

SITE INVESTIGATION

**BUENA VISTA TOWNSHIP
DEPARTMENT OF PUBLIC WORKS YARD
430 UNION ROAD
BUENA VISTA TWP., ATLANTIC COUNTY, NEW JERSEY
EPA ID NO.: NJR000025221**



Volume 1 of 2

**New Jersey Department of Environmental Protection
Division of Remediation Management
Bureau of Environmental Measurements and Site Assessment**

USEPA COPY

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NARRATIVE

SITE INVESTIGATION REPORT

PART I: GENERAL INFORMATION

Site Name: Buena Vista Township Department of Public Works Yard

Aka: Buena Vista Solid Waste Landfill

Program Interest (PI) # 660004

Address: 430 Union Road

Municipality: Buena Vista Township **State:** NJ **Zip Code:** 08310

County: Atlantic

EPA ID No.: NJR000025221

Block: 7101 **Lot(s):** 25

Latitude: +39°29'37"N **Longitude:** -74°55'15.528"W

X Coordinate: 373,359.9871 ft **Y Coordinate:** 240,489.2528 ft

USGS Quadrangle: Five Points **Acreage:** 9.62 **SIC Code:** 4953 (Refuse Systems)

Current Owner: Buena Vista Township

Mailing Address: 890 Harding Highway

City: Buena Vista Township **State:** NJ **Zip Code:** 08310

Telephone No.: Lisa Tilton (Buena Vista Township) phone: 856-697-2100 Ext. *811

Current Operator: Buena Vista Township Department of Public Works

Mailing Address: 430 Union Road

City: Buena Vista Township **State:** NJ **Zip Code:** 08310

Telephone No.: Rich Calereso (Operator DPW Yard) phone: 609-381-4677

(MAPS 1, 3 AND 4; ATTACHMENTS A, B)

Owner/Operator History:

NAME	OPERATOR/ OWNER	DATES	
		FROM	TO
Buena Vista Township Department of Public Works Yard	Buena Vista Township	unknown	Present

An official deed noting the date of Buena Vista Township's initial acquisition of the property currently occupied by the Department of Public Works could not be located. NJDEP, BEMSA conducted a deed search at the Atlantic County Clerk's Office did not yield a deed; however, in 1906 there are hundreds pages of deeds yielding property from Buena Vista Township to Buena Vista Township. These deeds were handwritten and difficult to decipher. It is possible this collection of internal property transfers contains the initial public record of Buena Vista Township's ownership of the DPW Yard.

(MAP 3; ATTACHMENT A)

Surrounding Land Use (zoning, adjacent properties):

The Buena Vista Township Department of Public Works Yard (BVTDPWY) is bounded by agricultural land (farm fields) on the North and West, by a residential property to the South, and Union Road to the East. On the other side of Union Road is agricultural land with a residence and other out buildings. (MAP 3, 4; ATTACHMENTS K, L, R)

Distance to Nearest Residence or School: The nearest residence is adjacent to the Buena Vista Township DPW yard.

Direction: The nearest residence lies 49 feet south of the DPW yard's southern property line

Population Density (residents per square mile): 184.4 people/square mile

(MAP 3; ATTACHMENTS C, L, R)

PART II: SITE OPERATIONS

Discuss all current and past operations at the site. Include a description of the buildings or structures on site and their physical condition. In addition, tabulate all areas of concern (AOC) and provide the waste source type for each AOC. Include the physical state of waste at each AOC as stored or disposed, the condition of containers and the presence or absence of secondary containment and the volume of waste stored or disposed, or the volume or area of contaminated soil or water.

Buena Vista Township (BVT) operates its Department of Public Works (DPW) garage on site at 430 South Union Road, Buena Vista Township, Atlantic County, NJ. Formerly, the site served as a fueling station for Buena Vista Township motor vehicles. A small municipal landfill, now closed, also exists on site. A specific closure date is not known but locals and DPW employees recall operations ceasing in the late 1970s or early 1980s. DEP documentation suggests cessation between 1977 and 1982.

According to local residents, prior to operation as a DPW Yard, the site may have been a gravel pit (with excavated gravel being used for road-making). USGS Five Points Quadrangle topographic map shows a gravel pit near the current site. Historic aerials dating as far back as 1931 show disturbed land, potentially corroborating its use as a gravel pit. Anecdotes of residents' describe the landfill as existing earlier than the 1950's though a precise date is not known for the start of landfill operations.

The precise location and extent of the former landfill is not known, though it is generally believed to span at least 75% of the site - most of the area beyond the paved and built upon DPW yard which occupies the Northeast quadrant of the site. The area estimated to be the former landfill is covered in vegetation – mostly Phragmites. Local residents claim that before being covered by fill and vegetation that the landfill was covered with a layer of shingles. Material that

is likely shingles was encountered at varying depths (0-5 foot interval) below grade in some on-site borings advanced in association with groundwater sample collection in February 2015.

The Northeast quadrant, currently used by the Department of Public Works in day-to-day operations, consists of a main building with garage and offices which lies 41 feet off of Union Road, paved areas surrounding it, and a salt storage shed 371 feet from Union road. Various dumpsters and municipal vehicles occupy the paved area on site.

The former fueling station was also located on this paved area before closure in 1998 (Environmental Design Services Corporation removed two 550-gallon gasoline underground storage tanks (UST) and one 1,000 gallon diesel UST, dispensers, and associated piping from the site. All tanks were installed in 1944). Due to gasoline-saturated soils and associated groundwater contamination associated with one of the tanks, soil removal, post-excavation soil samples and a subsequent groundwater investigation were conducted at the site for this contamination. One monitoring well was installed and subsequently removed following receipt of an NJDEP No Further Action declaration in association with the UST removal. VOCs were not targeted.

In 2014 groundwater contamination was detected in private potable wells in the vicinity of the 430 Union Road property. As a result, the Atlantic County Health Department and New Jersey Department of Environmental Protection (NJDEP) sampled potentially impacted private wells in the area and detected a suite of contaminants above the New Jersey Drinking Water Maximum Contaminant Level (MCL) for trichloroethene (TCE), vinyl chloride, cis-1,2-dichloroethene, cis-1,2-dichloropropane, benzene, mercury and perchlorate. The extent of contamination is still being assessed, but analytical results thus far have confirmed 31 impacted wells. Of these 31, the majority of impacted wells are located to the south and southwest and down gradient of the Buena Township DPW Yard. As an interim measure, affected homes are being provided with point of entry treatment systems (POETS) through the NJDEP Environmental Claims Administration (Spill Fund).

In 1987 four on site monitoring wells were installed to evaluate the closed landfill. The well installation records indicate Buena Vista Township owned the property at that time. Quinlan drilling was the contractor. Neither the township nor NJDEP have records of the wells being sampled until recently. The four wells were sampled for the first time on record on April 8, 2014 and results showed vinyl chloride at levels as high as 102.3 ppb and TCE at levels as high as 82.5 ppb in two of the wells. These levels are well above the Ground Water Quality Standards (GWQS) set at 1 ppb for both compounds. The four monitoring wells were again sampled on October 24, 2014 and contamination was shown to persist in the same two wells.

(MAPS 1, 2, 3, 4, 5, 6; ATTACHMENTS D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S)

AOC SUMMARY TABLE

AOC Name	Source Type	Physical State	Waste Quantity
DPW Work Area	Possible landfill, former below-ground fuel tank	Liquid, Solid	Unkown
Former Municipal Landfill	Landfill	Liquid, Solid	Unkown

(ATTACHMENTS F, G, H, I, J, K, L, M, N, O, P, Q, R, S)

PART III: PERMITS

A. NJPDES

Number	Expiration Date	Date Issued	Formation or Water Body Discharged To
0055433	Unknown	March 18, 1977	Unknown

B. New Jersey Air Pollution Control Certificates

Plant ID No.: NA

No. of Certificates: NA

Equipment Permitted: NA

C. BUST Registration

Registration No.: Unknown - terminated

No. of Tanks: 3

Tank No.	Capacity (gallons)	Contents of Tank	Status
E001	550	gasoline	Closed - removed
E002	550	gasoline	Closed - removed
E003	1,000	Diesel No. 2	Closed - removed

(ATTACHMENTS I)

D. RCRA Status (TSD, Generator, Protective Filer, etc.)

Buena Vista Township municipal solid waste program is managed by the DPW yard whose offices are housed on site. As such, they hold permits for hazardous and solid waste handling and hauling. Although the vehicles used for these activities are housed on site, these permitted materials and activities do not currently occur on site.

E. Other Permits (RCRA, NRC, etc.)

Issuing Agency	Permit No.	Permit Type	Date Issued	Expiration Date
NJDEP – Hazardous Waste Program	HWH120001	Hazardous Waste Handler	2012	--
NJDEP – Solid Waste Program	RTS100003	Solid/Hazard Waste Veh Reg Set	05/07/2015	--

PART IV: SOIL EXPOSURE

Describe soil type. Include soil series, composition of the soil and permeability of the soil.

There are two soil types present at the site. United States Department of Agriculture classifies them as Aura sandy loam (AugB) which occurs at 2%-5% slopes, and Udorthents, refuse substratum

(UdrB) which occurs at 0%-8% slopes.

UdrB soils are described generally as Loamy human-transported material over refuse. UdrB soils cover most of the site except for the edges of the property boundary. On this site the typical soil profile (though highly variable) was 0 to 6 inches of loam/organic materials, followed by about 6 inches of coarse brown sand, 12 inches of grey silty sand, 12 to 24 inches of shingles, followed by up to 15 feet of debris (plastic, glass, wood, bone fragments, Styrofoam, etc.) layered intermittently with coarse gravelly sand grading finer at various thicknesses. The Capacity of the most limiting layer to transmit water is highly variable in these soils with a Ksat anywhere between 0.01 and 14.17 inches per hour

AugB soils occur only on the very edges of the site. These well drained soils with old loamy and/or gravelly alluvium as parent material have a moderately high Ksat between 0.20 and 0.60 inches per hour. These soils are classified as prime farmland

(MAPS 1, 9; ATTACHMENTS T, U, V, W, X, Y)

For each sampling event, identify the sampler and date of sampling and list the name, address and certification number of the lab which performed the analyses. State who conducted the quality assurance review of the data and summarize any data qualifications.

Soil sampling was conducted by NJDEP, BEMSA at one on-site location (boring 11) on February 25, 2015. A three foot soil core was recovered at the interval 10 to 15 feet below grade. From these three feet, two soil samples were collected: one set of encore samples for VOC analysis and one Mercury sample.

These samples were sent to USEPA Region 2 DESA Lab (located at 2892, Woodbridge Avenue, Edison, NJ 08837 assessed the data.

(MAPS 5, 6; ATTACHMENTS H, Z, AA)

Tabulate sample numbers and the associated Area of Concern or describe the sample location. Identify samples which establish background conditions.

NJDEP/BEMSA DATE	
SAMPLE #	ASSOCIATED AOC/SAMPLE LOCATION
SS-1 Mercury	Onsite boring 11 located in the Southwest corner of the site
SS-1 VOA	Onsite boring 11 located in the Southwest corner of the site

(ATTACHMENT AA)

Tabulate contaminants identified in the soil. Include sample number, depth, contaminant levels and corresponding NJDEP Soil Remediation Standard.

Soil contamination levels were found to be below NJDEP Soil Remediation Standards in both sample, SS-1 Mercury and SS-1 VOA.

(ATTACHMENT AA)

Discuss contaminants identified in the soil above background and remediation standards and provide the rationale for site attribution. State whether Level 1 or Level 2 contamination is present.

No contaminants were identified in the soil above background and remediation standards

Based on these results, a release to soil attributable to the site has not been documented above background and the NJDEP Soil Remediation Standards.

(ATTACHMENT AA)

Total area of surficial contamination in square feet:

Unknown, soil contamination was not detected.

(ATTACHMENT AA)

If no soil sampling has been conducted, discuss areas of potentially contaminated soil, areas that are visibly contaminated or results from soil gas surveys.

Although soil sampling was conducted at one boring location and was found not to contain contamination above soil standards, there is still potential for soil contamination at other areas within the former landfill. Of particular interest are different intervals and boring locations within the southwest quadrant of the DPW Yard.

