	24-Mar-09	11:17	24-Mar-09	12:34
2SRC-16764	2SRC-16764	24-Mar-09	12:34	24-Mar-09	12:34
TB032709A3	TB032709A3	27-Mar-09	9:49	27-Mar-09	10:20
CCV-16810	CCV-16810	27-Mar-09	10:20	27-Mar-09	10:56
LCS-16810	LCS-16810	27-Mar-09	10:56	27-Mar-09	14:36
MB-16810	MB-16810	27-Mar-09	14:36	27-Mar-09	18:47
B035M0416HA	0903143-001C	27-Mar-09	18:47	27-Mar-09	18:47

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 12
INSTRUMENT PERFORMANCE CHECK
(BFB or DFTPP)

Analytical Method:	SW8260B	**AAB #:**	MS03_10_090324A
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	MS03_10	**Injection Date/Time:**	3/24/2009 7:13:00 AM
Initial Calibration ID:	1527	**File ID:**	C:\HPCHEM\1\DATA\J8826.D
Compound:	SW8260B	**Sample ID:**	TB032409A3

Mass	Ion Abundance Criteria	% Relative Abundance	Q
50	15 - 40% of m/z 95	18.3	
75	30 - 60% of m/z 95	47.7	
95	Base peak, 100% relative abundance	100	
96	5 - 9% of m/z 95	6.8	
173	Less than 2% of m/z 174	0.4	
174	Greater than 50% of m/z 95	65.8	
175	5 - 9% of m/z 174	7.4	
176	Greater than 95% but less than 101% of m/z 174	98.1	
177	5 - 9% of m/z 176	6.3	

AFCEE
ORGANIC ANALYSES DATA SHEET 12
INSTRUMENT PERFORMANCE CHECK
(BFB or DFTPP)

Analytical Method:	SW8260B	**AAB #:**	MS03_10_090327C
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	MS03_10	**Injection Date/Time:**	3/27/2009 9:49:00 AM
Initial Calibration ID:	1527	**File ID:**	C:\HPCHEM\1\DATA\J8931.D
Compound:	SW8260B	**Sample ID:**	TB032709A3

Mass	Ion Abundance Criteria	% Relative Abundance	Q
50	15 - 40% of m/z 95	16.1	
75	30 - 60% of m/z 95	46.5	
95	Base peak, 100% relative abundance	100	
96	5 - 9% of m/z 95	6.4	
173	Less than 2% of m/z 174	0.2	
174	Greater than 50% of m/z 95	67.6	
175	5 - 9% of m/z 174	7.2	
176	Greater than 95% but less than 101% of m/z 174	96.6	
177	5 - 9% of m/z 176	7.1	

Wet Chemistry Data

TOC Data

AFCEE
WET CHEM ANALYSES DATA SHEET 3-10
INITIAL MULTIPOINT CALIBRATION

Analytical Method:	SW9060	**AAB #:**	R16864
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	TOC-5000A	**Date of Initial Calibration:**	02-Apr-09
Initial Calibration ID:	1537	**Concentration Units (mg/L or mg/kg):**	mg/L

Analyte	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	STD 10	r	Q
Total Organic Carbon	0	1	10	20	0	0	0	0	0	0	0.999251	

r = correlation coefficient

Comments:

AFCEE
WET CHEMISTRY ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method: SW9060 **AAB #:** R16864

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID: TOC-5000A **Initial Calibration ID:** 1537

2nd Source ID: ICV **CCV #1 ID:** CCV1 **CCV #2 ID:**

Analyte	2nd Source Calibration Verification			Continuing Calibration Verification					Q
	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Total Organic Carbon	10.0	9.96	-0.4	10.0	9.98	-0.2			

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9060 **AAB #:** R16864

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: ICB **Initial Calibration ID:** 1537

Method Blank ID: MB-R16864 **Initial Calibration ID:** 1537

Analyte	Calibration Blank	Method Blank	RL	Q
Total Organic Carbon	0.24	0.35	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9060 **AAB #:** R16864

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB1 **Initial Calibration ID:** 1537

Method Blank ID: MB-R16864 **Initial Calibration ID:** 1537

Analyte	Calibration Blank	Method Blank	RL	Q
Total Organic Carbon	0.34	0.35	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SW9060 **AAB #:** R16864

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-R16864 **Initial Calibration ID:** 1537

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Total Organic Carbon	10	9.83	98	90 - 110	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: SW9060 **AAB #:** R16864

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Analyzed	Max Holding Time (days)	Time Held (days)	Q
B035M0416HA	0903143-001D	24-Mar-09	25-Mar-09	02-Apr-09	28	9.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SW9060

