Robert Mancini
Project Manager, Refining Business Unit
Chevron Environmental Management Company
1200 State Street
Perth Amboy, NJ 08861
Tel: (732) 738-2023
Fax: (732) 738-2039
RMancini@Chevron.com

October 17, 2016

Ms. Kimberly O'Connell
Section Chief, Southern New Jersey Remediation Section
USEPA Region 2
290 Broadway, 22nd Floor
New York, New York 10007

Re: Justification for Transition to Monitored Natural Attenuation (MNA)/No Further Action (NFA) for Benzene Impacts at Solid Waste Management Unit (SWMU) 19
Former Chevron Perth Amboy Facility
Perth Amboy, New Jersey
SRP PI # 003621

Dear Ms. O'Connell:

INTRODUCTION

Solid Waste Management Unit (SWMU) 19 is located in the central portion of the Main Yard at the former Chevron Perth Amboy Facility, located at 1200 State Street, Perth Amboy, New Jersey (Facility) (**Figure 1**). The purpose of this letter is to summarize the investigations that have been completed at SWMU 19 and to provide justification that no further action/monitored natural attenuation is required for benzene-impacted soil and groundwater at SWMU 19. The area to the north of SMWU 19, with benzene impacts in soil and groundwater, will be further investigated as part of SWMU 35 (**Figure 2**).

SWMU 19 was originally identified as a tetra-ethyl lead (TEL) sludge burial area. It is bounded by Tank Basin 328 and Potential Area of Concern (PAOC) 10 to the west and northwest; PAOC 6 to the north; Tank Basin 326 to the east; and Barber Street to the west and south. PAOC 6 is known to have previously contained a gasoline blender. PAOCs 6 and 10 were evaluated during the PAOC investigation. It was concluded that no further investigation for benzene was required in soil or groundwater in PAOC 6. The conclusion for PAOC 10 indicated that no further investigation for benzene was required in soil, and further investigation for benzene in groundwater should be completed under the corrective measures implementation (CMI). However, all benzene results were below the CMI action level of 100 micrograms per liter (µg/L) as discussed in the *Groundwater Results* section below.

In addition, the corrective measures study (CMS) report recommended the ISCO CM to address an approximately 400-square-foot area that is in close proximity to SWMU 19/SWMU 35/MY-16 (near soil boring S2131). The 2008 Supplemental RCRA Facility Investigation (SRFI) indicated that S2131 was installed to delineate contamination associated with the feeder ditch, located in the southwest corner of the No. 4 separator footprint. The feeder ditch was originally associated with AOI NF3A. During the SRFI, AOC 6a was investigated as part of AOI NF3A and NJDEP agreed with the Chevron recommendation that AOC 6a be combined with SWMU 35 (Chevron 2008a). This area to the north of SWMU 19, near S2131, was included as part of the SWMU 19 evaluation based on its proximity to SWMU 19 (**Figure 2**).

On July 19, 2013, the United States Environmental Protection Agency (USEPA) issued a Final HSWA permit (USEPA 2013), which identified the following corrective measures for SWMU 19:

1. ISCO for benzene-impacted soil greater than 13 milligrams per kilogram (mg/kg), supplemented by enhanced bioremediation, if necessary;
2. Excavation, ex-situ stabilization (ESS) and disposal in the Corrective Action Management Unit (CAMU) for benzo(a)pyrene greater than 10 mg/kg and TEL greater than 2 mg/kg in soil;
3. Containment consisting of construction of a cap and filing a deed notice afterwards for arsenic concentrations greater than 20 mg/kg in surface soil; and
4. Monitored natural attenuation (MNA) and filing of a Classification Exception Area (CEA) for groundwater.

This report addresses only the benzene impacts in SWMU 19. A Pre-Design Investigation (PDI) was conducted in SWMU 19 to address data gaps related to benzene impacts. The associated field activities were completed between 2012 and 2014. The following discussion presents a summary of the environmental setting, the historical investigation results, the findings and conclusions of the PDI, and justification that no further action/monitored natural attenuation is warranted for SWMU 19.

ENVIRONMENTAL SETTING

Topography

SWMU 19 is located in the area between Tank Basin 326 and Tank Basin 328. This area is generally flat, with ground surface elevations ranging from 6 to 8 feet (NGVD). The ground surface elevation drops by approximately 2 feet between SWMU 19 and Tank Basin 326. The surface elevation drops along the southern boundary of SWMU 19 (**Figure 3**).

Geology

The stratigraphic sequence (listed in order from shallow to deep) is based on the soil borings completed in the SWMU 19 area is as follows:

- Fill material extends from surface to a maximum depth of 18 feet below ground surface (bgs)
- Clay Horizon A (i.e., fibrous peat) lies beneath the fill material and is approximately 4 to 5 feet thick

- Till (i.e., brown-red brown silts and clays) lies beneath the Clay Horizon A

The fill consists of sand, silt, clay, gravel, and catalyst beads. Elevated photoionization detector (PID) readings, staining, odor, and light non-aqueous phase liquid (LNAPL) have been observed within the fill material in SWMU 19 borings (LNAPL was observed only in the PDI borings located to the north of SWMU 19 that will be further investigated as part of SWMU 35).

Hydrogeology

One shallow monitoring well (P-1) is located hydraulically cross gradient of the SWMU 19 area. Based on the groundwater gauging data, groundwater was observed at P-1 with elevations ranging from 3.0 to 7.0 feet (NGVD) based on measurements between March 2013 and December 2014. Based on a sitewide groundwater contour map, groundwater within SWMU 19 flows eastward towards Woodbridge Creek.

SUMMARY OF HISTORICAL INVESTIGATIONS

Previous investigations conducted at SWMU 19 included the 1st Phase RCRA Facility Investigation (Chevron 1997) and the Full RFI (Chevron 2003). The findings and conclusions of these investigations were previously reported to the USEPA and the New Jersey Department of Environmental Protection (NJDEP). As a result, only a summary is included below.

All soil samples collected from SWMU 19 area during the historical investigations indicated benzene concentrations below the CMI action level of 13 mg/kg, except for S2131 (**Table 1** and **Figure 4**).

Benzene exceeded the CMI action level in S2131 (15 mg/kg) at 13.5 to 14.0 feet bgs (**Table 2** and **Figure 4**). This soil boring is located more than 150 feet north of SWMU 19. A soil sample was collected from soil boring S2444 (18.5 to 19.0 feet bgs), that was collocated with S2131, with benzene concentrations below the CMI action level (0.090U[1] mg/kg) (**Table 2** and **Figure 4**).

The analytical data for benzene in groundwater collected from temporary monitoring points within SWMU 19 and monitoring well P-1, located north of SWMU 19, indicated that benzene was below the CMI action level of 100 µg/L; however, the results were above the groundwater delineation criteria and therefore warranted further investigation (**Tables 3** and **4** and **Figure 5**).

SUMMARY OF PRE-DESIGN INVESTIGATIONS

Objectives

Based on the review of historical documents and available information, data gaps were identified and a PDI Work Plan was developed with the following objectives:

- Review historical data collected for benzene in soil and groundwater;
- Confirm and delineate benzene impacted soils in the area north of SWMU 19; and

[1] U – laboratory qualifier indicating compound not detected at the reporting level indicated

- Confirm and delineate benzene impacted groundwater in the area north of SWMU 19.

Scope of Work

The PDI was conducted between 2012 and 2014 to meet the noted objectives. Additional locations were proposed for the vertical and horizontal delineation of benzene impacts in the deep groundwater within the area located north of SWMU 19. The scope of work included evaluation of historical data, installation of soil borings, and installation of temporary well points and monitoring wells. The soil and groundwater samples were collected in accordance with the Field Sampling Procedures Manual (NJDEP 2005) and the CMI Field Sampling and Analysis Plan/Quality Assurance Project Plan (FSAP-QAPP) (Chevron 2015).

One soil boring (S3156) was collocated with historical soil borings S2131 and S2444 to confirm the historical benzene exceedances. Four soil samples were collected at various depths from S3156. These included samples from 2.5 to 3.0 feet bgs (from the vadose zone), from 7.0 to 7.5 feet bgs (from the saturated zone), from 9.0 to 9.5 feet bgs, and from 13.5 to 14.0 feet bgs. Based on the results for these samples, benzene impacts in soil were confirmed, and additional soil borings were completed for horizontal and vertical delineation by stepping outwards from soil boring S3156. Samples were collected from these additional soil borings at various depths in fill, Clay Horizon A, and below the Clay Horizon A within the glacial till to vertically delineate benzene impacts (**Table 2** and **Figure 4**).

One temporary well (H1315) with dual screens (shallow and intermediate) was installed to delineate benzene impacts vertically in the area to the north of SMWU 19. H1315 was collocated with historical soil boring location S2131/S2444 where benzene impacts in soil exceeding CMS criterion were observed. The shallow screen was from 1 to 10 feet bgs, and the intermediate screen was from 10 to 15 feet bgs. Based on the results of samples collected from H1315, benzene impacts in groundwater were confirmed, and 22 additional temporary wells were installed at 13 locations by stepping outwards from temporary well H1315. Several of these temporary wells were dual screened, with the shallow screen interval in the fill material and intermediate screen interval in Clay Horizon A. These screens were installed at specific locations for vertical delineation of the benzene impacts. Four monitoring wells (MW-352, MW-396, MW-397 and MW-398) were collocated with temporary wells H1315, H1423, H1427 and H1425, respectively, to confirm shallow groundwater conditions (**Figure 5**).

Double-cased monitoring well MW-403 (collocated with boring S3159) was installed using mud rotary to confirm and monitor the deep groundwater. The outer casing was 6-inch-diameter, schedule 40 PVC installed from 0 to 16 feet bgs. The well was screened from 17 to 22 feet bgs. Since the benzene impacts identified in temporary wells and monitoring wells extended through the confining layer (Clay Horizon A), temporary well H1315R was installed and screened from 32 to 37 feet bgs to further delineate the deep zone.

Soil Results

During the data evaluation for benzene-impacted soil, a discrepancy in benzene concentrations between the results reported in the laboratory data package (200J[2] mg/kg) and Chevron's electronic database (0.2J mg/kg) was identified at soil boring S1384. The CMS report (Chevron 2008b) used the data from the laboratory data package to model the ISCO treatment area in the immediate vicinity of SWMU 19. This resulted in the proposed ISCO implementation at SWMU 19 to remediate benzene impacts in soil. This discrepancy was further investigated and brought to the attention of Eurofins (formerly Lancaster Laboratory, Inc.). The laboratory raw data report for S1384 was reviewed by Eurofins for dilution factor, on-column benzene concentration, and moisture content. The correct results for benzene in the soil sample collected from soil boring S1384 (at 3.5 to 4.0 feet bgs) were identified as 0.2J mg/kg. The results for toluene, xylene and ethyl benzene were also reviewed and a similar error (incorrect unit conversion) was identified in the data package and subsequently corrected by Eurofins. The letter report, dated March 1, 2013, provided by Eurofins explained the error and included a revised analytical report, which is included as **Appendix A**. The benzene concentration is below the CMI action level at S1384, resulting in no further action for benzene-impacted soils in SWMU 19 (**Figure 4**) (i.e., no ISCO treatment is required in the area).

Soil samples collected within the area north of SWMU 19 during the PDI were all below the CMI action level. The highest reported value was 0.18 mg/kg at S3281 (5.0 to 5.5 feet bgs) (**Table 1**).

The results of soil sampling conducted at soil boring S3156, located in the area north of SWMU 19, indicated benzene concentrations above the CMI action level at 9.0 to 9.5 feet bgs (95 mg/kg). Benzene was detected below the CMI action level at 2.5 to 3.0 feet bgs (1.6 mg/kg), 7.0 to 7.5 feet bgs (3.2 mg/kg), and 13.5 to 14.0 feet bgs (9.1 mg/kg) at S3156 (**Table 2**).

In the additional PDI soil samples collected for horizontal and vertical delineation, benzene was detected above the CMI action level in 15 soil samples collected from 10 soil borings. Concentrations ranged from 16 mg/kg to 240 mg/kg at soil depths ranging from 5.5 to 22.0 feet bgs (**Table 2** and **Figure 4**). Based on these results, benzene impacts were encountered in the fill and extend into the underlining confining layer (Clay Horizon A). No benzene impacts were observed in glacial till based on soil samples collected at or in glacial till.

In the area north of SWMU 19, the benzene impacts in soil were delineated horizontally and vertically during the PDI and are shown in **Figure 4**. The areal extent of the benzene impacted soil is approximately 12,000 square feet.

Groundwater Results

Groundwater samples collected within SWMU 19 during the PDI were all below the CMI action level. The highest reported value was 46 µg/L at H1169 (**Table 3** and **Figure 5**).

The results of groundwater sampling conducted at the initial temporary well, H1315, located in the area north of SWMU 19, indicated benzene concentrations above the CMI action level. Benzene concentrations were 330 µg/L in the shallow screen and 820 µg/L in the intermediate

[2] J – a laboratory qualifier indicating that the value is estimated

screen (**Table 4** and **Figure 5**). Twenty-two additional temporary wells were installed at 13 locations by stepping outwards from temporary well H1315 in the area north of SWMU 19.

Benzene concentrations at seven temporary well points exceeded the CMI action level. Benzene results for the temporary wells are tabulated below.

Location	Shallow (Fill)		Intermediate (Clay Horizon A)	
	Screen Interval (feet bgs)	Benzene Concentration (µg/L)	Screen Interval (feet bgs)	Benzene Concentration (µg/L)
H1315	1-10	330	10-15	820
H1418	1.5-11.5	7	11.5-15.5	74
H1419	1-11	3900	12.5-17.5	86
H1420	1-11	120	11-16	41
H1422	1.5-10.5	0.7J	10.5-15.5	10U
H1423	1.5-11.5	200	11.5-15.5	84
H1425	2.5-12.5	9J	12.5-17.5	110
H1426	2.5-12.5	68	--	--
H1427	2.5-12.5	7	13-18	2J
H1430	1-11	2200	11.2-14.5	15
H1431	1-11	27	11.2-14.5	65
H1449	4.5-14.5	1J	--	--
H1450	3-13	15	--	--
H1456	1-10	0.6J	--	--

Note: Red text indicates an exceedance for benzene

The results for the four monitoring wells installed to confirm shallow groundwater conditions are as follows.

- MW-352 was installed screened from 1.5 to 10 feet bgs. Benzene results for three rounds of samples exceeded the CMI action level and were as follows: 410 µg/L, 410 µg/L and 390 µg/L.
- MW-396 was installed screened from 1.5 to 11.5 feet bgs. Benzene results for two rounds of samples exceeded the CMI action level and were as follows: 140 µg/L and 150 µg/L.
- MW-397 and MW-398 were installed screened from 2.5 to 12.5 feet bgs. Results from groundwater samples collected from MW-397 and MW-398 were below the CMI action level for benzene.

The results for the monitoring well installed to confirm deep groundwater conditions are as follows.

- Groundwater samples collected from MW-403 exceeded the CMI action level for benzene with concentrations from three rounds of sampling at 520 µg/L, 430 µg/L and 840 µg/L (**Table 4** and **Figure 5**).
- Benzene concentration from deep zone temporary well H1315R was 0.5 µg/L.

Benzene results for historical temporary wells in the area can be found in **Tables 3** and **4** and **Figure 5**.

CONCLUSIONS

The CMS recommended ISCO to address the historical isolated occurrence of benzene in soil in SWMU 19, as delineated through borings SB-0039, S1384, S0774, and temporary well HP-0121. However, now that it has been identified that the laboratory incorrectly reported an exceedance in the sample collected from S1384 (**Appendix A**), and based on the data evaluation conducted before and during the PDI, it has been demonstrated that benzene concentrations are below the CMI action levels within SWMU 19. Therefore, no further action (NFA) for benzene in soil in SWMU 19 is warranted, and groundwater should be transitioned to monitored natural attenuation (MNA).

The horizontal and vertical extent of benzene impacted soil in the area north of SWMU 19 was delineated during the 2012-2014 PDI. The benzene impacted soil ranges vertically from 5 to 22 feet bgs, extending from fill to the underlining confining layer (Clay Horizon A). The areal extent of the benzene impacted soil is approximately 12,000 square feet. The shallow groundwater was delineated horizontally during the PDI in this area north of SWMU19, and the extent is shown on **Figure 5**. Based on the results for samples collected from MW-403, benzene impacts in deep groundwater have been identified above the CMI action level and further delineation is required.

The extent of the benzene impacts in the area north of SWMU 19 will be further investigated. Due to the close proximity of this area to SWMU 35, this area will be investigated as part of SWMU 35.

Based on the PDI results, benzene in soil and groundwater is below the CMI action level in SWMU 19. Therefore, Chevron requests approval of NFA for benzene-impacted soil and

transition to MNA for benzene-impacted groundwater within SWMU 19. This request is specifically related to benzene impacts in soil and groundwater requiring ISCO corrective measures. Other corrective measures required under the HSWA permit will be addressed separately.

REFERENCES

Chevron, 1997. 1st Phase RFI Soils Report. January.

Chevron, 2003. Full RCRA Facility Investigation Report. November.

Chevron, 2008a. Corrective Measures Study (CMS) Report for the Main Yard, East Yard and Central Yard. November.

Chevron, 2008b. Supplemental RFI Report. February.

Chevron, 2013. In Situ Chemical Oxidation Pre Design Investigation Work Plan Solid Waste Management Unit 19. March.

Chevron. 2015. Perth Amboy Facility Corrective Measures Implementation Sampling and Analysis Plan/Quality Assurance Project Plan (FSAP-QAPP). June

USEPA, 2013. Chevron USA, Inc – Buckeye Perth Amboy Terminal LLC Final RCRA Corrective Action Permit Renewal EPA ID No: NJD081982902. July.

CLOSING

If you require additional information regarding our responses, please contact me at (732) 738-2023.

Sincerely,

10/17/16

Robert Mancini
Project Manager
Refining Business Unit

cc:
Ms. Ann Pavelka, NJDEP
Mr. Brian Wojton, Buckeye

ATTACHMENTS

Tables

1 Summary of Volatile Organic Compound Results in Soil - SWMU 19
2 Summary of Volatile Organic Compound Results in Soil – Area North of SWMU 19
3 Summary of Volatile Organic Compound Results in Groundwater - SWMU 19
4 Summary of Volatile Organic Compound Results in Groundwater – Area North of SWMU 19

Figures

1 Facility Location Map
2 Aerial Photograph
3 Topographic Map
4 Benzene Concentrations in Soil
5 Benzene Concentrations in Groundwater

Appendices

A Eurofins (formerly Lancaster Laboratory, Inc.) letter

bcc:
Robert Lavorerio, CEMC
Pratima Poplai, Parsons
Ken Siet, TRC

Tables

Table 1
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location ID	**NJDEP NRDCSCC**	SB-0039	SB-0110	SB-0208	SB-0209	SB-0210	SB-0211	SB-0212	S0774			S0775			S0811	
Sample Date		10/16/95	11/22/95	06/05/96	06/05/96	06/05/96	06/05/96	06/05/96	08/12/02	08/12/02	08/12/02	08/12/02	08/12/02	08/12/02	08/12/02	08/12/02
Sample Depth		2 - 4 ft bgs	6 - 8 ft bgs	6 - 8 ft bgs	10 - 12 ft bgs	8 - 10 ft bgs	2 - 4 ft bgs	6 - 8 ft bgs	1.5 - 2 ft bgs	9 - 9.5 ft bgs	14.5 - 15 ft bgs	1.5 - 2 ft bgs	5.5 - 6 ft bgs	11 - 11.5 ft bgs	1.5 - 2 ft bgs	7.5 - 8 ft bgs
Report Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	1000	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
1,1,2,2-Tetrachloroethane	70	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
1,1,2-Trichloroethane	420	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	--	--	--	--	--	--	--	0.28 U	0.38 U	1.0 U	0.35 U	0.36 U	0.53 U	0.32 U	0.38 U
1,1-Dichloroethane	1000	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
1,1-Dichloroethene (Dichloroethylene)	150	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
1,2,4-Trichlorobenzene	1200	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
1,2-Dibromo-3-chloropropane (DBCP)	NA	--	--	--	--	--	--	--	0.28 U	0.38 U	1.0 U	0.35 U	0.36 U	0.53 U	0.32 U	0.38 U
1,2-Dibromoethane	NA	2.0 U	0.007 U	0.9 U	0.5 U	0.6 U	0.3 U	0.4 U	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10000	0.5 U	2.3 U	62 U	0.6 U	7 U	0.4 U	0.5 U	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.25 J
1,2-Dichloroethane	24	2.0 U	0.007 U	0.9 U	0.5 U	0.6 U	0.3 U	0.4 U	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
1,2-Dichloropropane	43	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
1,3-Dichlorobenzene	10000	0.5 U	2.3 U	62 U	0.6 U	7 U	0.4 U	0.5 U	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
1,4-Dichlorobenzene	10000	0.5 U	2.3 U	62 U	0.6 U	7 U	0.4 U	0.5 U	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
2-Butanone (Methyl ethyl ketone)	1000	3.9 U	0.014 U	1.9 U	1.1 U	1.3 U	0.7 U	0.9 U	0.57 U	0.76 U	2.0 U	0.71 U	0.72 U	1.1 U	0.64 U	0.76 U
2-Hexanone	NA	--	--	--	--	--	--	--	0.43 U	0.57 U	1.5 U	0.53 U	0.54 U	0.79 U	0.48 U	0.57 U
4-Methyl-2-pentanone	1000	--	--	--	--	--	--	--	0.43 U	0.57 U	1.5 U	0.53 U	0.54 U	0.79 U	0.48 U	0.57 U
Acetone	1000	--	--	--	--	--	--	--	1.0 U	1.3 U	3.5 U	1.2 U	1.3 U	1.8 U	1.1 U	3.4 J
Benzene	13	2.0 U	0.007 U	1.9	0.5 U	0.6	0.3 U	0.4 U	0.14 U	0.48 J	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.51 J
Bromodichloromethane	46	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Bromoform	370	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Bromomethane (Methyl bromide)	1000	--	--	--	--	--	--	--	0.28 U	0.38 U	1.0 U	0.35 U	0.36 U	0.53 U	0.32 U	0.38 U
Carbon Disulfide	NA	2.0 U	0.007 U	0.9 U	0.5 U	0.6 U	0.3 U	0.4 U	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Carbon Tetrachloride	4	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Chlorobenzene	680	2.0 U	0.007 U	0.9 U	0.5 U	0.6 U	0.3 U	0.4 U	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Chloroethane	NA	--	--	--	--	--	--	--	0.28 U	0.38 U	1.0 U	0.35 U	0.36 U	0.53 U	0.32 U	0.38 U
Chloroform	28	2.0 U	0.007 U	0.9 U	0.5 U	0.6 U	0.3 U	0.4 U	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Chloromethane (Methyl chloride)	1000	--	--	--	--	--	--	--	0.28 U	0.38 U	1.0 U	0.35 U	0.36 U	0.53 U	0.32 U	0.38 U
cis-1,2-Dichloroethene	1000	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
cis-1,3-Dichloropropene	NA	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Cyclohexane	NA	--	--	--	--	--	--	--	0.14 U	0.83 J	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	25
Dibromochloromethane	1000	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Dichlorodifluoromethane (Freon 12)	NA	--	--	--	--	--	--	--	0.28 U	0.38 U	1.0 U	0.35 U	0.36 U	0.53 U	0.32 U	0.38 U
Ethylbenzene	1000	4.7	0.007 U	5.8	0.5 U	0.6 U	0.3 U	5.3	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.57 J	19
Isopropylbenzene	NA	--	--	--	--	--	--	--	0.14 U	0.21 J	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	10
Methyl acetate	NA	--	--	--	--	--	--	--	0.28 U	0.64 J	1.1 J	0.35 U	0.36 U	0.6 J	0.32 U	0.56 J
Methyl-t-butyl ether	NA	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Methylcyclohexane	NA	--	--	--	--	--	--	--	0.14 U	1.0	0.50 U	0.18 U	0.18 U	0.26 U	2.4	93
Methylene chloride (Dichloromethane)	210	--	--	--	--	--	--	--	0.28 U	0.38 U	1.0 U	0.35 U	0.36 U	0.53 U	0.32 U	0.38 U
Styrene	97	2.0 U	0.007 U	0.9 U	0.5 U	0.6 U	0.3 U	0.4 U	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Tetrachloroethene	6	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Toluene	1000	2.0 U	0.007 U	5.2	0.5 U	0.6 U	0.3 U	0.4 U	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.33 J
trans-1,2-Dichloroethene	1000	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
trans-1,3-Dichloropropene	NA	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Trichloroethene (Trichloroethylene)	54	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Trichlorofluoromethane (Freon 11)	NA	--	--	--	--	--	--	--	0.28 U	0.38 U	1.0 U	0.35 U	0.36 U	0.53 U	0.32 U	0.38 U
Vinyl chloride (Chloroethene)	7	--	--	--	--	--	--	--	0.14 U	0.19 U	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	0.19 U
Xylenes, Total	1000	3.7	0.007 U	30	0.5 U	0.6 U	0.3 U	15	0.14 U	0.24 J	0.50 U	0.18 U	0.18 U	0.26 U	0.16 U	2.0

Notes:
Bold, shaded and brackets indicates action level exceedance
NA - No action level available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
-- indicates the parameter was not analyzed or was rejected

Table 1
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location ID	**NJDEP NRDCSCC**	S0811	S0982	S0983	S1012	S1013			S1384			S2135		S2136		
Sample Date		08/12/02	01/21/03	01/21/03	05/06/03	01/22/03	01/22/03	01/22/03	01/21/2003	01/21/03	01/21/03	11/30/06	11/30/06	11/30/06	11/30/06	11/30/06
Sample Depth		14.5 - 15 ft bgs	2 - 2.5 ft bgs	6.5 - 7 ft bgs	5.5 - 6 ft bgs	1.5 - 2 ft bgs	6 - 6.5 ft bgs	7.5 - 8 ft bgs	1.5 - 2 bgs	3.5 - 4 ft bgs	13 - 13.5 ft bgs	5.5 - 6 ft bgs	14.5 - 15 ft bgs	6 - 6.5 ft bgs	7 - 7.5 ft bgs	12 - 12.5 ft bgs
Report Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	1000	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
1,1,2,2-Tetrachloroethane	70	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
1,1,2-Trichloroethane	420	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	1.0 U	0.31 U	0.31 U	0.34 U	--	--	--	--	--	--	0.33 U	1.1 U	0.39 U	0.34 U	0.39 U
1,1-Dichloroethane	1000	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
1,1-Dichloroethene (Dichloroethylene)	150	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
1,2,4-Trichlorobenzene	1200	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
1,2-Dibromo-3-chloropropane (DBCP)	NA	1.0 U	0.31 U	0.31 U	0.34 U	--	--	--	--	--	--	0.33 U	1.1 U	0.39 U	0.34 U	0.39 U
1,2-Dibromoethane	NA	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10000	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
1,2-Dichloroethane	24	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
1,2-Dichloropropane	43	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
1,3-Dichlorobenzene	10000	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
1,4-Dichlorobenzene	10000	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
2-Butanone (Methyl ethyl ketone)	1000	2.0 U	0.62 U	0.62 U	0.68 U	--	--	--	--	--	--	0.67 U	2.2 U	0.78 U	0.69 U	0.78 U
2-Hexanone	NA	1.5 U	0.47 U	0.46 U	0.51 U	--	--	--	--	--	--	0.50 U	1.6 U	0.58 U	0.52 U	0.59 U
4-Methyl-2-pentanone	1000	1.5 U	0.47 U	0.46 U	0.51 U	--	--	--	--	--	--	0.50 U	1.6 U	0.58 U	0.52 U	0.59 U
Acetone	1000	3.5 U	1.1 U	1.1 U	1.2 U	--	--	--	--	--	--	1.2 U	3.8 U	1.4 U	1.2 U	1.4 U
Benzene	13	0.50 U	0.53 J	1.6	0.17 U	0.15 U	0.18 U	0.27 U	0.14 U	0.2 J	0.21 U	0.084 U	0.27 U	0.26 J	2.3	0.89 J
Bromodichloromethane	46	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Bromoform	370	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Bromomethane (Methyl bromide)	1000	1.0 U	0.31 U	0.31 U	0.34 U	--	--	--	--	--	--	0.33 U	1.1 U	0.39 U	0.34 U	0.39 U
Carbon Disulfide	NA	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Carbon Tetrachloride	4	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Chlorobenzene	680	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Chloroethane	NA	1.0 U	0.31 U	0.31 U	0.34 U	--	--	--	--	--	--	0.33 U	1.1 U	0.39 U	0.34 U	0.39 U
Chloroform	28	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Chloromethane (Methyl chloride)	1000	1.0 U	0.31 U	0.31 U	0.34 U	--	--	--	--	--	--	0.33 U	1.1 U	0.39 U	0.34 U	0.39 U
cis-1,2-Dichloroethene	1000	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
cis-1,3-Dichloropropene	NA	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Cyclohexane	NA	0.50 U	0.51 J	12	0.31 J	--	--	--	--	--	--	5.0	0.55 U	0.19 U	1.8	0.20 U
Dibromochloromethane	1000	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Dichlorodifluoromethane (Freon 12)	NA	1.0 U	0.31 U	0.31 U	0.34 U	--	--	--	--	--	--	0.33 U	1.1 U	0.39 U	0.34 U	0.39 U
Ethylbenzene	1000	0.50 U	1.8	24	0.17 U	0.15 U	0.25 J	0.27 U	0.14 U	2.3	0.21 U	4.5	0.55 U	1.9	8.3	4.2
Isopropylbenzene	NA	0.50 U	0.35 J	7.2	0.21 J	--	--	--	--	--	--	1.8	0.55 U	0.19 U	0.38 J	0.20 U
Methyl acetate	NA	1.0 U	0.31 U	0.31 J	0.34 U	--	--	--	--	--	--	0.33 U	1.1 U	0.39 U	0.34 U	0.39 U
Methyl-t-butyl ether	NA	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.084 U	0.27 U	0.097 U	0.086 U	0.098 U
Methylcyclohexane	NA	0.50 U	2.7	55	0.19 J	--	--	--	--	--	--	28	0.76 J	1.5	6.3	3.1
Methylene chloride (Dichloromethane)	210	1.0 U	0.31 U	0.31 U	0.34 U	--	--	--	--	--	--	0.33 U	1.1 U	0.39 U	0.34 U	0.39 U
Styrene	97	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Tetrachloroethene	6	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Toluene	1000	0.50 U	0.39 J	0.32 J	0.17 U	0.15 U	0.18 U	0.27 U	0.14 U	1.0	0.21 U	0.17 U	0.55 U	0.19 U	0.26 J	0.20 U
trans-1,2-Dichloroethene	1000	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
trans-1,3-Dichloropropene	NA	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Trichloroethene (Trichloroethylene)	54	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Trichlorofluoromethane (Freon 11)	NA	1.0 U	0.31 U	0.31 U	0.34 U	--	--	--	--	--	--	0.33 U	1.1 U	0.39 U	0.34 U	0.39 U
Vinyl chloride (Chloroethene)	7	0.50 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	--	0.17 U	0.55 U	0.19 U	0.17 U	0.20 U
Xylenes, Total	1000	0.50 U	9.7	0.58 J	0.17 U	0.15 U	1.1	0.27 U	0.14 U	8.0	0.21 U	4.5	0.55 U	3.6	16	8.3

Notes:
Bold, shaded and brackets indicates action level exceedance
NA - No action level available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
-- indicates the parameter was not analyzed or was rejected

Table 1
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location ID	**NJDEP NRDCSCC**	S2675			S2678			S3281			S3879	S4866	S4867
Sample Date		7/2/2013			7/1/2013			7/1/2013			8/14/2013	8/26/2015	8/26/2015
Sample Depth		0.5 - 1 ft bgs	2 - 2.5 ft bgs	11 - 11.5 ft bgs	0 - 0.5 ft bgs	3 - 3.5 ft bgs	5 - 5.5 ft bgs	0 - 0.5 ft bgs	5 - 5.5 ft bgs	7 - 7.5 ft bgs	6.5 - 7 ft bgs	2 - 2.5 ft bgs	0.5 - 1 ft bgs
Report Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	1000	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
1,1,2,2-Tetrachloroethane	70	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
1,1,2-Trichloroethane	420	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	0.002 U	0.16 U	0.009 U	0.003 U	0.003 U	0.002 U	0.14 U	0.15 U	0.009 U	0.007 U	0.11 U	0.21 U
1,1-Dichloroethane	1000	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
1,1-Dichloroethene (Dichloroethylene)	150	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
1,2,4-Trichlorobenzene	1200	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.14 J	0.004 U	0.003 U	0.055 U	0.11 U
1,2-Dibromo-3-chloropropane (DBCP)	NA	0.002 U	0.16 U	0.009 U	0.003 U	0.003 U	0.002 U	0.14 U	0.15 U	0.009 U	0.007 U	0.11 U	0.21 U
1,2-Dibromoethane	NA	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10000	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
1,2-Dichloroethane	24	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
1,2-Dichloropropane	43	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
1,3-Dichlorobenzene	10000	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
1,4-Dichlorobenzene	10000	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
2-Butanone (Methyl ethyl ketone)	1000	0.005 U	0.32 U	0.032 J	0.005 U	0.006 U	0.005 U	0.28 U	0.3 U	0.027 J	0.014 U	0.22 U	0.43 U
2-Hexanone	NA	0.004 U	0.24 U	0.014 U	0.004 U	0.005 U	0.004 U	0.21 U	0.23 U	0.013 U	0.01 U	0.16 U	0.32 U
4-Methyl-2-pentanone	1000	0.004 U	0.24 U	0.014 U	0.004 U	0.005 U	0.004 U	0.21 U	0.23 U	0.013 U	0.01 U	0.16 U	0.32 U
Acetone	1000	0.008 U	0.55 U	0.14	0.009 U	0.018 J	0.025	0.49 U	0.53 U	0.11	0.024 U	0.38 U	0.75 U
Benzene	13	0.0008 J	0.097 J	0.002 U	0.0007 U	0.0008 U	0.0006 U	0.035 U	0.18 J	0.052	0.003 J	0.027 U	0.91
Bromodichloromethane	46	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
Bromoform	370	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
Bromomethane (Methyl bromide)	1000	0.002 U	0.16 U	0.009 U	0.003 U	0.003 U	0.002 U	0.14 U	0.15 U	0.009 U	0.007 U	0.11 U	0.21 U
Carbon Disulfide	NA	0.001 U	0.079 U	0.047	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.012 J	0.005 J	0.055 U	0.11 U
Carbon Tetrachloride	4	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
Chlorobenzene	680	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
Chloroethane	NA	0.002 U	0.16 U	0.009 U	0.003 U	0.003 U	0.002 U	0.14 U	0.15 U	0.009 U	0.007 U	0.11 U	0.21 U
Chloroform	28	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
Chloromethane (Methyl chloride)	1000	0.002 U	0.16 U	0.009 U	0.003 U	0.003 U	0.002 U	0.14 U	0.15 U	0.009 U	0.007 U	0.11 U	0.21 U
cis-1,2-Dichloroethene	1000	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
cis-1,3-Dichloropropene	NA	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
Cyclohexane	NA	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.1	0.013 J	0.16 J	3.5
Dibromochloromethane	1000	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
Dichlorodifluoromethane (Freon 12)	NA	0.002 U	0.16 U	0.009 U	0.003 U	0.003 U	0.002 U	0.14 U	0.15 U	0.009 U	0.007 U	0.11 U	0.21 U
Ethylbenzene	1000	0.001 U	0.079 U	0.005 U	0.001 U	0.023	0.001 U	1.3	1.5	0.004 U	0.003 U	0.055 U	0.77
Isopropylbenzene	NA	0.001 U	0.21 J	0.005 U	0.001 U	0.04	0.003 J	0.39	1.9	0.012 J	0.003 U	0.08 J	4
Methyl acetate	NA	0.002 U	0.16 U	0.009 U	0.003 U	0.003 U	0.002 U	0.14 U	0.15 U	0.009 U	0.007 U	0.11 U	0.21 U
Methyl-t-butyl ether	NA	0.001 U	1.2	0.005 U	0.001 U	0.037	0.01	0.12 J	14	0.075	0.011 J	0.39	17
Methylcyclohexane	NA	0.002 U	0.16 U	0.009 U	0.003 U	0.003 U	0.002 U	0.14 U	0.15 U	0.009 U	0.007 U	0.11 U	0.21 U
Methylene chloride (Dichloromethane)	210	0.0006 U	0.04 U	0.002 U	0.0007 U	0.0008 U	0.0006 U	0.035 U	0.038 U	0.002 U	0.002 U	0.027 U	0.053 U
Styrene	97	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
Tetrachloroethene	6	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
Toluene	1000	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.47 J
trans-1,2-Dichloroethene	1000	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
trans-1,3-Dichloropropene	NA	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
Trichloroethene (Trichloroethylene)	54	0.001 U	0.14 J	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
Trichlorofluoromethane (Freon 11)	NA	0.002 U	0.16 U	0.009 U	0.003 U	0.003 U	0.002 U	0.14 U	0.15 U	0.009 U	0.007 U	0.11 U	0.21 U
Vinyl chloride (Chloroethene)	7	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	0.07 U	0.076 U	0.004 U	0.003 U	0.055 U	0.11 U
Xylenes, Total	1000	0.001 U	0.079 U	0.005 U	0.001 U	0.002 U	0.001 U	6.3	1	0.004 U	0.003 U	0.089 J	3.5

Notes:

Bold, shaded and brackets indicates action level exceedance

NA - No action level available for this parameter

U - Analyte not detected at that concentration

J - Analyte concentration estimated

-- indicates the parameter was not analyzed or was rejected

Table 2
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP NRDCSCC**	S0810			S2206	S2130		S2131	S2444	S3156				S3157		
Sample Date		8/12/2002	8/12/2002	8/12/2002	11/7/2006	11/30/2006	11/30/2006	11/30/2006	3/1/2007	2/6/2013	2/6/2013	2/6/2013	2/6/2013	9/16/2013		
Sample Depth		1.5 - 2 ft bgs	2 - 2.5 ft bgs	11.5 - 12 ft bgs	10 - 10.5 ft bgs	10 - 10.5 ft bgs	11.5 - 12 ft bgs	13.5 - 14 ft bgs	18.5 - 19 ft bgs	2.5 - 3 ft bgs	7 - 7.5 ft bgs	9 - 9.5 ft bgs	13.5 - 14 ft bgs	7 - 7.5 ft bgs	9 - 9.5 ft bgs	11 - 11.5 ft bgs
Report Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	1000	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.84	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
1,1,2,2-Tetrachloroethane	70	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
1,1,2-Trichloroethane	420	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	0.28 U	0.37 U	0.79 U	0.33 U	0.33 U	1.1 U	1.1 U	0.36 U	0.18 U	2.3 U	1.7 U	0.69 U	0.17 U	0.26 U	0.11 U
1,1-Dichloroethane	1000	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
1,1-Dichloroethene (Dichloroethylene)	150	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
1,2,4-Trichlorobenzene	1200	0.14 U	0.20 J	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.18 J	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
1,2-Dibromo-3-chloropropane (DBCP)	NA	0.28 U	0.37 U	0.79 U	0.33 U	0.33 U	1.1 U	1.1 U	0.36 U	0.18 U	2.3 U	1.7 U	0.69 U	0.17 U	0.26 U	0.11 U
1,2-Dibromoethane	NA	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10000	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.13 J	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
1,2-Dichloroethane	24	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
1,2-Dichloropropane	43	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
1,3-Dichlorobenzene	10000	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
1,4-Dichlorobenzene	10000	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
2-Butanone (Methyl ethyl ketone)	1000	0.56 U	0.73 U	1.6 U	0.65 U	0.66 U	2.2 U	2.2 U	0.72 U	0.35 U	4.7 U	3.5 U	1.4 U	0.34 U	0.52 U	0.22 U
2-Hexanone	NA	0.42 U	0.55 U	1.2 U	0.49 U	0.49 U	1.7 U	1.6 U	0.54 U	0.27 U	3.5 U	2.6U	1.0 U	0.26 U	0.39 U	0.16 U
4-Methyl-2-pentanone	1000	0.42 U	0.55 U	1.2 U	0.49 U	0.49 U	1.7 U	1.6 U	0.54 U	0.27 U	3.5 U	2.6U	1.0 U	0.26 U	0.39 U	0.16 U
Acetone	1000	1.0 U	1.6 J	32	6.0	1.1 U	3.9 U	3.8 U	1.3 U	0.62 U	8.2 U	6.1 U	2.4 U	0.6 U	0.91 U	0.38 U
Benzene	13	0.14 U	2.2	0.39 U	1.1	0.36 J	2.1 J	**[15]**	0.090 U	1.6	3.2 J	**[95]**	9.1	0.41 J	0.44 J	0.24 J
Bromodichloromethane	46	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
Bromoform	370	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
Bromomethane (Methyl bromide)	1000	0.28 U	0.37 U	0.79 U	0.33 U	0.33 U	1.1 U	1.1 U	0.36 U	0.18 U	2.3 U	1.7 U	0.69 U	0.17 U	0.26 U	0.11 U
Carbon Disulfide	NA	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
Carbon Tetrachloride	4	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
Chlorobenzene	680	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.16 J
Chloroethane	NA	0.28 U	0.37 U	0.79 U	0.33 U	0.33 U	1.1 U	1.1 U	0.36 U	0.18 U	2.3 U	1.7 U	0.69 U	0.17 U	0.26 U	0.11 U
Chloroform	28	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
Chloromethane (Methyl chloride)	1000	0.28 U	0.37 U	0.79 U	0.33 U	0.33 U	1.1 U	1.1 U	0.36 U	0.18 U	2.3 U	1.7 U	0.69 U	0.17 U	0.26 U	0.11 U
cis-1,2-Dichloroethene	1000	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
cis-1,3-Dichloropropene	NA	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
Cyclohexane	NA	0.14 U	19	0.39 U	53	0.16 U	0.55 U	3.8	0.18 U	15	57	190	1.1 J	21	32	2.7
Dibromochloromethane	1000	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
Dichlorodifluoromethane (Freon 12)	NA	0.28 U	0.37 U	0.79 U	0.33 U	0.33 U	1.1 U	1.1 U	0.36 U	0.18 U	2.3 U	1.7 U	0.69 U	0.17 U	0.26 U	0.11 U
Ethylbenzene	1000	0.14 U	26	0.39 U	1.0	0.16 U	0.55 U	4.5	0.18 U	5	6.4	440	1.0 J	0.66	0.45 J	6.1
Isopropylbenzene	NA	0.14 U	11	0.39 U	7.0	0.57 J	0.55 U	1.3 J	0.18 U	0.57	12	43	0.35 U	11	15	1
Methyl acetate	NA	0.28 U	0.55 J	0.79 U	740 J	0.33 U	1.1 U	1.1U	0.36 U	0.18 U	2.3 U	1.7 U	0.69 U	0.17 U	0.26 U	0.11 U
Methyl-t-butyl ether	NA	0.14 U	0.18 U	0.39 U	0.082 U	0.082 U	0.28 U	0.27 U	0.090 U	0.044 U	0.58 U	0.44U	0.17 U	76	96	10
Methylcyclohexane	NA	0.19 J	63	0.39 U	150	7.0	0.55 U	7.3	0.18 U	22	110	240	1.5 J	0.17 U	0.26 U	0.11 U
Methylene chloride (Dichloromethane)	210	0.28 U	0.37 U	0.79 U	0.33 U	0.33 U	1.1 U	1.1 U	0.36 U	0.18 U	2.3 U	1.7 U	0.69 U	0.043 U	0.065 U	0.027 U
Styrene	97	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
Tetrachloroethene	6	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
Toluene	1000	0.14 U	0.95	0.39 U	1.1	0.16 U	0.55 U	0.54 U	0.18 U	1.5	1.9 J	13	0.35 U	0.4 J	0.7	0.29
trans-1,2-Dichloroethene	1000	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
trans-1,3-Dichloropropene	NA	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
Trichloroethene (Trichloroethylene)	54	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
Trichlorofluoromethane (Freon 11)	NA	0.28 U	0.37 U	0.79 U	0.33 U	0.33 U	1.1 U	1.1 U	0.36 U	0.18 U	2.3 U	1.7 U	0.69 U	0.17 U	0.26 U	0.11 U
Vinyl chloride (Chloroethene)	7	0.14 U	0.18 U	0.39 U	0.16 U	0.16 U	0.55 U	0.54 U	0.18 U	0.088 U	1.2 U	0.87 U	0.35 U	0.086 U	0.13 U	0.055 U
Xylenes, Total	1000	0.14 U	1.2	0.39 U	3.2	0.27 J	0.55 U	1.9 J	0.18 U	7.9	6.1	120	0.56 J	2	3.1	21

Notes:

Bold, shaded and brackets indicates action level exceedance

NA - No action level available for this parameter

U - Analyte not detected at that concentration

J - Analyte concentration estimated

-- indicates the parameter was not analyzed or was rejected

Table 2
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP NRDCSCC**	S3157	S3158			S3159						S3160				S3565
Sample Date		9/16/2013	9/16/2013			9/16/2013					10/3/2013	9/26/2013	9/16/2013			9/20/2013
Sample Depth		13 - 13.5 ft bgs	7 - 7.5 ft bgs	11 - 11.5 ft bgs	13 - 13.5 ft bgs	7 - 7.5 ft bgs	9.5 - 10 ft bgs	11 - 11.5 ft bgs	12.5 - 13 ft bgs	13.5 - 14 ft bgs	16 - 16.5 ft bgs	1.5 - 2 ft bgs	7 - 7.5 ft bgs	11.5 - 12 ft bgs	13.5 - 14 ft bgs	5 - 5.5 ft bgs
Report Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	1000	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
1,1,2,2-Tetrachloroethane	70	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
1,1,2-Trichloroethane	420	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	0.011 U	0.1 U	0.56 U	0.007 U	0.34 U	0.37 U	0.5 U	0.015 U	1 U	0.003 U	0.1 U	0.37 U	0.38 U	0.66 U	0.002 U
1,1-Dichloroethane	1000	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
1,1-Dichloroethene (Dichloroethylene)	150	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
1,2,4-Trichlorobenzene	1200	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.15 J	0.18 U	0.19 U	0.33 U	0.001 U
1,2-Dibromo-3-chloropropane (DBCP)	NA	0.011 U	0.1 U	0.56 U	0.007 U	0.34 U	0.37 U	0.5 U	0.015 U	1 U	0.003 U	0.1 U	0.37 U	0.38 U	0.66 U	0.002 U
1,2-Dibromoethane	NA	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10000	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.051 J	0.18 U	0.19 U	0.33 U	0.001 U
1,2-Dichloroethane	24	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
1,2-Dichloropropane	43	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
1,3-Dichlorobenzene	10000	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
1,4-Dichlorobenzene	10000	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.065 J	0.18 U	0.19 U	0.33 U	0.001 U
2-Butanone (Methyl ethyl ketone)	1000	0.022 U	0.2 U	1.1 U	0.013 U	0.69 U	0.74 U	0.99 U	0.056 J	2 U	0.006 U	0.2 U	0.74 U	0.75 U	1.3 U	0.005 U
2-Hexanone	NA	0.017 U	0.15 U	0.85 U	0.01 U	0.52 U	0.55 U	0.74 U	0.022 U	1.5 U	0.004 U	0.15 U	0.55 U	0.57 U	1 U	0.003 U
4-Methyl-2-pentanone	1000	0.017 U	0.15 U	0.85 U	0.01 U	0.52 U	0.55 U	0.74 U	0.022 U	1.5 U	0.004 U	0.15 U	0.55 U	0.57 U	1 U	0.003 U
Acetone	1000	0.067 J	0.36 U	2 U	0.023 U	1.2 U	1.3 U	1.7 U	0.21	3.5 U	0.01 U	0.35 U	1.3 U	1.3 U	2.3 U	0.008 U
Benzene	13	0.61	0.65	4.1	0.79	1.7	0.42 J	3.7	**[29]**	**[28]**	0.81	0.084 J	**[17]**	**[27]**	1.4 J	0.13
Bromodichloromethane	46	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
Bromoform	370	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
Bromomethane (Methyl bromide)	1000	0.011 U	0.1 U	0.56 U	0.007 U	0.34 U	0.37 U	0.5 U	0.015 U	1 U	0.003 U	0.1 U	0.37 U	0.38 U	0.66 U	0.002 U
Carbon Disulfide	NA	0.007 J	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.028 J	0.5 U	0.002 J	0.05 U	0.18 U	0.19 U	0.33 U	0.004 J
Carbon Tetrachloride	4	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
Chlorobenzene	680	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
Chloroethane	NA	0.011 U	0.1 U	0.56 U	0.007 U	0.34 U	0.37 U	0.5 U	0.015 U	1 U	0.003 U	0.1 U	0.37 U	0.38 U	0.66 U	0.002 U
Chloroform	28	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
Chloromethane (Methyl chloride)	1000	0.011 U	0.1 U	0.56 U	0.007 U	0.34 U	0.37 U	0.5 U	0.015 U	1 U	0.003 U	0.1 U	0.37 U	0.38 U	0.66 U	0.002 U
cis-1,2-Dichloroethene	1000	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
cis-1,3-Dichloropropene	NA	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
Cyclohexane	NA	0.027 J	7	8.2	0.003 U	82	3.7	2.5	0.68	0.5 U	0.001 U	0.056 J	34	28	0.33 U	0.33
Dibromochloromethane	1000	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
Dichlorodifluoromethane (Freon 12)	NA	0.011 U	0.1 U	0.56 U	0.007 U	0.34 U	0.37 U	0.5 U	0.015 U	1 U	0.003 U	0.1 U	0.37 U	0.38 U	0.66 U	0.002 U
Ethylbenzene	1000	0.007 J	14	6.5	0.004 J	44	3	3.4	0.46	0.5 U	0.007	0.53	76	56	1.2 J	0.16
Isopropylbenzene	NA	0.01 J	1.9	2.5	0.003 U	13	6.1	0.89 J	0.37	0.5 U	0.001 U	0.067 J	6.8	7.4	0.33 U	0.13
Methyl acetate	NA	0.011 U	0.1 U	0.56 U	0.007 U	0.34 U	0.37 U	0.5 U	0.015 U	1 U	0.003 U	0.1 U	0.37 U	0.38 U	0.66 U	0.002 U
Methyl-t-butyl ether	NA	0.11	27	18	0.016 J	98	37	5.4	0.62 J	0.5 U	0.01	0.68	44	45	1 J	0.88
Methylcyclohexane	NA	0.011 U	0.1 U	0.56 U	0.007 U	0.34 U	0.37 U	0.5 U	0.015 U	1 U	0.003 U	0.1 U	0.37 U	0.38 U	0.66 U	0.002 U
Methylene chloride (Dichloromethane)	210	0.003 U	0.026 U	0.14 U	0.002 U	0.086 U	0.092 U	0.12 U	0.004 U	0.25 U	0.0007 U	0.025 U	0.092 U	0.094 U	0.17 U	0.0006 U
Styrene	97	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
Tetrachloroethene	6	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
Toluene	1000	0.008 J	0.22 J	0.45 J	0.003 U	1	0.39 J	0.49 J	0.43	0.77 J	0.011	0.065 J	7.6	11	0.59 J	0.031
trans-1,2-Dichloroethene	1000	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
trans-1,3-Dichloropropene	NA	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
Trichloroethene (Trichloroethylene)	54	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
Trichlorofluoromethane (Freon 11)	NA	0.011 U	0.1 U	0.56 U	0.007 U	0.34 U	0.37 U	0.5 U	0.015 U	1 U	0.003 U	0.1 U	0.37 U	0.38 U	0.66 U	0.002 U
Vinyl chloride (Chloroethene)	7	0.006 U	0.051 U	0.28 U	0.003 U	0.17 U	0.18 U	0.25 U	0.007 U	0.5 U	0.001 U	0.05 U	0.18 U	0.19 U	0.33 U	0.001 U
Xylenes, Total	1000	0.006 U	2	5.8	0.003 U	4.6	5.5	4.2	0.9	0.5 U	0.015	0.12 J	190	230	8.5	0.27

Notes:

Bold, shaded and brackets indicates action level exceedance

NA - No action level available for this parameter

U - Analyte not detected at that concentration

J - Analyte concentration estimated

-- indicates the parameter was not analyzed or was rejected

Table 2
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP NRDCSCC**	S3565		S3566				S3567					S3568			
Sample Date		9/20/2013		10/2/2013	9/20/2013			9/27/2013					10/1/2013	10/4/2013		
Sample Depth		11 - 11.5 ft bgs	14 - 14.5 ft bgs	2.5 - 3 ft bgs	6.5 - 7 ft bgs	10.5 - 11 ft bgs	18.5 - 19 ft bgs	3 - 3.5 ft bgs	5.5 - 6 ft bgs	11 - 11.5 ft bgs	15.5 - 16 ft bgs	18 - 18.5 ft bgs	2 - 2.5 ft bgs	7.5 - 8 ft bgs	11.5 - 12 ft bgs	12.5 - 13 ft bgs
Report Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	1000	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
1,1,2,2-Tetrachloroethane	70	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
1,1,2-Trichloroethane	420	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	1 U	0.007 U	0.002 U	0.26 U	0.99 U	0.002 U	0.002 U	0.44 U	0.013 U	0.009 U	0.002 U	0.003 U	1.1 U	0.003 U	0.014 U
1,1-Dichloroethane	1000	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
1,1-Dichloroethene (Dichloroethylene)	150	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
1,2,4-Trichlorobenzene	1200	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
1,2-Dibromo-3-chloropropane (DBCP)	NA	1 U	0.007 U	0.002 U	0.26 U	0.99 U	0.002 U	0.002 U	0.44 U	0.013 U	0.009 U	0.002 U	0.003 U	1.1 U	0.003 U	0.014 U
1,2-Dibromoethane	NA	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10000	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
1,2-Dichloroethane	24	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
1,2-Dichloropropane	43	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
1,3-Dichlorobenzene	10000	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
1,4-Dichlorobenzene	10000	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
2-Butanone (Methyl ethyl ketone)	1000	2.1 U	0.018 J	0.008 J	0.52 U	2 U	0.004 U	0.004 U	0.87 U	0.026 U	0.084	0.005 U	0.005 U	2.2 U	0.008 J	0.028 U
2-Hexanone	NA	1.5 U	0.01 U	0.003 U	0.39 U	1.5 U	0.003 U	0.003 U	0.65 U	0.02 U	0.014 U	0.003 U	0.004 U	1.6 U	0.004 U	0.021 U
4-Methyl-2-pentanone	1000	1.5 U	0.01 U	0.003 U	0.39 U	1.5 U	0.003 U	0.003 U	0.65 U	0.02 U	0.014 U	0.003 U	0.004 U	1.6 U	0.004 U	0.021 U
Acetone	1000	3.6 U	0.082	0.055	0.91 U	3.5 U	0.008 U	0.021	1.5 U	0.092 J	0.52	0.01 J	0.029	3.8 U	0.031	0.12 J
Benzene	13	0.64 J	9.2	0.11	**[25]**	3.2	0.002 J	0.0005 U	**[22]**	0.46	0.041	0.0006 U	0.0006 U	6.7	0.003 J	0.027 J
Bromodichloromethane	46	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
Bromoform	370	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
Bromomethane (Methyl bromide)	1000	1 U	0.007 U	0.002 U	0.26 U	0.99 U	0.002 U	0.002 U	0.44 U	0.013 U	0.009 U	0.002 U	0.003 U	1.1 U	0.003 U	0.014 U
Carbon Disulfide	NA	0.52 U	0.012 J	0.001 U	0.13 U	0.5 U	0.004 J	0.001 J	0.22 U	0.008 J	0.018 J	0.003 J	0.001 U	0.54 U	0.002 J	0.008 J
Carbon Tetrachloride	4	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
Chlorobenzene	680	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
Chloroethane	NA	1 U	0.007 U	0.002 U	0.26 U	0.99 U	0.002 U	0.002 U	0.44 U	0.013 U	0.009 U	0.002 U	0.003 U	1.1 U	0.003 U	0.014 U
Chloroform	28	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
Chloromethane (Methyl chloride)	1000	1 U	0.007 U	0.002 U	0.26 U	0.99 U	0.002 U	0.002 U	0.44 U	0.013 U	0.009 U	0.002 U	0.003 U	1.1 U	0.003 U	0.014 U
cis-1,2-Dichloroethene	1000	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
cis-1,3-Dichloropropene	NA	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
Cyclohexane	NA	0.94 J	0.039	0.002 J	29	1100	0.001 U	0.001 U	18	0.22	0.18	0.001 U	0.001 U	25	0.028	0.009 J
Dibromochloromethane	1000	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
Dichlorodifluoromethane (Freon 12)	NA	1 U	0.007 U	0.002 U	0.26 U	0.99 U	0.002 U	0.002 U	0.44 U	0.013 U	0.009 U	0.002 U	0.003 U	1.1 U	0.003 U	0.014 U
Ethylbenzene	1000	9.5	0.25	0.004 J	64	17	0.001 U	0.001 U	61	0.33	0.17	0.001 U	0.001 U	69	0.003 J	0.007 U
Isopropylbenzene	NA	1.2 J	0.022	0.001 U	7.1	26	0.001 U	0.001 U	10	0.04	0.063	0.001 U	0.001 U	9.1	0.025	0.007 U
Methyl acetate	NA	1 U	0.007 U	0.002 U	0.26 U	0.99 U	0.002 U	0.002 U	0.44 U	0.013 U	0.009 U	0.002 U	0.003 U	1.1 U	0.003 U	0.014 U
Methyl-t-butyl ether	NA	1.2 J	0.027	0.004 J	37	180	0.001 U	0.001 U	59	0.088	1.1	0.001 U	0.001 U	65	0.044	0.011 J
Methylcyclohexane	NA	1 U	0.007 U	0.002 U	0.26 U	0.99 U	0.002 U	0.002 U	0.44 U	0.013 U	0.009 U	0.01	0.003 U	1.1 U	0.003 U	0.014 U
Methylene chloride (Dichloromethane)	210	0.26 U	0.002 U	0.0005 U	0.065 U	0.25 U	0.0006 U	0.0005 U	0.11 U	0.003 U	0.002 U	0.0006 U	0.0006 U	0.27 U	0.0006 U	0.003 U
Styrene	97	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
Tetrachloroethene	6	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
Toluene	1000	1.1 J	0.16	0.001 U	4.8	2.5	0.001 U	0.001 U	57	0.31	0.042	0.001 U	0.001 U	2.1 J	0.002 J	0.007 U
trans-1,2-Dichloroethene	1000	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
trans-1,3-Dichloropropene	NA	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
Trichloroethene (Trichloroethylene)	54	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
Trichlorofluoromethane (Freon 11)	NA	1 U	0.007 U	0.002 U	0.26 U	0.99 U	0.002 U	0.002 U	0.44 U	0.013 U	0.009 U	0.002 U	0.003 U	1.1 U	0.003 U	0.014 U
Vinyl chloride (Chloroethene)	7	0.52 U	0.003 U	0.001 U	0.13 U	0.5 U	0.001 U	0.001 U	0.22 U	0.007 U	0.005 U	0.001 U	0.001 U	0.54 U	0.001 U	0.007 U
Xylenes, Total	1000	15	0.78	0.001 U	53	28	0.001 U	0.001 U	470	0.85	0.62	0.001 U	0.001 U	130	0.017	0.007 U

Notes:

Bold, shaded and brackets indicates action level exceedance

NA - No action level available for this parameter

U - Analyte not detected at that concentration

J - Analyte concentration estimated

-- indicates the parameter was not analyzed or was rejected

Table 2
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP NRDCSCC**	S3568	S3569				S3981					S3982				
Sample Date		10/4/2013	9/27/2013				11/1/2013					10/3/2013				
Sample Depth		18.5 - 19 ft bgs	5.5 - 6 ft bgs	7.5 - 8 ft bgs	12 - 12.5 ft bgs	14 - 14.5 ft bgs	6.5 - 7 ft bgs	7.5 - 8 ft bgs	11 - 11.5 ft bgs	12.5 - 13 ft bgs	16.5 - 17 ft bgs	6.5 - 7 ft bgs	9.5 - 10 ft bgs	15 - 15.5 ft bgs	18.5 - 19 ft bgs	22.5 - 23 ft bgs
Report Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	1000	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
1,1,2,2-Tetrachloroethane	70	0.001 U	0.001 U	0.012	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
1,1,2-Trichloroethane	420	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	0.002 U	0.002 U	0.002 U	0.005 U	0.011 U	0.002 U	0.15 U	0.19 U	0.013 U	0.002 U	0.29 U	0.22 U	0.34 U	0.013 U	0.11 U
1,1-Dichloroethane	1000	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 J	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
1,1-Dichloroethene (Dichloroethylene)	150	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
1,2,4-Trichlorobenzene	1200	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
1,2-Dibromo-3-chloropropane (DBCP)	NA	0.002 U	0.002 U	0.002 U	0.005 U	0.011 U	0.002 U	0.15 U	0.19 U	0.013 U	0.002 U	0.29 U	0.22 U	0.34 U	0.013 U	0.11 U
1,2-Dibromoethane	NA	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10000	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
1,2-Dichloroethane	24	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
1,2-Dichloropropane	43	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
1,3-Dichlorobenzene	10000	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
1,4-Dichlorobenzene	10000	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
2-Butanone (Methyl ethyl ketone)	1000	0.004 U	0.007 J	0.004 U	0.052	0.029 J	0.004 U	0.29 U	0.38 U	0.028 J	0.004 U	0.57 U	0.45 U	0.69 U	0.091	0.22 U
2-Hexanone	NA	0.003 U	0.003 U	0.003 U	0.007 U	0.017 U	0.003 U	0.22 U	0.29 U	0.019 U	0.003 U	0.43 U	0.34 U	0.52 U	0.019 U	0.16 U
4-Methyl-2-pentanone	1000	0.003 U	0.003 U	0.003 U	0.007 U	0.017 U	0.003 U	0.22 U	0.29 U	0.019 U	0.003 U	0.43 U	0.34 U	0.52 U	0.019 U	0.16 U
Acetone	1000	0.01 J	0.028	0.022	0.18	0.14	0.031	0.52 U	0.67 U	0.25	0.008 U	1 U	0.79 U	1.2 U	0.65	0.38 U
Benzene	13	0.0005 U	0.0005 U	0.084	0.006 J	0.15	0.002 J	1.1	2	1	0.008	3	0.056 U	0.94	0.003 U	0.027 U
Bromodichloromethane	46	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
Bromoform	370	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
Bromomethane (Methyl bromide)	1000	0.002 U	0.002 U	0.002 U	0.005 U	0.011 U	0.002 U	0.15 U	0.19 U	0.013 U	0.002 U	0.29 U	0.22 U	0.34 U	0.013 U	0.11 U
Carbon Disulfide	NA	0.003 J	0.001 U	0.002 J	0.011 J	0.041	0.001 J	0.074 U	0.095 U	0.015 J	0.001 U	0.14 U	0.11 U	0.17 U	0.02 J	0.13 J
Carbon Tetrachloride	4	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
Chlorobenzene	680	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
Chloroethane	NA	0.002 U	0.002 U	0.002 U	0.005 U	0.011 U	0.002 U	0.15 U	0.19 U	0.013 U	0.002 U	0.29 U	0.22 U	0.34 U	0.013 U	0.11 U
Chloroform	28	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
Chloromethane (Methyl chloride)	1000	0.002 U	0.002 U	0.002 U	0.005 U	0.011 U	0.002 U	0.15 U	0.19 U	0.013 U	0.002 U	0.29 U	0.22 U	0.34 U	0.013 U	0.11 U
cis-1,2-Dichloroethene	1000	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
cis-1,3-Dichloropropene	NA	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
Cyclohexane	NA	0.001 U	0.001 U	0.086 J	0.42	0.006 U	0.22	41	0.44 J	0.006 U	0.001 U	0.14 U	1.5	2.1	0.006 U	0.055 U
Dibromochloromethane	1000	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
Dichlorodifluoromethane (Freon 12)	NA	0.002 U	0.002 U	0.002 U	0.005 U	0.011 U	0.002 U	0.15 U	0.19 U	0.013 U	0.002 U	0.29 U	0.22 U	0.34 U	0.013 U	0.11 U
Ethylbenzene	1000	0.001 U	0.001 U	0.33	0.008 J	0.006 U	0.001 U	1.4	0.41 J	0.006 U	0.003 J	36	0.11 J	0.96	0.006 U	0.061 J
Isopropylbenzene	NA	0.001 U	0.001 U	0.27	0.17	0.006 U	0.013	31	0.53	0.006 U	0.001 U	11	0.78	3.2	0.006 U	0.17 J
Methyl acetate	NA	0.002 U	0.002 U	0.002 U	0.005 U	0.011 U	0.002 U	0.3 J	0.19 U	0.013 U	0.002 U	0.29 U	0.22 U	0.34 U	0.013 U	0.11 U
Methyl-t-butyl ether	NA	0.001 U	0.001 U	0.11 J	0.67	0.006 U	0.12	210	2.4	0.006 U	0.001 U	61	4.2	6.9	0.006 U	0.73
Methylcyclohexane	NA	0.002 U	0.008	0.002 U	0.005 U	0.011 U	0.002 U	0.15 U	0.19 U	0.013 U	0.002 U	0.29 U	0.22 U	0.34 U	0.013 U	0.11 U
Methylene chloride (Dichloromethane)	210	0.0005 U	0.0005 U	0.0005 U	0.001 U	0.003 U	0.0005 U	0.037 U	0.048 U	0.003 U	0.0005 U	0.072 U	0.056 U	0.086 U	0.003 U	0.027 U
Styrene	97	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
Tetrachloroethene	6	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
Toluene	1000	0.001 U	0.001 U	0.016	0.005 J	0.006 J	0.007	0.9	0.66	0.05	0.002 J	2.8	0.11 U	0.33 J	0.006 U	0.055 U
trans-1,2-Dichloroethene	1000	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
trans-1,3-Dichloropropene	NA	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
Trichloroethene (Trichloroethylene)	54	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
Trichlorofluoromethane (Freon 11)	NA	0.002 U	0.002 U	0.002 U	0.005 U	0.011 U	0.002 U	0.15 U	0.19 U	0.013 U	0.002 U	0.29 U	0.22 U	0.34 U	0.013 U	0.11 U
Vinyl chloride (Chloroethene)	7	0.001 U	0.001 U	0.001 U	0.002 U	0.006 U	0.001 U	0.074 U	0.095 U	0.006 U	0.001 U	0.14 U	0.11 U	0.17 U	0.006 U	0.055 U
Xylenes, Total	1000	0.001 U	0.001 U	0.23 J	0.052	0.006 U	0.015	4.1	1.3	0.006 U	0.003 J	94	0.12 J	2.8	0.006 U	0.18 J