(MAPS 5, 6; ATTACHMENTS H, AA)

Number of people occupying residences or attending school or day care on or within 200 feet of the site: 9

Number of workers on or within 200 feet of the site: As many as 40 (seasonally variable as harvesters and other farm workers are employed at adjacent agricultural properties)

Number of on-site employees: 16

(MAPS 3, 11; ATTACHMENTS C, Q, R)

Identify terrestrial sensitive environments within 200 feet of observed contamination.

There are no terrestrially sensitive environments within 200 feet of the observed contamination.

(MAPS 1, 7, 8, 10; ATTACHMENT K)

Determine if any commercial agriculture, silviculture, livestock production or grazing are present within 200 feet of observed contamination.

The highest levels on contamination occur at the southwest corner of the DPW yard. Commercial agricultural activities (cultivation of produce for human consumption) occur northwest, west, southwest, south, and southeast of highest contaminated sample location.

(MAPS 1, 7, 8, 10; ATTACHMENT K)

PART V: GROUND WATER ROUTE

A. HYDROGEOLOGY

Describe geologic formations and the aquifer(s) of concern. Include interconnections, confining layers, discontinuities, composition, hydraulic conductivity and permeability.

The site is mapped by the New Jersey Geologic Survey (NJGS) as within the Atlantic Coastal Plain Physiographic Province. The regional landscape throughout Atlantic County is characterized as a gently sloping, low relief, and mostly sandy terrain which includes numerous small lakes, shallow streams, wetlands and wooded area. The land surface in Atlantic County slopes gently eastward toward the coast; consequently, surface drainage is toward the coastline and ultimately the Atlantic Ocean. Buena Vista Township DPW Yard, however, lies within the Menatico Creek Watershed which leads to the Maurice River which lie west and southwest of the site (though they ultimately flow East)

The DPW Yard property sits atop the Bridgeton Formation. Geology consists of stratified alluvial deposits. These alluvial deposits are Quarternary or Neogene in age and consist predominantly of a silty and clayey mixture of sand and gravel (the ratio of sand to gravel varies greatly throughout the profile). The depth to bedrock is well in excess of 100 feet. In this region, the Bridgeton Formation is underlain by the unconsolidated Cohansey Formation. These marine deposits are Late Miocene in age and consist of predominantly silty sand and uniform sand. Below the Cohansey formation are sandy parts of the the Kirkwood formation which dates to the early or middle Miocene Epoch.

As discussed previously, there are two soil types present at the site. United States Department of Agriculture classifies them as Aura sandy loam (AugB) which occurs at 2% to 5% slopes, and Udorthents, refuse substratum (UdrB) which occurs at 0% to 8% slopes. UdrB soils are described generally as Loamy human-transported material over refuse. UdrB soils cover most of the site

except for the edges of the property boundary. On this site the typical soil profile (though highly variable) was 0 to 6 inches of loam/organic materials, followed by about 6 inches of coarse brown sand, 12 inches of grey silty sand, 12 to 24 inches of shingles, followed by up to 15 feet of debris (plastic, glass, wood, bone fragments, Styrofoam, etc.) layered intermittently with coarse gravelly sand grading finer at various thicknesses. The Capacity of the most limiting layer to transmit water is highly variable in these soils with a Ksat anywhere between 0.01 and 14.17 inches per hour. AugB soils occur only on the very edges of the site. These well drained soils with old loamy and/or gravelly alluvium as parent material have a moderately high Ksat between 0.20 and 0.60 inches per hour. These soils are classified as prime farmland.

(MAP 1; ATTACHMENTS K, R, T, U, V, W, X, Y)

Depth to water table: 13 to 20 feet

Depth to aquifer of concern: Depth to the Kirkwood-Cohansey Aquifer is between 30 and 50 feet.

Depth from lowest point of waste disposal/storage to highest seasonal level of the saturated zone of the aquifer of concern: 0 in some areas

(ATTACHMENTS T, U, V, W, X, Y)

Thickness and permeability of the least permeable layer between the ground surface and the aquifer of concern:

The Kirkwood and Cohansey Aquifer is encountered between 30 and 50 feet below surface. The generalized hydraulic conductivity of the aquifer is 5.0×10^{-2} cm/sec. This aquifer system is composed of the saturated parts of Holocene-age alluvial and colluvial deposits, the Bridgeton Formation, the Cohansey Formation, and sandy parts of the Kirkwood Formation. The aquifer system is unconfined in this part of southern New Jersey. Near the boundary of Atlantic County with Gloucester County the aquifer is known to be around 250 feet thick.

(ATTACHMENT V)

Thickness of aquifer: 150 to 250 feet

Direction of ground water flow: west, southwest

Net precipitation Factor Value: 6

Karst: No

(ATTACHMENTS W, X, Y)

Wellhead Protection Area within 4 miles of the site: Yes

Does a waste source overlie a Wellhead Protection Area: No

(MAPS 12, 13)

B. MONITORING WELL INFORMATION

Briefly discuss why the monitoring wells were installed.

Four monitoring wells were installed on site in 1987. Other than the well record, no documentation was found highlighting the reason for their installment. Documentation suggests the landfill ceased operation between 1977 and 1982 which means it likely did not receive proper closure as New Jersey Landfills that operated before 1982 are not subject to the Sanitary Landfill Facility Closure and Contingency Fund Act (N.J.S.A. 13:1E-100). Because pre-1982 landfills were not required to submit detailed closure plans, it is unknown whether the 1987 installation of monitoring wells is associated with leachate contamination concerns.

One additional monitoring well was installed in 2000 in association with the UST closure discussed above.

(MAP 5; ATTACHMENTS I, L, M, N)

Tabulate all wells below:

Well No.	Screen Depth (feet)	Formation	Location/AOC/Background
MW-1 (1987 – AKA MW-C)	21-41	Kirkwood-Cohansey	Background (side-gradient). Located at the midpoint of the site perimeter bordering Union Road.
MW-2 (1987 – AKA MW - B)	22.5-42.5	Kirkwood-Cohansey	Southwest corner of the site. Near the property boundary. Within landfill’s suspected area of contamination.
MW-3 (1987 – AKA MW-A)	22.5-42.5	Kirkwood-Cohansey	Midpoint of the site’s Western property line.
MW-4 (1987 – AKA MW-D)	22.5-42.5	Kirkwood-Cohansey	Background (up-gradient). Located in the Northwest Corner of the site near the property boundary.
MW-1 (2000)	17-27	Kirkwood-Cohansey	CLOSED – Associated with the former UST location and fueling station. Upgradient in the Northeast quadrant of the site

For each sampling event, identify the sampler and date of sampling and list the name, address and certification number of the lab which performed the analyses. State who conducted the quality assurance review of the data and summarize any data qualifications.

Buena Vista Township initiated sampling of the four active monitoring wells at the DPW Yard. The sampling was conducted by South Jersey Water Test, LLC (4077 South Black Horse Pike, Williamstown, NJ) and analyzed by KNL Laboratory Services (NJDEP Cert no. FL008).

Sampling of all wells occurred twice following the discovery of contamination in potable wells in the area. The first event was April 3, 2014 and the second was October 24, 2014. The first sampling event also included collection of a raw water sample from the bathroom sink in the DPW building.

(MAPS 5, 6; ATTACHMENTS O, P)

Tabulate contaminants identified in each well. Include well number, contaminant levels and corresponding NJDEP Ground Water Quality Standard (GWQS).

**Bold values are greater than the NJDEP GWQS*

October 23, 2014 Sampling Event

SAMPLE #	CONTAMINANT	CONCENTRATION (ppb) *	NJDEP GWQS (ppb)
MWC-10.24.14	mercury	<0.5	2
MWD-10.24.14	mercury	<0.5	2
MWA-10.24.14	mercury	<0.5	2
MWA-10.24.14	benzene	3.36	1
MWA-10.24.14	vinyl chloride	0.79	1
MWB-10.24.14	mercury	<0.5	2
MWB-10.24.14	vinyl chloride	195	1
MWB-10.24.14	1,1-dichloroethene	5.16	2
MWB-10.24.14	cis-1,2-dichloroethene	1,284	70
MWB-10.24.14	trichloroethene	936	1
MWB-10.24.14	tetrachloroethene	1.29	1

April 4, 2014 Sampling Event

SAMPLE #	CONTAMINANT	CONCENTRATION (ppb) *	NJDEP GWQS (ppb)
MWC-4.8.14	mercury	<0.5	2
MWC-4.8.14	nitrate	43,207	10,000
MWD-4.8.14	mercury	<0.5	2
MWD-4.8.14	nitrate	56,177	10,000
MWA-4.8.14	mercury	<0.5	2
MWA-4.8.14	benzene	1.18	1
MWA-4.8.14	vinyl chloride	5.08	1
MWA-4.8.14	1,1,2,2-tetrachloroethane	1.21	1
SAMPLE #	CONTAMINANT	CONCENTRATION (ppb)	NJDEP GWQS (ppb)
MWB-4.8.14	mercury	<0.5	2
MWB-4.8.14	vinyl chloride	102.3	1
MWB-4.8.14	1,1-dichloroethene	ND	2
MWB-4.8.14	cis-1,2-dichloroethene	410.8	70
MWB-4.8.14	trichloroethene	82.5	1

Discuss contaminants identified in the monitoring wells above background and the ground water quality standards and provide the rationale for site attribution. State whether Level 1 or Level 2 contamination is present.

Both sampling events (October 23, 2014 and April 4, 2014) conducted at the behest of Buena Vista Township at the DPW Yard monitoring wells returned results with heightened levels of volatile organic compounds, most notably in MWB.

The levels of contamination varied between events with the highest levels of vinyl chloride (195 ppb), cis-1,2-dichloroethene (1,284 ppb), trichloroethene (936 ppb), tetrachloroethene (1.29 ppb), and 1,1-dichloroethene (5.16 ppb) all occurring at the later sampling event on October 24, 2014 in MWB. Tetrachloroethene and 1,1-dichloroethene were not found in MWB in the April 4, 2014 sampling event.

In MWA the highest levels of vinyl chloride (5.08 ppb) and 1,1,2,2-tetrachloroethane (1.21 ppb) were found during the earlier (April 4, 2014) sampling event while the highest level benzene (3.36 ppb) was found in the later event. Tetrachloroethene was not found in MWA in this later event. Significant amounts of mercury were not found in any of the monitoring wells at either sampling event (<0.5 ppb in all wells).

Nitrate was sampled for only in the earlier event and was only found in MWC (43,207 ppb) and MWD (56,177 ppb).

All contaminants discussed herein meet criteria for Level I contamination.

Based on these results, a release to ground water of vinyl chloride, cis-1,2-dichloroethene, 1,1-dichloroethene, tetrachloroethene and trichloroethene, attributable to the site has been documented above background and the NJDEP Ground Water Quality Standards.

(MAPS 5, 6; ATTACHMENTS O, P, S)

C. OTHER GROUND WATER SAMPLING

Discuss any other ground water sampling that has occurred. For each sampling event, identify the sampler and date of sampling and list the name, address and certification number of the lab which performed the analyses. State who conducted the quality assurance review of the data and summarize any data qualifications.

NJDEP, BEMSA conducted two sampling events in relation to the Site Investigation at BVT DPW to determine the source of vinyl chloride, DCE, Mercury, and perchlorate in residential potable wells located in the area of Post Road. The Buena Vista Township DPW Yard was a suspected source of groundwater contamination due to its apparently up-gradient proximity to the impacted wells.

The first groundwater sampling event was conducted on October 20 and 21, 2014. Sample locations were selected in farm fields to the west and southwest (down-gradient of the site, up-gradient of the impacted wells) of the site in order to characterize the groundwater quality in the vicinity of the DPW yard. Sample locations were biased by results from on-site monitoring well sampling initiated by Buena Vista Township. NJDEP, BEMSA advanced borings down-gradient and side-gradient in relation to MWA and MWB which were the highest-impacted wells. Ground water samples were collected at discrete intervals with a Geoprobe using a vertical profiling technique. These samples were analyzed for VOCs.

These samples were sent to ALS Laboratory Group – Salt Lake City – DATAC located at 960 West LeVoy Drive, Salt Lake City, UT 84123 (Case no. 44806, SDG no. B0AA0). USEPA Region 2 DESA Lab (located at 2892, Woodbridge Avenue, Edison, NJ 08837 assessed the data. At the time of collection, samples were screened by NJDEP personnel using field gas chromatograph (field GC).