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: TOC-5000A

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analyses Started	Time Analyses Started	Date Analyses Completed	Time Analyses Completed
S 0	S 0	02-Apr-09	9:33	02-Apr-09	9:45
S 1	S 1	02-Apr-09	9:45	02-Apr-09	9:58
S 10	S 10	02-Apr-09	9:58	02-Apr-09	10:12
S 20	S 20	02-Apr-09	10:12	02-Apr-09	10:31
ICV	ICV	02-Apr-09	10:31	02-Apr-09	10:42
ICB	ICB	02-Apr-09	10:42	02-Apr-09	10:54
MB-R16864	MB-R16864	02-Apr-09	10:54	02-Apr-09	11:07
LCS-R16864	LCS-R16864	02-Apr-09	11:07	02-Apr-09	13:59
B035M0416HA	0903143-001D	02-Apr-09	13:59	02-Apr-09	15:32
CCV1	CCV1	02-Apr-09	15:32	02-Apr-09	15:44
CCB1	CCB1	02-Apr-09	15:44	02-Apr-09	15:44

Comments:

Total Alkalinity Data

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SM 2320 B **AAB #:** R16819

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: **Initial Calibration ID:** 0

Method Blank ID: MB-R16819 **Initial Calibration ID:** 0

Analyte	Calibration Blank	Method Blank	RL	Q
Alkalinity, as CaCO3		10	10	

Comments:

QAPP 4.0 AFCEE FORM W-5

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WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SM 2320 B
AAB #: R16819
Lab Name: Life Science Laboratories, Inc.
Contract #:
LCS ID: LCS-R16819
Initial Calibration ID: 0
Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Alkalinity, as CaCO3	50	48	96	90 - 110	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: SM 2320 B **AAB #:** R16819

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Analyzed	Max Holding Time (days)	Time Held (days)	Q
B035M0416HA	0903143-001A	24-Mar-09	25-Mar-09	30-Mar-09	14	5.4	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SM 2320 B

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: pH meter

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analyses Started	Time Analyses Started	Date Analyses Completed	Time Analyses Completed
LCS-R16819	LCS-R16819	30-Mar-09	0:00	30-Mar-09	0:00
MB-R16819	MB-R16819	30-Mar-09	0:00	30-Mar-09	0:00
B035M0416HA	0903143-001A	30-Mar-09	0:00	30-Mar-09	0:00

Comments:

Anions Data

AFCEE
WET CHEM ANALYSES DATA SHEET 3-10
INITIAL MULTIPOINT CALIBRATION

Analytical Method: SW9056
Lab Name: Life Science Laboratories, Inc.
Instrument ID: IC
Initial Calibration ID: 1528

AAB #: R16776
Contract #:
Date of Initial Calibration: 20-Mar-09
Concentration Units (mg/L or mg/kg): mg/L

Analyte	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	STD 9	STD 10	r	Q
Chloride	0	0.2	0.5	1	5	10	20	40	0	0	0.99998	
Nitrate (as N)	0	0.02	0.05	0.1	0.5	1	2	0	0	0	0.99996	
Sulfate (as SO4)	0	0.2	0.5	1	5	10	20	40	0	0	0.99998	

r = correlation coefficient

Comments:

AFCEE
WET CHEMISTRY ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method:	SW9056	**AAB #:**	R16776
Lab Name:	Life Science Laboratories, Inc.	**Contract #:**	
Instrument ID:	IC	**Initial Calibration ID:**	1528
2nd Source ID:	2S CV	**CCV #1 ID:** ICV	**CCV #2 ID:** CCV1

Analyte	2nd Source Calibration Verification			Continuing Calibration Verification					Q
	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Chloride	5.00	5.06	1.2	10.0	9.93	-0.7	10.0	0	
Nitrate (as N)	0.500	0.496	-0.7	1.00	0.994	-0.6	0.994	-0.6	
Sulfate (as SO4)	5.00	4.93	-1.3	10.0	9.90	-1.0	9.93	-0.7	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9056 **AAB #:** R16776

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: ICB **Initial Calibration ID:** 1528

Method Blank ID: MB-R16776 **Initial Calibration ID:** 1528

Analyte	Calibration Blank	Method Blank	RL	Q
Chloride	0.023	0.10	1.0	
Nitrate (as N)	0.010	0.010	0.10	
Sulfate (as SO4)	0.0043	0.10	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 5
BLANKS

Analytical Method: SW9056 **AAB #:** R16776

Lab Name: Life Science Laboratories, Inc. **Contract Number:**

Concentration Units (mg/L or mg/kg): mg/L

Calibraton Blank ID: CCB1 **Initial Calibration ID:** 1528

Method Blank ID: MB-R16776 **Initial Calibration ID:** 1528

Analyte	Calibration Blank	Method Blank	RL	Q
Chloride	0.010	0.10	1.0	
Nitrate (as N)	0.010	0.010	0.10	
Sulfate (as SO4)	0.10	0.10	1.0	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SW9056 **AAB #:** R16776