Notes:

Bold, shaded and brackets indicates action level exceedance

NA - No action level available for this parameter

U - Analyte not detected at that concentration

J - Analyte concentration estimated

-- indicates the parameter was not analyzed or was rejected

Table 2
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP NRDCSCC**	S3983						S3984					S3996			
Sample Date		10/4/2013						10/24/2013					10/24/2013			
Sample Depth		3 - 3.5 ft bgs	5.5 - 6 ft bgs	7 - 7.5 ft bgs	12 - 12.5 ft bgs	16 - 16.5 ft bgs	19 - 19.5 ft bgs	2 - 2.5 ft bgs	6.5 - 7 ft bgs	7.5 - 8 ft bgs	10.5 - 11 ft bgs	14.5 - 15 ft bgs	0.5 - 1 ft bgs	6 - 6.5 ft bgs	11 - 11.5 ft bgs	12.5 - 13 ft bgs
Report Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	1000	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
1,1,2,2-Tetrachloroethane	70	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
1,1,2-Trichloroethane	420	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	0.11 U	0.19 U	0.16 U	3.1 U	2.4 U	0.002 U	0.002 U	0.14 U	0.25 U	0.27 U	0.002 U	0.002 U	0.39 U	0.27 U	0.015 U
1,1-Dichloroethane	1000	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
1,1-Dichloroethene (Dichloroethylene)	150	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
1,2,4-Trichlorobenzene	1200	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
1,2-Dibromo-3-chloropropane (DBCP)	NA	0.11 U	0.19 U	0.16 U	3.1 U	2.4 U	0.002 U	0.002 U	0.14 U	0.25 U	0.27 U	0.002 U	0.002 U	0.39 U	0.27 U	0.015 U
1,2-Dibromoethane	NA	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10000	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
1,2-Dichloroethane	24	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.59 J	0.13 U	0.008 U
1,2-Dichloropropane	43	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
1,3-Dichlorobenzene	10000	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
1,4-Dichlorobenzene	10000	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
2-Butanone (Methyl ethyl ketone)	1000	0.22 U	0.37 U	0.32 U	6.1 U	4.8 U	0.005 U	0.005 U	0.27 U	0.49 U	0.54 U	0.007 J	0.005 U	0.78 U	0.54 U	0.03 U
2-Hexanone	NA	0.16 U	0.28 U	0.24 U	4.6 U	3.6 U	0.003 U	0.004 U	0.2 U	0.37 U	0.41 U	0.003 U	0.004 U	0.58 U	0.4 U	0.023 U
4-Methyl-2-pentanone	1000	0.16 U	0.28 U	0.24 U	4.6 U	3.6 U	0.003 U	0.004 U	0.2 U	0.37 U	0.41 U	0.003 U	0.004 U	0.58 U	0.4 U	0.023 U
Acetone	1000	0.38 U	0.65 U	0.55 U	11 U	8.4 U	0.02 J	0.046	0.48 U	0.99 J	0.95 U	0.056	0.009 U	1.4 U	0.94 U	0.16
Benzene	13	0.29	0.046 U	1.4	**[240]**	**[85]**	0.01	0.0006 U	0.13 J	**[19]**	6.1	0.0005 U	0.0006 U	**[24]**	2.9	1.1
Bromodichloromethane	46	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
Bromoform	370	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
Bromomethane (Methyl bromide)	1000	0.11 U	0.19 U	0.16 U	3.1 U	2.4 U	0.002 U	0.002 U	0.14 U	0.25 U	0.27 U	0.002 U	0.002 U	0.39 U	0.27 U	0.015 U
Carbon Disulfide	NA	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.004 J	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.016 J
Carbon Tetrachloride	4	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
Chlorobenzene	680	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
Chloroethane	NA	0.11 U	0.19 U	0.16 U	3.1 U	2.4 U	0.002 U	0.002 U	0.14 U	0.25 U	0.27 U	0.002 U	0.002 U	0.39 U	0.27 U	0.015 U
Chloroform	28	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
Chloromethane (Methyl chloride)	1000	0.11 U	0.19 U	0.16 U	3.1 U	2.4 U	0.002 U	0.002 U	0.14 U	0.25 U	0.27 U	0.002 U	0.002 U	0.39 U	0.27 U	0.015 U
cis-1,2-Dichloroethene	1000	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
cis-1,3-Dichloropropene	NA	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
Cyclohexane	NA	0.44	0.093 U	2.8	96	24	0.017	0.001 U	0.18 J	13	13	0.001 U	0.001 U	120	0.24 J	0.008 U
Dibromochloromethane	1000	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
Dichlorodifluoromethane (Freon 12)	NA	0.11 U	0.19 U	0.16 U	3.1 U	2.4 U	0.002 U	0.002 U	0.14 U	0.25 U	0.27 U	0.002 U	0.002 U	0.39 U	0.27 U	0.015 U
Ethylbenzene	1000	0.87	1	8.6	490	270	0.097	0.001 U	0.43	70	62	0.001 U	0.001 U	270	0.72	0.008 U
Isopropylbenzene	NA	0.098 J	0.23 J	1.6	46	25	0.011	0.001 U	0.068 J	11	8.6	0.001 U	0.001 U	29	0.56 J	0.008 U
Methyl acetate	NA	0.12 J	0.19 U	0.16 U	3.1 U	2.4 U	0.002 U	0.002 U	0.14 U	0.66	0.27 U	0.002 U	0.002 U	0.39 U	0.27 U	0.015 U
Methyl-t-butyl ether	NA	0.92	0.41 J	12	160	54	0.052	0.001 U	0.99	65	43	0.001 U	0.001 U	190	1.3	0.008 U
Methylcyclohexane	NA	0.11 U	0.19 U	0.16 U	3.1 U	2.4 U	0.002 U	0.002 U	0.14 U	0.25 U	0.27 U	0.002 U	0.002 U	0.39 U	0.27 U	0.015 U
Methylene chloride (Dichloromethane)	210	0.027 U	0.046 U	0.039 U	0.76 U	0.6 U	0.0006 U	0.0006 U	0.034 U	0.061 U	0.068 U	0.0005 U	0.0006 U	0.097 U	0.067 U	0.004 U
Styrene	97	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
Tetrachloroethene	6	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
Toluene	1000	0.13 J	0.093 U	0.17 J	110	41	0.01	0.001 U	0.068 U	20	6.7	0.001 U	0.001 U	5.4	0.41 J	0.008 U
trans-1,2-Dichloroethene	1000	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
trans-1,3-Dichloropropene	NA	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
Trichloroethene (Trichloroethylene)	54	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
Trichlorofluoromethane (Freon 11)	NA	0.11 U	0.19 U	0.16 U	3.1 U	2.4 U	0.002 U	0.002 U	0.14 U	0.25 U	0.27 U	0.002 U	0.002 U	0.39 U	0.27 U	0.015 U
Vinyl chloride (Chloroethene)	7	0.055 U	0.093 U	0.079 U	1.5 U	1.2 U	0.001 U	0.001 U	0.068 U	0.12 U	0.14 U	0.001 U	0.001 U	0.19 U	0.13 U	0.008 U
Xylenes, Total	1000	1.4	0.5	1.1	2400	1300	0.46	0.001 U	0.068 U	290	370	0.002 J	0.001 U	27	0.78	0.008 U

Notes:

Bold, shaded and brackets indicates action level exceedance

NA - No action level available for this parameter

U - Analyte not detected at that concentration

J - Analyte concentration estimated

-- indicates the parameter was not analyzed or was rejected

Table 2
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP NRDCSCC**	S3998						S4089					S4113			
Sample Date		11/18/2013						10/25/2013					11/1/2013			
Sample Depth		3 - 3.5 ft bgs	5.5 - 6 ft bgs	7 - 7.5 ft bgs	11 - 11.5 ft bgs	11.5 - 12 ft bgs	15.5 - 16 ft bgs	7 - 7.5 ft bgs	12 - 12.5 ft bgs	19 - 19.5 ft bgs	21.5 - 22 ft bgs	24.5 - 25 ft bgs	7 - 7.5 ft bgs	11.5 - 12 ft bgs	16 - 16.5 ft bgs	17.5 - 18 ft bgs
Report Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	1000	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
1,1,2,2-Tetrachloroethane	70	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
1,1,2-Trichloroethane	420	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	0.13 U	0.6 U	0.53 U	0.73 U	0.82 U	0.12 U	0.002 U	0.42 U	0.013 U	0.56 U	0.002 U	0.002 U	0.003 U	0.009 U	0.009 U
1,1-Dichloroethane	1000	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
1,1-Dichloroethene (Dichloroethylene)	150	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
1,2,4-Trichlorobenzene	1200	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
1,2-Dibromo-3-chloropropane (DBCP)	NA	0.13 U	0.6 U	0.53 U	0.73 U	0.82 U	0.12 U	0.002 U	0.42 U	0.013 U	0.56 U	0.002 U	0.002 U	0.003 U	0.009 U	0.009 U
1,2-Dibromoethane	NA	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10000	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
1,2-Dichloroethane	24	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
1,2-Dichloropropane	43	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
1,3-Dichlorobenzene	10000	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
1,4-Dichlorobenzene	10000	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
2-Butanone (Methyl ethyl ketone)	1000	0.26 U	1.2 U	1.1 U	1.5 U	1.6 U	0.25 U	0.008 J	0.85 U	0.071	1.1 U	0.004 U	0.004 U	0.005 U	0.019 U	0.025 J
2-Hexanone	NA	0.2 U	0.9 U	0.8 U	1.1 U	1.2 U	0.19 U	0.003 U	0.64 U	0.02 U	0.84 U	0.003 U	0.003 U	0.004 U	0.014 U	0.014 U
4-Methyl-2-pentanone	1000	0.2 U	0.9 U	0.8 U	1.1 U	1.2 U	0.19 U	0.003 U	0.64 U	0.02 U	0.84 U	0.003 U	0.003 U	0.004 U	0.014 U	0.014 U
Acetone	1000	0.46 U	2.1 U	1.9 U	2.6 U	2.9 U	0.43 U	0.027	1.5 U	0.56	2 U	0.008 U	0.022	0.01 U	0.14	0.23
Benzene	13	0.45	3.3	2.1	2.1	1.2 J	0.031 U	2.1	**[48]**	0.052	**[31]**	0.0006 J	0.0005 U	0.003 J	0.004 J	0.002 U
Bromodichloromethane	46	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Bromoform	370	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Bromomethane (Methyl bromide)	1000	0.13 U	0.6 U	0.53 U	0.73 U	0.82 U	0.12 U	0.002 U	0.42 U	0.013 U	0.56 U	0.002 U	0.002 U	0.003 U	0.009 U	0.009 U
Carbon Disulfide	NA	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.002 J	0.21 U	0.063	0.28 U	0.003 J	0.001 U	0.002 J	0.007 J	0.007 J
Carbon Tetrachloride	4	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Chlorobenzene	680	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Chloroethane	NA	0.13 U	0.6 U	0.53 U	0.73 U	0.82 U	0.12 U	0.002 U	0.42 U	0.013 U	0.56 U	0.002 U	0.002 U	0.003 U	0.009 U	0.009 U
Chloroform	28	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Chloromethane (Methyl chloride)	1000	0.13 U	0.6 U	0.53 U	0.73 U	0.82 U	0.12 U	0.002 U	0.42 U	0.013 U	0.56 U	0.002 U	0.002 U	0.003 U	0.009 U	0.009 U
cis-1,2-Dichloroethene	1000	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
cis-1,3-Dichloropropene	NA	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Cyclohexane	NA	0.49	6.9	4.3	4.3	0.62 J	0.062 U	0.005 J	24	0.007 U	29	0.001 U	0.001 U	0.13	0.097	0.005 U
Dibromochloromethane	1000	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Dichlorodifluoromethane (Freon 12)	NA	0.13 U	0.6 U	0.53 U	0.73 U	0.82 U	0.12 U	0.002 U	0.42 U	0.013 U	0.56 U	0.002 U	0.002 U	0.003 U	0.009 U	0.009 U
Ethylbenzene	1000	1.8	21	16	13	3.1	0.14 J	0.12	87	0.01 J	74	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Isopropylbenzene	NA	0.53	5	4.4	4.1	0.86 J	0.062 U	0.003 J	7.5	0.007 U	7.6	0.001 U	0.001 U	0.039	0.006 J	0.005 U
Methyl acetate	NA	0.13 U	0.6 U	0.53 U	0.73 U	0.82 U	0.12 U	0.002 U	0.42 U	0.013 U	0.56 U	0.002 U	0.002 U	0.003 U	0.009 U	0.009 U
Methyl-t-butyl ether	NA	10	38	27	27	3.2	0.42	0.004 J	63	0.013 J	48	0.001 U	0.001 U	0.063	0.07	0.005 U
Methylcyclohexane	NA	0.13 U	0.6 U	0.53 U	0.73 U	0.82 U	0.12 U	0.002 U	0.42 U	0.013 U	0.56 U	0.002 U	0.002 U	0.003 U	0.009 U	0.009 U
Methylene chloride (Dichloromethane)	210	0.033 U	0.15 U	0.13 U	0.18 U	0.2 U	0.031 U	0.0006 U	0.11 U	0.003 U	0.14 U	0.0005 U	0.0005 U	0.0007 U	0.002 U	0.002 U
Styrene	97	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Tetrachloroethene	6	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Toluene	1000	0.079 J	0.3 U	0.56 J	0.36 U	0.41 U	0.062 U	0.042	74	0.008 J	58	0.001 U	0.001 U	0.002 J	0.005 U	0.005 J
trans-1,2-Dichloroethene	1000	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
trans-1,3-Dichloropropene	NA	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Trichloroethene (Trichloroethylene)	54	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Trichlorofluoromethane (Freon 11)	NA	0.13 U	0.6 U	0.53 U	0.73 U	0.82 U	0.12 U	0.002 U	0.42 U	0.013 U	0.56 U	0.002 U	0.002 U	0.003 U	0.009 U	0.009 U
Vinyl chloride (Chloroethene)	7	0.066 U	0.3 U	0.27 U	0.36 U	0.41 U	0.062 U	0.001 U	0.21 U	0.007 U	0.28 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
Xylenes, Total	1000	0.29 J	0.45 J	11	11	1.7 J	0.35	0.13	370	0.032 J	360	0.003 J	0.001 U	0.017	0.022 J	0.005 U

Notes:

Bold, shaded and brackets indicates action level exceedance

NA - No action level available for this parameter

U - Analyte not detected at that concentration

J - Analyte concentration estimated

-- indicates the parameter was not analyzed or was rejected

Table 2
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP NRDCSCC**	S4113	S4114						S4115					S4116		
Sample Date		11/1/2013	12/2/2013						11/26/2013					11/15/2013		
Sample Depth		21.5 - 22 ft bgs	5.5 - 6 ft bgs	10.5 - 11 ft bgs	12.5 - 13 ft bgs	14.5 - 15 ft bgs	18 - 18.5 bgs	23.5 - 24 ft bgs	2.5 - 3 ft bgs	6.5 - 7 ft bgs	8.5 - 9 ft bgs	13.5 - 14 ft bgs	19 - 19.5 ft bgs	3.5 - 4 ft bgs	7.5 - 8 ft bgs	11 - 11.5 ft bgs
Report Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	1000	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
1,1,2,2-Tetrachloroethane	70	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
1,1,2-Trichloroethane	420	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	0.002 U	0.11 U	0.11 U	0.008 U	0.012 U	0.012 U	0.002 U	0.11 U	0.004 U	0.007 U	0.006 U	0.003 U	0.1 U	0.29 U	0.35 U
1,1-Dichloroethane	1000	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
1,1-Dichloroethene (Dichloroethylene)	150	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
1,2,4-Trichlorobenzene	1200	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
1,2-Dibromo-3-chloropropane (DBCP)	NA	0.002 U	0.11 U	0.11 U	0.008 U	0.012 U	0.012 U	0.002 U	0.11 U	0.004 U	0.007 U	0.006 U	0.003 U	0.1 U	0.29 U	0.35 U
1,2-Dibromoethane	NA	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10000	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
1,2-Dichloroethane	24	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
1,2-Dichloropropane	43	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
1,3-Dichlorobenzene	10000	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
1,4-Dichlorobenzene	10000	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
2-Butanone (Methyl ethyl ketone)	1000	0.004 U	0.23 U	0.23 U	0.016 U	0.023 U	0.095	0.004 U	0.21 U	0.008 U	0.034	0.013 U	0.007 U	0.21 U	0.58 U	0.69 U
2-Hexanone	NA	0.003 U	0.17 U	0.17 U	0.012 U	0.017 U	0.018 U	0.003 U	0.16 U	0.006 U	0.01 U	0.01 U	0.005 U	0.15 U	0.44 U	0.52 U
4-Methyl-2-pentanone	1000	0.003 U	0.17 U	0.17 U	0.012 U	0.017 U	0.018 U	0.003 U	0.16 U	0.006 U	0.01 U	0.01 U	0.005 U	0.15 U	0.44 U	0.52 U
Acetone	1000	0.009 J	0.4 U	0.4 U	0.061 J	0.061 J	0.79	0.01 J	0.37 U	0.12	0.15	0.022 U	0.012 U	0.36 U	1 U	1.2 U
Benzene	13	0.0006 U	0.029 U	0.029 U	0.005 J	0.003 U	0.003 J	0.0006 J	0.03 J	0.0009 U	0.002 U	0.002 U	0.0009 U	0.32	0.33 J	0.74 J
Bromodichloromethane	46	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
Bromoform	370	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
Bromomethane (Methyl bromide)	1000	0.002 U	0.11 U	0.11 U	0.008 U	0.012 U	0.012 U	0.002 U	0.11 U	0.004 U	0.007 U	0.006 U	0.003 U	0.1 U	0.29 U	0.35 U
Carbon Disulfide	NA	0.001 U	0.057 U	0.057 U	0.005 J	0.008 J	0.064	0.002 J	0.053 U	0.003 J	0.008 J	0.003 U	0.004 J	0.052 U	0.15 U	0.17 U
Carbon Tetrachloride	4	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
Chlorobenzene	680	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
Chloroethane	NA	0.002 U	0.11 U	0.11 U	0.008 U	0.012 U	0.012 U	0.002 U	0.11 U	0.004 U	0.007 U	0.006 U	0.003 U	0.1 U	0.29 U	0.35 U
Chloroform	28	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
Chloromethane (Methyl chloride)	1000	0.002 U	0.11 U	0.11 U	0.008 U	0.012 U	0.012 U	0.002 U	0.11 U	0.004 U	0.007 U	0.006 U	0.003 U	0.1 U	0.29 U	0.35 U
cis-1,2-Dichloroethene	1000	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
cis-1,3-Dichloropropene	NA	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
Cyclohexane	NA	0.001 U	0.057 U	0.057 U	0.12	0.059	0.006 U	0.001 U	0.11 J	0.002 U	0.021	0.003 U	0.002 U	1.2	13	0.32 J
Dibromochloromethane	1000	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
Dichlorodifluoromethane (Freon 12)	NA	0.002 U	0.11 U	0.11 U	0.008 U	0.012 U	0.012 U	0.002 U	0.11 U	0.004 U	0.007 U	0.006 U	0.003 U	0.1 U	0.29 U	0.35 U
Ethylbenzene	1000	0.001 U	0.11 J	0.56	0.013 J	0.006 U	0.006 U	0.001 U	1.1	0.022	0.003 U	0.003 U	0.002 U	0.095 J	0.76	0.72 J
Isopropylbenzene	NA	0.001 U	0.31	0.35	0.025	0.02 J	0.006 U	0.001 U	0.93	2.1	0.006 J	0.003 U	0.002 U	0.089 J	9.3	1.2
Methyl acetate	NA	0.002 U	0.11 U	0.11 U	0.008 U	0.012 U	0.012 U	0.002 U	0.11 U	0.004 U	0.007 U	0.006 U	0.003 U	0.1 U	0.29 U	0.35 U
Methyl-t-butyl ether	NA	0.001 U	0.32	1.2	0.059	0.096	0.032	0.001 U	7.1	1.4	0.066	0.003 U	0.002 U	4.3	61	1.9
Methylcyclohexane	NA	0.002 U	0.11 U	0.11 U	0.008 U	0.012 U	0.012 U	0.002 U	0.11 U	0.004 U	0.007 U	0.006 U	0.003 U	0.1 U	0.29 U	0.35 U
Methylene chloride (Dichloromethane)	210	0.0006 U	0.029 U	0.029 U	0.002 U	0.003 U	0.003 U	0.0005 U	0.027 U	0.0009 U	0.002 U	0.002 U	0.0009 U	0.026 U	0.073 U	0.086 U
Styrene	97	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
Tetrachloroethene	6	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
Toluene	1000	0.001 U	0.057 U	0.057 U	0.008 J	0.006 U	0.006 U	0.001 U	0.09 J	0.002 U	0.003 U	0.003 U	0.002 U	0.054 J	0.38 J	0.17 U
trans-1,2-Dichloroethene	1000	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
trans-1,3-Dichloropropene	NA	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
Trichloroethene (Trichloroethylene)	54	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
Trichlorofluoromethane (Freon 11)	NA	0.002 U	0.11 U	0.11 U	0.008 U	0.012 U	0.012 U	0.002 U	0.11 U	0.004 U	0.007 U	0.006 U	0.003 U	0.1 U	0.29 U	0.35 U
Vinyl chloride (Chloroethene)	7	0.001 U	0.057 U	0.057 U	0.004 U	0.006 U	0.006 U	0.001 U	0.053 U	0.002 U	0.003 U	0.003 U	0.002 U	0.052 U	0.15 U	0.17 U
Xylenes, Total	1000	0.001 U	0.057 U	0.33	0.085	0.006 U	0.006 U	0.001 U	0.37	0.027	0.019	0.003 U	0.002 U	0.51	2.7	1.5

Notes:

Bold, shaded and brackets indicates action level exceedance

NA - No action level available for this parameter

U - Analyte not detected at that concentration

J - Analyte concentration estimated

-- indicates the parameter was not analyzed or was rejected

Table 2
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP NRDCSCC**	S4116		S4117					S4118					S4119		
Sample Date		11/15/2013		4/8/2014					11/19/2013					11/20/2013		
Sample Depth		13.5 - 14 ft bgs	16.5 - 17 ft bgs	1 - 1.5 ft bgs	3 - 3.5 ft bgs	13.5 - 14 ft bgs	17 - 17.5 ft bgs	18.5 - 19 ft bgs	2.5 - 3 ft bgs	4 - 4.5 ft bgs	9 - 9.5 ft bgs	16 - 16.5 ft bgs	21 - 21.5 ft bgs	3 - 3.5 ft bgs	5.5 - 6 ft bgs	7.5 - 8 ft bgs
Report Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	1000	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
1,1,2,2-Tetrachloroethane	70	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
1,1,2-Trichloroethane	420	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	0.73 U	0.002 U	0.002 U	0.11 U	0.012 U	0.002 U	0.002 U	0.002 U	0.1 U	0.1 U	0.008 U	0.002 U	0.12 U	1.2 U	0.61 U
1,1-Dichloroethane	1000	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
1,1-Dichloroethene (Dichloroethylene)	150	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
1,2,4-Trichlorobenzene	1200	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
1,2-Dibromo-3-chloropropane (DBCP)	NA	0.73 U	0.002 U	0.002 U	0.11 U	0.012 U	0.002 U	0.002 U	0.002 U	0.1 U	0.1 U	0.008 U	0.002 U	0.12 U	1.2 U	0.61 U
1,2-Dibromoethane	NA	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10000	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
1,2-Dichloroethane	24	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
1,2-Dichloropropane	43	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
1,3-Dichlorobenzene	10000	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
1,4-Dichlorobenzene	10000	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
2-Butanone (Methyl ethyl ketone)	1000	1.5 U	0.007 J	0.004 U	0.23 U	0.024 J	0.004 U	0.005 U	0.005 U	0.41 J	0.21 U	0.027 J	0.005 U	0.23 U	2.3 U	1.2 U
2-Hexanone	NA	1.1 U	0.004 U	0.003 U	0.17 U	0.018 U	0.003 U	0.004 U	0.004 U	0.16 U	0.16 U	0.012 U	0.003 U	0.18 U	1.7 U	0.92 U
4-Methyl-2-pentanone	1000	1.1 U	0.004 U	0.003 U	0.17 U	0.018 U	0.003 U	0.004 U	0.004 U	0.16 U	0.16 U	0.012 U	0.003 U	0.18 U	1.7 U	0.92 U
Acetone	1000	2.6 U	0.036	0.007 U	0.4 U	0.17	0.021	0.012 J	0.015 J	0.36 U	0.37 U	0.094	0.008 U	0.41 U	4 U	2.1 U
Benzene	13	**[16]**	0.1	0.0005 U	0.19 J	1.5	0.002 J	0.0006 U	0.0006 U	0.026 U	0.026 U	0.006 J	0.0006 U	0.062 J	2 J	1.4 J
Bromodichloromethane	46	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
Bromoform	370	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
Bromomethane (Methyl bromide)	1000	0.73 U	0.002 U	0.002 U	0.11 U	0.012 U	0.002 U	0.002 U	0.002 U	0.1 U	0.1 U	0.008 U	0.002 U	0.12 U	1.2 U	0.61 U
Carbon Disulfide	NA	0.37 U	0.005 J	0.001 U	0.057 U	0.01 J	0.002 J	0.001 U	0.001 U	0.052 U	0.052 U	0.008 J	0.001 U	0.059 U	0.58 U	0.31 U
Carbon Tetrachloride	4	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
Chlorobenzene	680	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
Chloroethane	NA	0.73 U	0.002 U	0.002 U	0.11 U	0.012 U	0.002 U	0.002 U	0.002 U	0.1 U	0.1 U	0.008 U	0.002 U	0.12 U	1.2 U	0.61 U
Chloroform	28	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
Chloromethane (Methyl chloride)	1000	0.73 U	0.002 U	0.002 U	0.11 U	0.012 U	0.002 U	0.002 U	0.002 U	0.1 U	0.1 U	0.008 U	0.002 U	0.12 U	1.2 U	0.61 U
cis-1,2-Dichloroethene	1000	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
cis-1,3-Dichloropropene	NA	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
Cyclohexane	NA	0.37 U	0.001 U	0.002 J	13	0.019 J	0.046	0.001 U	0.001 U	3.9	0.52	0.086	0.001 U	0.32	29	21
Dibromochloromethane	1000	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
Dichlorodifluoromethane (Freon 12)	NA	0.73 U	0.002 U	0.002 U	0.11 U	0.012 U	0.002 U	0.002 U	0.002 U	0.1 U	0.1 U	0.008 U	0.002 U	0.12 U	1.2 U	0.61 U
Ethylbenzene	1000	0.37 U	0.001 J	0.001 U	43	0.006 J	0.004 J	0.001 U	0.001 U	3	0.052 U	0.015 J	0.001 U	1.1	69	45
Isopropylbenzene	NA	0.37 U	0.011	0.001 U	16	0.006 U	0.05	0.001 U	0.001 U	3.7	0.77	0.07	0.001 U	0.28 J	14	9.9
Methyl acetate	NA	0.73 U	0.002 U	0.002 U	0.11 U	0.012 U	0.002 U	0.002 U	0.002 U	0.1 U	0.1 U	0.008 U	0.002 U	0.12 U	1.2 U	0.61 U
Methyl-t-butyl ether	NA	0.89 J	0.023	0.002 J	160	0.055	0.097	0.001 U	0.001 U	43	8.4	0.4	0.001 U	1.8	170	97
Methylcyclohexane	NA	0.73 U	0.002 U	0.002 U	0.11 U	0.012 U	0.003 J	0.002 U	0.002 U	0.1 U	0.1 U	0.008 U	0.002 U	0.12 U	1.2 U	0.61 U
Methylene chloride (Dichloromethane)	210	0.18 U	0.0006 U	0.0005 U	0.028 U	0.003 U	0.0005 U	0.0006 U	0.0006 U	0.026 U	0.026 U	0.002 U	0.0006 U	0.029 U	0.29 U	0.15 U
Styrene	97	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
Tetrachloroethene	6	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
Toluene	1000	0.37 U	0.002 J	0.001 U	0.063 J	0.058	0.001 J	0.001 U	0.001 U	0.052 U	0.052 U	0.005 J	0.001 U	0.059 U	32	0.31 U
trans-1,2-Dichloroethene	1000	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
trans-1,3-Dichloropropene	NA	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
Trichloroethene (Trichloroethylene)	54	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
Trichlorofluoromethane (Freon 11)	NA	0.73 U	0.002 U	0.002 U	0.11 U	0.012 U	0.002 U	0.002 U	0.002 U	0.1 U	0.1 U	0.008 U	0.002 U	0.12 U	1.2 U	0.61 U
Vinyl chloride (Chloroethene)	7	0.37 U	0.001 U	0.001 U	0.057 U	0.006 U	0.001 U	0.001 U	0.001 U	0.052 U	0.052 U	0.004 U	0.001 U	0.059 U	0.58 U	0.31 U
Xylenes, Total	1000	0.37 U	0.001 U	0.001 U	25	0.006 U	0.006	0.001 U	0.001 U	0.93	0.052 U	0.039	0.001 U	0.059 U	250	16

Notes:

Bold, shaded and brackets indicates action level exceedance

NA - No action level available for this parameter

U - Analyte not detected at that concentration

J - Analyte concentration estimated

-- indicates the parameter was not analyzed or was rejected

Table 2
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP NRDCSCC**	S4119			S4276		
Sample Date		11/20/2013			4/8/2014		
Sample Depth		11.5 - 12 ft bgs	15.5 - 16 ft bgs	17 - 17.5 ft bgs	2 - 2.5 ft bgs	3.5 - 4 ft bgs	6 - 6.5 ft bgs
Report Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	1000	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
1,1,2,2-Tetrachloroethane	70	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
1,1,2-Trichloroethane	420	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	0.48 U	0.48 U	0.002 U	0.002 U	0.12 U	0.13 U
1,1-Dichloroethane	1000	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
1,1-Dichloroethene (Dichloroethylene)	150	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
1,2,4-Trichlorobenzene	1200	0.24 U	0.27 J	0.001 U	0.001 U	0.058 U	0.065 U
1,2-Dibromo-3-chloropropane (DBCP)	NA	0.48 U	0.48 U	0.002 U	0.002 U	0.12 U	0.13 U
1,2-Dibromoethane	NA	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10000	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
1,2-Dichloroethane	24	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
1,2-Dichloropropane	43	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
1,3-Dichlorobenzene	10000	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
1,4-Dichlorobenzene	10000	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
2-Butanone (Methyl ethyl ketone)	1000	0.96 U	0.95 U	0.004 U	0.004 U	0.23 U	0.26 U
2-Hexanone	NA	0.72 U	0.72 U	0.003 U	0.003 U	0.17 U	0.19 U
4-Methyl-2-pentanone	1000	0.72 U	0.72 U	0.003 U	0.003 U	0.17 U	0.19 U
Acetone	1000	1.7 U	1.7 U	0.008 U	0.031	0.4 U	0.45 U
Benzene	13	2.2	0.12 U	0.003 J	0.038	0.3	0.62
Bromodichloromethane	46	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
Bromoform	370	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
Bromomethane (Methyl bromide)	1000	0.48 U	0.48 U	0.002 U	0.002 U	0.12 U	0.13 U
Carbon Disulfide	NA	0.24 U	0.24 U	0.001 J	0.001 J	0.058 U	0.065 U
Carbon Tetrachloride	4	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
Chlorobenzene	680	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
Chloroethane	NA	0.48 U	0.48 U	0.002 U	0.002 U	0.12 U	0.13 U
Chloroform	28	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
Chloromethane (Methyl chloride)	1000	0.48 U	0.48 U	0.002 U	0.002 U	0.12 U	0.13 U
cis-1,2-Dichloroethene	1000	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
cis-1,3-Dichloropropene	NA	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
Cyclohexane	NA	1 J	2	0.001 U	0.051	7.3	12
Dibromochloromethane	1000	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
Dichlorodifluoromethane (Freon 12)	NA	0.48 U	0.48 U	0.002 U	0.002 U	0.12 U	0.13 U
Ethylbenzene	1000	11	1.1 J	0.002 J	0.092	0.17 J	0.4
Isopropylbenzene	NA	1.5	1.3	0.001 U	0.018	1.7	2.2
Methyl acetate	NA	0.48 U	0.48 U	0.002 U	0.002 U	0.12 U	0.13 U
Methyl-t-butyl ether	NA	4.8	10	0.001 J	0.1	16	32
Methylcyclohexane	NA	0.48 U	0.48 U	0.002 U	0.002 U	0.12 U	0.13 U
Methylene chloride (Dichloromethane)	210	0.12 U	0.12 U	0.0005 U	0.0005 U	0.029 U	0.032 U
Styrene	97	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
Tetrachloroethene	6	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
Toluene	1000	0.61 J	0.24 U	0.001 U	0.003 J	0.07 J	0.12 J
trans-1,2-Dichloroethene	1000	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
trans-1,3-Dichloropropene	NA	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
Trichloroethene (Trichloroethylene)	54	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
Trichlorofluoromethane (Freon 11)	NA	0.48 U	0.48 U	0.002 U	0.002 U	0.12 U	0.13 U
Vinyl chloride (Chloroethene)	7	0.24 U	0.24 U	0.001 U	0.001 U	0.058 U	0.065 U
Xylenes, Total	1000	16	2.2	0.001 U	0.017	0.43	0.45

Notes:
Bold, shaded and brackets indicates action level exceedance
NA - No action level available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
-- indicates the parameter was not analyzed or was rejected

Table 3
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER
Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location ID	**NJDEP GWQS or CMI Action Level**	H0896	HP-0121-A	H1102	H1145	H1169	H1280	H1281	H1397	H1398	H1399
Sample Date		1/22/2003	9/18/1997	7/3/2013	7/3/2013	7/3/2013	2/7/2013	2/7/2013	8/15/2013	8/15/2013	8/16/2013
Report Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	30	0.8 U	--	0.8 U	0.8 U	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,1,2,2-Tetrachloroethane	1	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	3	0.8 U	--	0.8 U	0.8 U	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	2 U	--	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U
1,1-Dichloroethane	50	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene (Dichloroethylene)	1	0.8 U	--	0.8 U	0.8 U	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,2,4-Trichlorobenzene	9	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane (DBCP)	0.02	2 U	--	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane	0.03	1 U	0.52 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	600	1 U	100 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	2	1 U	2.0 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	600	1 U	100 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	1 U	100 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
2-Butanone (Methyl ethyl ketone)	300	10	10 U	3 U	3 U	6 U	4 J	3 U	3 U	3 U	3 U
2-Hexanone	NA	3 U	--	3 U	3 U	6 U	3 U	3 U	3 U	3 U	3 U
4-Methyl-2-pentanone	NA	3 U	--	3 U	3 U	6 U	3 U	3 U	3 U	3 U	3 U
Acetone	6000	17 J	--	6 U	9 J	15 J	9 J	6 U	6 U	6 U	6 U
Benzene	100	2 J	16	6	0.5 U	46	11	3 J	0.8 J	5	2 J
Bromodichloromethane	1	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Bromoform	4	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	10	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Carbon Disulfide	700	1 U	5.0 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	1	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	0.8 U	4.0 U	0.8 U	0.8 U	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Chloroethane	NA	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	0.8 U	5.0 U	0.8 U	0.8 U	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Chloromethane (Methyl chloride)	NA	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	0.8 U	--	0.8 U	0.8 U	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
cis-1,3-Dichloropropene	NA	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Cyclohexane	NA	5	--	3 J	2 U	29	2 U	17	14	2 U	3 J
Dibromochloromethane	1	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane (Freon 12)	1000	2 U	--	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	700	6	10	1 J	1 J	580	0.8 U	30	0.8 U	15	6
Isopropylbenzene	700	13	--	5	3 J	150	46	61	10	1 U	6
Methyl acetate	7000	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Methyl-t-butyl ether	70	0.5 U	--	3 J	2 J	47	7	30	8	2 J	14
Methylcyclohexane	NA	10	--	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U
Methylene chloride (Dichloromethane)	3	2 U	--	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	100	1 U	5.0 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	1	0.8 U	--	0.8 U	0.8 U	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Toluene	600	1 J	5.0 U	0.7 U	0.7 U	11	1 J	2 J	0.8 J	0.7 U	0.7 U
trans-1,2-Dichloroethene	100	0.8 U	--	0.8 U	0.8 U	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
trans-1,3-Dichloropropene	NA	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene (Trichloroethylene)	1	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane (Freon 11)	2000	2 U	--	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride (Chloroethene)	1	1 U	--	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	1000	11	5.0U	0.8 U	0.8 U	**[1600]**	4 J	97	3 J	0.8 U	0.9 J

Notes:
Bold, shaded and brackets indicates action level exceedance
NA - No action level available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
-- indicates the parameter was not analyzed or was rejected

Table 4
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP GWQS or CMI Action Level**	H0416	H0417	H0418	H0419	H0420	H0989	P-1								
Sample Date		9/29/1999	9/30/1999	9/30/1999	9/30/1999	9/30/1999	10/30/2006	11/15/2005	6/2/2006	12/1/2006	6/12/2007	12/13/2007	8/22/2008	11/4/2008	7/10/2009	11/12/2009
Report Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	30	--	--	--	0.50 U	--	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,1,2,2-Tetrachloroethane	1	--	--	--	0.50 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	3	--	--	--	0.50 U	--	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	--	--	--	--	--	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1-Dichloroethane	50	--	--	--	0.50 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene (Dichloroethylene)	1	--	--	--	0.50 U	--	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,2,4-Trichlorobenzene	9	--	--	--	21 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane (DBCP)	0.02	--	--	--	--	--	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane	0.03	0.52 U	0.52 U	0.52 U	--	0.52 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	600	18 U	14 U	12 U	21 U	14 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	2	2.0 U	2.0 U	2.0 U	0.50 U	2.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1	--	--	--	0.50 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	600	18 U	14 U	12 U	21 U	14 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	18 U	14 U	12 U	21 U	14 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone (Methyl ethyl ketone)	300	10 U	10 U	10 U	1.0 U	10 U	15 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
2-Hexanone	NA	--	--	--	1.0 U	--	15 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
4-Methyl-2-pentanone	NA	--	--	--	1.0 U	--	15 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Acetone	6000	--	--	--	1.0 U	--	30 U	6 U	8 J	8 J	6 U	6 U	7 J	6 U	6 J	6 U
Benzene	100	1.0 U	1.0 U	23	8	1.0 U	**[190]**	2 J	2 J	2 J	2 J	1 J	1 J	1 J	1 J	0.6 J
Bromodichloromethane	1	--	--	--	0.50 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	4	--	--	--	0.50 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	10	--	--	--	1.0 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Disulfide	700	5.0 U	5.0 U	5.0 U	0.50 U	5.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 J	1 U
Carbon Tetrachloride	1	--	--	--	0.50 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	4.0 U	4.0 U	4.0 U	0.50 U	4.0 U	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Chloroethane	NA	--	--	--	1.0 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	70	5.0 U	5.0 U	5.0 U	0.50 U	5.0 U	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Chloromethane (Methyl chloride)	NA	--	--	--	1.0 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	--	--	--	--	--	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
cis-1,3-Dichloropropene	NA	--	--	--	0.50 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cyclohexane	NA	--	--	--	--	--	74	11	8	8	6	13	6	10	4 J	4 J
Dibromochloromethane	1	--	--	--	0.50 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane (Freon 12)	1000	--	--	--	--	--	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	700	5.0 U	5.0 U	14	22	5.0 U	240	3 J	2 J	5	2 J	2 J	1 J	1 J	1 J	0.8 U
Isopropylbenzene	700	50	--	--	8.0	--	24 J	5 J	6	6	3 J	6	5 J	4 J	6	4 J
Methyl acetate	7000	--	--	--	--	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl-t-butyl ether	70	--	--	--	--	--	**[81]**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylcyclohexane	NA	--	--	--	--	--	10 U	12	10	12	8	13	6	8	1 J	1 J
Methylene chloride (Dichloromethane)	3	--	--	--	0.50 U	--	3 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Styrene	100	5.0 U	5.0 U	5.0 U	0.50 U	5.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	1	--	--	--	0.50 U	--	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Toluene	600	5.0 U	5.0 U	8	29	5.0 U	47	0.8 J	0.7 U	1 J	0.7 U	0.7 U	0.7 U	0.7 U	0.9 J	0.7 U
trans-1,2-Dichloroethene	100	--	--	--	--	--	4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
trans-1,3-Dichloropropene	NA	--	--	--	0.50 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene (Trichloroethylene)	1	--	--	--	0.50 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane (Freon 11)	2000	--	--	--	--	--	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride (Chloroethene)	1	--	--	--	1.0 U	--	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	1000	5.0 U	5.0 U	31	37	40	240	14	9	17	6	5	4 J	5	2 J	1 J

Notes:

Bold, shaded and brackets indicates action level exceedance

NA - No action level available for this parameter

U - Analyte not detected at that concentration

J - Analyte concentration estimated

-- indicates the parameter was not analyzed or was rejected

Table 4
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP GWQS or CMI Action Level**	P-1											MW-263			
Sample Date		6/29/2010	9/29/2010	6/7/2011	11/15/2011	3/9/2012	8/9/2012	4/5/2013	9/25/2013	6/24/2014	11/14/2014	6/30/2015	3/9/2007	5/17/2007	12/13/2007	7/1/2008
Report Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	30	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.5 U	0.5 U	0.5 U	0.8 U	0.8 U	4 U	8 U
1,1,2,2-Tetrachloroethane	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
1,1,2-Trichloroethane	3	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.5 U	0.5 U	0.5 U	0.8 U	0.8 U	4 U	8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	20 U
1,1-Dichloroethane	50	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
1,1-Dichloroethene (Dichloroethylene)	1	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.5 U	0.5 U	0.5 U	0.8 U	0.8 U	4 U	8 U
1,2,4-Trichlorobenzene	9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	10 U
1,2-Dibromo-3-chloropropane (DBCP)	0.02	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	20 U
1,2-Dibromoethane	0.03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	10 U
1,2-Dichloroethane	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
1,2-Dichloropropane	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
1,3-Dichlorobenzene	600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	10 U
1,4-Dichlorobenzene	75	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	10 U
2-Butanone (Methyl ethyl ketone)	300	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	5 J	5 J	15 U	30 U
2-Hexanone	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	15 U	30 U
4-Methyl-2-pentanone	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	7 J	15 U	30 U
Acetone	6000	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	23	18 J	30 U	60 U
Benzene	100	1 J	2 J	1 J	0.9 J	0.8 J	0.9 J	0.5 U	0.9 J	0.5 U	0.5 J	0.5 U	89	64	59	63
Bromodichloromethane	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
Bromoform	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
Bromomethane (Methyl bromide)	10	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
Carbon Disulfide	700	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	10 U
Carbon Tetrachloride	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
Chlorobenzene	50	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.5 U	0.5 U	0.5 U	0.8 U	0.8 U	4 U	8 U
Chloroethane	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
Chloroform	70	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.5 U	0.5 U	0.5 U	1 J	0.8 U	4 U	8 U
Chloromethane (Methyl chloride)	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
cis-1,2-Dichloroethene	70	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.5 U	0.5 U	0.5 U	0.8 U	0.8 U	4 U	8 U
cis-1,3-Dichloropropene	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
Cyclohexane	NA	5 J	9	5	4 J	4 J	4 J	2 U	3 J	2 U	2 J	2 U	33	27	22 J	27 J
Dibromochloromethane	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
Dichlorodifluoromethane (Freon 12)	1000	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	10 U	20 U
Ethylbenzene	700	0.8 U	2 J	1 J	0.9 J	0.8 U	0.8 U	0.8 U	0.8 U	0.5 U	0.6 J	0.5 U	81	42	61	60
Isopropylbenzene	700	3 J	7	4 J	4 J	4 J	3 J	1 U	3 J	1 U	2 J	1 U	5 J	3 J	6 J	10 U
Methyl acetate	7000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	10 U
Methyl-t-butyl ether	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 J	1 U	2 J	1 U	28	24	13 J	21 J
Methylcyclohexane	NA	2 J	6	3 J	4 J	3 J	3 J	2 U	2 U	2 U	2 U	2 U	2 J	2 U	10 U	20 U
Methylene chloride (Dichloromethane)	3	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3 U	5 U
Styrene	100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	10 U
Tetrachloroethene	1	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.5 U	0.5 U	0.5 U	0.8 U	0.8 U	4 U	8 U
Toluene	600	1 J	1 J	0.8 J	0.8 J	0.7 U	1 J	0.7 U	0.7 U	0.5 U	0.5 U	0.5 U	3 J	2 J	4 U	7 U
trans-1,2-Dichloroethene	100	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.5 U	0.5 U	0.5 U	0.8 U	0.8 U	4 U	8 U
trans-1,3-Dichloropropene	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
Trichloroethene (Trichloroethylene)	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
Trichlorofluoromethane (Freon 11)	2000	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	0.5 U	0.5 U	2 U	2 U	10 U	20 U
Vinyl chloride (Chloroethene)	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	5 U	10 U
Xylenes, Total	1000	5 J	7	4 J	6	3 J	4 J	0.8 U	3 J	0.5 U	4	0.5 U	79	29	18 J	41 J

Notes:

Bold, shaded and brackets indicates action level exceedance

NA - No action level available for this parameter

U - Analyte not detected at that concentration

J - Analyte concentration estimated

-- indicates the parameter was not analyzed or was rejected

Table 4
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP GWQS or CMI Action Level**	MW-263									H1144	H1315			H1418	
Sample Date		10/21/2008	7/7/2009	11/24/2009	6/2/2010	9/21/2010	6/7/2011	3/9/2012	4/9/2013	5/29/2014	2/6/2013	9/13/2013		8/8/2014	10/1/2013	11/20/2013
Report Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	30	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	--	0.8 U	2 U	2 U	0.5 U	0.8 U	0.8 U
1,1,2,2-Tetrachloroethane	1	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
1,1,2-Trichloroethane	3	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	--	0.8 U	2 U	2 U	0.5 U	0.8 U	0.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	4 U	4 U	2 U	2 U	2 U
1,1-Dichloroethane	50	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
1,1-Dichloroethene (Dichloroethylene)	1	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	--	0.8 U	2 U	2 U	0.5 U	0.8 U	0.8 U
1,2,4-Trichlorobenzene	9	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane (DBCP)	0.02	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	4 U	4 U	2 U	2 U	2 U
1,2-Dibromoethane	0.03	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	600	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	1 U	1 U	1 U
1,2-Dichloroethane	2	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
1,2-Dichloropropane	1	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
1,3-Dichlorobenzene	600	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	1 U	1 U	1 U
2-Butanone (Methyl ethyl ketone)	300	8 U	7 J	7 J	3 U	4 J	6 J	5 J	9 J	--	3 U	13 J	15 J	3 U	3 U	3 U
2-Hexanone	NA	8 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	--	3 U	6 U	6 U	3 U	3 U	3 U
4-Methyl-2-pentanone	NA	8 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	--	3 U	6 U	6 U	3 U	3 U	3 U
Acetone	6000	15 U	25	31	6 U	19 J	18 J	26	30	--	6 U	18 J	31 J	6 U	6 U	6 U
Benzene	100	60	64	99	66	86	64	58	75	60	0.5 U	**[330]**	**[820]**	0.5 U	7	74
Bromodichloromethane	1	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	**[3]**	1 U	1 U
Bromoform	4	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
Bromomethane (Methyl bromide)	10	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
Carbon Disulfide	700	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	1 U	1 U	1 U
Carbon Tetrachloride	1	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
Chlorobenzene	50	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	--	0.8 U	2 U	2 U	0.5 U	0.8 U	0.8 U
Chloroethane	NA	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
Chloroform	70	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	--	0.8 U	2 U	2 U	14	0.8 U	0.8 U
Chloromethane (Methyl chloride)	NA	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
cis-1,2-Dichloroethene	70	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	--	0.8 U	2 U	2 U	0.5 U	0.8 U	0.8 U
cis-1,3-Dichloropropene	NA	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
Cyclohexane	NA	10 J	22	30	3 J	34	26	28	33	--	2 U	180	170	2 U	41	8
Dibromochloromethane	1	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
Dichlorodifluoromethane (Freon 12)	1000	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	4 U	4 U	0.5 U	2 U	2 U
Ethylbenzene	700	39	64	73	29	52	41	40	38	26	0.8 U	88	460	0.7 J	5	42
Isopropylbenzene	700	3 J	7	6	1 J	5 J	5 J	5	7	--	1 U	86	84	1 U	25	6
Methyl acetate	7000	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	1 U	1 U	1 U
Methyl-t-butyl ether	70	6 J	16	21	1 U	26	20	22	26	--	1 U	200	190	1 U	96	13
Methylcyclohexane	NA	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	4 U	4 U	2 U	2 U	2 U
Methylene chloride (Dichloromethane)	3	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U
Styrene	100	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	1 U	1 U	1 U
Tetrachloroethene	1	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	--	0.8 U	2 U	2 U	0.5 U	0.8 U	0.8 U
Toluene	600	4 J	9	12	4 J	9	7	5	4 J	5 U	0.7 U	75	100	0.5 U	3 J	4 J
trans-1,2-Dichloroethene	100	2 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	--	0.8 U	2 U	2 U	0.5 U	0.8 U	0.8 U
trans-1,3-Dichloropropene	NA	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
Trichloroethene (Trichloroethylene)	1	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
Trichlorofluoromethane (Freon 11)	2000	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	4 U	4 U	0.5 U	2 U	2 U
Vinyl chloride (Chloroethene)	1	3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	2 U	0.5 U	1 U	1 U
Xylenes, Total	1000	26	60	65	13	53	44	35	23	15	0.8 U	56	110	0.5 U	5 J	10

Notes:
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Table 4
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP GWQS or CMI Action Level**	H1419		H1420		H1422		H1423		H1425		H1426	H1427		H1430	
Sample Date		10/2/2013	10/3/2013	10/3/2013		11/19/2013		11/19/2013		11/25/2013	11/26/2013	4/11/2014	12/3/2013		11/11/2013	11/12/2013
Report Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	30	2 U	8 U	2 U	0.8 U	0.8 U	16 U	8 U	8 U	8 U	0.8 U	0.5 U	0.8 U	0.8 U	0.8 U	0.8 U
1,1,2,2-Tetrachloroethane	1	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	3	2 U	8 U	2 U	0.8 U	0.8 U	16 U	8 U	8 U	8 U	0.8 U	0.5 U	0.8 U	0.8 U	0.8 U	0.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	4 U	20 U	4 U	2 U	2 U	40 U	20 U	20 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1-Dichloroethane	50	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene (Dichloroethylene)	1	2 U	8 U	2 U	0.8 U	0.8 U	16 U	8 U	8 U	8 U	0.8 U	0.5 U	0.8 U	0.8 U	0.8 U	0.8 U
1,2,4-Trichlorobenzene	9	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane (DBCP)	0.02	4 U	20 U	4 U	2 U	2 U	40 U	20 U	20 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane	0.03	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	600	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	2	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	600	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone (Methyl ethyl ketone)	300	6 J	30 U	15 J	3 U	3 U	60 U	30 U	30 U	30 U	4 J	4 J	3 U	3 U	6 J	3 U
2-Hexanone	NA	6 U	30 U	6 U	3 U	3 U	60 U	30 U	30 U	30 U	3 U	3 U	3 U	3 U	3 U	3 U
4-Methyl-2-pentanone	NA	6 U	30 U	6 U	3 U	3 U	60 U	30 U	30 U	30 U	3 U	3 U	3 U	3 U	3 U	3 U
Acetone	6000	20 J	60 U	60	26	6 U	120 U	100 J	60 U	60 U	19 J	14 J	6 J	6 U	18 J	6 U
Benzene	100	86	**[3900]**	**[120]**	41	0.7 J	10 U	**[200]**	84	9 J	**[110]**	68	7	2 J	27	15
Bromodichloromethane	1	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
Bromoform	4	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	10	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
Carbon Disulfide	700	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	2 J	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	1	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
Chlorobenzene	50	2 U	8 U	2 U	0.8 U	0.8 U	16 U	8 U	8 U	8 U	0.8 U	0.5 U	0.8 U	0.8 U	0.8 U	0.8 U
Chloroethane	NA	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
Chloroform	70	2 U	8 U	2 U	0.8 U	0.8 J	16 U	8 U	8 U	8 U	0.8 U	0.5 U	0.8 U	0.8 U	0.8 U	0.8 U
Chloromethane (Methyl chloride)	NA	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	2 U	8 U	2 U	0.8 U	0.8 U	16 U	8 U	8 U	8 U	0.8 U	0.5 U	0.8 U	0.8 U	0.8 U	0.8 U
cis-1,3-Dichloropropene	NA	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
Cyclohexane	NA	29	840	200	74	2 U	40 U	20 U	20 U	73	6	52	13	23	82	38
Dibromochloromethane	1	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane (Freon 12)	1000	4 U	20 U	4 U	2 U	2 U	40 U	20 U	20 U	20 U	2 U	0.5 U	2 U	2 U	2 U	2 U
Ethylbenzene	700	100	2300	110	100	0.8 U	16 U	270	120	11 J	27	77	42	14	4 J	3 J
Isopropylbenzene	700	11	310	74	77	1 U	20 U	42 J	20 J	23 J	3 J	24	22	37	52	39
Methyl acetate	7000	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl-t-butyl ether	70	24	1600	220	110	4 J	20 U	220	60	68	5 J	47	22	25	130	48
Methylcyclohexane	NA	4 U	20 U	4 U	2 U	2 U	40 U	20 U	20 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U
Methylene chloride (Dichloromethane)	3	1 U	5 U	1 U	0.5 U	0.5 U	10 U	5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	100	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	1	2 U	8 U	2 U	0.8 U	0.8 U	16 U	8 U	8 U	8 U	0.8 U	0.5 U	0.8 U	0.8 U	0.8 U	0.8 U
Toluene	600	10	360	36	26	0.7 U	14 U	150	75	15 J	9	18	5 J	7	11	5
trans-1,2-Dichloroethene	100	2 U	8 U	2 U	0.8 U	0.8 U	16 U	8 U	8 U	8 U	0.8 U	0.5 U	0.8 U	0.8 U	0.8 U	0.8 U
trans-1,3-Dichloropropene	NA	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
Trichloroethene (Trichloroethylene)	1	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane (Freon 11)	2000	4 U	20 U	4 U	2 U	2 U	40 U	20 U	20 U	20 U	2 U	0.5 U	2 U	2 U	2 U	2 U
Vinyl chloride (Chloroethene)	1	2 U	10 U	2 U	1 U	1 U	20 U	10 U	10 U	10 U	1 U	0.5 U	1 U	1 U	1 U	1 U
Xylenes, Total	1000	150	4700	140	380	0.8 U	16 U	790	700	15 J	70	220	82	84	18	13

Notes:

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J - Analyte concentration estimated

-- indicates the parameter was not analyzed or was rejected

Table 4
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP GWQS or CMI Action Level**	H1431		H1449	H1450	H1456	MW-352			MW-396		MW-397		MW-398		MW-403
Sample Date		11/11/2013	11/15/2013	4/11/2014	4/9/2014	8/8/2014	11/8/2013	3/17/2014	6/5/2014	3/18/2014	6/13/2014	3/18/2014	6/13/2014	6/12/2014	9/24/2014	6/6/2014
Report Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Parameter Name		**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**	**Report Result**
1,1,1-Trichloroethane	30	16 U	0.8 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	4 U	0.5 U	0.8 U	0.5 U	1 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	1	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
1,1,2-Trichloroethane	3	16 U	0.8 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	40 U	2 U	2 U	2 U	2 U	4 U	4 U	2 U	10 U	2 U	2 U	2 U	4 U	2 U	2 U
1,1-Dichloroethane	50	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	5 U	0.5 U	1 U	0.5 U	1 U	0.6 J	0.5 U
1,1-Dichloroethene (Dichloroethylene)	1	16 U	0.8 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	9	20 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U	5 U	1 U	1 U	1 U	2 U	1 U	1 U
1,2-Dibromo-3-chloropropane (DBCP)	0.02	40 U	2 U	2 U	2 U	2 U	4 U	4 U	2 U	10 U	2 U	2 U	2 U	4 U	2 U	2 U
1,2-Dibromoethane	0.03	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	5 U	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	600	20 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U	5 U	1 U	1 U	1 U	2 U	1 U	1 U
1,2-Dichloroethane	2	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
1,2-Dichloropropane	1	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
1,3-Dichlorobenzene	600	20 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U	5 U	1 U	1 U	1 U	2 U	1 U	1 U
1,4-Dichlorobenzene	75	20 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U	5 U	1 U	1 U	1 U	2 U	1 U	1 U
2-Butanone (Methyl ethyl ketone)	300	60 U	3 U	3 U	3 J	3 U	6 U	17 J	32	15 U	4 J	3 U	5 J	6 U	3 U	5 J
2-Hexanone	NA	60 U	3 U	3 U	3 U	3 U	6 U	6 U	3 U	15 U	3 U	3 U	3 U	6 U	3 U	3 U
4-Methyl-2-pentanone	NA	60 U	3 U	3 U	3 U	3 U	6 U	6 U	3 U	15 U	3 U	3 U	3 U	6 U	3 U	3 U
Acetone	6000	120 U	6 U	9 J	11 J	6 U	26 J	73	61	30 U	10 J	7 J	12 J	12 U	6 U	16 J
Benzene	100	**[2200]**	65	1 J	15	0.6 J	**[410]**	**[410]**	**[390]**	**[140]**	**[150]**	19	5	43	67	**[520]**
Bromodichloromethane	1	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
Bromoform	4	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
Bromomethane (Methyl bromide)	10	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	5 U	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U
Carbon Disulfide	700	20 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U	5 U	1 U	1 U	1 U	2 U	1 U	8
Carbon Tetrachloride	1	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
Chlorobenzene	50	16 U	0.8 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	4 U	0.5 U	0.8 U	0.5 U	1 U	0.5 U	0.5 U
Chloroethane	NA	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	5 U	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U
Chloroform	70	16 U	0.8 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	4 U	0.5 U	0.8 U	0.5 U	1 U	0.5 U	0.5 U
Chloromethane (Methyl chloride)	NA	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	5 U	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	70	16 U	0.8 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	4 U	0.5 U	0.8 U	0.5 U	1 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	NA	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
Cyclohexane	NA	660	19	14	84	11	220	320	270	19 J	23	22	15	47	62	51
Dibromochloromethane	1	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
Dichlorodifluoromethane (Freon 12)	1000	40 U	2 U	0.5 U	0.5 U	0.5 U	4 U	4 U	0.5 U	10 U	0.5 U	2 U	0.5 U	1 U	0.5 U	0.5 U
Ethylbenzene	700	2100	36	0.5 U	3	0.7 J	210	140	160	51	23	2 J	2	63	140	55
Isopropylbenzene	700	210	74	9	8	20	90	70	69	6 J	2 J	33	34	13	23	23
Methyl acetate	7000	20 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U	5 U	1 U	1 U	1 U	2 U	1 U	1 U
Methyl-t-butyl ether	70	950	55	9	57	27	200	210	230	15 J	20	24	23	46	69	50
Methylcyclohexane	NA	40 U	2 U	2 U	2 U	2 U	4 U	4 U	2 U	10 U	2 U	2 U	2 U	4 U	2 U	2 U
Methylene chloride (Dichloromethane)	3	10 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
Styrene	100	20 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U	5 U	1 U	1 U	1 U	2 U	1 U	1 U
Tetrachloroethene	1	16 U	0.8 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
Toluene	600	170	6	0.6 J	2	0.5 U	70	65	65	6 J	0.5 U	5 J	4	5	5	26
trans-1,2-Dichloroethene	100	16 U	0.8 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	4 U	0.5 U	0.8 U	0.5 U	1 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	NA	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
Trichloroethene (Trichloroethylene)	1	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
Trichlorofluoromethane (Freon 11)	2000	40 U	2 U	0.5 U	0.5 U	0.5 U	4 U	4 U	0.5 U	10 U	0.5 U	2 U	0.5 U	1 U	0.5 U	0.5 U
Vinyl chloride (Chloroethene)	1	20 U	1 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
Xylenes, Total	1000	320	10	3	4	2	82	77	73	140	110	45	36	82	96	73

Notes:

Bold, shaded and brackets indicates action level exceedance

NA - No action level available for this parameter

U - Analyte not detected at that concentration

J - Analyte concentration estimated

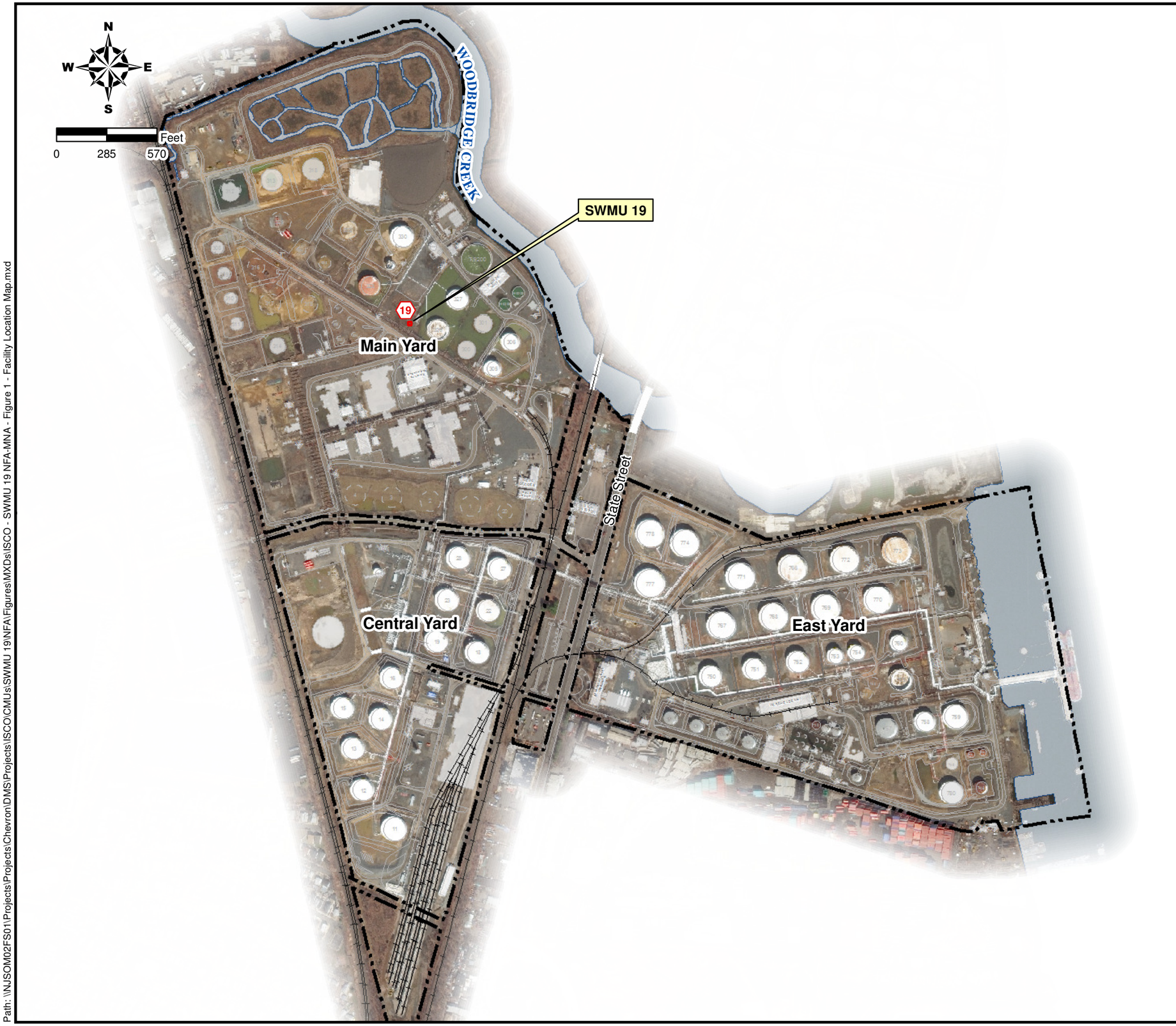
-- indicates the parameter was not analyzed or was rejected

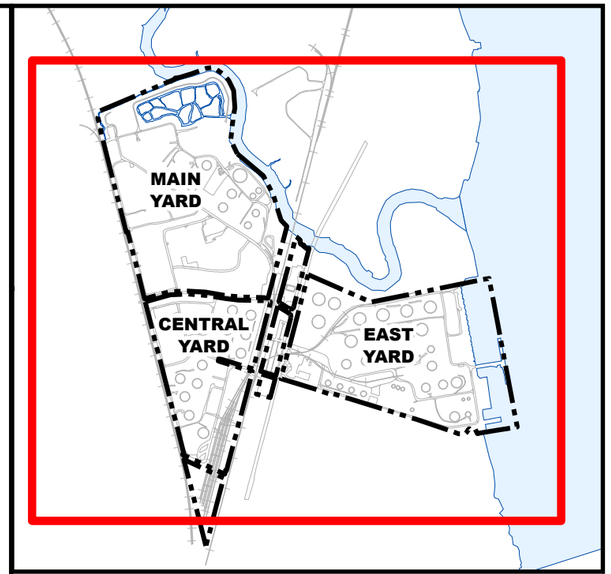
Table 4
SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER
Area North of Solid Waste Management Unit 19
Former Chevron Perth Amboy Facility

Location	**NJDEP GWQS or CMI Action Level**	MW-403	
Sample Date		7/28/2014	12/4/2014
Report Units		µg/L	µg/L
Parameter Name		**Report Result**	**Report Result**
1,1,1-Trichloroethane	30	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	1	0.5 U	0.5 U
1,1,2-Trichloroethane	3	0.5 U	0.5 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	NA	2 U	2 U
1,1-Dichloroethane	50	0.5 U	0.5 U
1,1-Dichloroethene (Dichloroethylene)	1	0.5 U	0.5 U
1,2,4-Trichlorobenzene	9	1 U	1 U
1,2-Dibromo-3-chloropropane (DBCP)	0.02	2 U	2 U
1,2-Dibromoethane	0.03	0.5 U	0.5 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	600	1 U	1 U
1,2-Dichloroethane	2	0.5 U	0.5 U
1,2-Dichloropropane	1	0.5 U	0.5 U
1,3-Dichlorobenzene	600	1 U	1 U
1,4-Dichlorobenzene	75	1 U	1 U
2-Butanone (Methyl ethyl ketone)	300	3 U	3 J
2-Hexanone	NA	3 U	3 U
4-Methyl-2-pentanone	NA	3 U	3 U
Acetone	6000	6 U	17 J
Benzene	100	**[430]**	**[840]**
Bromodichloromethane	1	0.5 U	0.5 U
Bromoform	4	0.5 U	0.5 U
Bromomethane (Methyl bromide)	10	0.5 U	0.5 U
Carbon Disulfide	700	6	8
Carbon Tetrachloride	1	0.5 U	0.5 U
Chlorobenzene	50	0.5 U	0.5 U
Chloroethane	NA	0.5 U	0.5 U
Chloroform	70	0.6 J	0.5 U
Chloromethane (Methyl chloride)	NA	0.5 U	0.5 U
cis-1,2-Dichloroethene	70	0.5 U	0.5 U
cis-1,3-Dichloropropene	NA	0.5 U	0.5 U
Cyclohexane	NA	9	22
Dibromochloromethane	1	0.5 U	0.5 U
Dichlorodifluoromethane (Freon 12)	1000	0.5 U	0.5 U
Ethylbenzene	700	17	41
Isopropylbenzene	700	6	15
Methyl acetate	7000	1 U	1 U
Methyl-t-butyl ether	70	9	21
Methylcyclohexane	NA	2 U	2 U
Methylene chloride (Dichloromethane)	3	0.5 U	0.5 U
Styrene	100	1 U	1 U
Tetrachloroethene	1	0.5 U	0.5 U
Toluene	600	7	26
trans-1,2-Dichloroethene	100	0.5 U	0.5 U
trans-1,3-Dichloropropene	NA	0.5 U	0.5 U
Trichloroethene (Trichloroethylene)	1	0.5 U	0.5 U
Trichlorofluoromethane (Freon 11)	2000	0.5 U	0.5 U
Vinyl chloride (Chloroethene)	1	0.5 U	0.5 U
Xylenes, Total	1000	29	66

Notes:
Bold, shaded and brackets indicates action level exceedance
NA - No action level available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
-- indicates the parameter was not analyzed or was rejected

Figures





LEGEND

SWMU

Facility Boundary

GENERAL NOTES:

1. Aerial photograph dated March 23, 2015 was provided by eMap International.

FACILITY LOCATION MAP

SWMU 19 NO FURTHER ACTION/MONITORED NATURAL ATTENUATION FOR BENZENE

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
449789-36600	9/20/2016	TDU	CK	1

Path: \\NJSOM02FS01\Projects\Projects\Chevron\DMS\Projects\ISCO\CMUs\SWMU 19\NFA\Figures\MXDs\ISCO - SWMU 19 NFA-MNA - Figure 1 - Facility Location Map.mxd

* Aerial photograph dated 3 April 2012 was provided by Borbas Surveying and Mapping, LLC.

AERIAL PHOTOGRAPH

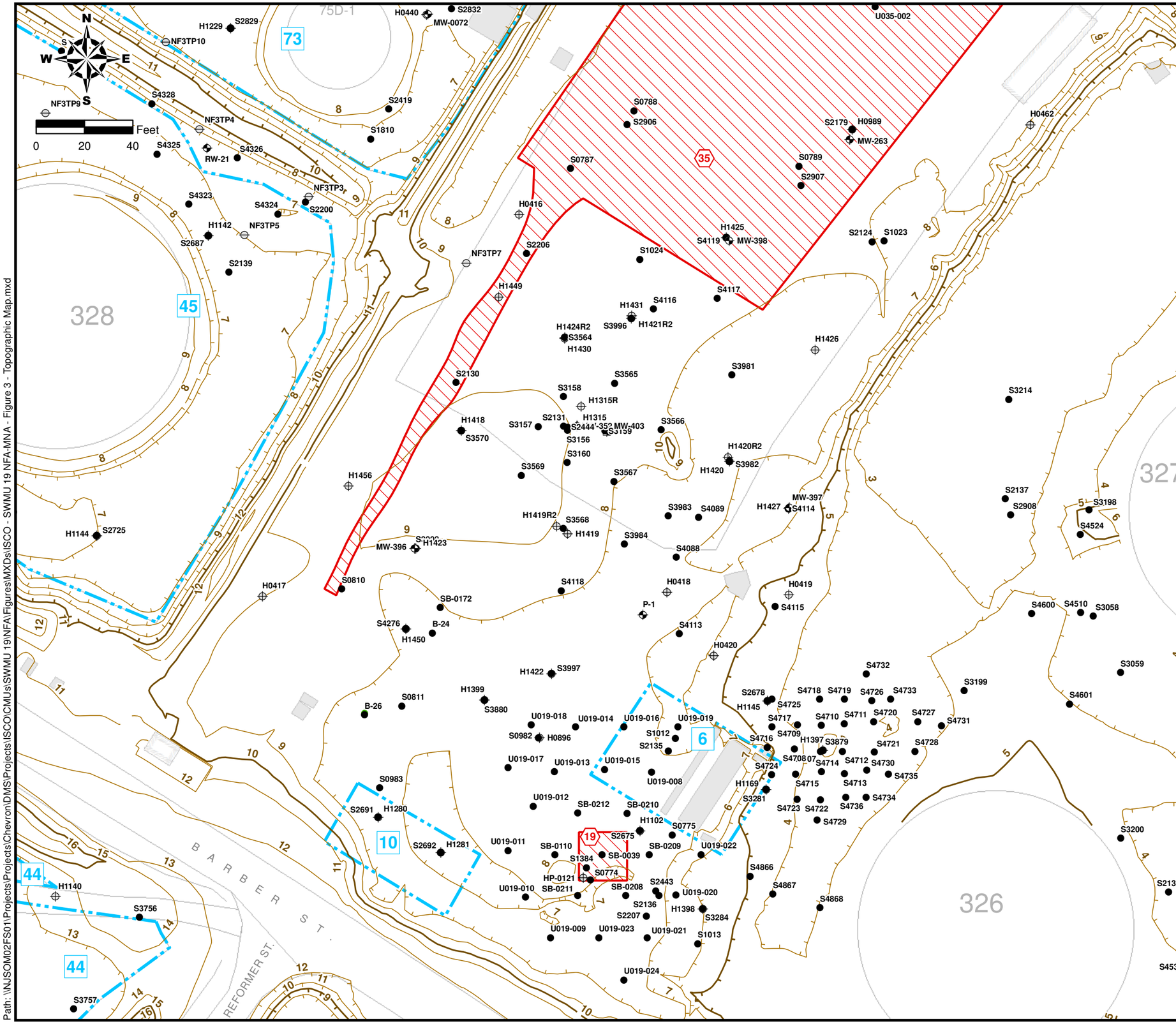
SWMU 19 NO FURTHER ACTION/MONITORED NATURAL ATTENUATION FOR BENZENE

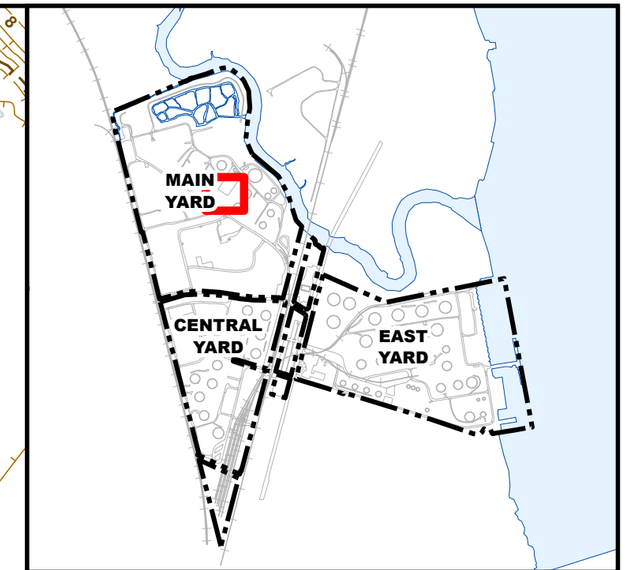
Chevron

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
449789-36600	9/20/2016	TDU	CK	2

Path: \\NJSOM02FS01\Projects\Projects\Chevron\DMS\Projects\ISCO\CMUs\SWMU 19\NFA\Figures\MXDs\ISCO - SWMU 19 NFA-MNA - Figure 2 - Aerial Location Map.mxd





LEGEND

- Soil Boring
- Temporary Well Point
- Shallow Monitoring Well
- Deep Monitoring Well
- Piezometer
- AOC
- PAOC
- SWMU
- Facility Boundary

Topographic Contour

- 1' Contour
- 1' Contour Depression
- 5' Contour
- 5' Contour Depression

GENERAL NOTES:

1. Topographic contours shown are at 1-ft interval.
2. The horizontal datum is the New Jersey State Plan Coordinate System NAD83.
3. The vertical datum is the National Geodetic Vertical Datum of 1929 (NGVD29).

TOPOGRAPHIC MAP

SWMU 19 NO FURTHER ACTION/MONITORED NATURAL ATTENUATION FOR BENZENE

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
449789-36600	9/20/2016	TDU	CK	3

Path: \\NJSOM02FS01\Projects\Projects\Chevron\DMS\Projects\ISCO\CMUs\SWMU 19\NFA\Figures\MXDs\ISCO - SWMU 19 NFA-MNA - Figure 3 - Topographic Map.mxd

N
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Location ID	S3158		
Field Sample ID	S3158D3	S3158F3	S3158G3
Sample Date	09/16/2013		
Depth Interval	7' - 7.5'	11' - 11.5'	13' - 13.5'
Benzene	0.65 J	4.1 J	0.79 J

Location ID	S2206	
Field Sample ID	S2206F1	
Sample Date	11/07/2006	
Depth Interval	10' - 10.5'	
Benzene	1.1	

Location ID	S3996			
Field Sample ID	S3996A2	S3996D1	S3996F3	S3996G2
Sample Date	10/24/2013			
Depth Interval	0.5' - 1'	6' - 6.5'	11' - 11.5'	12.5' - 13'
Benzene	0.0006 U	24 J	2.9 J	1.1 J

Location ID	S1024	
Field Sample ID	S1024F3	
Sample Date	01/14/2003	
Depth Interval	11' - 11.5'	
Benzene	0.57 J	

Location ID	S0799		
Field Sample ID	S0789A4	S0789F3	S0789I4
Sample Date	08/06/2002		
Depth Interval	1.5' - 2'	11' - 11.5'	17.5' - 18'
Benzene	0.15 U	9.4	0.13 U

Location ID	S2131	
Field Sample ID	S2131G4	
Sample Date	11/30/2006	
Depth Interval	13.5' - 14'	
Benzene	15 J	

Location ID	S2200	
Field Sample ID	S2200B5	
Sample Date	11/03/2006	
Depth Interval	2.5' - 3'	
Benzene	9.3	

Location ID	S2419	
Field Sample ID	S2419C4	
Sample Date	01/09/2007	
Depth Interval	5.5' - 6'	
Benzene	24	

Location ID	S0787		
Field Sample ID	S0787A4R	S0787D3	S0787I4
Sample Date	08/12/2002	08/05/2002	
Depth Interval	1.5' - 2'	7' - 7.5'	17.5' - 18'
Benzene	0.14 J	0.16 U	0.15 U

Location ID	S0788		
Field Sample ID	S0788A4	S0788F3	S0788I4
Sample Date	08/05/2002		
Depth Interval	1.5' - 2'	11' - 11.5'	17.5' - 18'
Benzene	0.13 U	1.9	0.14 U

Location ID	S4119					
Field Sample ID	S4119B3	S4119C4	S4119D4	S4119F4	S4119H4	S4119I3
Sample Date	11/20/2013					
Depth Interval	3' - 3.5'	5.5' - 6'	7.5' - 8'	11.5' - 12'	15.5' - 16'	17' - 17.5'
Benzene	0.062 J	2.0 J	1.4 J	2.2 J	0.12 U	0.003 J

Location ID	S2179	
Field Sample ID	S2179C3	
Sample Date	10/30/2006	
Depth Interval	7' - 7.5'	
Benzene	0.60 J	

Location ID	S2444	
Field Sample ID	S2444J2	
Sample Date	03/01/2007	
Depth Interval	18.5' - 19'	
Benzene	0.090 U	

Location ID	S2130	
Field Sample ID	S2130F1	S2130F4
Sample Date	11/30/2006	
Depth Interval	10' - 10.5'	11.5' - 12'
Benzene	0.36 J	2.1 J

Location ID	S3156			
Field Sample ID	S3156B2	S3156D3	S3156E3	S3156G4
Sample Date	02/06/2013			
Depth Interval	2.5' - 3'	7' - 7.5'	9' - 9.5'	13.5' - 14'
Benzene	1.6	3.2 J	95 J	9.1 J

Location ID	S3157			
Field Sample ID	S3157D3	S3157R1E3	S3157F3	S3157G3
Sample Date	09/16/2013			
Depth Interval	7' - 7.5'	9' - 9.5'	11' - 11.5'	13' - 13.5'
Benzene	0.41 J	0.24 J	0.61 J	0.44 J

Location ID	S3160			
Field Sample ID	S3160R1A4	S3160D3	S3160F4	S3160G4
Sample Date	09/26/2013	09/16/2013		
Depth Interval	1.5' - 2'	7' - 7.5'	11.5' - 12'	13.5' - 14'
Benzene	0.084 J	17 J	27 J	1.4 J

Location ID	S3569			
Field Sample ID	S3569C4	S3569D4	S3569K1	S3569H1
Sample Date	09/27/2013			
Depth Interval	5.5' - 6'	7.5' - 8'	12' - 12.5'	14' - 14.5'
Benzene	0.0005 U	0.084	0.006 J	0.15 J

Location ID	S3568				
Field Sample ID	S3568B1	S3568D4	S3568R1F4	S3568R1G2	S3568R1J2
Sample Date	10/01/2013	10/01/2013	10/04/2013		
Depth Interval	2' - 2.5'	7.5' - 8'	11.5' - 12'	12.5' - 13'	18.5' - 19'
Benzene	0.0006 U	6.7 J	0.003 J	0.027 J	0.0005 UJ

Location ID	S3984				
Field Sample ID	S3984B1	S3984D2	S3984D4	S3984F2	S3984H2
Sample Date	10/24/2013				
Depth Interval	2' - 2.5'	6.5' - 7'	7.5' - 8'	10.5' - 11'	14.5' - 15'
Benzene	0.0006 U	0.13 J	19 J	6.1 J	0.0005 UJ

Location ID	S3998					
Field Sample ID	S3998R1B3	S3998C4	S3998D3	S3998F3	S3998F4	S3998H4
Sample Date	11/18/2013					
Depth Interval	3' - 3.5'	5.5' - 6'	7' - 7.5'	11' - 11.5'	11.5' - 12'	15.5' - 16'
Benzene	0.45	3.3	2.1	2.1 J	1.2 J	0.031 UJ

Location ID	S2725		
Field Sample ID	S2725A1	S2725B4	S2725D3
Sample Date	02/05/2013		
Depth Interval	0' - 0.5'	3.5' - 4'	7' - 7.5'
Benzene	0.0006 U	7.8 J	0.44 J

Location ID	S0810		
Field Sample ID	S0810A4	S0810B1	S0810F4
Sample Date	08/12/2002		
Depth Interval	1.5' - 2'	2' - 2.5'	11.5' - 12'
Benzene	0.14 U	2.2	0.39 U

Location ID	S4118				
Field Sample ID	S4118B2	S4118C1	S4118E3	S4118I1	S4118K3
Sample Date	11/19/2013				
Depth Interval	2.5' - 3'	4' - 4.5'	9' - 9.5'	16' - 16.5'	21' - 21.5'
Benzene	0.0006 U	0.026 U	0.026 U	0.006 J	0.0006 U

Location ID	S4276		
Field Sample ID	S4276B1	S4276B4	S4276D1
Sample Date	04/08/2014		
Depth Interval	2' - 2.5'	3.5' - 4'	6' - 6.5'
Benzene	0.038 J	0.30 J	0.62

Location ID	S0811		
Field Sample ID	S0811A4	S0811D4	S0811H2Grab
Sample Date	08/12/2002		
Depth Interval	1.5' - 2'	7.5' - 8'	14.5' - 15'
Benzene	0.16 U	0.51 J	0.50 U

Location ID	S0982	
Field Sample ID	S0982B1	
Sample Date	01/21/2003	
Depth Interval	2' - 2.5'	
Benzene	0.53 J	

Location ID	S0983	
Field Sample ID	S0983D2	
Sample Date	01/21/2003	
Depth Interval	6.5' - 7'	
Benzene	1.6	

Location ID	S2691		
Field Sample ID	S2691A1	S2691B4	S2691G4
Sample Date	02/06/2013		
Depth Interval	0' - 0.5'	3.5' - 4'	13.5' - 14'
Benzene	0.036 J	2.5 J	0.005 J

Location ID	SB-0212
Field Sample ID	SB-0212S-D
Sample Date	06/05/1996
Depth Interval	6' - 8'
Benzene	0.49 U

Location ID	SB-0210
Field Sample ID	SB-0210S-E
Sample Date	06/05/1996
Depth Interval	8' - 10'
Benzene	0.62

Location ID	S2692		
Field Sample ID	S2692A1	S2692E2	S2692E4
Sample Date	02/06/2013		
Depth Interval	0' - 0.5'	8.5' - 9'	9.5' - 10'
Benzene	0.0006 U	0.033 U	0.30 J

Location ID	S2675		
Field Sample ID	S2675A2	S2675B1	S2675F3
Sample Date	07/02/2013		
Depth Interval	0.5' - 1'	2' - 2.5'	11' - 11.5'
Benzene	0.0008 J	0.097 J	0.002 U

Location ID	SB-0110
Field Sample ID	SB-0110S-D
Sample Date	11/22/1995
Depth Interval	6' - 8'
Benzene	0.007 U

Location ID	SB-0039
Field Sample ID	SB-0039S-B
Sample Date	10/16/1995
Depth Interval	2' - 4'
Benzene	2 U

Location ID	S1384		
Field Sample ID	S1384A4	S1384B4	S1384G3
Sample Date	01/21/2003		
Depth Interval	1.5' - 2'	3.5' - 4'	13' - 13.5'
Benzene	0.14 U	0.20 J	0.21 U

Location ID	S0774		
Field Sample ID	S0774A4	S0774E3	S0774H2
Sample Date	08/12/2002		
Depth Interval	1.5' - 2'	9' - 9.5'	14.5' - 15'
Benzene	0.14 U	0.48 J	0.50 U

Location ID	SB-0209	
Field Sample ID	SB-0209S-F	
Sample Date	06/05/1996	
Depth Interval	10' - 12'	
Benzene	0.58 U	

Location ID	SB-0208	
Field Sample ID	SB-0208S-D	
Sample Date	06/05/1996	
Depth Interval	6' - 8'	
Benzene	1.9	

Location ID	S2136		
Field Sample ID	S2136D1	S2136D3	S2136G1
Sample Date	11/30/2006		
Depth Interval	6' - 6.5'	7' - 7.5'	12' - 12.5'
Benzene	0.26 J	2.3	0.89 J

Location ID	S2119	
Field Sample ID	S2119E2	S2119J3
Sample Date	10/19/2006	
Depth Interval	8.5' - 9'	19' - 19.5'
Benzene	0.12 J	0.12 U

Location ID	S0775		
Field Sample ID	S0775A4	S0775C4	S0775F3
Sample Date	08/12/2002		
Depth Interval	1.5' - 2'	5.5' - 6'	11' - 11.5'
Benzene	0.18 U	0.18 U	0.26 U

Location ID	S1013		
Field Sample ID	S1013A4	S1013D1	S1013D4
Sample Date	01/22/2003		
Depth Interval	1.5' - 2'	6' - 6.5'	7.5' - 8'
Benzene	0.15 U	0.18 U	0.27 U

Location ID	S4866	
Field Sample ID	S4866B1	
Sample Date	08/26/2015	
Depth Interval	2' - 2.5'	
Benzene	0.027 U	

Location ID	S4867	
Field Sample ID	S4867A2	
Sample Date	08/26/2015	
Depth Interval	0.5' - 1'	
Benzene	0.91 J	

Location ID	S4116				
Field Sample ID	S4116B4	S4116D4	S4116F3	S4116G4	S4116R1I2
Sample Date	11/15/2013				
Depth Interval	3.5' - 4'	7.5' - 8'	11' - 11.5'	13.5' - 14'	16.5' - 17'
Benzene	0.32 J	0.33 J	0.74 J	16 J	0.10

Location ID	S2124	
Field Sample ID	S2124B2	S2124J4
Sample Date	10/20/2006	
Depth Interval	2.5' - 3'	19.5' - 20'
Benzene	1.3	0.067 U

Location ID	S1023
Field Sample ID	S1023C3
Sample Date	01/08/2003
Depth Interval	5' - 5.5'
Benzene	1.5

Location ID	S4117				
Field Sample ID	S4117A3	S4117B3	S4117G4	S4117I3	S4117J2
Sample Date	04/06/2014				
Depth Interval	1' - 1.5'	3' - 3.5'	13.5' - 14'	17' - 17.5'	18.5' - 19'
Benzene	0.0005 UJ	0.19 J	1.5 J	0.002 J	0.0006 U

Location ID	S3565		
Field Sample ID	S3565C3	S3565F3	S3565H1
Sample Date	09/20/2013		
Depth Interval	5' - 5.5'	11' - 11.5'	14' - 14.5'
Benzene	0.13	0.64 J	9.2 J

Location ID	S3981				
Field Sample ID	S3981D2	S3981D4	S3981F3	S3981G2	S3981I2
Sample Date	11/01/2013				
Depth Interval	6.5' - 7'	7.5' - 8'	11' - 11.5'	12.5' - 13'	16.5' - 17'
Benzene	0.002 J	1.1 J	2.0 J	1.0 J	0.008 J

Location ID	S3159					
Field Sample ID	S3159D3	S3159E4	S3159F3	S3159G2	S3159R2G4	S3159R2I1
Sample Date	09/16/2013				09/26/2013	10/03/2013
Depth Interval	7' - 7.5'	9.5' - 10'	11' - 11.5'	12.5' - 13'	13.5' - 14'	16' - 16.5'
Benzene	1.7 J	0.42 J	3.7 J	29 J	28 J	0.81 J

Location ID	S3566			
Field Sample ID	S3566R1B2	S3566D2	S3566F2	S3566J2
Sample Date	10/02/2013	09/20/2013		
Depth Interval	2.5' - 3'	6.5' - 7'	10.5' - 11'	18.5' - 19'
Benzene	0.11 J	25	3.2 J	0.002 J

Location ID	S3982				
Field Sample ID	S3982D2	S3982E4	S3982H3	S3982J2	S3982L2
Sample Date	10/03/2013				
Depth Interval	6.5' - 7'	9.5' - 10'	15' - 15.5'	18.5' - 19'	22.5' - 23'
Benzene	3.0	0.056 U	0.94 J	0.003 UJ	0.027 UJ

Location ID	S3567				
Field Sample ID	S3567R1B3	S3567C4	S3567R1F3	S3567R1H4	S3567R1J1
Sample Date	09/27/2013				
Depth Interval	3' - 3.5'	5.5' - 6'	11' - 11.5'	15.5' - 16'	18' - 18.5'
Benzene	0.0005 U	22 J	0.46 J	0.041 J	0.0006 U

Location ID	S4114					
Field Sample ID	S4114C4	S4114F2	S4114G2	S4114H2	S4114J1	S4114L4
Sample Date	12/02/2013					
Depth Interval	5.5' - 6'	10.5' - 11'	12.5' - 13'	14.5' - 15'	18' - 18.5'	23.5' - 24'
Benzene	0.029 U	0.029 U	0.005 J	0.003 UJ	0.003 J	0.0006 J

Location ID	S4089				
Field Sample ID	S4089D3	S4089G1	S4089J3	S4089K4	S4089M2
Sample Date	10/25/2013				
Depth Interval	7' - 7.5'	12' - 12.5'	19' - 19.5'	21.5' - 22'	24.5' - 25'
Benzene	2.1	48 J	0.052 J	31 J	0.0006 J

Location ID	S3983					
Field Sample ID	S3983B3	S3983C4	S3983D1	S3983G1	S3983I1	S3983J3
Sample Date	10/04/2013					
Depth Interval	3 - 3.5	5.5 - 6	7 - 7.5	12 - 12.5	16 - 16.5	19 - 19.5
Benzene	0.29	0.046 U	1.4 J	240	85 J	0.01 J

Location ID	S4115				
Field Sample ID	S4115B2	S4115D2	S4115E3	S4115G4	S4115J3
Sample Date	11/26/2013				
Depth Interval	2.5' - 3'	6.5' - 7'	8.5' - 9'	13.5' - 14'	19' - 19.5'
Benzene	0.030 J	0.0009 U	0.002 U	0.002 U	0.0009 UJ

Location ID	S4088				
Field Sample ID	S4088D3	S4088E1	S4088F3	S4088I4	S4088L2
Sample Date	10/25/2013				
Depth Interval	7' - 7.5'	8' - 8.5'	11' - 11.5'	17.5' - 18'	22.5' - 23'
Benzene	0.64 J	34 J	44	18 J	0.002 J

Location ID	S4113				
Field Sample ID	S4113D3	S4113F4	S4113I1	S4113I4	S4113K4
Sample Date	11/01/2013				
Depth Interval	7' - 7.5'	11.5' - 12'	16' - 16.5'	17.5' - 18'	21.5' - 22'
Benzene	0.0005 UJ	0.003 J	0.004 J	0.002 UJ	0.0006 UJ

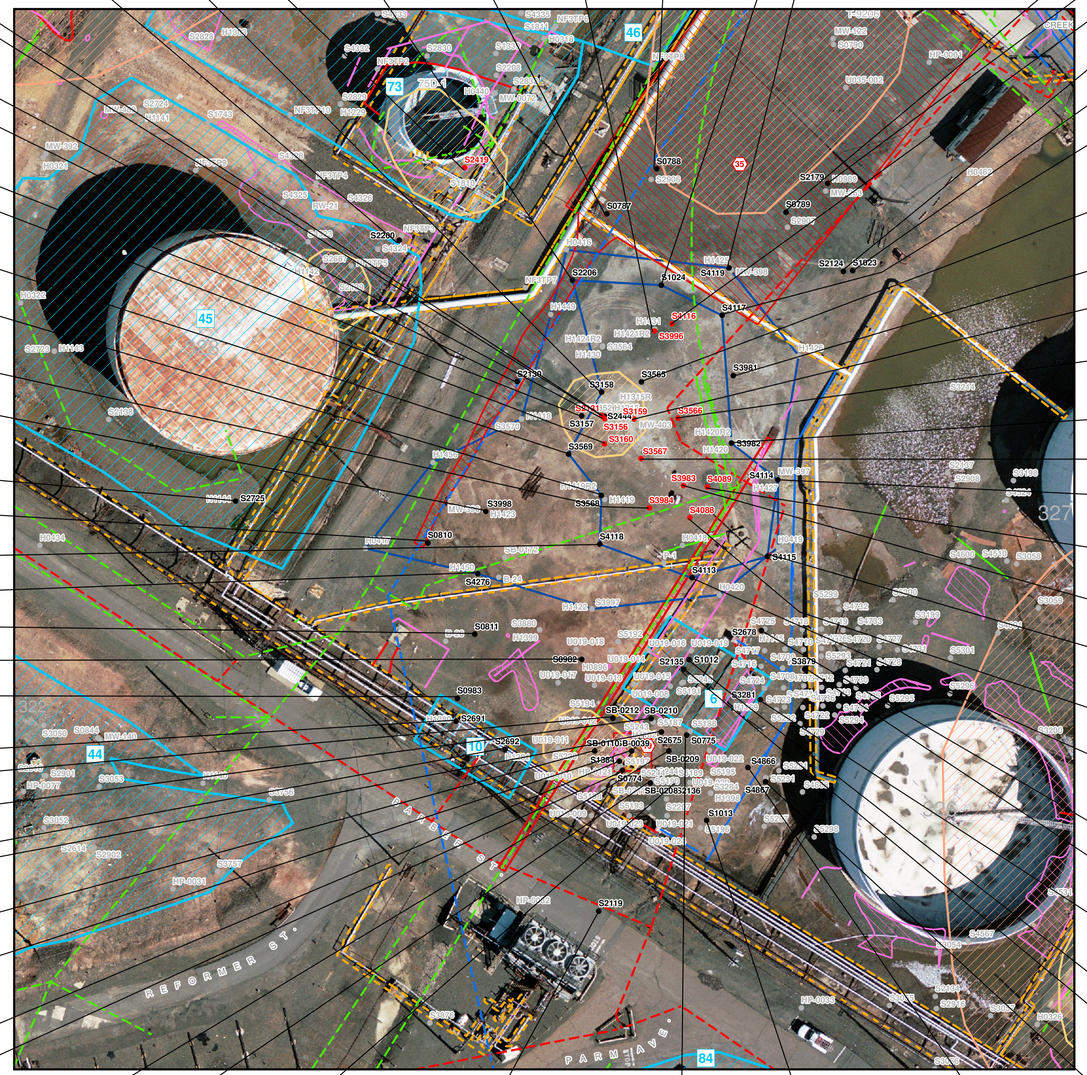
Location ID	S2678		
Field Sample ID	S2678A1	S2678B3	S2678C3
Sample Date	07/01/2013		
Depth Interval	0' - 0.5'	3' - 3.5'	5' - 5.5'
Benzene	0.0007 U	0.0008 U	0.0006 U

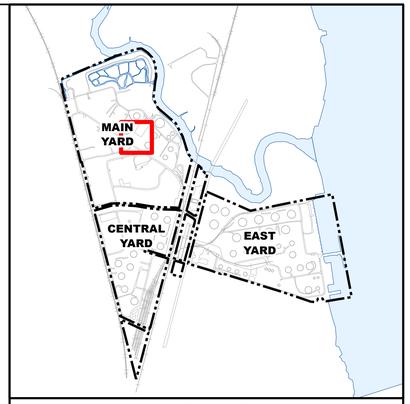
Location ID	S3879
Field Sample ID	S3879D2
Sample Date	08/14/2013
Depth Interval	6.5' - 7'
Benzene	0.003 J

Location ID	S3281		
Field Sample ID	S3281A1	S3281C3	S3281D3
Sample Date	07/01/2013		
Depth Interval	0' - 0.5'	5' - 5.5'	7' - 7.5'
Benzene	0.035 U	0.18 J	0.052 J

Location ID	S1012
Field Sample ID	S1012C4
Sample Date	05/06/2003
Depth Interval	5.5' - 6'
Benzene	0.17 U

Location ID	S2135	
Field Sample ID	S2135C4	S2135H2
Sample Date	11/30/2006	
Depth Interval	5.5' - 6'	14.5' - 15'
Benzene	0.084 U	0.27 UJ





Legend

- Soil Boring - No Analytical Data Available
- Soil Boring - Exceeda...
- Soil Boring - No Exceeda...
- CMS ISCO Estimated Extent - Soil > 13 mg/kg
- CMS ISCO Estimated Extent - Groundw... > 100 ug/L

Surveyed Utility

- Area Of Investiga...
- Electrical Line
- Metal Anomaly
- Sewer Line
- Water Line

Historic Subsurface Pipeway

- Oily Water Sewer System
- Sanitary Sewer System
- FireWater System
- PAOC
- SWMU
- Above Ground Pipeway
- CMI Action Level Boundary
- Electrical Line
- Metal Anomaly
- Facility Boundary

Notes:
1.) The CMI action limit for benzene in soil is 13 mg/kg
2.) Data is displayed in "mg/kg"
3.) Aerial photograph dated 3 April 2012 was provided by Borbas Surveying and Mapping, LLC.

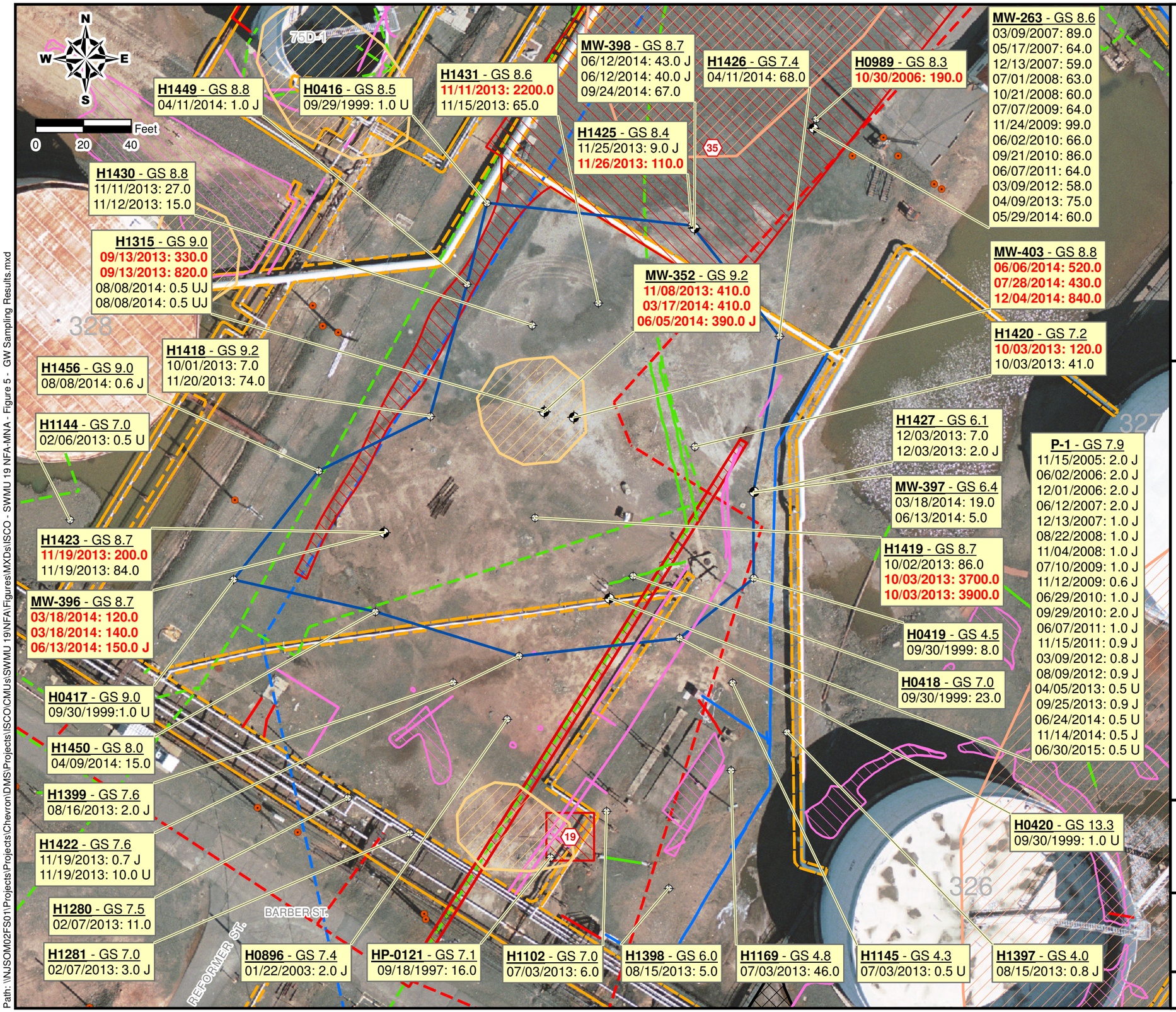
BENZENE CONCENTRATIONS IN SOIL

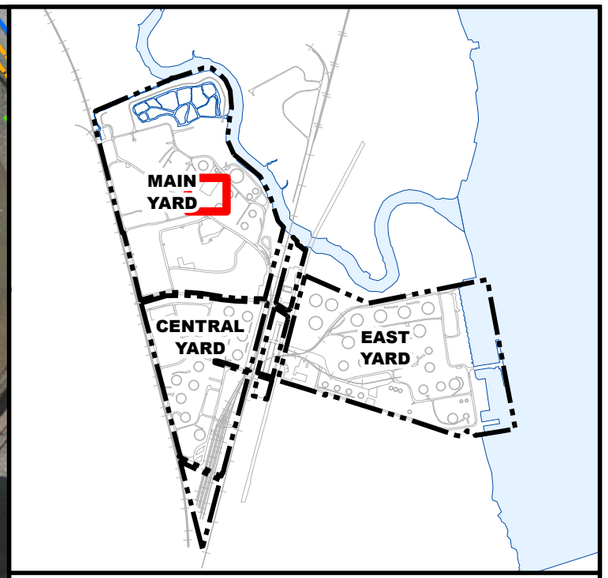
SWMU 19 NO FURTHER ACTION/MONITORED NATURAL ATTENUATION FOR BENZENE

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG #:
449789-36600	9/20/2016	TDU	CK	4

Path: \\NJSOM02FS01\Projects\Projects\Chevron\DMS\Projects\ISCO\CMUs\SWMU 19\NFA\Figures\MXD\ISCO - SWMU 19 NFA-MNA - Figure 4 - Soil Sampling Results.mxd





LEGEND

- Monitoring Well
- Temporary Well Point
- CMS ISCO Estimated Extent - Soil > 13 mg/kg
- CMS ISCO Estimated Extent - Groundwater > 100 ug/L
- Facility Boundary
- CMI Action Level Boundary
- SWMU
- Above Ground Pipeway
- Utility Pole

Surveyed Utility

- Electrical Line
- Metal Anomaly
- Sewer Line
- Water Line
- Area Not Investigated
- Electrical Line
- Metal Anomaly

Historic Subsurface Utility

- FireWater System
- Oily Water Sewer System (AOC 25)
- Sanitary Sewer System

Well ID — Ground Surface Elev. (ft, NGVD)

H0420 - GS 13.3
09/30/1999: 1.0 U

Sample Date — Benzene Results (ug/L)

NOTES:
1. Date of aerial photography was April, 3 2012
2. Analytical values in boxes are for benzene concentration
3. Benzene CMI action criterion = 100 µg/L
4. Red bold text indicates analytical value exceeds the criterion
5. Concentrations are measured in µg/L

BENZENE CONCENTRATIONS IN GROUNDWATER

SWMU 19 NO FURTHER ACTION/MONITORED NATURAL ATTENUATION FOR BENZENE

Chevron

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
449789-36600	9/20/2016	TDU	CK	5

Path: \\NJSOM02FS01\Projects\Projects\Chevron\DMS\Projects\ISCO\CMUs\SWMU 19\NFA\Figures\MXDs\ISCO - SWMU 19 NFA-MNA - Figure 5 - GW Sampling Results.mxd

Appendix A
Eurofins Letter

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March 1, 2013

Ms. Rita Schmon-Stasik - SAIC
Chevron
1200 State Street
Perth Amboy, NJ 08861

Dear Ms. Schmon-Stasik:

I am writing to inform you of revised analytical reports that are being issued for the following:

Project No.: RFI - Perth Amboy, NJ

Group No.: 838694 **SDG: RFE59**

LLI Sample No.	Client Sample Identification	Collection Date
3981905	S1005E2 Grab Soil Sample	01/21/2003
3981909	S1384B4 Grab Soil Sample	01/21/2003

The correction to the data affects the S1384B4 Grab Soil Sample analysis only.

In response to your inquiry regarding the results reported for LLI Sample Nos. 3981905 and 3981909, it was determined that there was an issue with the conversion of the raw results for the reported compounds between µg/kg and mg/kg which caused the Analysis Report to show results that were 1000 times too high. The method detection limits and dilution factors were not affected by this conversion and were correct on the original Analysis Report. The table below shows the previous result and the revised result for each compound that was detected. The Analysis Report will show the revised result.

LLI Sample No. 3981905

Compound	Previous result (mg/kg)	Revised result (mg/kg)
Benzene	210	0.21 J
Ethylbenzene	340	0.34 J
Xylene (Total)	400	0.40 J
Methylcyclohexane	310	0.31 J
Isopropylbenzene	600	0.60 J

LLI Sample No. 3981909

Compound	Previous result (mg/kg)	Revised result (mg/kg)
Benzene	200	0.20 J
Toluene	1000	1.0
Ethylbenzene	2300	2.3
Xylene (Total)	8000	8.0

The revised analytical report reflects this correction and is enclosed.

You are a valued client and we apologize for any inconvenience that this incident may have caused. If you have any questions or require further assistance, please call me at 717-656-2300, Ext. 1523. We appreciate your business and look forward to continuing to serve your laboratory needs.

Sincerely,

Robin C. Runkle
Senior Specialist
GC/MS Volatiles

RCR/mc
Enclosures

cc: Jennifer Totin (email)
Wendy Kozma

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Analysis Report

REVISED

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

March 04, 2013

Project: RFI - Perth Amboy, NJ

Submittal Date: 01/21/2003
Group Number: 838694
SDG: RFE59
PO Number: 99011184
Release Number: 50008931
State of Sample Origin: NJ

Client Sample Description	Lancaster Labs (LLI) #
T0121032 Trip Blank Methanol Sample	3981904
S1005E2 Grab Soil Sample	3981905
S1005G4 Grab Soil Sample	3981906
T0121031 Trip Blank Methanol Sample	3981907
S1384A4 Grab Soil Sample	3981908
S1384B4 Grab Soil Sample	3981909
S1384G3 Grab Soil Sample	3981910

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

ELECTRONIC COPY TO	ChevronTexaco	Attn: Mr. Michael Kominek/SAIC
1 COPY TO	Data Package Group	

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REVISED

Respectfully Submitted,

Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

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Analysis Report

REVISED

Sample Description: T0121032 Trip Blank Methanol Sample
SRPID: NJD081982902 LL00006892
RFI - Perth Amboy, NJ

LLI Sample # G5 3981904
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

T2132 SDG#: RFE59-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
06292	Acetone	67-64-1	N.D.	0.88	125
06292	Benzene	71-43-2	N.D.	0.13	125
06292	Bromodichloromethane	75-27-4	N.D.	0.13	125
06292	Bromoform	75-25-2	N.D.	0.13	125
06292	Bromomethane	74-83-9	N.D.	0.25	125
06292	2-Butanone	78-93-3	N.D.	0.50	125
06292	Carbon Disulfide	75-15-0	N.D.	0.13	125
06292	Carbon Tetrachloride	56-23-5	N.D.	0.13	125
06292	Chlorobenzene	108-90-7	N.D.	0.13	125
06292	Chloroethane	75-00-3	N.D.	0.25	125
06292	Chloroform	67-66-3	N.D.	0.13	125
06292	Chloromethane	74-87-3	N.D.	0.25	125
06381	Cyclohexane	110-82-7	N.D.	0.13	125
06381	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.25	125
06292	Dibromochloromethane	124-48-1	N.D.	0.13	125
06381	1,2-Dibromoethane	106-93-4	N.D.	0.13	125
06381	1,2-Dichlorobenzene	95-50-1	N.D.	0.13	125
06381	1,3-Dichlorobenzene	541-73-1	N.D.	0.13	125
06381	1,4-Dichlorobenzene	106-46-7	N.D.	0.13	125
06381	Dichlorodifluoromethane	75-71-8	N.D.	0.25	125
06292	1,1-Dichloroethane	75-34-3	N.D.	0.13	125
06292	1,2-Dichloroethane	107-06-2	N.D.	0.13	125
06292	1,1-Dichloroethene	75-35-4	N.D.	0.13	125
06292	cis-1,2-Dichloroethene	156-59-2	N.D.	0.13	125
06292	trans-1,2-Dichloroethene	156-60-5	N.D.	0.13	125
06292	1,2-Dichloropropane	78-87-5	N.D.	0.13	125
06292	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.13	125
06292	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.13	125
06292	Ethylbenzene	100-41-4	N.D.	0.13	125
06381	Freon 113	76-13-1	N.D.	0.25	125
06292	2-Hexanone	591-78-6	N.D.	0.38	125
06381	Isopropylbenzene	98-82-8	N.D.	0.13	125
06381	Methyl Acetate	79-20-9	N.D.	0.25	125
06292	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.13	125
06292	4-Methyl-2-pentanone	108-10-1	N.D.	0.38	125
06381	Methylcyclohexane	108-87-2	N.D.	0.13	125
06292	Methylene Chloride	75-09-2	N.D.	0.25	125
06292	Styrene	100-42-5	N.D.	0.13	125
06292	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.13	125
06292	Tetrachloroethene	127-18-4	N.D.	0.13	125
06292	Toluene	108-88-3	N.D.	0.13	125
06381	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.13	125
06292	1,1,1-Trichloroethane	71-55-6	N.D.	0.13	125
06292	1,1,2-Trichloroethane	79-00-5	N.D.	0.13	125
06292	Trichloroethene	79-01-6	N.D.	0.13	125
06381	Trichlorofluoromethane	75-69-4	N.D.	0.25	125
06292	Vinyl Chloride	75-01-4	N.D.	0.13	125
06292	Xylene (Total)	1330-20-7	N.D.	0.13	125

The percent recovery for dichlorodifluoromethane was outside QC limits high in the LCS associated with this sample. SInce the recovery was high and

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Analysis Report

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REVISED

Sample Description: T0121032 Trip Blank Methanol Sample
SRPID: NJD081982902 LL00006892
RFI - Perth Amboy, NJ

LLI Sample # G5 3981904
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

T2132 SDG#: RFE59-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor

this compound was not detected in the sample, no further action was taken.

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

00890 VOA GC/MS Library Search

The results from the volatile library search are listed on the attached FORM 1 - VOA-TIC. The qualifiers appearing in the "Q" column are defined on the back of this form.

00405 Field Preserved Methanol

The sample submitted for volatile organic analysis was preserved with methanol in the field.

General Sample Comments

State of New Jersey Lab Certification No. PA011

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06381	Add'l Cmpds - OLM04.2 by 8260B	SW-846 8260B	1	Q030231AB	01/24/2003 14:28	Susan McMahon-Luu	125
06292	TCL by 8260 (soil)	SW-846 8260B	1	Q030231AB	01/24/2003 14:28	Susan McMahon-Luu	125

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
T2132

Lab Name: Lancaster Laboratories Contract:_____
Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____
Matrix: (soil/water) SOIL Lab Sample ID: 3981904
Sample wt/vol: 10.0 (g/mL) g Lab File ID: HP07536.i/03jan24a.b/qj24s01.d
Level: (low/med) MED Date Received: 01/21/03
% Moisture: not dec. Date Analyzed: 01/24/03
Column: (pack/cap) CAP Dilution Factor: 125.0
CONCENTRATION UNITS:
Number TICs found: 0 (mg/L or mg/Kg) mg/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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page 1 of 1

FORM I VOA-TIC

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Analysis Report

REVISED

Sample Description: S1005E2 Grab Soil Sample
SRPID: NJD081982902 LL00006892
RFI - Perth Amboy, NJ

LLI Sample # SW 3981905
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 11:50 by BS

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1005E SDG#: RFE59-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**		**mg/kg**	
06292	Acetone	67-64-1	N.D.		1.1	124.88
06292	Benzene	71-43-2	0.21	J	0.16	124.88
06292	Bromodichloromethane	75-27-4	N.D.		0.16	124.88
06292	Bromoform	75-25-2	N.D.		0.16	124.88
06292	Bromomethane	74-83-9	N.D.		0.31	124.88
06292	2-Butanone	78-93-3	N.D.		0.62	124.88
06292	Carbon Disulfide	75-15-0	N.D.		0.16	124.88
06292	Carbon Tetrachloride	56-23-5	N.D.		0.16	124.88
06292	Chlorobenzene	108-90-7	N.D.		0.16	124.88
06292	Chloroethane	75-00-3	N.D.		0.31	124.88
06292	Chloroform	67-66-3	N.D.		0.16	124.88
06292	Chloromethane	74-87-3	N.D.		0.31	124.88
06381	Cyclohexane	110-82-7	N.D.		0.16	124.88
06381	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		0.31	124.88
06292	Dibromochloromethane	124-48-1	N.D.		0.16	124.88
06381	1,2-Dibromoethane	106-93-4	N.D.		0.16	124.88
06381	1,2-Dichlorobenzene	95-50-1	N.D.		0.16	124.88
06381	1,3-Dichlorobenzene	541-73-1	N.D.		0.16	124.88
06381	1,4-Dichlorobenzene	106-46-7	N.D.		0.16	124.88
06381	Dichlorodifluoromethane	75-71-8	N.D.		0.31	124.88
06292	1,1-Dichloroethane	75-34-3	N.D.		0.16	124.88
06292	1,2-Dichloroethane	107-06-2	N.D.		0.16	124.88
06292	1,1-Dichloroethene	75-35-4	N.D.		0.16	124.88
06292	cis-1,2-Dichloroethene	156-59-2	N.D.		0.16	124.88
06292	trans-1,2-Dichloroethene	156-60-5	N.D.		0.16	124.88
06292	1,2-Dichloropropane	78-87-5	N.D.		0.16	124.88
06292	cis-1,3-Dichloropropene	10061-01-5	N.D.		0.16	124.88
06292	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.16	124.88
06292	Ethylbenzene	100-41-4	0.34	J	0.16	124.88
06381	Freon 113	76-13-1	N.D.		0.31	124.88
06292	2-Hexanone	591-78-6	N.D.		0.47	124.88
06381	Isopropylbenzene	98-82-8	0.60	J	0.16	124.88
06381	Methyl Acetate	79-20-9	N.D.		0.31	124.88
06292	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.16	124.88
06292	4-Methyl-2-pentanone	108-10-1	N.D.		0.47	124.88
06381	Methylcyclohexane	108-87-2	0.31	J	0.16	124.88
06292	Methylene Chloride	75-09-2	N.D.		0.31	124.88
06292	Styrene	100-42-5	N.D.		0.16	124.88
06292	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		0.16	124.88
06292	Tetrachloroethene	127-18-4	N.D.		0.16	124.88
06292	Toluene	108-88-3	N.D.		0.16	124.88
06381	1,2,4-Trichlorobenzene	120-82-1	N.D.		0.16	124.88
06292	1,1,1-Trichloroethane	71-55-6	N.D.		0.16	124.88
06292	1,1,2-Trichloroethane	79-00-5	N.D.		0.16	124.88
06292	Trichloroethene	79-01-6	N.D.		0.16	124.88
06381	Trichlorofluoromethane	75-69-4	N.D.		0.31	124.88
06292	Vinyl Chloride	75-01-4	N.D.		0.16	124.88
06292	Xylene (Total)	1330-20-7	0.40	J	0.16	124.88

The percent recovery for dichlorodifluoromethane was outside QC limits high in the LCS associated with this sample. SInce the recovery was high and

REVISED

Sample Description: S1005E2 Grab Soil Sample
SRPID: NJD081982902 LL00006892
RFI - Perth Amboy, NJ

LLI Sample # SW 3981905
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 11:50 by BS

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1005E SDG#: RFE59-02

this compound was not detected in the sample, no further action was taken.

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

00890 VOA GC/MS Library Search

The results from the volatile library search are listed on the attached FORM 1 - VOA-TIC. The qualifiers appearing in the "Q" column are defined on the back of this form.

00405 Field Preserved Methanol

The sample submitted for volatile organic analysis was preserved with methanol in the field.

GC/MS Semivolatiles SW-846 8270C

CAT No.	Analysis Name	CAS Number	Dry Result mg/kg		Dry Method Detection Limit mg/kg	Dilution Factor
04689	Acenaphthene	83-32-9	0.70	J	0.41	10
04688	Acenaphthylene	208-96-8	N.D.		0.41	10
05722	Acetophenone	98-86-2	N.D.		0.84	10
04689	Anthracene	120-12-7	1.3	J	0.41	10
04688	Atrazine	1912-24-9	N.D.		0.4	10
04688	Benzaldehyde	100-52-7	N.D.		0.4	10
04689	Benzo(a)anthracene	56-55-3	4.5		0.41	10
04689	Benzo(a)pyrene	50-32-8	5.4		0.41	10
04689	Benzo(b)fluoranthene	205-99-2	2.3	J	0.41	10
04689	Benzo(g,h,i)perylene	191-24-2	3.0	J	0.41	10
04689	Benzo(k)fluoranthene	207-08-9	0.48	J	0.41	10
05722	1,1'-Biphenyl	92-52-4	N.D.		0.41	10
04689	4-Bromophenyl-phenylether	101-55-3	N.D.		0.4	10
04689	Butylbenzylphthalate	85-68-7	N.D.		0.8	10
04689	Di-n-butylphthalate	84-74-2	N.D.		0.8	10
04688	Caprolactam	105-60-2	N.D.		0.4	10
04689	Carbazole	86-74-8	N.D.		0.4	10
04688	4-Chloro-3-methylphenol	59-50-7	N.D.		0.8	10
04688	4-Chloroaniline	106-47-8	N.D.		0.4	10
04688	bis(2-Chloroethoxy)methane	111-91-1	N.D.		0.4	10
04688	bis(2-Chloroethyl)ether	111-44-4	N.D.		0.4	10
04688	2-Chloronaphthalene	91-58-7	N.D.		0.4	10
04688	2-Chlorophenol	95-57-8	N.D.		0.4	10
04689	4-Chlorophenyl-phenylether	7005-72-3	N.D.		0.4	10
04688	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.		0.4	10
04689	Chrysene	218-01-9	7.3		0.41	10
04689	Dibenz(a,h)anthracene	53-70-3	N.D.		0.41	10
04689	Dibenzofuran	132-64-9	0.4	J	0.4	10
04689	3,3'-Dichlorobenzidine	91-94-1	N.D.		0.8	10
04688	2,4-Dichlorophenol	120-83-2	N.D.		0.4	10
04689	Diethylphthalate	84-66-2	N.D.		0.8	10
04688	2,4-Dimethylphenol	105-67-9	N.D.		0.4	10
04688	Dimethylphthalate	131-11-3	N.D.		0.8	10
04689	4,6-Dinitro-2-methylphenol	534-52-1	N.D.		2.	10
04689	2,4-Dinitrophenol	51-28-5	N.D.		8.	10
04689	2,4-Dinitrotoluene	121-14-2	N.D.		0.8	10
04689	2,6-Dinitrotoluene	606-20-2	N.D.		0.4	10

REVISED

Sample Description: S1005E2 Grab Soil Sample
SRPID: NJD081982902 LL00006892
RFI - Perth Amboy, NJ

LLI Sample # SW 3981905
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 11:50 by BS

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1005E SDG#: RFE59-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
04689	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		0.84	10
04689	Fluoranthene	206-44-0	1.9	J	0.41	10
04689	Fluorene	86-73-7	1.6	J	0.41	10
04689	Hexachlorobenzene	118-74-1	N.D.		0.4	10
04688	Hexachlorobutadiene	87-68-3	N.D.		0.8	10
04688	Hexachlorocyclopentadiene	77-47-4	N.D.		2.	10
04688	Hexachloroethane	67-72-1	N.D.		0.4	10
04689	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.41	10
04688	Isophorone	78-59-1	N.D.		0.4	10
04688	2-Methylnaphthalene	91-57-6	4.	J	0.4	10
04688	2-Methylphenol	95-48-7	N.D.		0.4	10
04688	4-Methylphenol	106-44-5	N.D.		0.8	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04688	Naphthalene	91-20-3	1.1	J	0.41	10
04688	2-Nitroaniline	88-74-4	N.D.		0.4	10
04689	3-Nitroaniline	99-09-2	N.D.		0.8	10
04689	4-Nitroaniline	100-01-6	N.D.		0.8	10
04688	Nitrobenzene	98-95-3	N.D.		0.4	10
04688	2-Nitrophenol	88-75-5	N.D.		0.4	10
04689	4-Nitrophenol	100-02-7	N.D.		2.	10
04688	N-Nitroso-di-n-propylamine	621-64-7	N.D.		0.4	10
04689	N-Nitrosodiphenylamine	86-30-6	N.D.		0.4	10
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
04689	Di-n-octylphthalate	117-84-0	N.D.		0.8	10
04689	Pentachlorophenol	87-86-5	N.D.		2.	10
04689	Phenanthrene	85-01-8	7.6		0.41	10
04688	Phenol	108-95-2	N.D.		0.4	10
04689	Pyrene	129-00-0	6.		0.4	10
04688	2,4,5-Trichlorophenol	95-95-4	N.D.		0.4	10
04688	2,4,6-Trichlorophenol	88-06-2	N.D.		0.4	10

The QC limits for benzaldehyde are advisory only until sufficient data points can be obtained to calculate statistical windows.

The reporting limits for the GC/MS semivolatile compounds were raised due to the high concentration of non-target compounds.

00893 Semivolatile Library Search

The results from the semivolatile library search are listed on the attached FORM 1 - SV-TIC. The qualifiers appearing in the "Q" column are defined on the back of this form.

Metals		**SW-846 6010B**	**mg/kg**		**mg/kg**	
01643	Aluminum	7429-90-5	10,900.		4.13	1
01644	Antimony	7440-36-0	1.34	J	0.886	1
06935	Arsenic	7440-38-2	10.7		0.587	1
01646	Barium	7440-39-3	69.3		0.0599	1

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Analysis Report

REVISED

Sample Description: S1005E2 Grab Soil Sample
SRPID: NJD081982902 LL00006892
RFI - Perth Amboy, NJ

LLI Sample # SW 3981905
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 11:50 by BS

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1005E SDG#: RFE59-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
01647	Beryllium	7440-41-7	0.856	0.0462	1
01649	Cadmium	7440-43-9	0.871 J	0.114	1
01650	Calcium	7440-70-2	1,470.	5.61	1
01651	Chromium	7440-47-3	33.7	0.187	1
01652	Cobalt	7440-48-4	10.5	0.250	1
01653	Copper	7440-50-8	72.2	0.200	1
01654	Iron	7439-89-6	23,900.	5.96	1
06955	Lead	7439-92-1	903.	1.17	1
01657	Magnesium	7439-95-4	1,600.	2.43	1
01658	Manganese	7439-96-5	265.	0.0087	1
01661	Nickel	7440-02-0	17.9	0.250	1
01662	Potassium	7440-09-7	1,120.	4.66	1
06936	Selenium	7782-49-2	1.01 J	0.549	1
01666	Silver	7440-22-4	0.400 J	0.125	1
01667	Sodium	7440-23-5	263.	39.2	1
06925	Thallium	7440-28-0	1.51 J	1.22	1
01671	Vanadium	7440-62-2	43.2	0.0999	1
01672	Zinc	7440-66-6	107.	0.449	1
	SW-846 7471A		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.475	0.0124	1
Wet Chemistry	**EPA 160.3 modified**		**%**	**%**	
00111	Moisture	n.a.	19.9	0.50	1

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

General Sample Comments

State of New Jersey Lab Certification No. PA011

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06381	Add'l Cmpds - OLM04.2 by 8260B	SW-846 8260B	1	Q030231AC	01/27/2003 16:00	Susan McMahon-Luu	124.88
06292	TCL by 8260 (soil)	SW-846 8260B	1	Q030231AC	01/27/2003 16:00	Susan McMahon-Luu	124.88
05722	Misc. Semivolatiles (Soil)	SW-846 8270C	1	03022SLA026	01/28/2003 13:17	Joseph M Gambler	10
04688	TCL SW846 Semivolatiles Soil	SW-846 8270C	1	03022SLA026	01/28/2003 13:17	Joseph M Gambler	10
04689	TCL SW846 Semivolatiles/Soil	SW-846 8270C	1	03022SLA026	01/28/2003 13:17	Joseph M Gambler	10

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Analysis Report

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Sample Description: S1005E2 Grab Soil Sample
SRPID: NJD081982902 LL00006892
RFI - Perth Amboy, NJ

LLI Sample # SW 3981905
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ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1005E SDG#: RFE59-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
00381	BNA Soil Extraction	SW-846 3550B	1	03022SLA026	01/22/2003	15:30	John A Myers	1
01643	Aluminum	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01644	Antimony	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
06935	Arsenic	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01646	Barium	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01647	Beryllium	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01649	Cadmium	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01650	Calcium	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01651	Chromium	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01652	Cobalt	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01653	Copper	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01654	Iron	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
06955	Lead	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01657	Magnesium	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01658	Manganese	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01661	Nickel	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01662	Potassium	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
06936	Selenium	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01666	Silver	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01667	Sodium	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
06925	Thallium	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01671	Vanadium	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
01672	Zinc	SW-846 6010B	1	030305708001	01/30/2003	18:01	David K Beck	1
00159	Mercury	SW-846 7471A	1	030305711001	01/30/2003	20:02	Nelli S Markaryan	1
05708	SW SW846 ICP Digest	SW-846 3050B	1	030305708001	01/30/2003	07:27	Denise K Conners	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	030305711001	01/30/2003	09:43	Denise K Conners	1
00111	Moisture	EPA 160.3 modified	2	03024820003A	01/24/2003	16:45	Scott W Freisher	1

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
1005E

Lab Name: Lancaster Laboratories Contract:_____
Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____
Matrix: (soil/water) SOIL Lab Sample ID: 3981905
Sample wt/vol: 10.01(g/mL) g Lab File ID: HP07536.i/03jan27a.b/qj27s20.d
Level: (low/med) MED Date Received: 01/21/03
% Moisture: not dec. 20 Date Analyzed: 01/27/03
Column: (pack/cap) CAP Dilution Factor: 124.9
CONCENTRATION UNITS:
Number TICs found: 10 (mg/L or mg/Kg) mg/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C10H14 aromatic	13.58	8.2	J
2.	C10H12 aromatic	13.68	8.5	J
3.	C10H12 aromatic	14.20	12	J
4.	C11H14 aromatic	14.41	13	J
5.	C11H14 aromatic	14.51	18	J
6.	Unknown	14.72	11	J
7.	C11H14 aromatic	14.86	9.9	J
8.	Unknown	14.97	8.5	J
9.	C11H10 aromatic	15.41	14	J
10.	C11H10 aromatic	15.56	15	J
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page 1 of 1

FORM I VOA-TIC

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
1005E

Lab Name: Lancaster Laboratories Contract:
Lab Code: LANCAS Case No.: SAS No.: SDG No.:
Matrix: (soil/water) SOIL Lab Sample ID: 3981905
Sample wt/vol: 30 (g/mL) g Lab File ID: ha534.d
Level: (low/med) LOW Date Received: 01/21/03
% Moisture: 20 Decanted: (Y/N) Date Extracted: 01/22/03
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/28/03
Injection Volume: 1 (uL) Dilution Factor: 10
GPC Cleanup: N pH: Extraction: Sonc
CONCENTRATION UNITS:
Number TICs found: 20 (mg/L or mg/Kg) mg/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.123-42-2	2-Pentanone, 4-hydroxy-4-met	5.231	27	JAB
2.	Unknown	24.109	8.8	J
3.	Unknown	25.367	15	J
4.	Phenanthrene, 3,6-dimethyl-	25.817	9.0	JX
5.	Phenanthrene, 2,3-dimethyl-	26.027	14	JX
6.	Phenanthrene, 2,5-dimethyl-	26.107	8.5	JX
7.	Unknown Alkane	29.241	9.4	J
8.	Unknown	30.471	9.7	J
9.	Unknown Alkane	30.784	17	J
10.	Unknown	31.319	9.2	J
11.	Unknown Alkane	31.501	20	J
12.	Unknown Alkane	31.714	11	J
13.	Benzo[c]phenanthrene, 5,8-di	31.805	17	JX
14.	Unknown	31.916	9.6	J
15.	Benz[a]anthracene, 7,12-dime	31.987	14	JX
16.	Unknown Alkane	32.189	30	J
17.	Unknown	32.634	12	J
18.	Unknown Alkane	32.968	26	J
19.	Unknown Alkane	33.898	12	J
20.	Unknown Alkane	34.997	11	J
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page 1 of 1

FORM I SV-1

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Analysis Report

REVISED

Sample Description: S1005G4 Grab Soil Sample
SRPID: NJD081982902 LL00006892
RFI - Perth Amboy, NJ

LLI Sample # SW 3981906
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 11:55 by BS

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1005G SDG#: RFE59-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
06292	Acetone	67-64-1	N.D.	2.1	125.5
06292	Benzene	71-43-2	N.D.	0.30	125.5
06292	Bromodichloromethane	75-27-4	N.D.	0.30	125.5
06292	Bromoform	75-25-2	N.D.	0.30	125.5
06292	Bromomethane	74-83-9	N.D.	0.59	125.5
06292	2-Butanone	78-93-3	N.D.	1.2	125.5
06292	Carbon Disulfide	75-15-0	N.D.	0.30	125.5
06292	Carbon Tetrachloride	56-23-5	N.D.	0.30	125.5
06292	Chlorobenzene	108-90-7	N.D.	0.30	125.5
06292	Chloroethane	75-00-3	N.D.	0.59	125.5
06292	Chloroform	67-66-3	N.D.	0.30	125.5
06292	Chloromethane	74-87-3	N.D.	0.59	125.5
06381	Cyclohexane	110-82-7	N.D.	0.30	125.5
06381	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.59	125.5
06292	Dibromochloromethane	124-48-1	N.D.	0.30	125.5
06381	1,2-Dibromoethane	106-93-4	N.D.	0.30	125.5
06381	1,2-Dichlorobenzene	95-50-1	N.D.	0.30	125.5
06381	1,3-Dichlorobenzene	541-73-1	N.D.	0.30	125.5
06381	1,4-Dichlorobenzene	106-46-7	N.D.	0.30	125.5
06381	Dichlorodifluoromethane	75-71-8	N.D.	0.59	125.5
06292	1,1-Dichloroethane	75-34-3	N.D.	0.30	125.5
06292	1,2-Dichloroethane	107-06-2	N.D.	0.30	125.5
06292	1,1-Dichloroethene	75-35-4	N.D.	0.30	125.5
06292	cis-1,2-Dichloroethene	156-59-2	N.D.	0.30	125.5
06292	trans-1,2-Dichloroethene	156-60-5	N.D.	0.30	125.5
06292	1,2-Dichloropropane	78-87-5	N.D.	0.30	125.5
06292	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.30	125.5
06292	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.30	125.5
06292	Ethylbenzene	100-41-4	N.D.	0.30	125.5
06381	Freon 113	76-13-1	N.D.	0.59	125.5
06292	2-Hexanone	591-78-6	N.D.	0.89	125.5
06381	Isopropylbenzene	98-82-8	N.D.	0.30	125.5
06381	Methyl Acetate	79-20-9	N.D.	0.59	125.5
06292	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.30	125.5
06292	4-Methyl-2-pentanone	108-10-1	N.D.	0.89	125.5
06381	Methylcyclohexane	108-87-2	N.D.	0.30	125.5
06292	Methylene Chloride	75-09-2	N.D.	0.59	125.5
06292	Styrene	100-42-5	N.D.	0.30	125.5
06292	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.30	125.5
06292	Tetrachloroethene	127-18-4	N.D.	0.30	125.5
06292	Toluene	108-88-3	N.D.	0.30	125.5
06381	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.30	125.5
06292	1,1,1-Trichloroethane	71-55-6	N.D.	0.30	125.5
06292	1,1,2-Trichloroethane	79-00-5	N.D.	0.30	125.5
06292	Trichloroethene	79-01-6	N.D.	0.30	125.5
06381	Trichlorofluoromethane	75-69-4	N.D.	0.59	125.5
06292	Vinyl Chloride	75-01-4	N.D.	0.30	125.5
06292	Xylene (Total)	1330-20-7	N.D.	0.30	125.5

The percent recovery for dichlorodifluoromethane was outside QC limits high in the LCS associated with this sample. SInce the recovery was high and

REVISED

Sample Description: S1005G4 Grab Soil Sample
SRPID: NJD081982902 LL00006892
RFI - Perth Amboy, NJ

LLI Sample # SW 3981906
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 11:55 by BS

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1005G SDG#: RFE59-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor

this compound was not detected in the sample, no further action was taken.

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

Poor surrogate recoveries were observed for the GC/MS volatile fraction. The analysis was repeated and poor surrogate recoveries were again observed indicating a significant matrix effect.

00890 VOA GC/MS Library Search

The results from the volatile library search are listed on the attached FORM 1 - VOA-TIC. The qualifiers appearing in the "Q" column are defined on the back of this form.

00405 Field Preserved Methanol

The sample submitted for volatile organic analysis was preserved with methanol in the field.

GC/MS Semivolatiles	SW-846 8270C		mg/kg	mg/kg	
04689	Acenaphthene	83-32-9	N.D.	0.24	1
04688	Acenaphthylene	208-96-8	N.D.	0.24	1
05722	Acetophenone	98-86-2	N.D.	0.47	1
04689	Anthracene	120-12-7	N.D.	0.24	1
04688	Atrazine	1912-24-9	N.D.	0.2	1
04688	Benzaldehyde	100-52-7	N.D.	0.2	1
04689	Benzo(a)anthracene	56-55-3	N.D.	0.24	1
04689	Benzo(a)pyrene	50-32-8	N.D.	0.24	1
04689	Benzo(b)fluoranthene	205-99-2	N.D.	0.24	1
04689	Benzo(g,h,i)perylene	191-24-2	N.D.	0.24	1
04689	Benzo(k)fluoranthene	207-08-9	N.D.	0.24	1
05722	1,1'-Biphenyl	92-52-4	N.D.	0.24	1
04689	4-Bromophenyl-phenylether	101-55-3	N.D.	0.2	1
04689	Butylbenzylphthalate	85-68-7	N.D.	0.5	1
04689	Di-n-butylphthalate	84-74-2	N.D.	0.5	1
04688	Caprolactam	105-60-2	N.D.	0.2	1
04689	Carbazole	86-74-8	N.D.	0.2	1
04688	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1
04688	4-Chloroaniline	106-47-8	N.D.	0.2	1
04688	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.2	1
04688	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.2	1
04688	2-Chloronaphthalene	91-58-7	N.D.	0.2	1
04688	2-Chlorophenol	95-57-8	N.D.	0.2	1
04689	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.2	1
04688	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.2	1
04689	Chrysene	218-01-9	N.D.	0.24	1
04689	Dibenz(a,h)anthracene	53-70-3	N.D.	0.24	1
04689	Dibenzofuran	132-64-9	N.D.	0.2	1
04689	3,3'-Dichlorobenzidine	91-94-1	N.D.	0.5	1
04688	2,4-Dichlorophenol	120-83-2	N.D.	0.2	1
04689	Diethylphthalate	84-66-2	N.D.	0.5	1
04688	2,4-Dimethylphenol	105-67-9	N.D.	0.2	1
04688	Dimethylphthalate	131-11-3	N.D.	0.5	1

REVISED

Sample Description: S1005G4 Grab Soil Sample
SRPID: NJD081982902 LL00006892
RFI - Perth Amboy, NJ

LLI Sample # SW 3981906
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 11:55 by BS

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1005G SDG#: RFE59-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
04689	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	1.	1
04689	2,4-Dinitrophenol	51-28-5	N.D.	5.	1
04689	2,4-Dinitrotoluene	121-14-2	N.D.	0.5	1
04689	2,6-Dinitrotoluene	606-20-2	N.D.	0.2	1
04689	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	0.47	1
04689	Fluoranthene	206-44-0	N.D.	0.24	1
04689	Fluorene	86-73-7	N.D.	0.24	1
04689	Hexachlorobenzene	118-74-1	N.D.	0.2	1
04688	Hexachlorobutadiene	87-68-3	N.D.	0.5	1
04688	Hexachlorocyclopentadiene	77-47-4	N.D.	1.	1
04688	Hexachloroethane	67-72-1	N.D.	0.2	1
04689	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.24	1
04688	Isophorone	78-59-1	N.D.	0.2	1
04688	2-Methylnaphthalene	91-57-6	N.D.	0.2	1
04688	2-Methylphenol	95-48-7	N.D.	0.2	1
04688	4-Methylphenol	106-44-5	N.D.	0.5	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
04688	Naphthalene	91-20-3	N.D.	0.24	1
04688	2-Nitroaniline	88-74-4	N.D.	0.2	1
04689	3-Nitroaniline	99-09-2	N.D.	0.5	1
04689	4-Nitroaniline	100-01-6	N.D.	0.5	1
04688	Nitrobenzene	98-95-3	N.D.	0.2	1
04688	2-Nitrophenol	88-75-5	N.D.	0.2	1
04689	4-Nitrophenol	100-02-7	N.D.	1.	1
04688	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.2	1
04689	N-Nitrosodiphenylamine	86-30-6	N.D.	0.2	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
04689	Di-n-octylphthalate	117-84-0	N.D.	0.5	1
04689	Pentachlorophenol	87-86-5	N.D.	1.	1
04689	Phenanthrene	85-01-8	N.D.	0.24	1
04688	Phenol	108-95-2	N.D.	0.2	1
04689	Pyrene	129-00-0	N.D.	0.2	1
04688	2,4,5-Trichlorophenol	95-95-4	N.D.	0.2	1
04688	2,4,6-Trichlorophenol	88-06-2	N.D.	0.2	1

The QC limits for benzaldehyde are advisory only until sufficient data points can be obtained to calculate statistical windows.

Due to insufficient sample, the reporting limits for the GC/MS semivolatile compounds were raised.

00893 Semivolatile Library Search

The results from the semivolatile library search are listed on the attached FORM 1 - SV-TIC. The qualifiers appearing in the "Q" column are defined on the back of this form.

Metals	**SW-846 6010B**	**mg/kg**	**mg/kg**

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Analysis Report

REVISED

Sample Description: S1005G4 Grab Soil Sample
SRPID: NJD081982902 LL00006892
RFI - Perth Amboy, NJ

LLI Sample # SW 3981906
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 11:55 by BS

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1005G SDG#: RFE59-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
01643	Aluminum	7429-90-5	20,100.	7.71	1
01644	Antimony	7440-36-0	N.D.	1.65	1
06935	Arsenic	7440-38-2	4.32	1.09	1
01646	Barium	7440-39-3	58.9	0.112	1
01647	Beryllium	7440-41-7	1.37	0.0862	1
01649	Cadmium	7440-43-9	0.492 J	0.212	1
01650	Calcium	7440-70-2	5,280.	10.5	1
01651	Chromium	7440-47-3	29.4	0.349	1
01652	Cobalt	7440-48-4	8.60 J	0.466	1
01653	Copper	7440-50-8	15.3	0.373	1
01654	Iron	7439-89-6	18,400.	11.1	1
06955	Lead	7439-92-1	16.5	2.19	1
01657	Magnesium	7439-95-4	4,310.	4.54	1
01658	Manganese	7439-96-5	145.	0.0163	1
01661	Nickel	7440-02-0	20.7	0.466	1
01662	Potassium	7440-09-7	2,310.	8.69	1
06936	Selenium	7782-49-2	N.D.	1.03	1
01666	Silver	7440-22-4	N.D.	0.233	1
01667	Sodium	7440-23-5	301.	73.2	1
06925	Thallium	7440-28-0	N.D.	2.28	1
01671	Vanadium	7440-62-2	40.9	0.186	1
01672	Zinc	7440-66-6	60.6	0.839	1
	SW-846 7471A		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0529 J	0.0247	1
Wet Chemistry	**EPA 160.3 modified**		**%**	**%**	
00111	Moisture	n.a.	57.5	0.50	1

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

General Sample Comments

State of New Jersey Lab Certification No. PA011

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06381	Add'l Cmpds - OLM04.2 by 8260B	SW-846 8260B	1	Q030231AA	01/24/2003 01:07	Parker D Lindstrom	125.5
06292	TCL by 8260 (soil)	SW-846 8260B	1	Q030231AA	01/24/2003 01:07	Parker D Lindstrom	125.5

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Analysis Report

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Sample Description: S1005G4 Grab Soil Sample
SRPID: NJD081982902 LL00006892
RFI - Perth Amboy, NJ

LLI Sample # SW 3981906
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ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1005G SDG#: RFE59-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
05722	Misc. Semivolatiles (Soil)	SW-846 8270C	1	03022SLA026	01/28/2003	00:18	Jolene M Graham	1
04688	TCL SW846 Semivolatiles Soil	SW-846 8270C	1	03022SLA026	01/28/2003	00:18	Jolene M Graham	1
04689	TCL SW846 Semivolatiles/Soil	SW-846 8270C	1	03022SLA026	01/28/2003	00:18	Jolene M Graham	1
00381	BNA Soil Extraction	SW-846 3550B	1	03022SLA026	01/22/2003	15:30	John A Myers	1
01643	Aluminum	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01644	Antimony	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
06935	Arsenic	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01646	Barium	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01647	Beryllium	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01649	Cadmium	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01650	Calcium	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01651	Chromium	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01652	Cobalt	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01653	Copper	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01654	Iron	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
06955	Lead	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01657	Magnesium	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01658	Manganese	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01661	Nickel	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01662	Potassium	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
06936	Selenium	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01666	Silver	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01667	Sodium	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
06925	Thallium	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01671	Vanadium	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
01672	Zinc	SW-846 6010B	1	030305708001	01/30/2003	17:24	David K Beck	1
00159	Mercury	SW-846 7471A	1	030305711001	01/30/2003	20:05	Nelli S Markaryan	1
05708	SW SW846 ICP Digest	SW-846 3050B	1	030305708001	01/30/2003	07:27	Denise K Conners	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	030305711001	01/30/2003	09:43	Denise K Conners	1
00111	Moisture	EPA 160.3 modified	2	03024820003A	01/24/2003	16:45	Scott W Freisher	1

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
1005G

Lab Name: Lancaster Laboratories Contract:_____
Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____
Matrix: (soil/water) SOIL Lab Sample ID: 3981906
Sample wt/vol: 9.96 (g/mL) g Lab File ID: HP07536.i/03jan23d.b/qj23s22.d
Level: (low/med) MED Date Received: 01/21/03
% Moisture: not dec. 58 Date Analyzed: 01/24/03
Column: (pack/cap) CAP Dilution Factor: 125.5
CONCENTRATION UNITS:
Number TICs found: 0 (mg/L or mg/Kg) mg/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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page 1 of 1

FORM I VOA-TIC

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
1005G

Lab Name: Lancaster Laboratories Contract:
Lab Code: LANCAS Case No.: SAS No.: SDG No.:
Matrix: (soil/water) SOIL Lab Sample ID: 3981906
Sample wt/vol: 10 (g/mL) g Lab File ID: ha524.d
Level: (low/med) LOW Date Received: 01/21/03
% Moisture: 58 Decanted: (Y/N) Date Extracted: 01/22/03
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/28/03
Injection Volume: 1 (uL) Dilution Factor: 1
GPC Cleanup: N pH: Extraction: Sonc
CONCENTRATION UNITS:
Number TICs found: 20 (mg/L or mg/Kg) mg/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.123-42-2	2-Pentanone, 4-hydroxy-4-met	5.408	170	JAB
2.	Unknown	26.245	3.7	J
3.	Phenanthrene, 2,4,5,7-tetram	28.242	13	JX
4.	Unknown	28.747	4.7	J
5.	Unknown	29.103	5.2	J
6.	Unknown	29.599	28	J
7.	Unknown	30.075	4.5	J
8.	Unknown	30.215	9.5	J
9.	Unknown	30.383	2.7	J
10.	Unknown	30.978	5.6	J
11.	Unknown	31.137	7.7	J
12.	Unknown	31.692	7.5	J
13.	Unknown	32.426	6.4	J
14.	Unknown Alkane	33.080	3.0	J
15.	Unknown	33.249	4.5	J
16.	Unknown	37.349	3.0	J
17.	Unknown	38.815	24	J
18.	Unknown	39.162	6.4	J
19.	Unknown	39.450	15	J
20.	Unknown	39.818	5.0	J
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

page 1 of 1

FORM I SV-1

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Analysis Report

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REVISED

Sample Description: T0121031 Trip Blank Methanol Sample
SRPID: NJD081982902 LL00013115
RFI - Perth Amboy, NJ

LLI Sample # G5 3981907
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

T1212 SDG#: RFE59-04TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg	mg/kg	
02304	Benzene	71-43-2	N.D.	0.13	125
02304	Ethylbenzene	100-41-4	N.D.	0.13	125
02304	Toluene	108-88-3	N.D.	0.13	125
02304	Xylene (Total)	1330-20-7	N.D.	0.13	125

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

00405 Field Preserved Methanol

The sample submitted for volatile organic analysis was preserved with methanol in the field.

General Sample Comments

State of New Jersey Lab Certification No. PA011

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02304	BTEX in Soil by 8260B	SW-846 8260B	1	Q030231AA	01/24/2003 01:33	Parker D Lindstrom	125

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Analysis Report

REVISED

Sample Description: S1384A4 Grab Soil Sample
SRPID: NJD081982902 LL00013115
RFI - Perth Amboy, NJ

LLI Sample # SW 3981908
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 14:15 by GR

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1384A SDG#: RFE59-05

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**		**mg/kg**	
02304	Benzene	71-43-2	N.D.		0.14	118.93
02304	Ethylbenzene	100-41-4	N.D.		0.14	118.93
02304	Toluene	108-88-3	N.D.		0.14	118.93
02304	Xylene (Total)	1330-20-7	N.D.		0.14	118.93

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

00405 Field Preserved Methanol

The sample submitted for volatile organic analysis was preserved with methanol in the field.

GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
07804	Acenaphthene	83-32-9	N.D.		0.039	1
07804	Acenaphthylene	208-96-8	N.D.		0.039	1
07804	Anthracene	120-12-7	N.D.		0.039	1
07804	Benzo(a)anthracene	56-55-3	0.073	J	0.039	1
07804	Benzo(a)pyrene	50-32-8	0.10	J	0.039	1
07804	Benzo(b)fluoranthene	205-99-2	0.11	J	0.039	1
07804	Benzo(g,h,i)perylene	191-24-2	0.052	J	0.039	1
07804	Benzo(k)fluoranthene	207-08-9	N.D.		0.039	1
07804	Chrysene	218-01-9	0.098	J	0.039	1
07804	Dibenz(a,h)anthracene	53-70-3	N.D.		0.039	1
07804	Fluoranthene	206-44-0	0.092	J	0.039	1
07804	Fluorene	86-73-7	N.D.		0.039	1
07804	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.039	1
07804	Naphthalene	91-20-3	0.059	J	0.039	1
07804	Phenanthrene	85-01-8	0.071	J	0.039	1
07804	Pyrene	129-00-0	0.2	J	0.04	1
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	
06935	Arsenic	7440-38-2	6.98		0.544	1
Wet Chemistry	**EPA 160.3 modified**		**%**		**%**	
00111	Moisture	n.a.	14.5		0.50	1

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

General Sample Comments

State of New Jersey Lab Certification No. PA011

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

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Analysis Report

REVISED

Sample Description: S1384A4 Grab Soil Sample
SRPID: NJD081982902 LL00013115
RFI - Perth Amboy, NJ

LLI Sample # SW 3981908
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 14:15 by GR

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1384A SDG#: RFE59-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02304	BTEX in Soil by 8260B	SW-846 8260B	1	Q030231AA	01/24/2003 01:59	Parker D Lindstrom	118.93
07804	PAHs in Soil by GC/MS	SW-846 8270C	1	03022SLB026	01/23/2003 06:16	Linda M Hartenstine	1
07806	BNA Soil Extraction	SW-846 3550B	1	03022SLB026	01/22/2003 15:30	John A Myers	1
06935	Arsenic	SW-846 6010B	1	030305708001	01/30/2003 18:07	David K Beck	1
05708	SW SW846 ICP Digest	SW-846 3050B	1	030305708001	01/30/2003 07:27	Denise K Conners	1
00111	Moisture	EPA 160.3 modified	2	03024820003A	01/24/2003 16:45	Scott W Freisher	1

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Analysis Report

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Sample Description: S1384B4 Grab Soil Sample
SRPID: NJD081982902 LL00013115
RFI - Perth Amboy, NJ

LLI Sample # SW 3981909
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 14:55 by GR

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1384B SDG#: RFE59-06

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**		**mg/kg**	
02304	Benzene	71-43-2	0.20	J	0.16	126.52
02304	Ethylbenzene	100-41-4	2.3		0.16	126.52
02304	Toluene	108-88-3	1.0		0.16	126.52
02304	Xylene (Total)	1330-20-7	8.0		0.16	126.52

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

00405 Field Preserved Methanol

The sample submitted for volatile organic analysis was preserved with methanol in the field.

GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
07804	Acenaphthene	83-32-9	3.6	J	0.84	2
07804	Acenaphthylene	208-96-8	N.D.		0.84	2
07804	Anthracene	120-12-7	3.6	J	0.84	2
07804	Benzo(a)anthracene	56-55-3	1.2	J	0.84	2
07804	Benzo(a)pyrene	50-32-8	1.5	J	0.84	2
07804	Benzo(b)fluoranthene	205-99-2	1.4	J	0.84	2
07804	Benzo(g,h,i)perylene	191-24-2	2.0	J	0.84	2
07804	Benzo(k)fluoranthene	207-08-9	N.D.		0.84	2
07804	Chrysene	218-01-9	3.1	J	0.84	2
07804	Dibenz(a,h)anthracene	53-70-3	N.D.		0.84	2
07804	Fluoranthene	206-44-0	1.8	J	0.84	2
07804	Fluorene	86-73-7	8.5		0.84	2
07804	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.84	2
07804	Naphthalene	91-20-3	19.		0.84	2
07804	Phenanthrene	85-01-8	22.		0.84	2
07804	Pyrene	129-00-0	7.	J	0.8	2

The reporting limits for the GC/MS semivolatile compounds were raised due to the high concentration of non-target compounds.

The usual reporting limits could not be attained due to the matrix of the sample or interferences observed in the GC/MS semivolatile analysis.

Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	33.0	0.579	1
Wet Chemistry	**EPA 160.3 modified**		**%**	**%**	
00111	Moisture	n.a.	20.4	0.50	1

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

General Sample Comments

State of New Jersey Lab Certification No. PA011

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

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Analysis Report

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Sample Description: S1384B4 Grab Soil Sample
SRPID: NJD081982902 LL00013115
RFI - Perth Amboy, NJ

LLI Sample # SW 3981909
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 14:55 by GR

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1384B SDG#: RFE59-06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02304	BTEX in Soil by 8260B	SW-846 8260B	1	Q030231AB	01/24/2003 21:29	Parker D Lindstrom	126.52
07804	PAHs in Soil by GC/MS	SW-846 8270C	1	03022SLB026	01/27/2003 14:48	Timothy J Trees	2
07806	BNA Soil Extraction	SW-846 3550B	1	03022SLB026	01/22/2003 15:30	John A Myers	1
06935	Arsenic	SW-846 6010B	1	030305708001	01/30/2003 18:25	David K Beck	1
05708	SW SW846 ICP Digest	SW-846 3050B	1	030305708001	01/30/2003 07:27	Denise K Conners	1
00111	Moisture	EPA 160.3 modified	2	03024820003A	01/24/2003 16:45	Scott W Freisher	1

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Analysis Report

REVISED

Sample Description: S1384G3 Grab Soil Sample
SRPID: NJD081982902 LL00013115
RFI - Perth Amboy, NJ

LLI Sample # SW 3981910
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 14:45 by GR

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1384G SDG#: RFE59-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
02304	Benzene	71-43-2	N.D.	0.21	133.12
02304	Ethylbenzene	100-41-4	N.D.	0.21	133.12
02304	Toluene	108-88-3	N.D.	0.21	133.12
02304	Xylene (Total)	1330-20-7	N.D.	0.21	133.12

The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.

00405 Field Preserved Methanol

The sample submitted for volatile organic analysis was preserved with methanol in the field.

GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
07804	Acenaphthene	83-32-9	N.D.	0.052	1
07804	Acenaphthylene	208-96-8	N.D.	0.052	1
07804	Anthracene	120-12-7	N.D.	0.052	1
07804	Benzo(a)anthracene	56-55-3	N.D.	0.052	1
07804	Benzo(a)pyrene	50-32-8	N.D.	0.052	1
07804	Benzo(b)fluoranthene	205-99-2	N.D.	0.052	1
07804	Benzo(g,h,i)perylene	191-24-2	N.D.	0.052	1
07804	Benzo(k)fluoranthene	207-08-9	N.D.	0.052	1
07804	Chrysene	218-01-9	N.D.	0.052	1
07804	Dibenz(a,h)anthracene	53-70-3	N.D.	0.052	1
07804	Fluoranthene	206-44-0	N.D.	0.052	1
07804	Fluorene	86-73-7	N.D.	0.052	1
07804	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.052	1
07804	Naphthalene	91-20-3	N.D.	0.052	1
07804	Phenanthrene	85-01-8	N.D.	0.052	1
07804	Pyrene	129-00-0	N.D.	0.05	1
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	9.27	0.747	1
Wet Chemistry	**EPA 160.3 modified**		**%**	**%**	
00111	Moisture	n.a.	37.1	0.50	1

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

General Sample Comments

State of New Jersey Lab Certification No. PA011

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

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Analysis Report

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REVISED

Sample Description: **S1384G3 Grab Soil Sample**
SRPID: NJD081982902 LL00013115
RFI - Perth Amboy, NJ

LLI Sample # SW 3981910
LLI Group # 838694
Account # 11071

Project Name: RFI - Perth Amboy, NJ

Collected: 01/21/2003 14:45 by GR

Submitted: 01/21/2003 19:45
Reported: 03/04/2013 07:49

ChevronTexaco
1200 State Street
Perth Amboy NJ 08861

1384G SDG#: RFE59-07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02304	BTEX in Soil by 8260B	SW-846 8260B	1	Q030231AA	01/24/2003 02:25	Parker D Lindstrom	133.12
07804	PAHs in Soil by GC/MS	SW-846 8270C	1	03022SLB026	01/24/2003 04:29	Timothy J Trees	1
07806	BNA Soil Extraction	SW-846 3550B	1	03022SLB026	01/22/2003 15:30	John A Myers	1
06935	Arsenic	SW-846 6010B	1	030305708001	01/30/2003 18:31	David K Beck	1
05708	SW SW846 ICP Digest	SW-846 3050B	1	030305708001	01/30/2003 07:27	Denise K Conners	1
00111	Moisture	EPA 160.3 modified	2	03024820003A	01/24/2003 16:45	Scott W Freisher	1

Quality Control Summary

Client Name: ChevronTexaco
Reported: 03/04/13 at 07:49 AM

Group Number: 838694

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Q030231AA	Sample number(s): 3981906-3981908,3981910							
Acetone	N.D.	0.88	mg/kg	104		51-178		
Benzene	N.D.	0.13	mg/kg	101		85-125		
Bromodichloromethane	N.D.	0.13	mg/kg	97		80-123		
Bromoform	N.D.	0.13	mg/kg	90		64-121		
Bromomethane	N.D.	0.25	mg/kg	113		54-129		
2-Butanone	N.D.	0.50	mg/kg	89		58-155		
Carbon Disulfide	N.D.	0.13	mg/kg	108		72-144		
Carbon Tetrachloride	N.D.	0.13	mg/kg	101		68-137		
Chlorobenzene	N.D.	0.13	mg/kg	100		81-112		
Chloroethane	N.D.	0.25	mg/kg	125		66-130		
Chloroform	N.D.	0.13	mg/kg	102		79-126		
Chloromethane	N.D.	0.25	mg/kg	132		47-133		
Cyclohexane	N.D.	0.13	mg/kg	110		77-141		
1,2-Dibromo-3-chloropropane	N.D.	0.25	mg/kg	95		51-122		
Dibromochloromethane	N.D.	0.13	mg/kg	95		73-116		
1,2-Dibromoethane	N.D.	0.13	mg/kg	98		77-114		
1,2-Dichlorobenzene	N.D.	0.13	mg/kg	100		75-114		
1,3-Dichlorobenzene	N.D.	0.13	mg/kg	100		76-112		
1,4-Dichlorobenzene	N.D.	0.13	mg/kg	100		75-112		
Dichlorodifluoromethane	N.D.	0.25	mg/kg	180*		26-142		
1,1-Dichloroethane	N.D.	0.13	mg/kg	104		82-130		
1,2-Dichloroethane	N.D.	0.13	mg/kg	101		75-132		
1,1-Dichloroethene	N.D.	0.13	mg/kg	108		77-139		
cis-1,2-Dichloroethene	N.D.	0.13	mg/kg	100		85-127		
trans-1,2-Dichloroethene	N.D.	0.13	mg/kg	104		78-131		
1,2-Dichloropropane	N.D.	0.13	mg/kg	99		81-126		
cis-1,3-Dichloropropene	N.D.	0.13	mg/kg	97		82-122		
trans-1,3-Dichloropropene	N.D.	0.13	mg/kg	96		75-113		
Ethylbenzene	N.D.	0.13	mg/kg	102		82-115		
Freon 113	N.D.	0.25	mg/kg	107		69-140		
2-Hexanone	N.D.	0.38	mg/kg	93		51-142		
Isopropylbenzene	N.D.	0.13	mg/kg	102		79-117		
Methyl Acetate	N.D.	0.25	mg/kg	103		70-130		
Methyl Tertiary Butyl Ether	N.D.	0.13	mg/kg	100		75-135		
4-Methyl-2-pentanone	N.D.	0.38	mg/kg	89		56-144		
Methylcyclohexane	N.D.	0.13	mg/kg	88		70-130		
Methylene Chloride	N.D.	0.25	mg/kg	103		76-129		
Styrene	N.D.	0.13	mg/kg	100		79-116		
1,1,2,2-Tetrachloroethane	N.D.	0.13	mg/kg	96		64-121		
Tetrachloroethene	N.D.	0.13	mg/kg	106		79-128		
Toluene	N.D.	0.13	mg/kg	101		81-116		
1,2,4-Trichlorobenzene	N.D.	0.13	mg/kg	95		58-121		
1,1,1-Trichloroethane	N.D.	0.13	mg/kg	104		69-133		
1,1,2-Trichloroethane	N.D.	0.13	mg/kg	98		77-116		
Trichloroethene	N.D.	0.13	mg/kg	101		81-124		
Trichlorofluoromethane	N.D.	0.25	mg/kg	124		53-140		
Vinyl Chloride	N.D.	0.13	mg/kg	129		57-132		
Xylene (Total)	N.D.	0.13	mg/kg	101		82-117		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 838694
Reported: 03/04/13 at 07:49 AM

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Q030231AB	Sample number(s): 3981904,3981909							
Acetone	N.D.	0.88	mg/kg					
Benzene	N.D.	0.13	mg/kg					
Bromodichloromethane	N.D.	0.13	mg/kg					
Bromoform	N.D.	0.13	mg/kg					
Bromomethane	N.D.	0.25	mg/kg					
2-Butanone	N.D.	0.50	mg/kg					
Carbon Disulfide	N.D.	0.13	mg/kg					
Carbon Tetrachloride	N.D.	0.13	mg/kg					
Chlorobenzene	N.D.	0.13	mg/kg					
Chloroethane	N.D.	0.25	mg/kg					
Chloroform	N.D.	0.13	mg/kg					
Chloromethane	N.D.	0.25	mg/kg					
Cyclohexane	N.D.	0.13	mg/kg					
1,2-Dibromo-3-chloropropane	N.D.	0.25	mg/kg					
Dibromochloromethane	N.D.	0.13	mg/kg					
1,2-Dibromoethane	N.D.	0.13	mg/kg					
1,2-Dichlorobenzene	N.D.	0.13	mg/kg					
1,3-Dichlorobenzene	N.D.	0.13	mg/kg					
1,4-Dichlorobenzene	N.D.	0.13	mg/kg					
Dichlorodifluoromethane	N.D.	0.25	mg/kg					
1,1-Dichloroethane	N.D.	0.13	mg/kg					
1,2-Dichloroethane	N.D.	0.13	mg/kg					
1,1-Dichloroethene	N.D.	0.13	mg/kg					
cis-1,2-Dichloroethene	N.D.	0.13	mg/kg					
trans-1,2-Dichloroethene	N.D.	0.13	mg/kg					
1,2-Dichloropropane	N.D.	0.13	mg/kg					
cis-1,3-Dichloropropene	N.D.	0.13	mg/kg					
trans-1,3-Dichloropropene	N.D.	0.13	mg/kg					
Ethylbenzene	N.D.	0.13	mg/kg					
Freon 113	N.D.	0.25	mg/kg					
2-Hexanone	N.D.	0.38	mg/kg					
Isopropylbenzene	N.D.	0.13	mg/kg					
Methyl Acetate	N.D.	0.25	mg/kg					
Methyl Tertiary Butyl Ether	N.D.	0.13	mg/kg					
4-Methyl-2-pentanone	N.D.	0.38	mg/kg					
Methylcyclohexane	N.D.	0.13	mg/kg					
Methylene Chloride	N.D.	0.25	mg/kg					
Styrene	N.D.	0.13	mg/kg					
1,1,2,2-Tetrachloroethane	N.D.	0.13	mg/kg					
Tetrachloroethene	N.D.	0.13	mg/kg					
Toluene	N.D.	0.13	mg/kg					
1,2,4-Trichlorobenzene	N.D.	0.13	mg/kg					
1,1,1-Trichloroethane	N.D.	0.13	mg/kg					
1,1,2-Trichloroethane	N.D.	0.13	mg/kg					
Trichloroethene	N.D.	0.13	mg/kg					
Trichlorofluoromethane	N.D.	0.25	mg/kg					
Vinyl Chloride	N.D.	0.13	mg/kg					
Xylene (Total)	N.D.	0.13	mg/kg					
Batch number: Q030231AC	Sample number(s): 3981905							
Acetone	N.D.	0.88	mg/kg					
Benzene	N.D.	0.13	mg/kg					
Bromodichloromethane	N.D.	0.13	mg/kg					
Bromoform	N.D.	0.13	mg/kg					
Bromomethane	N.D.	0.25	mg/kg					

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 838694
Reported: 03/04/13 at 07:49 AM

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2-Butanone	N.D.	0.50	mg/kg					
Carbon Disulfide	N.D.	0.13	mg/kg					
Carbon Tetrachloride	N.D.	0.13	mg/kg					
Chlorobenzene	N.D.	0.13	mg/kg					
Chloroethane	N.D.	0.25	mg/kg					
Chloroform	N.D.	0.13	mg/kg					
Chloromethane	N.D.	0.25	mg/kg					
Cyclohexane	N.D.	0.13	mg/kg					
1,2-Dibromo-3-chloropropane	N.D.	0.25	mg/kg					
Dibromochloromethane	N.D.	0.13	mg/kg					
1,2-Dibromoethane	N.D.	0.13	mg/kg					
1,2-Dichlorobenzene	N.D.	0.13	mg/kg					
1,3-Dichlorobenzene	N.D.	0.13	mg/kg					
1,4-Dichlorobenzene	N.D.	0.13	mg/kg					
Dichlorodifluoromethane	N.D.	0.25	mg/kg					
1,1-Dichloroethane	N.D.	0.13	mg/kg					
1,2-Dichloroethane	N.D.	0.13	mg/kg					
1,1-Dichloroethene	N.D.	0.13	mg/kg					
cis-1,2-Dichloroethene	N.D.	0.13	mg/kg					
trans-1,2-Dichloroethene	N.D.	0.13	mg/kg					
1,2-Dichloropropane	N.D.	0.13	mg/kg					
cis-1,3-Dichloropropene	N.D.	0.13	mg/kg					
trans-1,3-Dichloropropene	N.D.	0.13	mg/kg					
Ethylbenzene	N.D.	0.13	mg/kg					
Freon 113	N.D.	0.25	mg/kg					
2-Hexanone	N.D.	0.38	mg/kg					
Isopropylbenzene	N.D.	0.13	mg/kg					
Methyl Acetate	N.D.	0.25	mg/kg					
Methyl Tertiary Butyl Ether	N.D.	0.13	mg/kg					
4-Methyl-2-pentanone	N.D.	0.38	mg/kg					
Methylcyclohexane	N.D.	0.13	mg/kg					
Methylene Chloride	N.D.	0.25	mg/kg					
Styrene	N.D.	0.13	mg/kg					
1,1,2,2-Tetrachloroethane	N.D.	0.13	mg/kg					
Tetrachloroethene	N.D.	0.13	mg/kg					
Toluene	N.D.	0.13	mg/kg					
1,2,4-Trichlorobenzene	N.D.	0.13	mg/kg					
1,1,1-Trichloroethane	N.D.	0.13	mg/kg					
1,1,2-Trichloroethane	N.D.	0.13	mg/kg					
Trichloroethene	N.D.	0.13	mg/kg					
Trichlorofluoromethane	N.D.	0.25	mg/kg					
Vinyl Chloride	N.D.	0.13	mg/kg					
Xylene (Total)	N.D.	0.13	mg/kg					
Batch number: 03022SLA026	Sample number(s): 3981905-3981906							
Acenaphthene	N.D.	0.033	mg/kg	98		70-115		
Acenaphthylene	N.D.	0.033	mg/kg	84		72-117		
Acetophenone	N.D.	0.067	mg/kg	89		49-132		
Anthracene	N.D.	0.033	mg/kg	94		64-116		
Atrazine	N.D.	0.033	mg/kg	75		70-130		
Benzaldehyde	N.D.	0.033	mg/kg	32*		70-130		
Benzo(a)anthracene	N.D.	0.033	mg/kg	96		69-115		
Benzo(a)pyrene	N.D.	0.033	mg/kg	91		72-118		
Benzo(b)fluoranthene	N.D.	0.033	mg/kg	99		66-122		
Benzo(g,h,i)perylene	N.D.	0.033	mg/kg	106		73-119		
Benzo(k)fluoranthene	N.D.	0.033	mg/kg	93		66-122		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 838694
Reported: 03/04/13 at 07:49 AM

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1'-Biphenyl	N.D.	0.033	mg/kg	92		70-130		
4-Bromophenyl-phenylether	N.D.	0.033	mg/kg	92		71-115		
Butylbenzylphthalate	N.D.	0.067	mg/kg	94		59-150		
Di-n-butylphthalate	N.D.	0.067	mg/kg	87		72-119		
Caprolactam	N.D.	0.033	mg/kg	88		70-130		
Carbazole	N.D.	0.033	mg/kg	90		71-114		
4-Chloro-3-methylphenol	N.D.	0.067	mg/kg	93		72-123		
4-Chloroaniline	N.D.	0.033	mg/kg	36		1-103		
bis(2-Chloroethoxy)methane	N.D.	0.033	mg/kg	104		68-122		
bis(2-Chloroethyl)ether	N.D.	0.033	mg/kg	86		66-114		
2-Chloronaphthalene	N.D.	0.033	mg/kg	94		69-114		
2-Chlorophenol	N.D.	0.033	mg/kg	91		71-114		
4-Chlorophenyl-phenylether	N.D.	0.033	mg/kg	91		64-119		
2,2'-oxybis(1-Chloropropane)	N.D.	0.033	mg/kg	106		65-139		
Chrysene	N.D.	0.033	mg/kg	95		67-119		
Dibenz(a,h)anthracene	N.D.	0.033	mg/kg	105		78-126		
Dibenzofuran	N.D.	0.033	mg/kg	95		66-111		
3,3'-Dichlorobenzidine	N.D.	0.067	mg/kg	53		11-95		
2,4-Dichlorophenol	N.D.	0.033	mg/kg	90		71-118		
Diethylphthalate	N.D.	0.067	mg/kg	95		71-121		
2,4-Dimethylphenol	N.D.	0.033	mg/kg	90		60-110		
Dimethylphthalate	N.D.	0.067	mg/kg	92		72-119		
4,6-Dinitro-2-methylphenol	N.D.	0.17	mg/kg	67		52-125		
2,4-Dinitrophenol	N.D.	0.67	mg/kg	63		32-125		
2,4-Dinitrotoluene	N.D.	0.067	mg/kg	97		70-130		
2,6-Dinitrotoluene	N.D.	0.033	mg/kg	88		74-115		
bis(2-Ethylhexyl)phthalate	N.D.	0.067	mg/kg	89		56-138		
Fluoranthene	N.D.	0.033	mg/kg	86		65-115		
Fluorene	N.D.	0.033	mg/kg	93		65-119		
Hexachlorobenzene	N.D.	0.033	mg/kg	87		62-128		
Hexachlorobutadiene	N.D.	0.067	mg/kg	98		61-121		
Hexachlorocyclopentadiene	N.D.	0.17	mg/kg	74		5-226		
Hexachloroethane	N.D.	0.033	mg/kg	90		48-121		
Indeno(1,2,3-cd)pyrene	N.D.	0.033	mg/kg	102		73-118		
Isophorone	N.D.	0.033	mg/kg	89		64-108		
2-Methylnaphthalene	N.D.	0.033	mg/kg	90		65-108		
2-Methylphenol	N.D.	0.033	mg/kg	88		66-111		
4-Methylphenol	N.D.	0.067	mg/kg	94		22-171		
Naphthalene	N.D.	0.033	mg/kg	91		65-113		
2-Nitroaniline	N.D.	0.033	mg/kg	95		78-122		
3-Nitroaniline	N.D.	0.067	mg/kg	83		17-107		
4-Nitroaniline	N.D.	0.067	mg/kg	71		48-116		
Nitrobenzene	N.D.	0.033	mg/kg	90		65-116		
2-Nitrophenol	N.D.	0.033	mg/kg	92		76-114		
4-Nitrophenol	N.D.	0.17	mg/kg	84		63-138		
N-Nitroso-di-n-propylamine	N.D.	0.033	mg/kg	88		62-118		
N-Nitrosodiphenylamine	N.D.	0.033	mg/kg	82		60-120		
Di-n-octylphthalate	N.D.	0.067	mg/kg	83		69-131		
Pentachlorophenol	N.D.	0.17	mg/kg	63		52-112		
Phenanthrene	N.D.	0.033	mg/kg	98		64-116		
Phenol	N.D.	0.033	mg/kg	91		59-121		
Pyrene	N.D.	0.033	mg/kg	91		67-123		
2,4,5-Trichlorophenol	N.D.	0.033	mg/kg	95		74-117		
2,4,6-Trichlorophenol	N.D.	0.033	mg/kg	95		72-118		

Batch number: 03022SLB026 Sample number(s): 3981908-3981910

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 838694
Reported: 03/04/13 at 07:49 AM

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Acenaphthene	N.D.	0.033	mg/kg	92		70-115		
Acenaphthylene	N.D.	0.033	mg/kg	96		72-117		
Anthracene	N.D.	0.033	mg/kg	87		64-116		
Benzo(a)anthracene	N.D.	0.033	mg/kg	99		69-115		
Benzo(a)pyrene	N.D.	0.033	mg/kg	99		72-118		
Benzo(b)fluoranthene	N.D.	0.033	mg/kg	98		66-122		
Benzo(g,h,i)perylene	N.D.	0.033	mg/kg	73		73-119		
Benzo(k)fluoranthene	N.D.	0.033	mg/kg	98		66-122		
Chrysene	N.D.	0.033	mg/kg	94		67-119		
Dibenz(a,h)anthracene	N.D.	0.033	mg/kg	90		78-126		
Fluoranthene	N.D.	0.033	mg/kg	84		65-115		
Fluorene	N.D.	0.033	mg/kg	97		65-119		
Indeno(1,2,3-cd)pyrene	N.D.	0.033	mg/kg	79		73-118		
Naphthalene	N.D.	0.033	mg/kg	92		65-113		
Phenanthrene	N.D.	0.033	mg/kg	90		64-116		
Pyrene	N.D.	0.033	mg/kg	105		67-123		
Batch number: 030305708001	Sample number(s): 3981905-3981906,3981908-3981910							
Aluminum	N.D.	3.31	mg/kg	131		78-187		
Antimony	N.D.	0.710	mg/kg	58		13-171		
Arsenic	N.D.	0.470	mg/kg	96		90-110		
Barium	0.0950 J	0.0480	mg/kg	100		89-113		
Beryllium	N.D.	0.0370	mg/kg	97		89-111		
Cadmium	N.D.	0.0910	mg/kg	96		88-106		
Calcium	14.2 J	4.49	mg/kg	105		97-119		
Chromium	0.288 J	0.150	mg/kg	95		82-114		
Cobalt	N.D.	0.200	mg/kg	95		88-107		
Copper	N.D.	0.160	mg/kg	97		90-111		
Iron	N.D.	4.77	mg/kg	115		58-211		
Lead	N.D.	0.940	mg/kg	95		86-109		
Magnesium	N.D.	1.95	mg/kg	109		93-128		
Manganese	0.0630 J	0.0070	mg/kg	100		91-119		
Nickel	0.235 J	0.200	mg/kg	95		89-107		
Potassium	8.00 J	3.73	mg/kg	113		89-142		
Selenium	N.D.	0.440	mg/kg	101		94-114		
Silver	N.D.	0.100	mg/kg	125		88-162		
Sodium	N.D.	31.4	mg/kg	91		37-156		
Thallium	N.D.	0.980	mg/kg	99		91-115		
Vanadium	N.D.	0.0800	mg/kg	101		83-141		
Zinc	0.380 J	0.360	mg/kg	95		85-111		
Batch number: 030305711001	Sample number(s): 3981905-3981906							
Mercury	N.D.	0.0105	mg/kg	81		68-132		
Batch number: 03024820003A	Sample number(s): 3981905-3981906,3981908-3981910							
Moisture				100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup RPD

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 838694
Reported: 03/04/13 at 07:49 AM

Analysis Name	%REC	%REC	Limits	RPD	MAX	Conc	Conc	RPD	Max
Batch number: Q030231AA	Sample number(s): 3981906-3981908,3981910 UNSPK: P982462								
Acetone	106	104	6-214	7	30				
Benzene	100	101	52-141	9	30				
Bromodichloromethane	97	100	55-131	10	30				
Bromoform	89	88	32-139	7	30				
Bromomethane	117	126	24-140	15	30				
2-Butanone	89	82	22-181	1	30				
Carbon Disulfide	110	112	29-162	10	30				
Carbon Tetrachloride	102	103	43-144	8	30				
Chlorobenzene	101	99	48-132	6	30				
Chloroethane	125	135	33-147	16	30				
Chloroform	101	104	57-135	10	30				
Chloromethane	133	140	14-144	13	30				
Cyclohexane	108	106	34-156	6	30				
1,2-Dibromo-3-chloropropane	91	81	17-157	3	30				
Dibromochloromethane	92	95	46-137	10	30				
1,2-Dibromoethane	95	93	55-128	6	30				
1,2-Dichlorobenzene	96	91	43-133	2	30				
1,3-Dichlorobenzene	97	92	41-137	2	30				
1,4-Dichlorobenzene	98	92	40-136	1	30				
Dichlorodifluoromethane	179*	180*	1-155	8	30				
1,1-Dichloroethane	104	105	51-147	9	30				
1,2-Dichloroethane	101	101	57-137	8	30				
1,1-Dichloroethene	110	111	43-153	8	30				
cis-1,2-Dichloroethene	99	100	54-139	9	30				
trans-1,2-Dichloroethene	106	105	49-143	7	30				
1,2-Dichloropropane	99	101	55-138	9	30				
cis-1,3-Dichloropropene	94	97	50-129	10	30				
trans-1,3-Dichloropropene	93	93	46-130	7	30				
Ethylbenzene	101	101	44-142	8	30				
Freon 113	112	110	39-146	6	30				
2-Hexanone	92	83	28-170	3	30				
Isopropylbenzene	100	101	43-140	8	30				
Methyl Acetate	98	93	70-130	2	30				
Methyl Tertiary Butyl Ether	102	98	52-150	4	30				
4-Methyl-2-pentanone	88	80	40-154	2	30				
Methylcyclohexane	87	87	70-130	7	30				
Methylene Chloride	104	107	49-145	11	30				
Styrene	99	98	30-144	7	30				
1,1,2,2-Tetrachloroethane	93	81	23-180	7	30				
Tetrachloroethene	105	104	42-157	7	30				
Toluene	101	101	41-147	8	30				
1,2,4-Trichlorobenzene	94	88	4-142	2	30				
1,1,1-Trichloroethane	103	105	47-143	9	30				
1,1,2-Trichloroethane	97	94	45-150	5	30				
Trichloroethene	101	101	47-140	8	30				
Trichlorofluoromethane	123	122	23-147	7	30				
Vinyl Chloride	128	133	20-146	12	30				
Xylene (Total)	100	100	47-139	8	30				
Batch number: Q030231AB	Sample number(s): 3981904,3981909 UNSPK: P982462								
Acetone	106	104	6-214	7	30				
Benzene	100	101	52-141	9	30				
Bromodichloromethane	97	100	55-131	10	30				
Bromoform	89	88	32-139	7	30				
Bromomethane	117	126	24-140	15	30				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 838694
Reported: 03/04/13 at 07:49 AM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
2-Butanone	89	82	22-181	1	30				
Carbon Disulfide	110	112	29-162	10	30				
Carbon Tetrachloride	102	103	43-144	8	30				
Chlorobenzene	101	99	48-132	6	30				
Chloroethane	125	135	33-147	16	30				
Chloroform	101	104	57-135	10	30				
Chloromethane	133	140	14-144	13	30				
Cyclohexane	108	106	34-156	6	30				
1,2-Dibromo-3-chloropropane	91	81	17-157	3	30				
Dibromochloromethane	92	95	46-137	10	30				
1,2-Dibromoethane	95	93	55-128	6	30				
1,2-Dichlorobenzene	96	91	43-133	2	30				
1,3-Dichlorobenzene	97	92	41-137	2	30				
1,4-Dichlorobenzene	98	92	40-136	1	30				
Dichlorodifluoromethane	179*	180*	1-155	8	30				
1,1-Dichloroethane	104	105	51-147	9	30				
1,2-Dichloroethane	101	101	57-137	8	30				
1,1-Dichloroethene	110	111	43-153	8	30				
cis-1,2-Dichloroethene	99	100	54-139	9	30				
trans-1,2-Dichloroethene	106	105	49-143	7	30				
1,2-Dichloropropane	99	101	55-138	9	30				
cis-1,3-Dichloropropene	94	97	50-129	10	30				
trans-1,3-Dichloropropene	93	93	46-130	7	30				
Ethylbenzene	101	101	44-142	8	30				
Freon 113	112	110	39-146	6	30				
2-Hexanone	92	83	28-170	3	30				
Isopropylbenzene	100	101	43-140	8	30				
Methyl Acetate	98	93	70-130	2	30				
Methyl Tertiary Butyl Ether	102	98	52-150	4	30				
4-Methyl-2-pentanone	88	80	40-154	2	30				
Methylcyclohexane	87	87	70-130	7	30				
Methylene Chloride	104	107	49-145	11	30				
Styrene	99	98	30-144	7	30				
1,1,2,2-Tetrachloroethane	93	81	23-180	7	30				
Tetrachloroethene	105	104	42-157	7	30				
Toluene	101	101	41-147	8	30				
1,2,4-Trichlorobenzene	94	88	4-142	2	30				
1,1,1-Trichloroethane	103	105	47-143	9	30				
1,1,2-Trichloroethane	97	94	45-150	5	30				
Trichloroethene	101	101	47-140	8	30				
Trichlorofluoromethane	123	122	23-147	7	30				
Vinyl Chloride	128	133	20-146	12	30				
Xylene (Total)	100	100	47-139	8	30				

Batch number: Q030231AC Sample number(s): 3981905 UNSPK: P982462

Acetone	106	104	6-214	7	30
Benzene	100	101	52-141	9	30
Bromodichloromethane	97	100	55-131	10	30
Bromoform	89	88	32-139	7	30
Bromomethane	117	126	24-140	15	30
2-Butanone	89	82	22-181	1	30
Carbon Disulfide	110	112	29-162	10	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 838694
Reported: 03/04/13 at 07:49 AM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Carbon Tetrachloride	102	103	43-144	8	30				
Chlorobenzene	101	99	48-132	6	30				
Chloroethane	125	135	33-147	16	30				
Chloroform	101	104	57-135	10	30				
Chloromethane	133	140	14-144	13	30				
Cyclohexane	108	106	34-156	6	30				
1,2-Dibromo-3-chloropropane	91	81	17-157	3	30				
Dibromochloromethane	92	95	46-137	10	30				
1,2-Dibromoethane	95	93	55-128	6	30				
1,2-Dichlorobenzene	96	91	43-133	2	30				
1,3-Dichlorobenzene	97	92	41-137	2	30				
1,4-Dichlorobenzene	98	92	40-136	1	30				
Dichlorodifluoromethane	179*	180*	1-155	8	30				
1,1-Dichloroethane	104	105	51-147	9	30				
1,2-Dichloroethane	101	101	57-137	8	30				
1,1-Dichloroethene	110	111	43-153	8	30				
cis-1,2-Dichloroethene	99	100	54-139	9	30				
trans-1,2-Dichloroethene	106	105	49-143	7	30				
1,2-Dichloropropane	99	101	55-138	9	30				
cis-1,3-Dichloropropene	94	97	50-129	10	30				
trans-1,3-Dichloropropene	93	93	46-130	7	30				
Ethylbenzene	101	101	44-142	8	30				
Freon 113	112	110	39-146	6	30				
2-Hexanone	92	83	28-170	3	30				
Isopropylbenzene	100	101	43-140	8	30				
Methyl Acetate	98	93	70-130	2	30				
Methyl Tertiary Butyl Ether	102	98	52-150	4	30				
4-Methyl-2-pentanone	88	80	40-154	2	30				
Methylcyclohexane	87	87	70-130	7	30				
Methylene Chloride	104	107	49-145	11	30				
Styrene	99	98	30-144	7	30				
1,1,2,2-Tetrachloroethane	93	81	23-180	7	30				
Tetrachloroethene	105	104	42-157	7	30				
Toluene	101	101	41-147	8	30				
1,2,4-Trichlorobenzene	94	88	4-142	2	30				
1,1,1-Trichloroethane	103	105	47-143	9	30				
1,1,2-Trichloroethane	97	94	45-150	5	30				
Trichloroethene	101	101	47-140	8	30				
Trichlorofluoromethane	123	122	23-147	7	30				
Vinyl Chloride	128	133	20-146	12	30				
Xylene (Total)	100	100	47-139	8	30				

Batch number: 03022SLA026 Sample number(s): 3981905-3981906 UNSPK: P981884

Acenaphthene	116	106	36-140	6	30
Acenaphthylene	105	93	37-142	12	30
Acetophenone	491*	434*	21-138	12	30
Anthracene	111	101	29-141	8	30
Atrazine	108	86	70-130	22	30
Benzaldehyde	127	126	70-130	1	30
Benzo(a)anthracene	101	97	22-151	3	30
Benzo(a)pyrene	99	89	25-149	10	30
Benzo(b)fluoranthene	100	92	23-146	8	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 838694
Reported: 03/04/13 at 07:49 AM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Benzo(g,h,i)perylene	71	62	11-158	13	30				
Benzo(k)fluoranthene	106	89	27-149	16	30				
1,1'-Biphenyl	102	94	70-130	8	30				
4-Bromophenyl-phenylether	96	90	36-144	6	30				
Butylbenzylphthalate	116	118	28-160	2	30				
Di-n-butylphthalate	102	95	30-147	7	30				
Caprolactam	19*	17*	70-130	10	30				
Carbazole	109	106	32-144	3	30				
4-Chloro-3-methylphenol	99	96	33-150	3	30				
4-Chloroaniline	67	65	1-127	2	30				
bis(2-Chloroethoxy)methane	121	113	58-132	7	30				
bis(2-Chloroethyl)ether	108	97	34-139	11	30				
2-Chloronaphthalene	103	94	32-141	9	30				
2-Chlorophenol	106	97	38-136	9	30				
4-Chlorophenyl-phenylether	111	102	36-140	9	30				
2,2'-oxybis(1-Chloropropane)	122	117	50-145	4	30				
Chrysene	103	93	22-149	8	30				
Dibenz(a,h)anthracene	90	75	14-170	17	30				
Dibenzofuran	106	93	27-144	11	30				
3,3'-Dichlorobenzidine	53	57	3-123	8	30				
2,4-Dichlorophenol	104	95	29-145	9	30				
Diethylphthalate	106	97	37-145	9	30				
2,4-Dimethylphenol	112	101	21-143	11	30				
Dimethylphthalate	101	93	35-144	8	30				
4,6-Dinitro-2-methylphenol	89	77	5-160	15	30				
2,4-Dinitrophenol	0*	0*	20-150	0	30				
2,4-Dinitrotoluene	118	113	34-150	4	30				
2,6-Dinitrotoluene	109	108	39-138	2	30				
bis(2-Ethylhexyl)phthalate	118	113	26-160	5	30				
Fluoranthene	92	85	21-141	4	30				
Fluorene	111	93	28-151	12	30				
Hexachlorobenzene	91	91	32-146	1	30				
Hexachlorobutadiene	99	89	32-136	11	30				
Hexachlorocyclopentadiene	17	15	5-176	15	30				
Hexachloroethane	231*	201*	11-140	14	30				
Indeno(1,2,3-cd)pyrene	64	62	13-157	2	30				
Isophorone	102	91	38-133	10	30				
2-Methylnaphthalene	154*	94	22-145	16	30				
2-Methylphenol	104	94	26-139	10	30				
4-Methylphenol	104	105	9-170	1	30				
Naphthalene	176*	107	24-144	17	30				
2-Nitroaniline	111	97	31-156	14	30				
3-Nitroaniline	98	84	2-135	16	30				
4-Nitroaniline	102	105	11-141	3	30				
Nitrobenzene	149*	129	35-138	14	30				
2-Nitrophenol	99	88	29-145	12	30				
4-Nitrophenol	119	97	5-170	21	30				
N-Nitroso-di-n-propylamine	131	128	36-137	3	30				
N-Nitrosodiphenylamine	140*	148*	48-136	6	30				
Di-n-octylphthalate	107	101	24-164	6	30				
Pentachlorophenol	103	100	5-144	2	30				
Phenanthrene	125	115	20-147	4	30				

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 838694
Reported: 03/04/13 at 07:49 AM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Phenol	110	99	29-139	11	30				
Pyrene	131	121	19-152	5	30				
2,4,5-Trichlorophenol	111	86	33-147	26	30				
2,4,6-Trichlorophenol	102	96	27-150	6	30				
Batch number: 03022SLB026	Sample number(s): 3981908-3981910 UNSPK: P978885								
Acenaphthene	94	94	36-140	0	30				
Acenaphthylene	99	97	37-142	2	30				
Anthracene	93	90	29-141	3	30				
Benzo(a)anthracene	101	97	22-151	4	30				
Benzo(a)pyrene	105	100	25-149	5	30				
Benzo(b)fluoranthene	96	97	23-146	1	30				
Benzo(g,h,i)perylene	76	70	11-158	9	30				
Benzo(k)fluoranthene	105	98	27-149	7	30				
Chrysene	97	92	22-149	4	30				
Dibenz(a,h)anthracene	93	87	14-170	6	30				
Fluoranthene	89	85	21-141	4	30				
Fluorene	97	95	28-151	2	30				
Indeno(1,2,3-cd)pyrene	81	75	13-157	8	30				
Naphthalene	94	93	24-144	1	30				
Phenanthrene	92	90	20-147	1	30				
Pyrene	106	102	19-152	4	30				
Batch number: 030305708001	Sample number(s): 3981905-3981906,3981908-3981910 UNSPK: 3981906 BKG: 3981906								
Aluminum	2105 (2)	1363 (2)	75-125	12	20	8,530	7,600	12	20
Antimony	70*	75	75-125	7	20	N.D.	N.D.	0 (1)	20
Arsenic	93	94	78-113	1	20	1.84	2.72	39* (1)	20
Barium	97	96	75-125	1	20	25.0	20.2	22* (1)	20
Beryllium	96	94	89-113	2	20	0.582	0.434 J	29* (1)	20
Cadmium	95	95	75-125	0	20	0.209 J	0.316 J	41* (1)	20
Calcium	91 (2)	63 (2)	75-125	4	20	2,250	2,220	1	20
Chromium	104	95	75-125	6	20	12.5	11.0	13 (1)	20
Cobalt	96	96	81-111	0	20	3.66 J	4.77 J	27* (1)	20
Copper	98	95	75-125	2	20	6.50	5.31	20 (1)	20
Iron	3000 (2)	2061 (2)	75-125	9	20	7,820	12,300	44*	20
Lead	93	92	75-125	0	20	7.02	6.08	14 (1)	20
Magnesium	171 (2)	64 (2)	75-125	10	20	1,830	1,750	4	20
Manganese	100	89	75-125	5	20	61.7	64.1	4	20
Nickel	96	95	75-125	1	20	8.79	9.10	3 (1)	20
Potassium	250*	230*	75-125	4	20	980	934	5	20
Selenium	95	96	78-114	1	20	N.D.	N.D.	0 (1)	20
Silver	99	100	75-125	2	20	N.D.	0.105 J	200* (1)	20
Sodium	100	100	75-125	0	20	128	123	4 (1)	20
Thallium	91	92	72-109	1	20	N.D.	1.05 J	200* (1)	20
Vanadium	101	99	75-125	2	20	17.4	15.8	9	20
Zinc	96	97	75-125	1	20	25.7	24.7	4 (1)	20
Batch number: 030305711001	Sample number(s): 3981905-3981906 UNSPK: 3981906 BKG: 3981906								
Mercury	81	77*	80-120	4	20	0.0225 J	0.0203 J	10 (1)	20

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco Group Number: 838694
Reported: 03/04/13 at 07:49 AM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 03024820003A	Sample number(s): 3981905-3981906,3981908-3981910					BKG: P981885			
Moisture						24.2	24.0	1	15

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTEX in Soil by 8260B
Batch number: Q030231AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
3981906	82	80	78*	70*
3981907	101	98	97	90
3981908	100	98	95	89
3981910	94	90	89	84
Blank	97	93	94	86
LCS	93	90	93	90
MS	93	89	91	86
MSD	93	90	90	87
Limits:	80-120	80-120	81-117	74-121

Analysis Name: BTEX in Soil by 8260B
Batch number: Q030231AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
3981904	108	105	106	94
3981909	89	89	87	118
Blank	97	97	96	86
MS	93	89	91	86
MSD	93	90	90	87
Limits:	80-120	80-120	81-117	74-121

Analysis Name: BTEX in Soil by 8260B
Batch number: Q030231AC

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
3981905	98	92	93	96
Blank	103	94	98	91
MS	93	89	91	86
MSD	93	90	90	87
Limits:	80-120	80-120	81-117	74-121

Analysis Name: TCL SW846 Semivolatiles Soil
Batch number: 03022SLA026

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 03/04/13 at 07:49 AM

Group Number: 838694

Surrogate Quality Control

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
3981905	104	99	89	110	108	85
3981906	91	83	111	94	95	110
Blank	91	84	100	89	98	86
LCS	98	94	102	94	102	89
MS	105	118	104	122	105	100
MSD	98	104	96	114	90	96
Limits:	46-120	46-122	37-139	50-132	57-123	48-141

Analysis Name: PAHs in Soil by GC/MS
Batch number: 03022SLB026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
3981908	97	96	90
3981909	243*	98	100
3981910	88	93	101
Blank	89	96	102
LCS	88	94	104
MS	89	91	102
MSD	92	97	101
Limits:	50-132	57-123	48-141

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

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

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

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

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

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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