The current SOP HW-33/VOA (Revision 3) March 2013, USEPA Region II Data Validation SOP for Statement of Work SOM01.2 for evaluating organic data was applied. Data was reviewed according to TDF specifications, the National Functional Guidelines Report and the CCS Semi-Automated Screening Results Report. Tentatively Identified Compounds (TICS) for VOA organic fraction is not validated.

The second groundwater sampling event was conducted on February 18, 19, 23, 24 and 25, 2015. Sample locations were selected on site in order to characterize the groundwater quality within the DPW yard. Sample locations were biased by results from on-site monitoring well sampling initiated by Buena Vista Township and by results from the previously mentioned sampling conducted by NJDEP, BEMSA on October 20 and 21, 2014. NJDEP-BEMSA advanced borings up-gradient, and side-gradient as well as within the southwest corner of the site wherein the highest levels of contamination had previously been found. Ground water samples were collected at discrete intervals with a Geoprobe using a vertical profiling technique. These samples were analyzed for VOCs, mercury, and perchlorate.

The VOC and mercury samples were sent to USEPA Region 2 DESA Lab (located at 2892, Woodbridge Avenue, Edison, NJ 08837 for VOC and Mercury analysis.

The perchlorate samples were sent to Test America (30 Community Drive, South Burlington, VT 05403; NJDEP Certification no. VT972). Test results were derived under a system that adheres to the requirements of NELAC. NJDEP's Office of Data Quality validated the data.

The following tables incorporate data generated by both NJDEP sampling events.

(MAPS 5, 6; ATTACHMENTS Z, AA, BB, CC, DD, EE, FF)

Tabulate sample numbers and the associated Area of Concern or describe the sample location. Identify samples which establish background conditions.

NJDEP/BEMSA October 2014, February 2015	
SAMPLE #	ASSOCIATED AOC/SAMPLE LOCATION
GW2A	February sampling event. Up-gradient. Center of DPW Yard's northern property line. 0-20 feet. Boring 2 on map.
GW2B	February sampling event. Up-gradient. Center of DPW Yard's northern property line. 25-28feet. Boring 2 on map.
GW2C	February sampling event. Up-gradient. Center of DPW Yard's northern property line. 33-36 feet. Boring 2 on map.
GW2D	February sampling event. Up-gradient. Center of DPW Yard's northern property line. 41-44 feet. Boring 2 on map.
GW2E	February sampling event. Up-gradient. Center of DPW Yard's northern property line. 46-49 feet. Boring 2 on map.
GW3A	February sampling event. Up-gradient of site's southwest corner, down-gradient of former USTs/fueling station. Center of DPW Yard property. 22-25 feet. Boring 3 on map.
GW3B	February sampling event. Up-gradient of site's southwest corner, down-gradient of former USTs/fueling station. Center of DPW Yard property. 30-33 feet. Boring 3 on map.

SAMPLE #	ASSOCIATED AOC/SAMPLE LOCATION
GW3C	February sampling event. Up-gradient of site's southwest corner, down-gradient of former USTs/fueling station. Center of DPW Yard property. 38-41 feet. Boring 3 on map.
GW3D	February sampling event. Up-gradient of site's southwest corner, down-gradient of former USTs/fueling station. Center of DPW Yard property. 46-49 feet. Boring 3 on map.
GW4A	February sampling event. Side-gradient. Near DPW's eastern property line. 10 feet South of MWC. 0-20 feet. Boring 4 on map.
GW4B	February sampling event. Side-gradient. Near DPW's eastern property line. 10 feet South of MWC. 25-28 feet. Boring 4 on map.
GW4C	February sampling event. Side-gradient. Near DPW's eastern property line. 10 feet South of MWC. 33-36 feet. Boring 4 on map.
GW4D	February sampling event. Side-gradient. Near DPW's eastern property line. 10 feet south of MWC. 41-44. Boring 4 on map.
GW4E	February sampling event. Side-gradient. Near DPW's eastern property line. 10 feet south of MWC. 46-49 feet. Boring 4 on map.
GW4A-mercury, GW4B-mercury, GW4C-mercury, GW4D-mercury	February sampling event. Collected at same intervals as GW4A-D listed above, but in a boring ~6 inches from the original boring 4.
GW5A	February sampling event. Southwest corner of DPW Yard. Up-gradient of MW-B. 16-19 feet. Boring 5 on map.
GW5B	February sampling event. southwest corner of DPW Yard. Up-gradient of MW-B. 24-27 feet. Boring 5 on map.
GW5C	February sampling event. southwest corner of DPW Yard. Up-gradient of MW-B. 31-35 feet. Boring 5 on map.
GW5D	February sampling event. southwest corner of DPW Yard. Up-gradient of MW-B. 42-43 feet. Boring 5 on map.
GW5E	February sampling event. southwest corner of DPW Yard. Up-gradient of MW-B. 46-49 feet. Boring 5 on map.
GW6A (B0AB4)	October sampling event. Down-gradient, 3 feet from property boundary of DPW's southwest corner, farm field boring. 15-18 feet
GW6B (B0AB5)	October sampling event. Down-gradient, 3 feet from property boundary of DPW's southwest corner, farm field boring. 25-28 feet
GW6C (B0AB6)	October sampling event. Down-gradient, 3 feet from property boundary of DPW's southwest corner, farm field boring. 37-40 feet
GW6A-Dilution (B0AB4DL)	This is a dilution of sample 6C run by NJDEP DESA lab due to high concentrations.
GW7A (B0AA0)	October sampling event. Down-gradient, farm field boring. 13-15 feet
GW7B (B0AA1) (B0AA1)	October sampling event. Down-gradient, farm field boring. 25-28 feet

SAMPLE #	ASSOCIATED AOC/SAMPLE LOCATION
GW7C (B0AA2)	October sampling event. Down-gradient, farm field boring. 37-40 feet
GW7D (B0AA3)	October sampling event. Down-gradient, farm field boring. 49-52 feet
GW8A (B0AA4)	October sampling event. Side-gradient, farm field boring. 15-18 feet.
GW8B (B0AA5)	October sampling event. Side-gradient, farm field boring. 25-28 feet.
GW8C (B0AA6)	October sampling event. Side-gradient, farm field boring. 37-40 feet.
GW8D (B0AA7)	October sampling event. Side-gradient, farm field boring. 40-43 feet.
GW9A (B0AB1)	October sampling event. Side-gradient, farm field boring. 15-18 feet
GW9B (B0AB2)	October sampling event. Side-gradient, farm field boring. 25-28 feet
GW9C (B0AB3)	October sampling event. Side-gradient, farm field boring. 37-40 feet
GW10A (B0AA8)	October sampling event. Side-gradient, farm field boring. 14-16 feet
GW10B (B0AA9)	October sampling event. Side-gradient, farm field boring. 26-29 feet
GW10C (B0AB0)	October sampling event. Side-gradient, farm field boring. 33-36 feet
GW11A	February sampling event. southwest corner of DPW Yard. Down-gradient of Boring 5. 2 feet Northeast of MW-B. 16-19 feet. Boring 11 on map.
GW11B	February sampling event. southwest corner of DPW Yard. Down-gradient of Boring 5. 2 feet Northeast of MW-B. 24-27 feet. Boring 11 on map.
GW11C	February sampling event. southwest corner of DPW Yard. Down-gradient of Boring 5. 2 feet Northeast of MW-B. 32-35 feet. Boring 11 on map.

(ATTACHMENTS BB, CC, DD, EE, FF, GG, HH, II)

Tabulate contaminants identified in ground water. Include sample number, contaminant levels and corresponding NJDEP Ground Water Quality Standard (GWQS).

**Bold values are greater than the NJDEP GWQS*

SAMPLE #	DEPTH (feet)	CONTAMINANT	CONCENTRATION (ppb) *	NJDEP GWQS (ppb)
GW2B	25-28	perchlorate	2.16	5
GW2C	33-36	perchlorate	1.25	5
GW2D	41-44	perchlorate	0.53	5
GW2E	46-49	perchlorate	2.51	5
GW3B	30-33	perchlorate	0.44	5
GW3C	38-41	perchlorate	0.52	5
GW3D	46-49	perchlorate	1.15	5
GW4B	25-28	perchlorate	0.35	5
GW4C	33-36	perchlorate	0.75	5
GW4D	41-44	perchlorate	0.92	5
GW4E	46-49	perchlorate	1.19	5
GW5B	24-27	vinyl chloride	33	1
GW5B	24-27	cis-1,2-dichloroethene	24	70

SAMPLE #	DEPTH (feet)	CONTAMINANT	CONCENTRATION (ppb) *	NJDEP GWQS (ppb)
GW5E	46-49	perchlorate	1.16	5
GW6A (B0AB4)	15-18	vinyl chloride	6	1
GW6A (B0AB4)	15-18	1,1-dichloroethane	3.3	50
GW6A (B0AB4)	15-18	1,1-dichloroethene	2.9	1
GW6A (B0AB4)	15-18	1,1,1-trichloroethane	14	30
GW6A (B0AB4)	15-18	tetrachloroethene	2.8	1
GW6A- Dilution (B0AB4DL)	15-18	cis-1,2-dichloroethene	410	70
GW6A- (B0AB4DL)	15-18	trichloroethene	940	1
GW6B (B0AB5)	25-28	cis-1,2-dichloroethene	87	70
GW6B (B0AB5)	25-28	trans-1,2-dichloroethene	1.5	100
GW6B (B0AB5)	25-28	vinyl chloride	120	1
GW6B (B0AB5)	25-28	1,1-dichloroethane	1.4	50
GW6B (B0AB5)	25-28	trichloroethene	1.4	1
GW6C (B0AB6)	37-40	cis-1,2-dichloroethene	30	70
GW6C (B0AB6)	37-40	vinyl chloride	2.1	1
GW6C (B0AB6)	37-40	trichloroethene	13	1
GW7A (B0AA0)	15-18	cis-1,2-dichloroethene	1.8	70
GW7A (B0AA0)	15-18	trichloroethene	1.7	1
GW10A (B0AA8)	14-16	cis-1,2-dichloroethene	65	70
GW10A (B0AA8)	14-16	trichloroethene	33	1

SAMPLE #	DEPTH (feet)	CONTAMINANT	CONCENTRATION (ppb) *	NJDEP GWQS (ppb)
GW10B (B0AA9)	26-29	vinyl chloride	21	1
GW10B (B0AA9)	26-29	cis-1,2-dichloroethene	140	70
GW10B (B0AA9)	26-29	trichloroethene	50	1
GW10C (B0AB0)	33-36	vinyl chloride	9.8	1
GW10C (B0AB0)	33-36	cis-1,2-dichloroethene	130	70
GW10C (B0AB0)	33-36	trichloroethene	47	1
GW11A	16-19	vinyl chloride	290	1
GW11A	16-19	cis-1,2-dichloroethene	1100	70
GW11A	16-19	trans-1,2-dichloroethene	11	100
GW11B	24-27	cis-1,2-dichloroethene	11	70

(ATTACHMENTS Z, AA, BB, CC, DD, EE, FF, GG, HH, II)

Discuss contaminants identified in ground water above background and the ground water quality standards and provide the rationale for site attribution. State whether Level 1 or Level 2 contamination is present.

The initial round of groundwater sampling conducted by NJDEP affiliated with the site involved the collection of groundwater samples in farm fields down-gradient and off site of the DPW Yard. Sampling occurred on October 20 and 21, 2014. These samples were analyzed for VOCs.

The off-site sample set that demonstrated the highest levels of contamination were those collected at varying depths from GW6 and GW10. Samples collected at both of these boring locations had Level I contamination.

GW6 is immediately adjacent to the site's southwest corner property boundary. The shallowest interval in this boring (15 to 18 feet below grade) yielded results of highest contamination (cis-DCE 410 ppb, TCE 940 ppb, vinyl chloride 6 ppb, 1,1-dichloroethene 2.9 ppb, and PCE 2.8 ppb), the next interval (25 to 28 feet below grade) showed vinyl chloride increasing to 120 ppb, with other contaminants at significantly lower levels.

GW10 is farther southwest and down-gradient of the site and of GW6. GW10 revealed cis-DCE (130 ppb at 33 to 36 feet), TCE (50 ppb at 26 to 29 feet), and vinyl chloride (21 ppb at 26 to 29 feet). The contamination in GW10 was found in deeper intervals than in GW6.

GW7 (south of GW10) and GW8 and GW9 (north of GW10) are all side-gradient of GW10. They showed far lower levels of contamination with GW7's sole contaminants of cis-DCE and TCE occurring at significantly lower levels (1.8 ppb and 1.7 ppb, respectively) and GW8 and GW9 yielding results free of VOCs across all intervals.

Further groundwater sampling was conducted by NJDEP, BEMSA on-site at the DPW yard in February 2015. These samples were analyzed for VOCs, mercury, and perchlorate. Neither mercury nor perchlorate was discovered at levels above GWQS that would indicate an on-site source.

GW5 and GW11, both located in the southwest corner of the site near the property boundary and GW6, showed the highest levels of VOC contamination from the February sampling.

GW11 was advanced 2 feet northeast of MW-B (where the highest recorded levels of PCE, TCE, 1,1-DCE, and cis-DCE were encountered) and showed significant levels of VOC contamination in its shallowest two intervals: in the 16 to 19 foot interval cis-DCE was found at 1,100 ppb and vinyl chloride at 290 ppb. This was the highest level of vinyl chloride detected. Contamination levels fell significantly at the next depth (24 to 27 feet) with cis-DCE being detected at 11 ppb.

GW5 was 15 feet northeast and up-gradient of GW11 and showed contamination only in the 24 to 27 foot interval (vinyl chloride 33 ppb, cis-DCE 24 ppb).

VOCs were not detected in background samples up-gradient or side-gradient of the DPW yard's southwest corner (GW2, GW3, GW4).

Based on these results, a release to ground water of water of vinyl chloride, cis-1,2-dichloroethene, 1,1-dichloroethene, tetrachloroethene and trichloroethene, attributable to the site has been documented above background and the NJDEP Ground Water Quality Standards.

(MAPS 5, 6; ATTACHMENTS S, Z, AA, BB, CC, DD, EE, FF, GG, HH, II)

D. POTABLE WELL INFORMATION

Distance to nearest potable well:

The nearest domestic potable well on record is located at 435 Union Road (opposite side of Union Road in relationship to the site) Though on-site employees say their water comes from an on-site well.

Depth of nearest potable well: 180 feet

(MAP 3; ATTACHMENTS M, N, O)

Identify all public supply wells within 4 miles of the site and tabulate for each aquifer the population utilizing that aquifer for drinking purposes. Include only those populations which utilize wells that have a potential to be impacted, not wells which are actually impacted. Do not list private potable wells individually in this table, but include populations served by these private wells.

Distance (miles)	Population served by Aquifer	Residential Population served by Private Potable Wells
on site	0	0
> 0 - 1/4	0	29
> 1/4 - 1/2	0	107
> 1/2 - 1	93	565
> 1 - 2	918	1,377
> 2 - 3	3,620	2,562
> 3 - 4	6,161	2,634

(MAPS 11, 12, 13; ATTACHMENTS M, II, JJ, KK, LL)

State whether ground water is blended with surface water, ground water or both prior to distribution:

Buena Borough MUA, Alpine Village Mobile Home Park, and Vineland Water and Sewer Authority all utilize wells within a 4 mile radius of the site. None of these three purveyors blend ground with surface water. Vineland Water and Sewer Authority blends ground water with ground water sourced from wells outside of the 4 mile radius.

(MAPS 11, 12, 13; ATTACHMENTS M, II, JJ, KK, LL)

Discuss private potable well use within 4 miles of the site. Include depth, formation and distance, if available.

Potable water within 4 miles of this site is supplied predominantly by private potable wells. Many wells are older and as such do not have corresponding records. Of the wells that do have records, depth varies greatly and can range from 40 to 180 feet below grade.

(MAPS 11, 12, 13; ATTACHMENTS M, II, JJ, KK, LL)

Discuss the site's source of potable water.

The DPW's source of potable water is an on-site well. In April of 2014 a raw water sample was collected by South Jersey Water Test, LLC from the faucet of the bathroom within the DPW's main building. Results did not show VOCs, nitrate, or mercury above GWQS or the reporting limit.

Discuss information concerning the population utilizing wells that are known to be contaminated with hazardous substances which are attributable to the site. Also include any other evidence of contaminated drinking water or wells closed due to contamination. State whether Level 1 or Level 2 contamination is present.

In 2014 groundwater contamination was detected in private potable wells in the vicinity of the 430 Union Road property. As a result, the Atlantic County Health Department and New Jersey Department of Environmental Protection (NJDEP) sampled potentially impacted private wells in the area and detected a suite of contaminants above the New Jersey Drinking Water Maximum Contaminant Level (MCL) for trichloroethene (TCE), vinyl chloride, cis-1,2-dichloroethene, cis-1,2-dichloropropane, benzene, mercury and perchlorate. The extent of contamination is still being assessed but analytical results thus far have confirmed 31 impacted wells. Of these 31, the majority of impacted wells are located to the south and southwest and down gradient of the Buena Township DPW Yard. As an interim measure, affected homes are being provided with point of entry treatment systems (POETS) through the Environmental Claims Administration (Spill Fund).

(MAPS 6, 11, 12, 13; ATTACHMENTS M, II, JJ, KK, LL; ATTACHMENTS D, E)

Identify any resource uses of ground water within 4 miles of the site (i.e., commercial livestock watering, ingredient in commercial food preparation, supply for commercial aquaculture, supply for major or designated water recreation area, excluding drinking water use, irrigation of commercial food or commercial forage crops, unusable).

There are no documented resource uses of groundwater for commercial livestock watering, ingredient in commercial food preparation, supply for commercial aquaculture, or supply for major or designated water recreation area

(MAPS 7, 8, 12, 13)

PART VI: SURFACE WATER ROUTE

A. SURFACE WATER

Does a migration pathway to surface water exist? No

Flood plain: FEMA flood maps indicate the site is located within Zone C which is defined as areas of minimal flooding

Size of drainage area for sources at the site in acres: 75% of the site is covered by permeable surface. Down-gradient it is surrounded by the permeable soil of farm fields.

2-year, 24-hour rainfall in inches: 3.04-3.73 inches

Does contaminated ground water discharge to surface water? Unknown.

(MAP 9; ATTACHMENTS K, T, U, V, W, X, Y)

Identify known or potentially contaminated surface water bodies. Follow the pathway of the surface water and indicate all adjoining bodies of water along a route of 15 stream miles.

Surface Water Body	Distance from Site (miles)	Flow (cfs)
Panther Branch	0.5	<10
Manatico Creek	2.8	10-100
Maurice River	11.8	>100-1,000 (At the nearest USGS Stream Gaging Station for the Maurice River average flow between March 2014 and March 2015 was 150)

(MAPS 7, 8, 10)

Identify drinking water intakes and fisheries within 15 miles downstream (or upstream in tidal areas) of the site. For each intake or fishery identify the distance from the point of surface water entry, the name of the fishery and/or supplier and population served.

According to NJDEP GIS data there are no drinking water intakes or fisheries along the 15-mile surface water flow path.

(MAPS 7, 8)

Discuss surface water and/or sediment sampling conducted in relation to the site. Include surface water body, sampling date, sampling agency or company. State whether Level 1 or Level 2 contamination is present for surface water. State whether Level 2 contamination of sediments is present. For each sampling event, list the name, address and certification number of the lab which performed the analyses. State who conducted the quality assurance review of the data and summarize any data qualifications. Discuss visual observations if analytical data are not available (include date of observation).

Surface water and sediment sampling have not been conducted in relation to the site.

Determine if a contaminant on site displays bioaccumulative properties. Identify all bioaccumulative substances that may impact the food chain.

The contaminants of concern are chlorinated volatile organics, predominantly vinyl chloride and cis-1,2-DCE. These compounds do not display bioaccumulative properties. Perchlorate and mercury were also targeted. Mercury does bioaccumulate and although perchlorate does not currently have a published bioaccumulation factor, studies conducted using fish, plankton, and plants do show a capacity. However, groundwater and soil sampling conducted on site did not reveal levels above the legal threshold for either mercury or perchlorate.

Determine if surface water is used for irrigation of commercial food or commercial forage crops, watering of commercial livestock, commercial food preparation or recreation.

According to NJDEP GIS data there are no agricultural water sources along the 15-mile surface water flow path.

(MAPS 7, 8)

B. SENSITIVE ENVIRONMENTS

Identify all sensitive environments, including wetlands, along the 15 stream-mile pathway from the site:

Environment Type	Surface Water Body	Flow (cfs)	Distance from Site (Miles)	Wetland Frontage
Wetlands	Panther Branch	>10	0.5	773
Wetlands	Menatico Creek	10-100	2.8	1944
Wetlands	Maurice River	>100-1,000	11.8	517
Natural Heritage Priority Site (Maurice River North)	Maurice River, Menatico Creek	10-1,000	10.7	567

(MAPS 7, 8, 10)

C. LIKELIHOOD OF RELEASE

Discuss the likelihood of a release of contaminant(s) to surface water, include any additional information concerning the surface water route. Identify contaminants detected and provide a rationale for attributing them to the site. Identify any intakes, fisheries and sensitive environments, listed above, that are or may be actually contaminated by hazardous substances attributed to an observed release from the site.

The potential for surface water contamination from on-site operations is low. The site is bounded by ample farmland on its down-gradient sides. There is currently no outside storage of hazardous materials or waste. Hazardous waste located within the landfill discharges to groundwater

PART VII: AIR ROUTE

A. POPULATION AND SENSITIVE ENVIRONMENTS

Identify populations residing within 4 miles of the site.

Distance (miles)	Population
on site	0
> 0 - 1/4	29
> 1/4 - 1/2	107
> 1/2 - 1	684
> 1 - 2	2,329
> 2 - 3	6,082
> 3 - 4	8,673

(MAP 11)

Identify sensitive environments and wetland acreage within 4 miles of the site.

Distance	Wetland acreage
0 - 1/4	0
> 1/4 - 1/2	52
> 1/2 - 1	156
> 1 - 2	883
> 2 - 3	2,062
> 3 - 4	2,554

(MAP 10)

B. LIKELIHOOD OF RELEASE

Describe the likelihood of release of hazardous substances to air. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For an observed release, discuss the supporting analytical evidence and its significance relative to background.

The likelihood of a release of hazardous substances to the air is low. A release to air was neither observed nor suspected.

If a release to air is observed or suspected, determine the number of people that reside within the area of air contamination.

A release to air was neither observed nor suspected.

If a release to air is observed, identify any sensitive environments that are located within the area of air contamination.

A release to air was neither observed nor suspected.

PART VIII: REMOVAL ACTION AND/OR IEC CONDITION

Discuss conditions which constitute an Immediate Environmental Concern (IEC) or warrant EPA Removal Action consideration (improper storage of incompatible/reactive materials, leaking or unsound containers, inadequate site security, subsurface gas threat).

This site investigation was instigated by an Immediate Environmental Concern (IEC) condition for contamination of potable wells located along Post Road. The extent of contamination is currently being assessed by NJDEP.

(ATTACHMENTS D, E, F)

PART IX: CONCLUSIONS AND RECOMMENDATIONS

DEP RECOMMENDATIONS

In 2014 NJDEP, BEMSA initiated the investigation of the Buena Vista Township Department of Public Works Yard property as a possible source of VOCs, mercury, and/or perchlorate in potable wells associated with the Post Road Ground Water Contamination Case.

Contamination was known to be present on site due to samples collected from on-site monitoring

wells which showed the presence of VOCs in groundwater above NJDEP GWQS (PCE up to 1.29 ppb, TCE up to 9.36 ppb, vinyl chloride up to 195 ppb, and cis-1,2 -dichloroethene (cis-DCE) up to 1,284 ppb). The highest levels of contamination were detected in monitoring well B, located in the southwest corner of the site,

The initial investigation conducted by NJDEP involved the collection of groundwater samples in farm fields down-gradient and off site of the DPW Yard. Sampling occurred on October 20 and 21, 2014. These samples were analyzed for VOCs.