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCS-R16776 **Initial Calibration ID:** 1528

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Chloride	5	5.05	101	85 - 115	
Nitrate (as N)	0.5	0.494	99	85 - 115	
Sulfate (as SO4)	5	4.92	98	85 - 115	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SW9056 **AAB #:** R16776

Lab Name: Life Science Laboratories, Inc. **Contract #:**

LCS ID: LCSD-R16776 **Initial Calibration ID:** 1528

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Expected	Found	%R	Control Limits	Q
Chloride	5	5.07	101	85 - 115	
Nitrate (as N)	0.5	0.495	99	85 - 115	
Sulfate (as SO4)	5	4.93	99	85 - 115	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 7
MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Analytical Method: SW9056 **AAB #:** R16776

Lab Name: Life Science Laboratories, Inc. **Contract #:**

% Solids: 0 **Initial Calibration ID:** 1528

Parent Field Sample ID: B035M0416HA **MS ID:** 0903143-001BMS **MSD ID:** 0903143-001BMSD

Concentration Units (mg/L or mg/kg): mg/L

Analyte	Parent Sample Result	Spike Added	Spiked Sample Result	%R	Duplicate Spiked Sample Result	%R	%RPD	Control Limits %R	Control Limits %RPD	Q
Chloride	72.5	10.0	81.6	91	81.8	92	0	85 - 115	20	
Nitrate (as N)		1.00	1.02	102	1.02	102	0	85 - 115	20	
Sulfate (as SO4)	2.71	10.0	12.5	97	12.4	97	0	85 - 115	20	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: SW9056 **AAB #:** R16776

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Field Sample ID	Lab Sample ID	Date Collected	Date Received	Date Analyzed	Max. Holding Time (days)	Time Held (days)	Q
B035M0416HA	0903143-001B	24-Mar-09	25-Mar-09	25-Mar-09	28	0.8	
B035M0416HA	0903143-001BDUP	24-Mar-09	25-Mar-09	25-Mar-09	28	0.8	
B035M0416HA	0903143-001BMS	24-Mar-09	25-Mar-09	25-Mar-09	28	0.8	
B035M0416HA	0903143-001BMSD	24-Mar-09	25-Mar-09	25-Mar-09	28	0.9	

Comments:

AFCEE
WET CHEM ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: SW9056

Lab Name: Life Science Laboratories, Inc. **Contract #:**

Instrument ID #: IC

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Lab Sample ID	Date Analyses Started	Time Analyses Started	Date Analyses Completed	Time Analyses Completed
ICAL 0	ICAL 0	20-Mar-09	10:08	20-Mar-09	10:28
ICAL 7	ICAL 7	20-Mar-09	10:28	20-Mar-09	10:51
ICAL 6	ICAL 6	20-Mar-09	10:51	20-Mar-09	11:11
ICAL 5	ICAL 5	20-Mar-09	11:11	20-Mar-09	11:31
ICAL 4	ICAL 4	20-Mar-09	11:31	20-Mar-09	11:51
ICAL 3	ICAL 3	20-Mar-09	11:51	20-Mar-09	12:11
ICAL 2	ICAL 2	20-Mar-09	12:11	20-Mar-09	12:31
ICAL 1	ICAL 1	20-Mar-09	12:31	20-Mar-09	12:31
ICV	ICV	25-Mar-09	8:07	25-Mar-09	8:27
2S CV	2S CV	25-Mar-09	8:27	25-Mar-09	8:47
ICB	ICB	25-Mar-09	8:47	25-Mar-09	9:07
MB-R16776	MB-R16776	25-Mar-09	9:07	25-Mar-09	9:27
LCS-R16776	LCS-R16776	25-Mar-09	9:27	25-Mar-09	9:47
LCSD-R16776	LCSD-R16776	25-Mar-09	9:47	25-Mar-09	10:26
B035M0416HA	0903143-001B	25-Mar-09	10:26	25-Mar-09	10:46
B035M0416HA	0903143-001BDUP	25-Mar-09	10:46	25-Mar-09	11:06
B035M0416HA	0903143-001BMS	25-Mar-09	11:06	25-Mar-09	11:26
B035M0416HA	0903143-001BMSD	25-Mar-09	11:26	25-Mar-09	12:26
CCV1	CCV1	25-Mar-09	12:26	25-Mar-09	12:46
CCB1	CCB1	25-Mar-09	12:46	25-Mar-09	12:46

Comments: