SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS)
QUARTERLY MONITORING REPORT

520 Albany Avenue
Kingston, Ulster County, New York

April 7, 2015

DT CONSULTING SERVICES, INC.
1291 Old Post Road
Ulster Park, New York 12487
(845) 658-3484 phone/(845) 658-3320 fax
dtconsulting@hvc.rr.com

April 7, 2015

Krista Scibelli
111 Whalesback Road
Red Hook, New York 12571

RE: SUB-SLAB DEPRESSURIZATION SYSTEM
QUARTERLY MONITORING REPORT
520 Albany Avenue
Kingston, Ulster County, New York

Dear Mrs. Scibelli:

DT Consulting Services, Inc. (DTCS) is pleased to present the attached Sub-slab Depressurization System (SSDS) Quarterly Monitoring Report as generated for the above referenced site. As required, a copy of this report will be forwarded to the New York State Department of Environmental Conservation (NYSDEC) for their review and comment. The necessity for further action is at the discretion of the NYSDEC.

If you have any questions regarding the enclosed, please feel free to contact me at (845) 658-3484. DTCS thanks you for the opportunity to work with you on this project.

Sincerely,
DT CONSULTING SERVICES, INC.

Deborah J. Thompson
Senior Geologist / Project Manager

Cc: E. Moore, P.E./NYSDEC Region III

DT CONSULTING SERVICES, INC.

SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS) QUARTERLY MONITORING REPORT

Pertaining to:

520 Albany Avenue
Kingston, Ulster County, New York

Prepared for:

Krista Scibelli
111 Whalesback Road
Red Hook, New York 12571

Prepared by:

Ms. Deborah J. Thompson
Senior Geologist/Project Manager
DT CONSULTING SERVICES, INC.
1291 Old Post Road
Ulster Park, New York 12487

Date: April 7, 2015

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1.0 INTRODUCTION/SITE INFORMATION

DT Consulting Services, Inc. (DTCS) was initially contracted by Krista Scibelli, property owner of 520 Albany Avenue, Kingston, Ulster County, New York (heretofore referenced as the Site or subject property) to perform investigative-remedial actions on-Site to quantify subsurface conditions and remediate previously detected soil contamination, respectively. Historically, the subject property was utilized as a dry cleaning establishment from the late 1950s – 1980s. The Site was renovated in 2004, having been completely updated as a used car service and sales outlet. According to facility representatives, no known underground storage tanks have ever been employed on-Site. A Site location map and a Site (base) plan (Figures 1 and 2, respectively) are included for your reference.

The approximate 0.66-acre property was improved with a single-story masonry construction office/retail building with approximately 2,579 square feet of space with paved parking areas. Up until its recent closure (November 1, 2013), the property was utilized by Eastchester Auto for retail automobile sales and service. Between April and August 2014 the property was sold, site improvements/additions conducted, and is currently operating as Artcraft Camera & Digital and Fast Signs. Artcraft Camera & Digital and Fast Signs provide printing/photography services along with sign and graphic products.

The site is bounded by Albany Avenue and Quick Check Gasoline/Convenience Store the north-northwest, single family residences directly to the south, Wrentham Street and L. T. Begnal Motor Company to the east, while Tri-Star Auto Sales, Inc. - Auto Tech is present to the west. Town roadways adjoining the site include Albany Avenue to the north-northwest and Wrentham Street to the east. Site topography is generally level and at grade with Albany Avenue. Potable water and wastewater disposal are reportedly provided by the local municipality.

2.0 SITE BACKGROUND/SSDS INSTALLATION

On February 4, 2013, DTCS was on-Site to perform a subsurface investigation. While performing the field survey, soil contamination was encountered as displayed by stained soils, a petroleum film and positive field readings with a Photoionization Detector or PID. This material was documented along the southwest corner of the site structure, directly down gradient of several 55-gallon drums utilized by the historical tenant, Eastchester Auto, to store waste oil. On account of the contamination encountered, DTCS notified the New York State Department of Environmental Conservation (NYSDEC) and Spill Number 12-15279 was generated for the site. Upon review of field data with the NYSDEC, the Department requested remediation of the petroleum contaminated soils documented during the February 2013 survey. Subsequent remediation (April 22, 2013) of the source materials has been performed to remedy the impacts to soil and groundwater quality. The removal and ultimate off-site disposal of 34.82 tons of contaminated soils and 1,241 gallons of captured groundwater appears to have remediated this Site impact. The Department concurred, and officially closed the spill number on September 4, 2013.