The off-site sample set that demonstrated the highest levels of contamination were those collected at varying depths from GW6 and GW10. GW6 revealed cis-DCE at 410 ppb and 940 ppb vinyl chloride.

Further groundwater sampling was conducted by NJDEP, BEMSA on-site at the DPW yard in February 2015. These samples were analyzed for VOCs, mercury, and perchlorate. Neither mercury nor perchlorate was discovered at levels above GWQS that would indicate an on-site source. GW5 and GW11, both located in the southwest corner of the site near the property boundary and GW6, showed the highest levels of VOC contamination.

GW11 was advanced 2 feet northeast of MW-B where the highest recorded levels of PCE, TCE, 1,1-DCE, and cis-DCE were encountered. Cis-DCE was found at 1,100 ppb and vinyl chloride at 290 ppb. This was the highest level of vinyl chloride detected.

Given the levels of VOCs present on the former landfill in monitoring well B, the slightly up-gradient GW11, and slightly down-gradient GW6, the southwest corner of the Buena Vista Township Department of Public Works Yard and former landfill's groundwater is contaminated with vinyl chloride, cis-1,2-dichloroethene, 1,1-dichloroethene, tetrachloroethene and trichloroethene. This contamination is migrating off site and is a source of VOC contamination of the potable wells along Post Road in Buena Vista Township.

(MAPS 5, 6; ATTACHMENTS N, O, P, S, Y, Z, AA, BB, CC, DD, EE, FF, GG, HH)

EPA RECOMMENDATIONS (OPTIONS):

The HRS score for this site is 38.46, greater than 28.5; therefore, the site is assigned a higher priority for further action under CERCLA.

Submitted by: Annie Dunham

Title: Environmental Specialist 1

NJDEP, Bureau of Environmental Measurements and Site Assessment

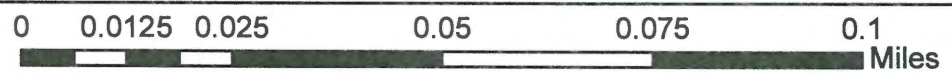
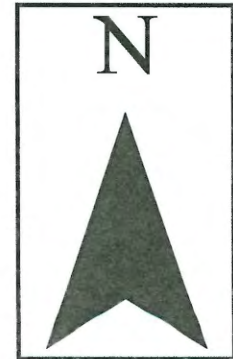
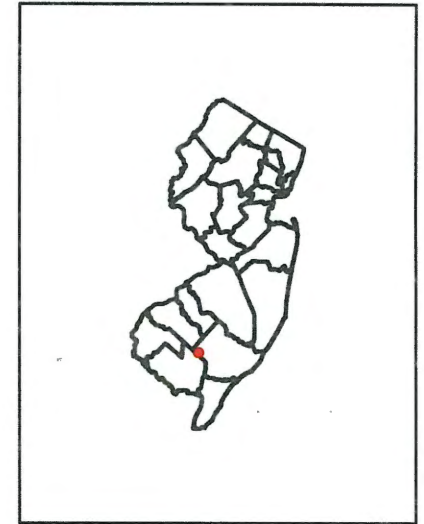
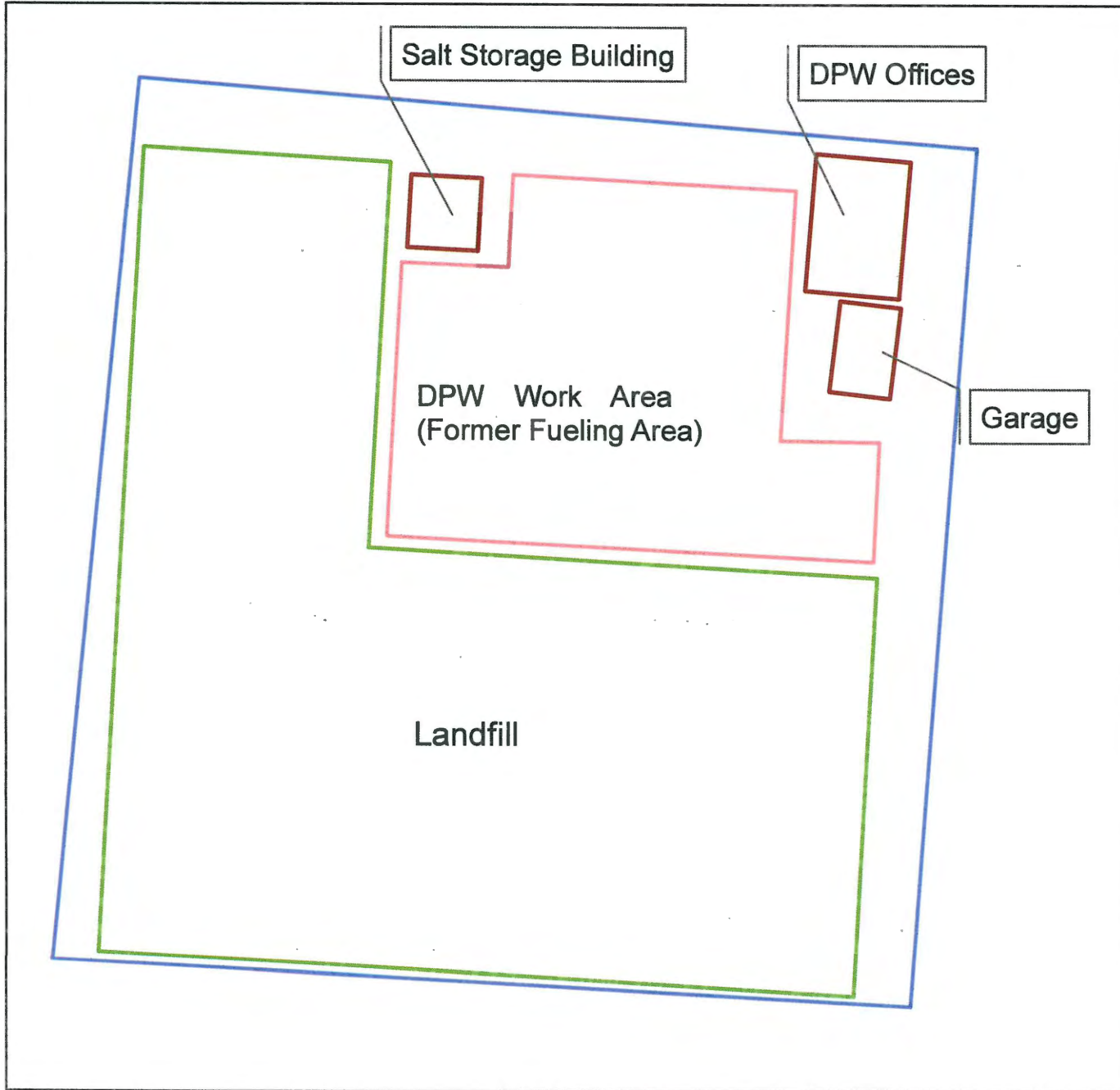
Date: August 31, 2015

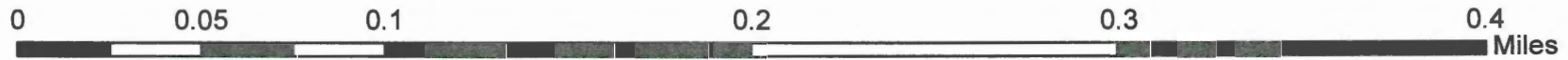
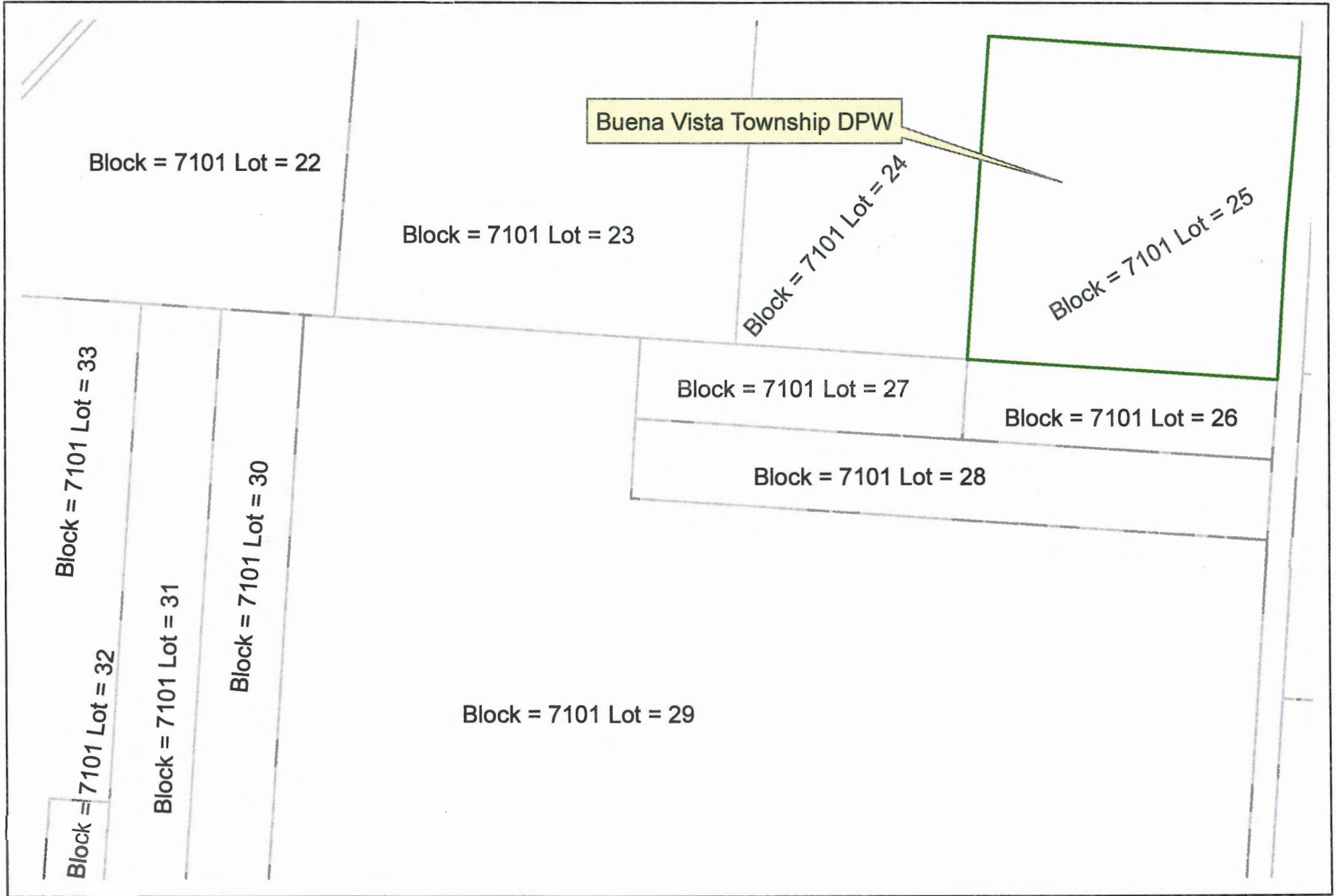
PART X: POTENTIALLY RESPONSIBLE PARTIES

NAME	OWNER/OPERATOR/ KNOWN DISCHARGER	CURRENT ADDRESS
Buena Vista Township Department of Public Works Yard	Buena Vista Township	890 Harding Highway Buena Vista Township, NJ 08310

MAPS

Buena Vista DPW Yard Site Map





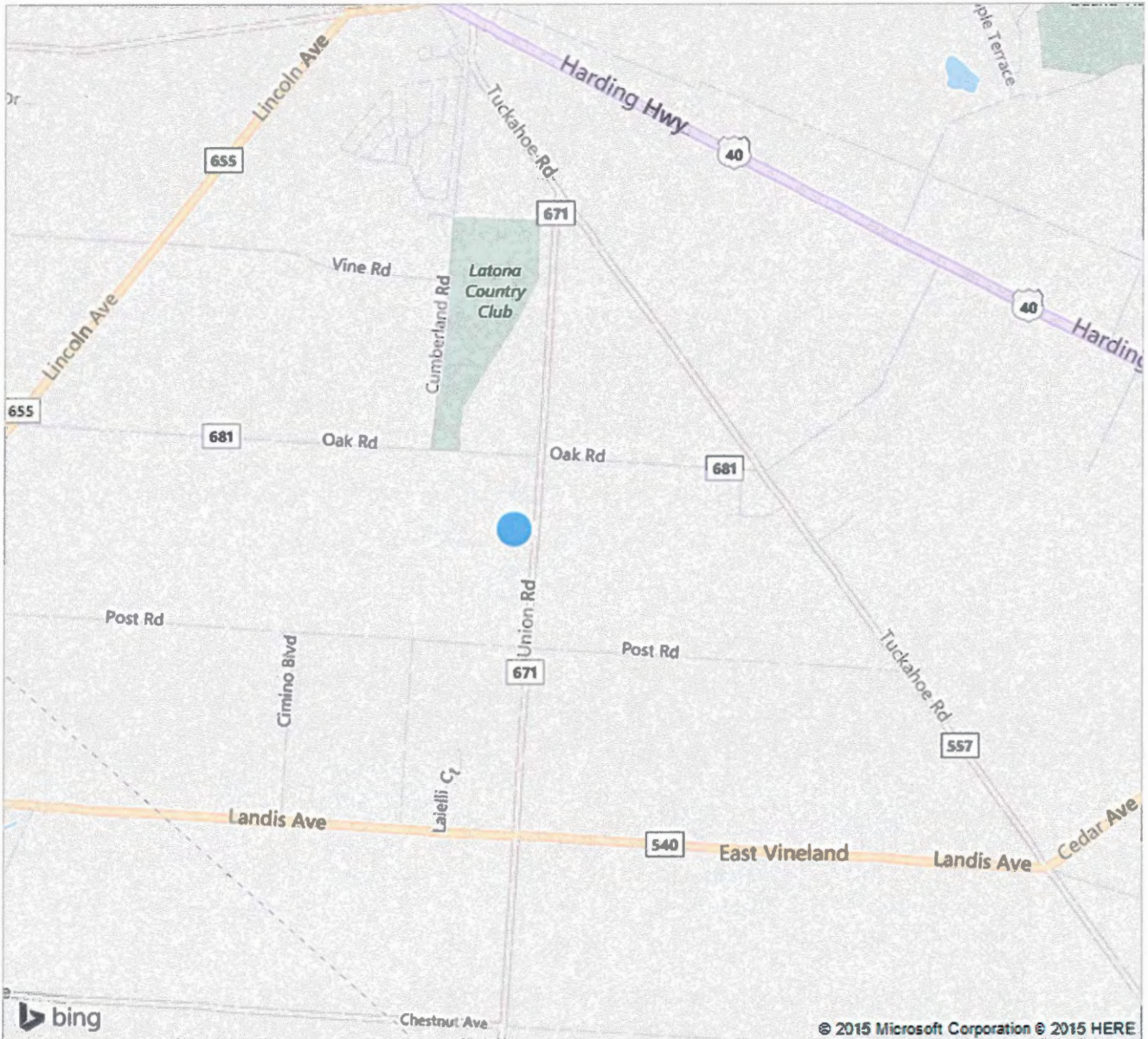
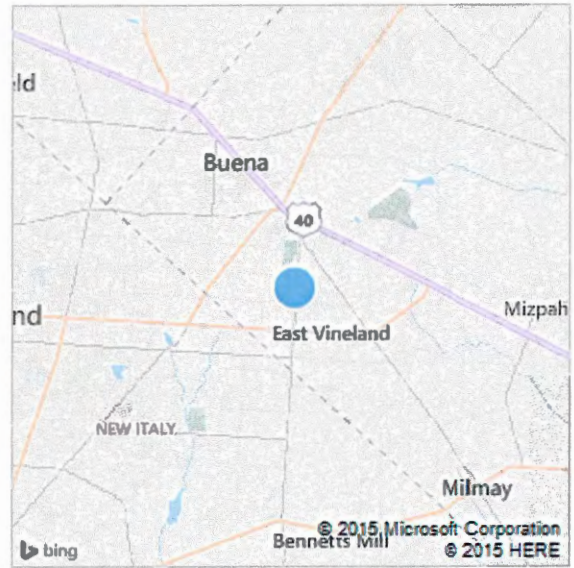


430 Union Rd, Buena, NJ 08360

MAP 4



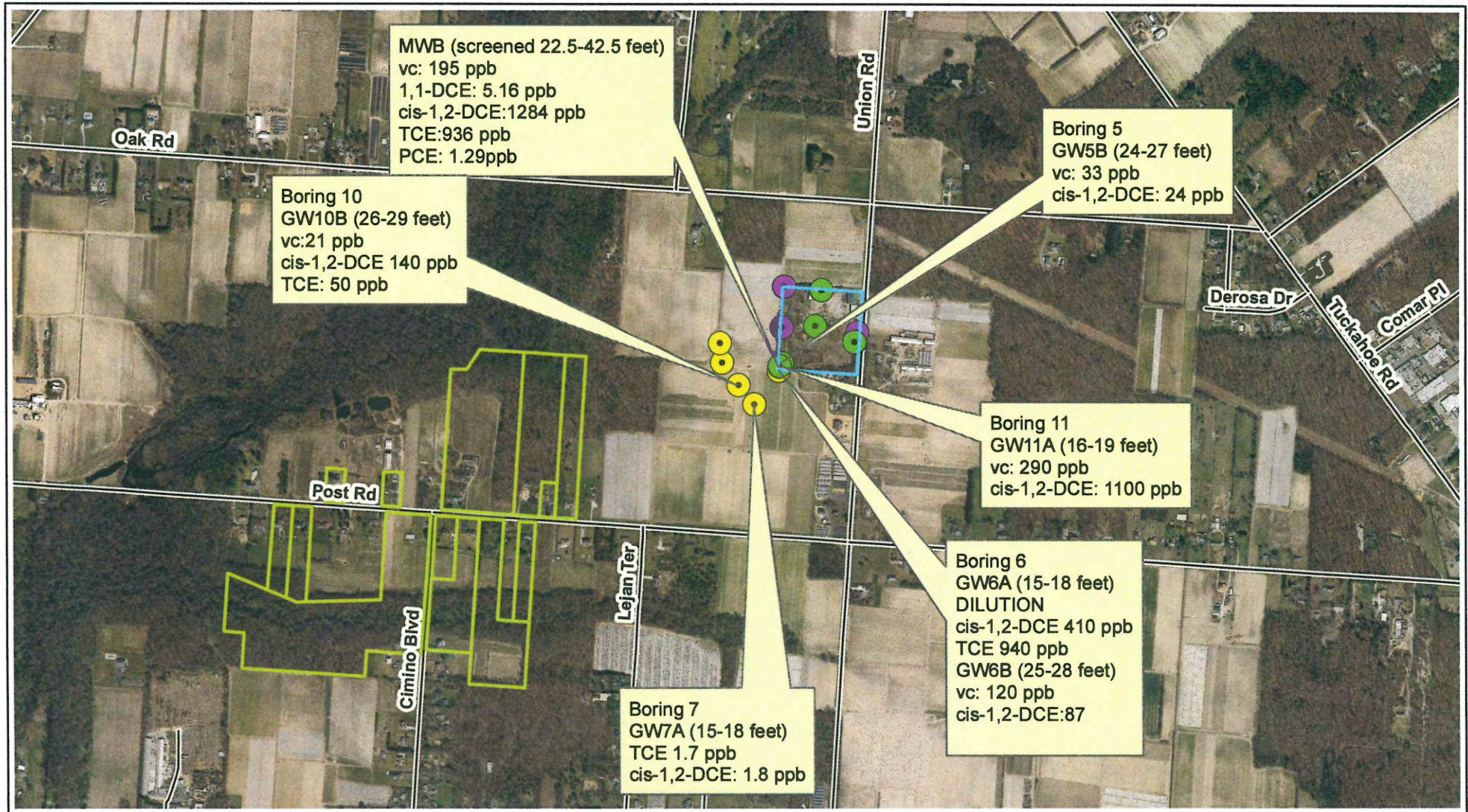
On the go? Use m.bing.com to find maps, directions, businesses, and more



MAP 5 Buena Vista Township DPW Yard Sample Locations

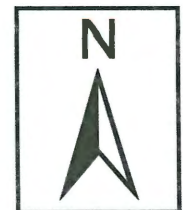


Buena Vista Township Public Works Yard Notable Sample Results and VOC-Impacted Potable Wells

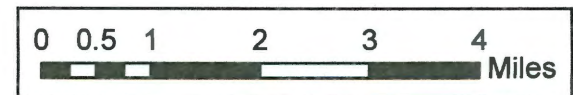
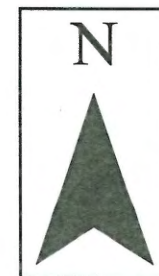
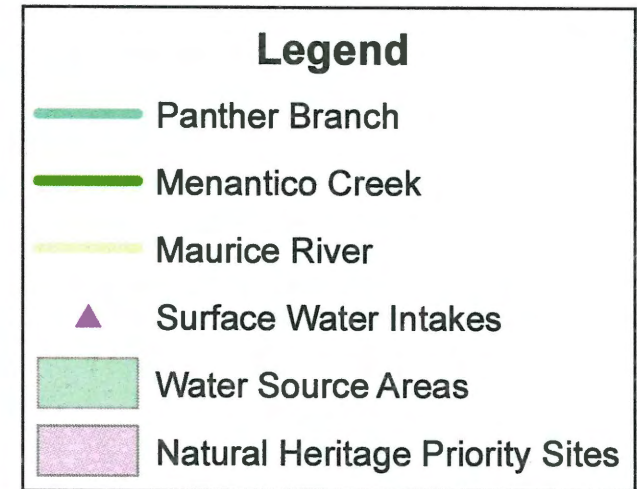
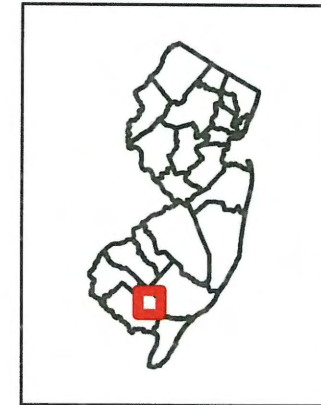
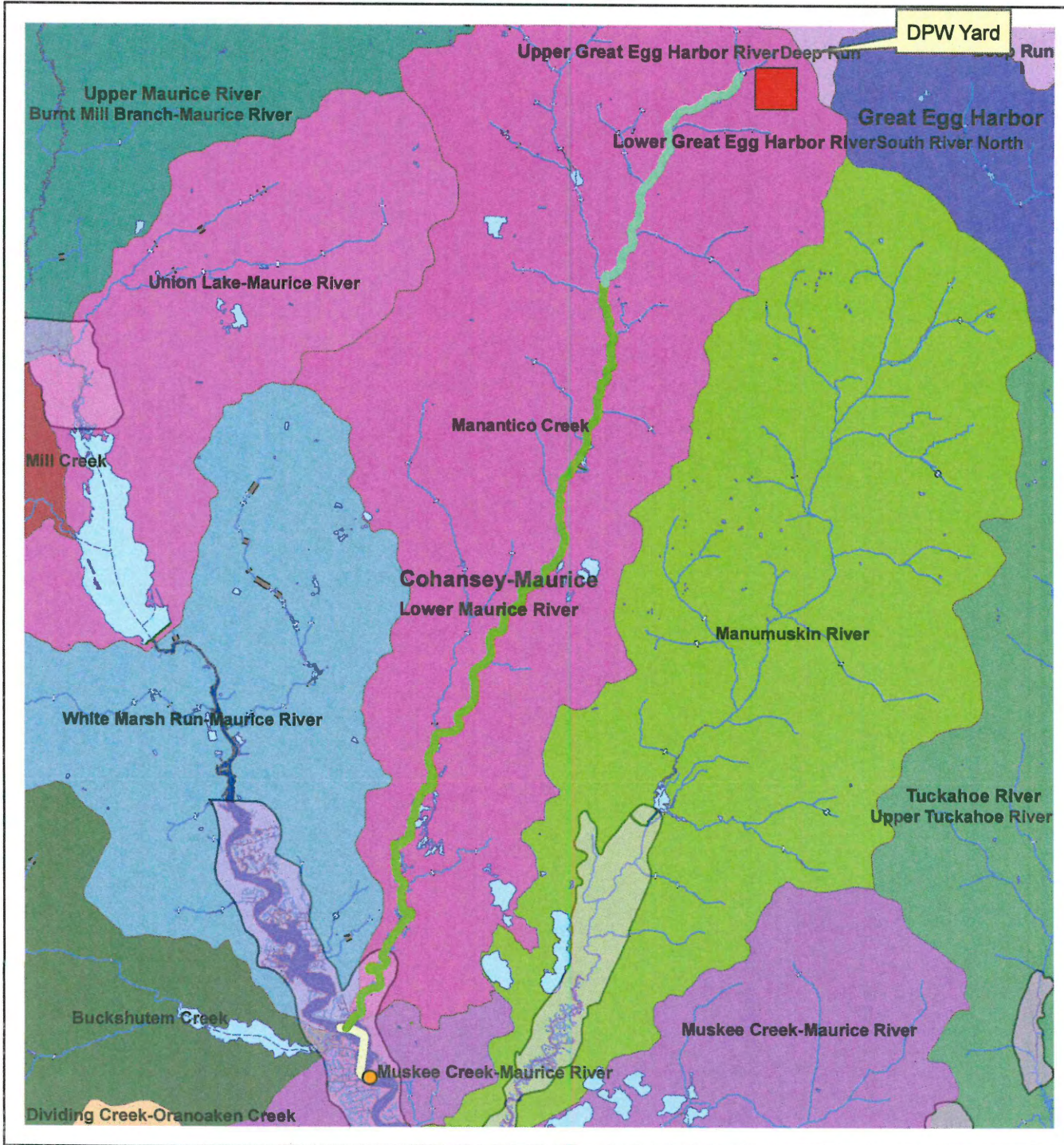


Legend

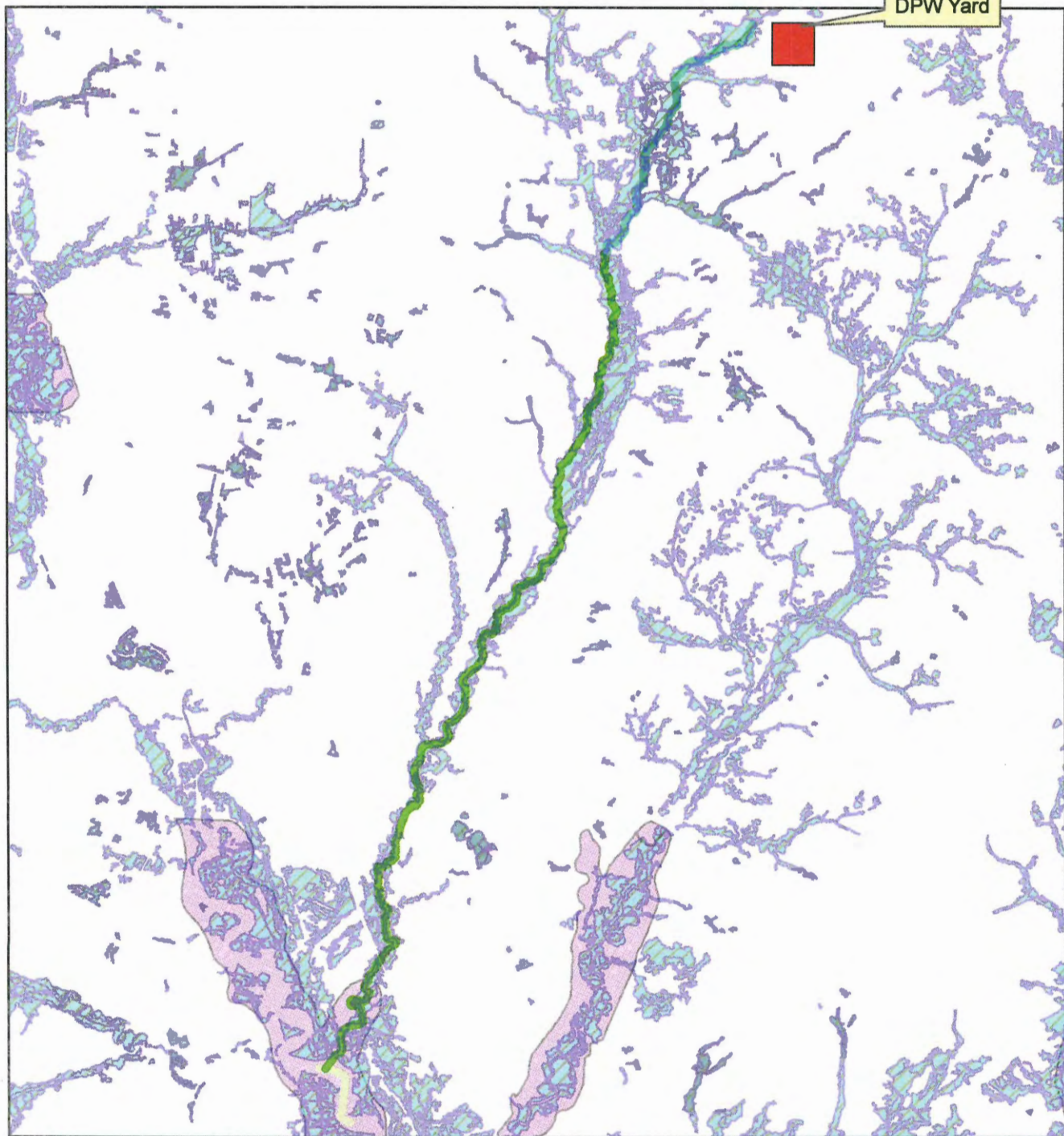
- BVTDPW
- Monitoring Wells
- October Sampling Event
- February Sampling Event
- VOC-impacted potable wells



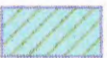




Buena Vista Township DPW Yard 15 Mile Surface Water Pathway

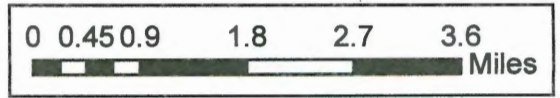


MAP 8 Buena Vista Township DPW Yard 15 Mile Surface Water Pathway: Sensitive Environments

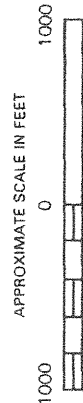


Legend

-  Wetlands (2007)
-  Panther Branch
-  Menantico Creek
-  Maurice River
-  Natural Heritage Priority Sites



MAP 9



NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

TOWNSHIP OF
BUENA VISTA,
NEW JERSEY
ATLANTIC COUNTY

PANEL 3 OF 4
(SEE MAP INDEX FOR PANELS PRINTED)

COMMUNITY-PANEL NUMBER:
340525 0003 B

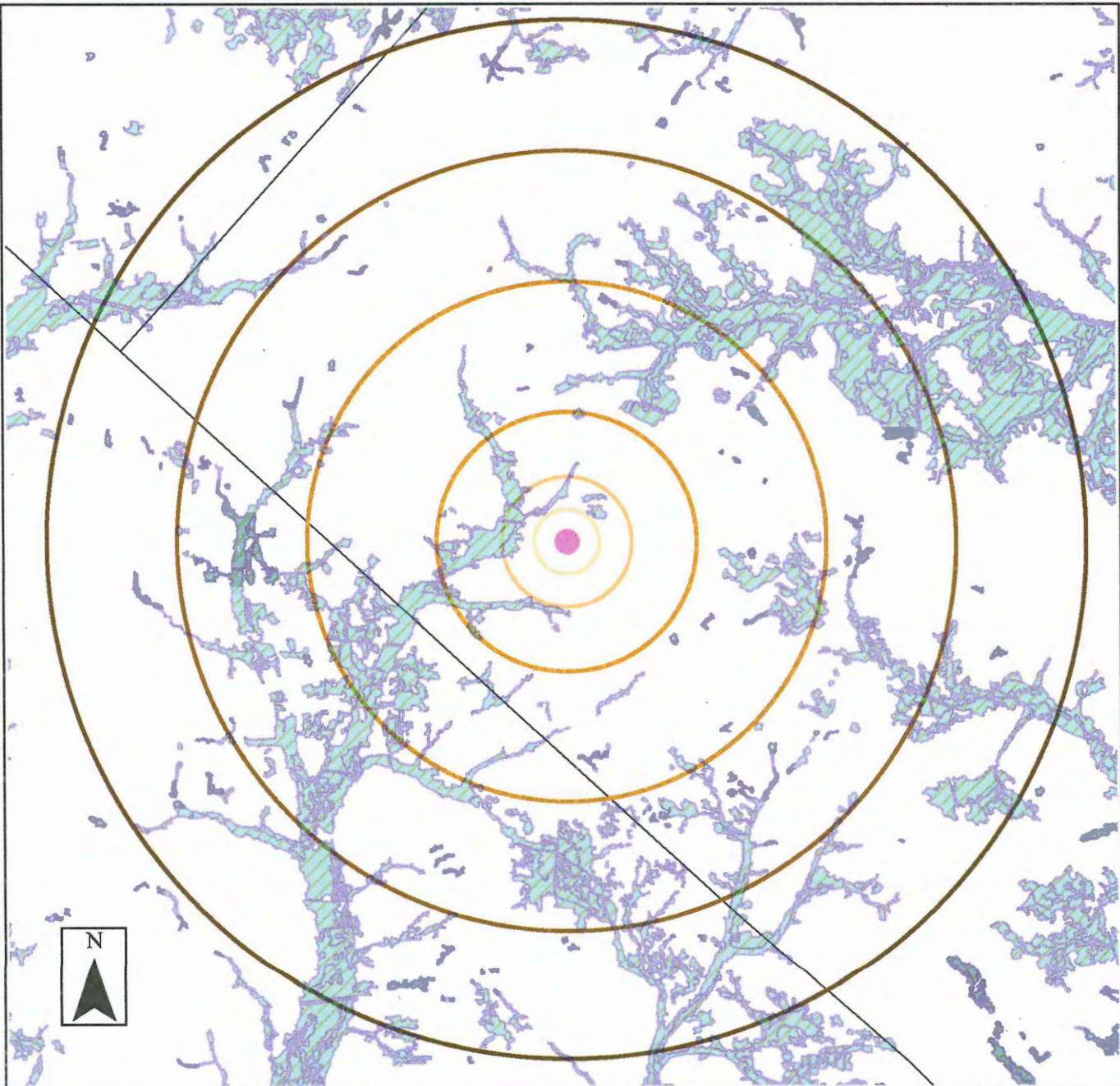
EFFECTIVE DATE:
JUNE 22, 1979



U.S. DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

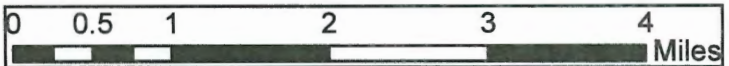
MAP 10 Wetlands Within 4 Miles of Buena Vista Township DPW Yard Atlantic County, NJ