While conducting further investigation on the subject parcel in June 2013, it became apparent that historical dry cleaning operations have had an impact to the subsurface environment. To further delineate and quantify the compounds of concern, additional borings were advanced for the purpose of defining the chlorinated solvent plume within subsurface materials including soil, soil gas and groundwater beneath the site. Based upon the results of this investigation, DTCS proposed and received approval from the Department for the installation of a Sub Slab Depressurization System or SSDS within the open garage space of the above referenced site (DTCS, SSDS Pilot Study and Design Report, December 17, 2013). Designed to create a negative pressure field directly beneath the site structure, two extraction points were installed below the concrete floor slab on January 7 & 8, 2014 (see Figure 2 for locations). These extraction points were

created by cutting through the concrete slab and excavating a six inch diameter hole, two feet deep. A two-inch diameter ten slot screen, eighteen inches long, connected to an appropriate length of solid riser pipe was then installed in the excavation. To provide the suction necessary to maintain the required vacuum under the floor slab, the two extraction points were interconnected to a single, sub-slab two-inch pipe traversing down the center of the garage. Vapor discharge piping was then attached to the suction side of a Rotron DR454M Regenerative Blower which was mounted to the outside of the building on the back wall. The exhaust stack for the sub-slab system was attached to the wall and extended to a height above the roof line of the building. Sampling ports and a fresh air bleed valve were also installed to facilitate the collection of air quality samples, routine monitoring of the system and to allow the introduction of diluted air into the system (as necessary). Note that all sub-slab excavations (extraction piping and discharge trench) were backfilled with ¼" washed stone and at completion, disturbed cement flooring was restored to create a tight seal. To finalize the SSDS installation, an alarm light was installed within the garage area of the site structure for a quick visual determination as to whether the system is operating. DTCS initiated the Sub-Slab Depressurization Remedial System on January 23, 2014.

3.0 SSDS OPERATION

As part of Site monitoring procedures, DTCS records vacuum measurements, PID readings, and performs analysis of indoor ambient and SSDS soil vapor discharge. Collected system information is as follows:

Date	Vacuum - Blower Discharge (cfm)	Vapor Concentrations (ppm)
January 23, 2014	110	115
March 7, 2014	121	1.2
April 25, 2014	115	65
August 8, 2014	112	12
November 22, 2014	111	1.4
March 13, 2015	112	1.2

During SSDS operation, the soil gas concentrations typically start at a maximum concentration and decrease asymptotically to steady state conditions. On account of the initial tetrachloroethylene or PERC soil gas concentration reported from the system effluent (20,000 µg/m³ on January 23, 2014); the fresh air bleed valve was opened 25% to allow the introduction of diluted air into the system prior to discharge to the atmosphere. All system components were running within acceptable thresholds during this reporting period.

4.0 AIR QUALITY SAMPLING

Upon initiation of the SSDS on January 23, 2014, collection and analysis of the effluent vapor was performed by DTCS. In addition to effluent sampling, indoor air within the building (office and garage areas) was sampled 24 hours after the initial startup of the system or on January 24, 2014 and monthly thereafter (March and April 2014). At the conclusion of three monthly monitoring events (January, March and April 2014), the NYSDEC has approved a quarterly sampling frequency. Since August 2014, the Site has undergone extensive renovations and is presently being operated by Artcraft Camera & Digital/Fast Signs. Sampling performed during the previous monitoring period (i.e., November 2014) was taken prior to normal business hours. While performing field activities and encountered during subsequent laboratory analysis, DTCS documented that copying and graphic services conducted at the facility utilize solvent based

machinery which resulted in the detection of numerous compounds not previously reported within indoor ambient air samples collected. Based upon these observations, DTCS contacted the NYSDEC to request a change in sampling frequency which included quarterly vapor SSDS sampling with indoor air sampling to be conducted on an annual basis. The Department approved the request via electronic mail in December 2014.

All vapor sampling performed during this monitoring period was collected employing a six liter SUMMA canister equipped with a laboratory-calibrated flow control device to facilitate the collection of the samples for a 2-hour sample duration time. During both purging and sampling, the flow rate was restricted to less than (<) 0.2 liters per minute and connected directly to the dedicated tubing. Samples collected in Summa canisters were certified clean by the laboratory and analyzed by using USEPA Method TO-15. A sample log sheet was maintained summarizing sample identification, date and time of sample collection, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of the soil vapor extracted, vacuum of canisters before and after the samples are collected, and chain of custody protocols. Samples submitted for laboratory analyses were denoted as follows:

Sample No. 001 = SSDS Effluent

The complete laboratory package may be found in Attachment A for your review.

4.1 Findings

The results of vapor sampling indicate that eighteen volatile organic compounds or VOCs are present within the SSDS effluent air stream collected on-site during this monitoring period. A summary table of data for all chemical analytical work is included in Table 1. Based upon the comparison of reported sample concentrations verses the USEPA OSWER Draft Guidance for Evaluating the

Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) November 2002 and the NYS Department of Health (DOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006; none of the reported compounds exceeded regulatory guidelines with the exception of Tetrachloroethylene or PERC, cis-1,3-Dichloropropylene and Trichloroethylene within the SSDS effluent.

The VOC of concern, namely Tetrachloroethylene was reported at a concentration of 270 µg/m³ within the SSDS effluent air stream which has decreased significantly from a high of 20,000 µg/m³ as recorded during the January 2014 monitoring event. The SSDS has been efficient at mitigating the intrusion of potential vapors as the PERC concentrations recorded in the effluent air have decreased over time (see Figure 3 for comparison graph).

PERC and to a lesser extent trichloroethylene or TCE, are the main contaminants of concern. The estimated PERC removal rate was determined by multiplying a conversion factor, the measured VOC concentration, the flow rate, and the molecular weight (see equation). The actual removal rate is quantified by using the following equation:

$$R_{act} = MWQC_{act}$$

Where:

R_{act}	=	actual rate of removal (lb/hr),
MW	=	contaminant molecular weight (lb/lb-mole),
Q	=	vapor flow rate (ft^3/min),
$1.581x\ 10^{-7}$	=	conversion factor (lb-mole-min./ft^3-ppmv-hr)C_{act}
	=	measured vapor concentration (ppmv).

Vapor Contaminant	**Total Mass Removed To Date (pounds)**
VOCs by USEPA TO-15	
Tetrachloroethylene	6.41

5.0 OPERATION, MAINTENANCE AND MONITORING

Historical evaluation of vapor data suggested that the SSDS effluent could potentially exceed the maximum permitted level for VOCs. As such; the fresh air bleed was utilized to dilute the airstream until the initial purge of the system is complete and discharge levels are within acceptable regulatory limitations.

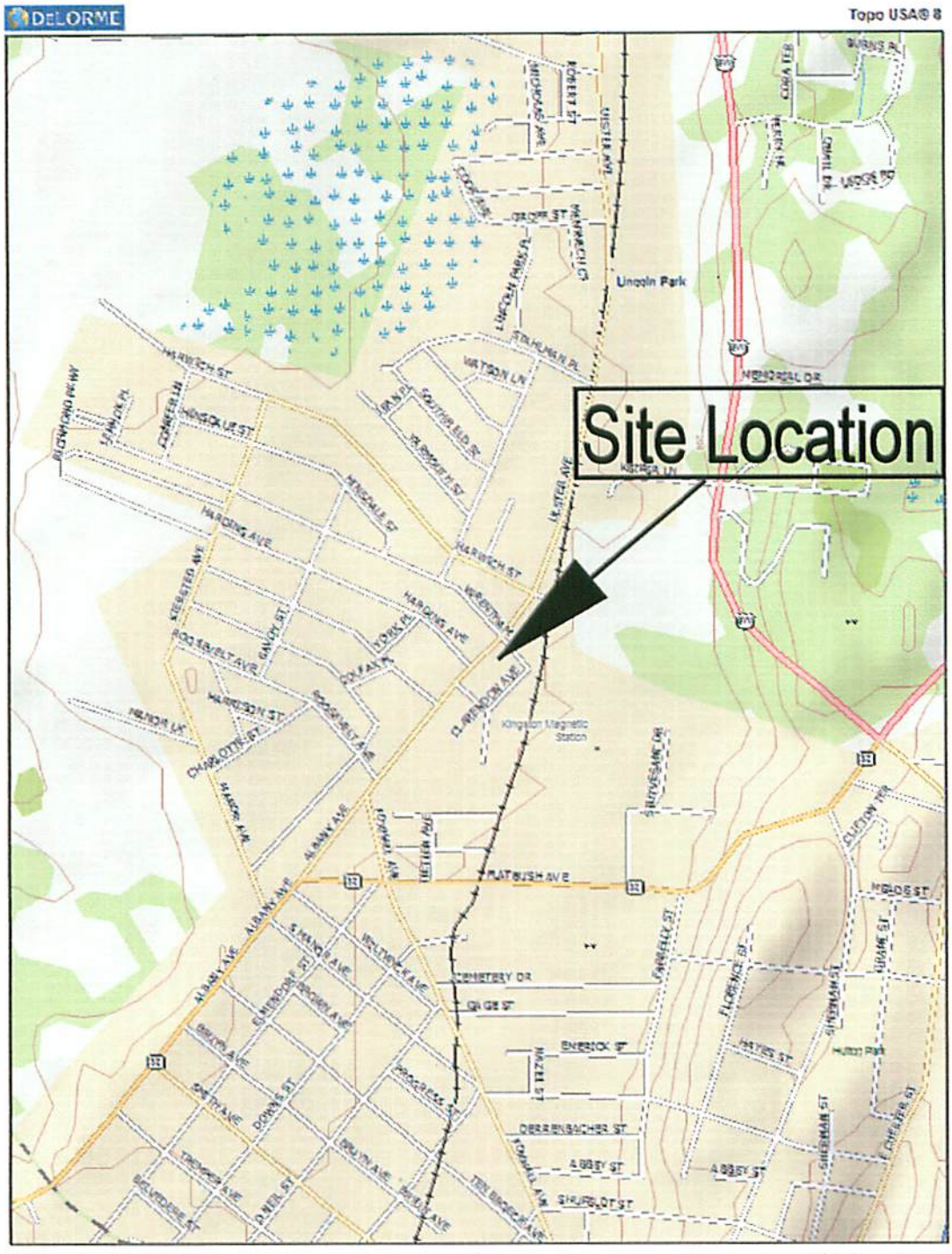
As previously discussed, the recommended monitoring locations, frequency and analytical parameters are as follows (as approved by the NYSDEC):

- Continuing quarterly monitoring of the SSDS effluent air stream to determine when dilution and/or treatment of extracted vapor are no longer necessary and to support adjustments to the SSDS extraction rate based upon contaminant concentrations. Indoor air quality has been approved to be conducted on an annual basis. Monitoring would include sampling for VOCs using SUMMA type air canisters, as well as recording of PID readings and vacuum measurements of the system. Samples collected in Summa canisters will be certified clean by the laboratory and analyzed by using USEPA Method TO-15. At the completion of sampling and laboratory testing, a quarterly monitoring report will be submitted for review and approval.

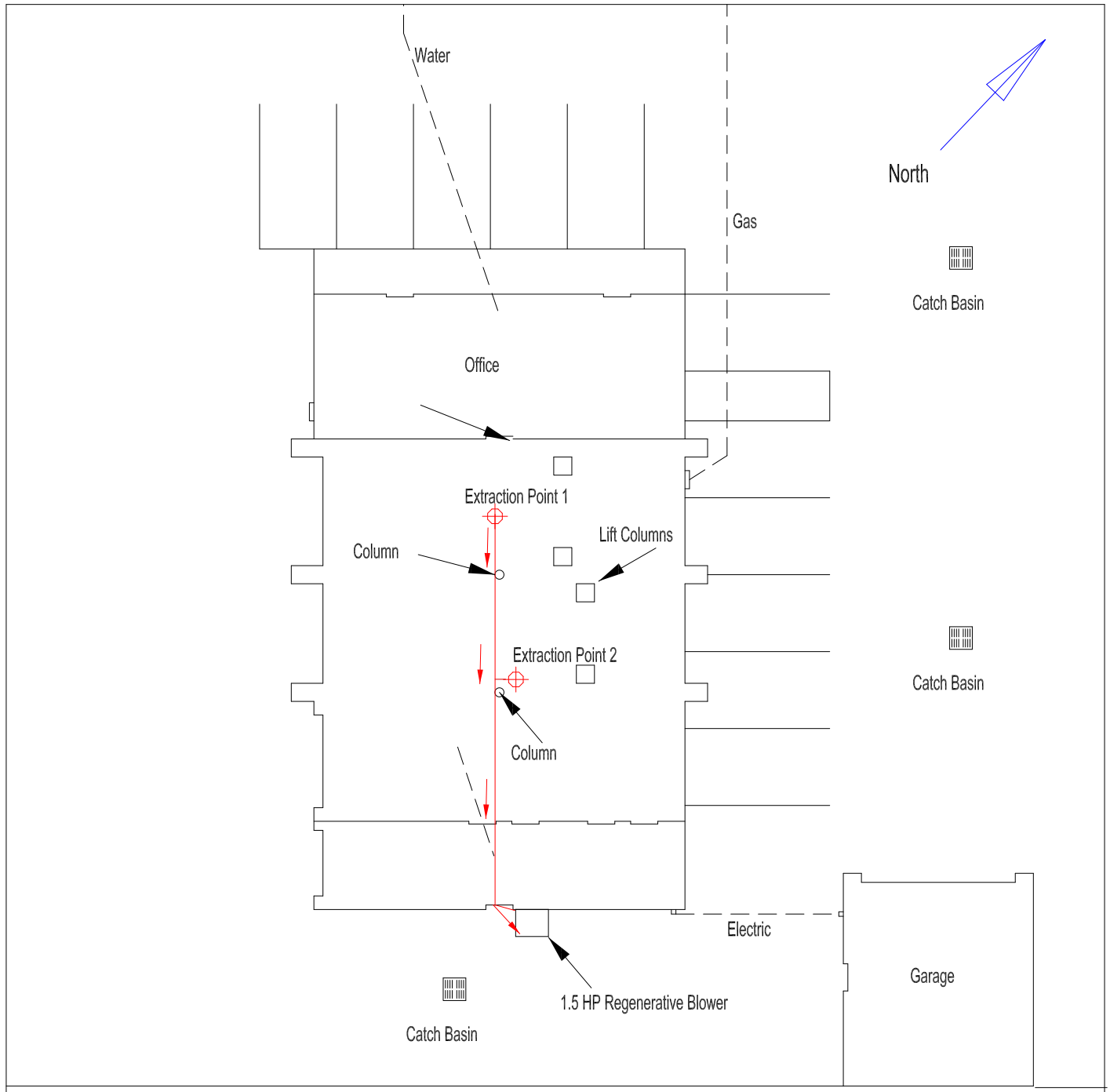
6.0 LIMITATIONS

DTCS has prepared this assessment using reasonable efforts in each phase of its work to determine the extent of contamination within the locations of potential environmental concern. This report is not definitive, and should not be assumed to be a complete or specific definition of all conditions above or below grade. The conclusions/recommendations set forth herein are applicable only to the facts and conditions described at the time of this report.

FIGURES



DT Consulting Services, Inc. 1291 Old Post Road Ulster Park, New York 12487 (845) 658-3484	Client: Krista Scibelli		
	Location: 520 Albany Avenue, Kingston, New York		
	Title: Site Location Map		Spill No: N/A
	Scale: Graphic	Drawn By: O.T.	Fig.#: 1



Key

— — Underground Utilities

—— 2" Schedule 40 SSDS Piping

0' 15' 30'

DT Consulting Services, Inc.
1291 Old Post Road
Ulster Park, New York 12487
(845) 658-3484

Client:	Krista Scibelli		
Location:	520 Albany Avenue, Kingston, New York		
Title:	Site (base) Map - SSDS Installation		Spill No: N/A
Scale: Graphic		Drawn By: O.T.	Fig.#: 2

FIGURE 3
Historical PERC Comparison Graph
520 Albany Avenue, Kingston, New York

TABLES

TABLE 1:

SUMMARY OF TO-15 VOLATILES IN AIR SAMPLES

Site: Krista Scibelli
Address: 520 Albany Avenue, Kingston, New York
NYSDEC Spill Number N/A

Client: Krista Scibelli
Address: 111 Whalesback Road
Red Hook, New York 12571

Contractor: DT Consulting Services, Inc.
Laboratory: York Analytical Laboratories, Inc.
Stratford, CT 06615

Sample ID: **Location:** **Depth (ft.):** **Date:** **Lab Sample ID:** **Units:**	**NYSDOH** **Air Guideline Values** µg/m³	**USEPA TARGET SHALLOW GAS CONCENTRATIONS([1])**			**SSDS Effluent** Discharge 3/13/2015 15C0430 µg/m³
Analysis: EPA Method TO-15 Volatiles in Air					
1,1,1-Trichloroethane	NS	22000			ND
1,1,2,2-Tetrachloroethane	NS	42			ND
1,1,2-Trichloro-1,2,2-trifluoroethane	NS	NS			ND
1,1,2-Trichloroethane	NS	150			ND
1,1-Dichloroethane	NS	5000			ND
1,1-Dichloroethylene	NS	NS			ND
1,2,4-Trichlorobenzene	NS	2000			ND
1,2,4-Trimethylbenzene	NS	60			1.2
1,2-Dibromoethane	NS	2			ND
1,2-Dichlorobenzene	NS	2000			ND
1,2-Dichloroethane	NS	94			ND
1,2-Dichloropropane	NS	40			ND
1,2-Dichlorotetrafluoroethane	NS	NS			ND
1,3,5-Trimethylbenzene	NS	60			ND
1,3-Butadiene	NS	8.7			ND
1,3-Dichlorobenzene	NS	1100			ND
1,4-Dichlorobenzene	NS	8000			ND
1,4-Dioxane	NS	NS			ND
2-Butanone	NS	10000			2.5
2-Hexanone	NS	NS			ND
4-Methyl-2-pentanone	NS	800			ND
Acetone	NS	3500			23
Benzene	NS	310			0.81
Benzyl chloride	NS	50			ND
Bromodichloromethane	NS	140			ND
Bromoform	NS	2200			ND
Bromomethane	NS	NS			ND
Carbon Disulfide	NS	7000			ND
Carbon Tetrachloride	NS	160			ND
Chlorobenzene	NS	600			ND
Chloroethane	NS	10000			ND
Chloroform	NS	110			ND
Chloromethane	NS	NS			1.7
cis-1,2-Dichloroethylene	NS	350			15
cis-1,3-Dichloropropylene	NS	200			**290**
Cyclohexane	NS	NS			1.2
Dibromochloromethane	NS	100			ND
Dichlorodifluoromethane	NS	2000			2.6
Ethyl acetate	NS	32000			ND
Ethyl Benzene	NS	2200			ND
Hexachlorobutadiene	NS	110			ND
Isopropanol	NS	NS			41
MTBE	NS	30000			ND
Methylene chloride	60	5200			1.4
n-Heptane	NS	NS			ND
n-Hexane	NS	2000			0.65
o-Xylene	NS	70000			0.88
p-&m- Xylenes	NS	70000			2.3
p-Ethyltoluene	NS	NS			0.91
Propylene	NS	NS			ND
Styrene	NS	NS			ND
Tetrachloroethylene	100	810			**270**
Tetrahydrofuran	NS	NS			ND
Toluene	NS	4000			2.3
trans-1,2-Dichloroethylene	NS	700			ND
trans-1,3-Dichloropropylene	NS	200			ND
Trichloroethylene	5	220			**6.9**
Trichlorofluoromethane	NS	7000			1.4
Vinyl acetate	NS	200			ND
Vinyl Chloride	NS	280			ND

Notes:
1. Those analytes which exeeded NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006 are presented in bold type as such: **100**.
2. USEPA OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) November 2002: Table 2A Target Shallow Soil Gas Concentration - Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.1.
3. ND = Non-detect.
4. NS = No Standard.

ATTACHMENTS

DT CONSULTING SERVICES, INC.

ATTACHMENT A

Technical Report

prepared for:

DT Consulting Services
1291 Old Post Road
Ulster Park NY, 12487
Attention: Deborah Thompson

Report Date: 03/23/2015
Client Project ID: 520 Albany Ave Kingston, NY
York Project (SDG) No.: 15C0430

Report Date: 03/23/2015
Client Project ID: 520 Albany Ave Kingston, NY
York Project (SDG) No.: 15C0430

DT Consulting Services
1291 Old Post Road
Ulster Park NY, 12487
Attention: Deborah Thompson

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on March 16, 2015 and listed below. The project was identified as your project: **520 Albany Ave Kingston, NY**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
15C0430-01	SS0S Effluent	Vapor Extraction	03/13/2015	03/16/2015

General Notes for York Project (SDG) No.: 15C0430

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: 

Date: 03/23/2015

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: SS0S Effluent

York Sample ID: 15C0430-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15C0430	520 Albany Ave Kingston, NY	Vapor Extraction	March 13, 2015 3:00 pm	03/16/2015

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ug/m³	0.58	1.2	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
71-55-6	1,1,1-Trichloroethane	ND		ug/m³	0.92	0.92	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/m³	1.2	1.2	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/m³	1.3	1.3	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
79-00-5	1,1,2-Trichloroethane	ND		ug/m³	0.92	0.92	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
75-34-3	1,1-Dichloroethane	ND		ug/m³	0.68	0.68	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
75-35-4	1,1-Dichloroethylene	ND		ug/m³	0.67	0.67	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
120-82-1	1,2,4-Trichlorobenzene	ND		ug/m³	1.2	1.2	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
95-63-6	**1,2,4-Trimethylbenzene**	**1.2**		ug/m³	0.83	0.83	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
106-93-4	1,2-Dibromoethane	ND		ug/m³	1.3	1.3	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
95-50-1	1,2-Dichlorobenzene	ND		ug/m³	1.0	1.0	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
107-06-2	1,2-Dichloroethane	ND		ug/m³	0.68	0.68	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
78-87-5	1,2-Dichloropropane	ND		ug/m³	0.78	0.78	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ug/m³	1.2	1.2	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
108-67-8	1,3,5-Trimethylbenzene	ND		ug/m³	0.83	0.83	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
106-99-0	1,3-Butadiene	ND		ug/m³	0.73	0.73	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
541-73-1	1,3-Dichlorobenzene	ND		ug/m³	1.0	1.0	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
142-28-9	* 1,3-Dichloropropane	ND		ug/m³	0.78	0.78	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
106-46-7	1,4-Dichlorobenzene	ND		ug/m³	1.0	1.0	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
123-91-1	1,4-Dioxane	ND		ug/m³	0.61	0.61	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
78-93-3	**2-Butanone**	**2.5**		ug/m³	0.50	0.50	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
591-78-6	* 2-Hexanone	ND		ug/m³	1.4	1.4	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
107-05-1	* 3-Chloropropene	ND		ug/m³	0.53	0.53	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
108-10-1	4-Methyl-2-pentanone	ND		ug/m³	0.69	0.69	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
67-64-1	**Acetone**	**23**		ug/m³	0.40	0.40	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
107-13-1	* Acrylonitrile	ND		ug/m³	0.36	0.36	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
71-43-2	**Benzene**	**0.81**		ug/m³	0.54	0.54	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
100-44-7	Benzyl chloride	ND		ug/m³	0.87	0.87	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
75-27-4	Bromodichloromethane	ND		ug/m³	1.0	1.0	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
75-25-2	Bromoform	ND		ug/m³	1.7	1.7	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
74-83-9	Bromomethane	ND		ug/m³	0.65	0.65	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
75-15-0	Carbon disulfide	ND		ug/m³	0.52	0.52	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
56-23-5	Carbon tetrachloride	ND		ug/m³	0.26	0.26	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
108-90-7	Chlorobenzene	ND		ug/m³	0.77	0.77	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
75-00-3	Chloroethane	ND		ug/m³	0.44	0.44	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
67-66-3	Chloroform	ND		ug/m³	0.82	0.82	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
74-87-3	**Chloromethane**	**1.7**		ug/m³	0.35	0.35	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD

Sample Information

Client Sample ID: **SS0S Effluent** **York Sample ID:** **15C0430-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
15C0430	520 Albany Ave Kingston, NY	Vapor Extraction	March 13, 2015 3:00 pm	03/16/2015

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
156-59-2	**cis-1,2-Dichloroethylene**	**15**		ug/m³	0.67	0.67	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/m³	0.76	0.76	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
110-82-7	**Cyclohexane**	**1.2**		ug/m³	0.58	0.58	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
124-48-1	Dibromochloromethane	ND		ug/m³	1.3	1.3	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
75-71-8	**Dichlorodifluoromethane**	**2.6**		ug/m³	0.83	0.83	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
141-78-6	* Ethyl acetate	ND		ug/m³	1.2	1.2	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
100-41-4	Ethyl Benzene	ND		ug/m³	0.73	0.73	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
87-68-3	Hexachlorobutadiene	ND		ug/m³	1.8	1.8	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
67-63-0	**Isopropanol**	**41**		ug/m³	0.83	0.83	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
80-62-6	Methyl Methacrylate	ND		ug/m³	0.69	0.69	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/m³	0.60	0.60	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
75-09-2	**Methylene chloride**	**1.4**		ug/m³	1.2	1.2	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
142-82-5	n-Heptane	ND		ug/m³	0.69	0.69	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
110-54-3	**n-Hexane**	**0.65**		ug/m³	0.59	0.59	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
95-47-6	**o-Xylene**	**0.88**		ug/m³	0.73	0.73	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
179601-23-1	**p- & m- Xylenes**	**2.3**		ug/m³	1.5	1.5	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
622-96-8	*** p-Ethyltoluene**	**0.91**		ug/m³	0.83	0.83	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
115-07-1	* Propylene	ND		ug/m³	0.29	0.29	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
100-42-5	Styrene	ND		ug/m³	0.72	0.72	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
127-18-4	**Tetrachloroethylene**	**270**		ug/m³	0.28	0.28	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
109-99-9	* Tetrahydrofuran	ND		ug/m³	0.50	0.50	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
108-88-3	**Toluene**	**2.3**		ug/m³	0.63	0.63	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
156-60-5	trans-1,2-Dichloroethylene	ND		ug/m³	0.67	0.67	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/m³	0.76	0.76	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
79-01-6	**Trichloroethylene**	**6.9**		ug/m³	0.23	0.23	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
75-69-4	**Trichlorofluoromethane (Freon 11)**	**1.4**		ug/m³	0.94	0.94	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
108-05-4	Vinyl acetate	ND		ug/m³	0.59	0.59	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
593-60-2	Vinyl bromide	ND		ug/m³	0.73	0.73	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD
75-01-4	Vinyl Chloride	ND		ug/m³	0.11	0.11	1.68	EPA TO-15	03/21/2015 08:56	03/21/2015 12:36	ALD

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: p-Bromofluorobenzene*	*96.3 %*	*72-118*

Notes and Definitions

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

YORK
ANALYTICAL LABORATORIES INC

Field Chain-of-Custody Record - AIR

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions unless superseded by written contract.

York Project No. 15C0430

YOUR Information	Report To:	Invoice To:	YOUR Project ID	Turn-Around Time	Report Type/Deliverables
Company: DT Consulting Services Inc	Company: Same	Company: Same	520 Albany Ave Kingston, NY	RUSH - Same Day ☐	Summary Report ✓
Address:	Address:	Address:		RUSH - Next Day ☐	Summary w/ QA Summary ___
			Purchase Order No.	RUSH - Two Day ☐	CT RCP Package ___
Phone No.	Phone No.	Phone No.		RUSH - Three Day ☐	NY ASP A Package ___
Contact Person: Deborah Thompson	Attention:	Attention:		RUSH - Four Day ☐	NY ASP B/CLP Pkg ___
E-Mail Address:	E-Mail Address:	E-Mail Address:	Samples from: CT___ NY ✓ NJ___	Standard(5-7 Days) ☑	NJDEP Reduced ___
					Electronic Deliverables: EDD (Specify Type) ___
					Standard Excel ___
					Regulatory Comparison Excel ___

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Deborah Thompson
Samples Collected/Authorized By (Signature)

Deborah Thompson
Name (printed)

Air Matrix Codes
- AI - INDOOR Ambient Air
- AO- OUTDOOR Amb. Air
- AE- Vapor Extraction Well/ Process Gas/Effluent
- AS- SOIL Vapor/Sub-Slab

Additional Notes:

Detection Limits Required
- ≤ 1 ug/m³ ___
- NYSDEC VI Limits ✓ (VI =vapor instrusion)
- NJDEP low level ___
- Routine Survey ___
- Other___

Special Instructions

Please enter the following Field Data

Sample Identification	Date Sampled	AIR Matrix	Canister Vacuum Before Sampling (in. Hg)	Canister Vacuum After Sampling (in. Hg)	Canister ID	Flow Cont.ID	ANALYSES REQUESTED	Sampling Media
SSOS Effluent	3/13/15	AE	30	Ø	510	F4	TO-15	6 Liter canister ✓ Tedlar Bag___
								6 Liter canister___ Tedlar Bag___
								6 Liter canister___ Tedlar Bag___
								6 Liter canister___ Tedlar Bag___
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								6 Liter canister___ Tedlar Bag___
								6 Liter canister___ Tedlar Bag___

Comments

Samples Relinquished By	Date/Time	Samples Received By	Date/Time
Deborah Thompson	3/16/15	[signature] 3-16-15	12:30
Samples Relinquished By	Date/Time	Samples Received in LAB by	Date/Time
		[signature]	3/16/15 1530