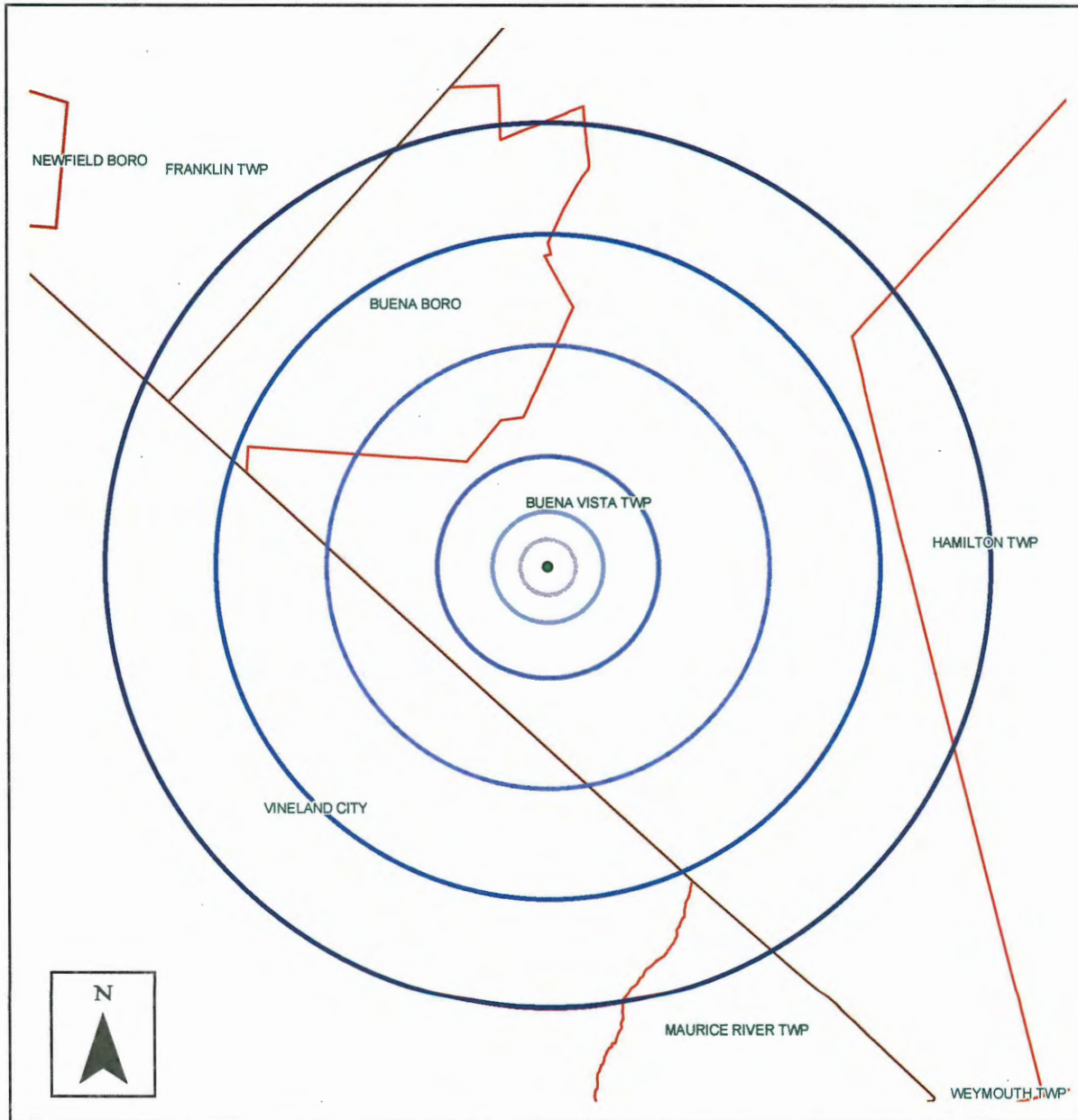
Legend

- BVTDPW
- .25 Mile Radius from DPW
- .5 Mile Radius from DPW
- 1 Mile Radius from DPW
- 2 Mile Radius from DPW
- 3 Mile Radius from DPW
- 4 Mile Radius from DPW

Radial Distance to BVTDPW (miles)	Wetland acreage
0 to 0.25	0
0.25 to 0.50	52
0.50 to 1	156
1 to 2	883
2 to 3	2,062
3 to 4	2,554



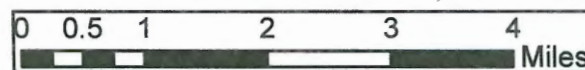
Population Within 4 Miles of Buena Vista Township DPW Yard Atlantic County, NJ



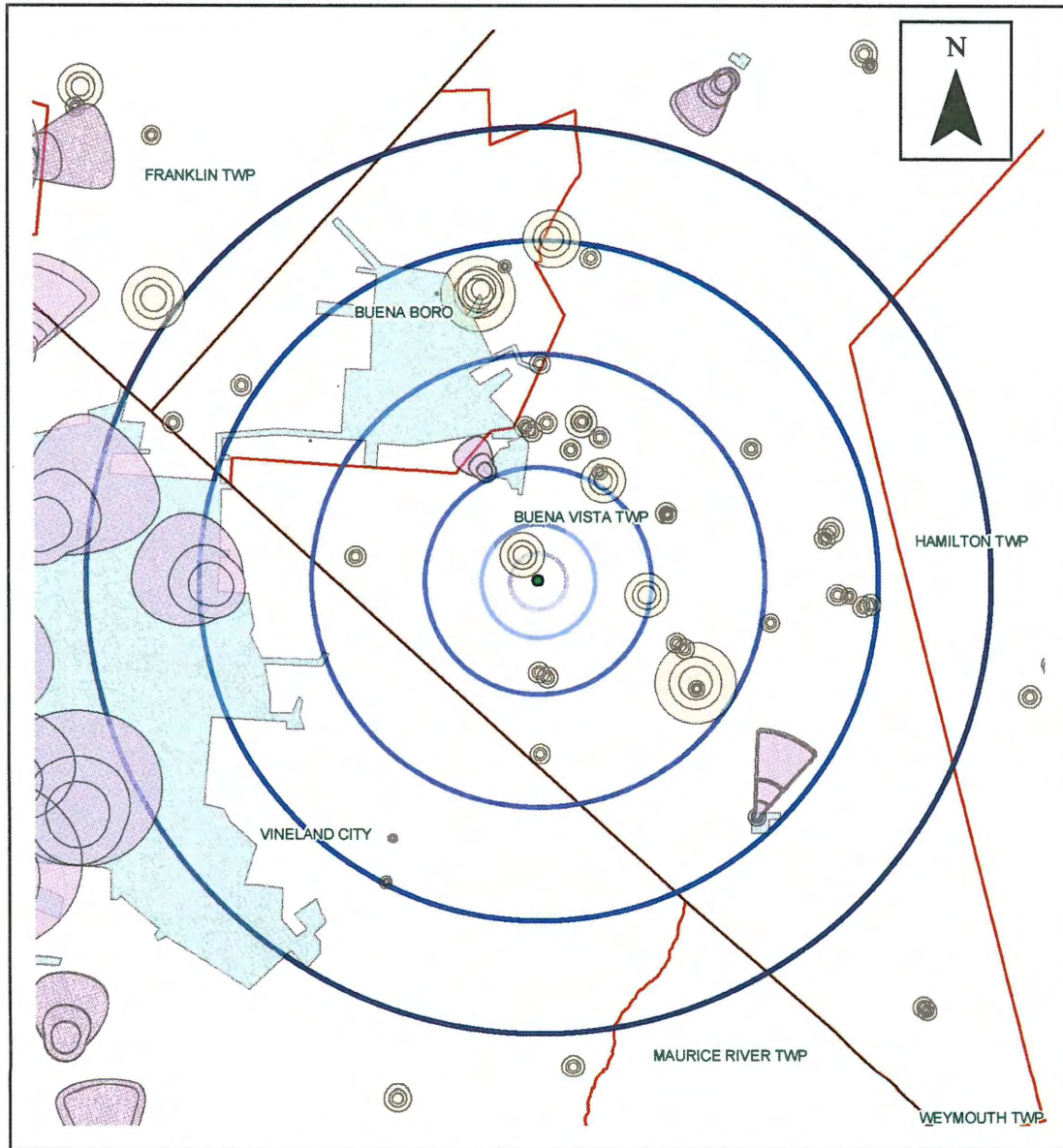
Legend

- BVTDPW
- .25 Mile Radius from DPW
- .5 Mile Radius from DPW
- 1 Mile Radius from DPW
- 2 Mile Radius from DPW
- 3 Mile Radius from DPW
- 4 Mile Radius from DPW

Radial Distance to BVTDPW (miles)	Population
0 to 0.25	29
0.25 to 0.50	107
0.50 to 1	684
1 to 2	2,329
2 to 3	6,082
3 to 4	8,673

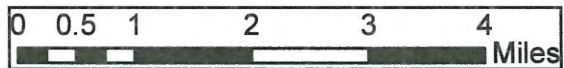


MAP 12 Public Water Supply Within 4 Miles of BVTDPW Atlantic County, NJ



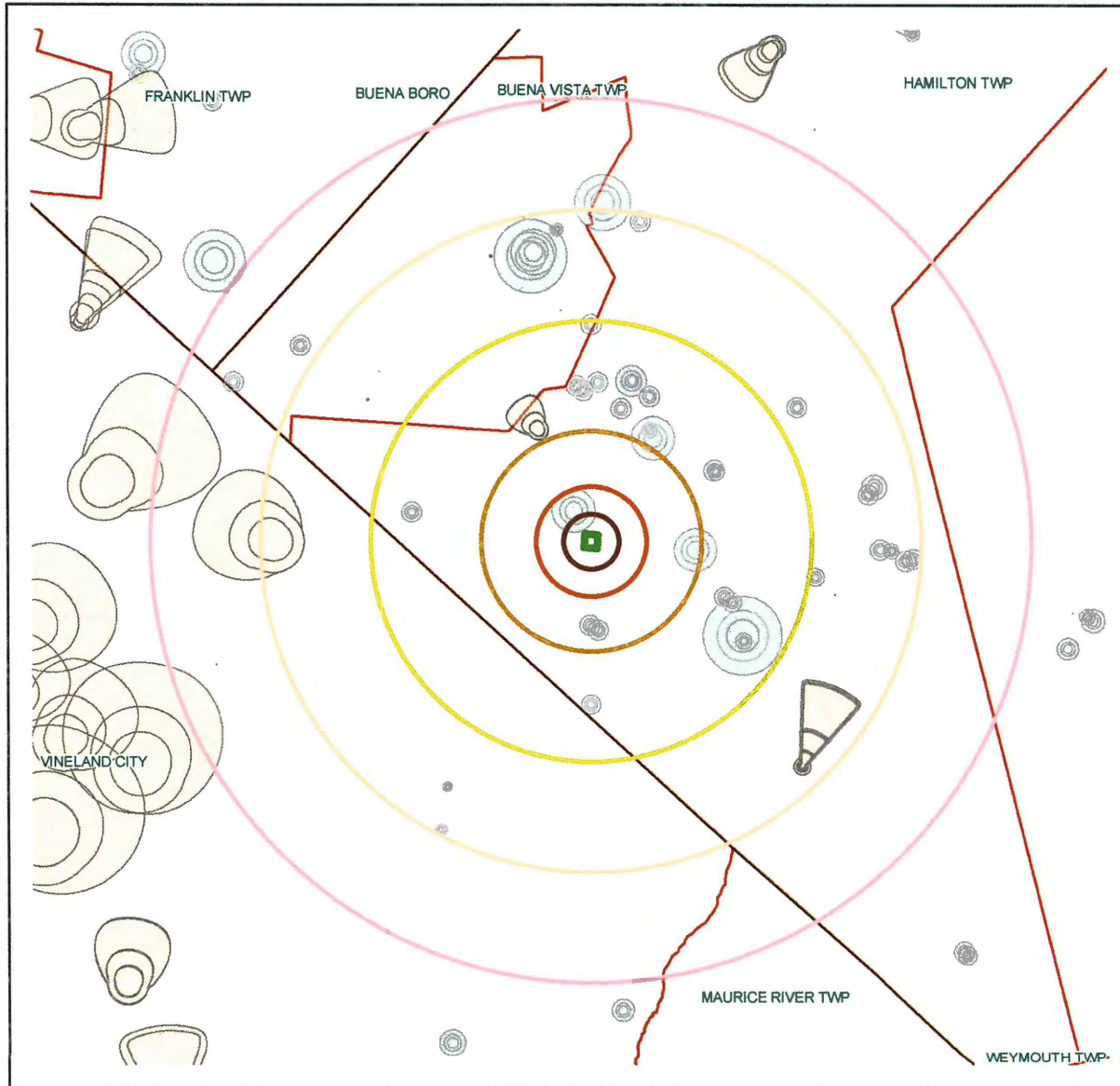
Legend

- Wellhead Protection Areas (Community)
- Purveyor
- Well Head Protection Areas (Public Non-Community)
- BVTDPW
- .25 Mile Radius from DPW
- .5 Mile Radius from DPW
- 1 Mile Radius from DPW
- 2 Mile Radius from DPW
- 3 Mile Radius from DPW
- 4 Mile Radius from DPW



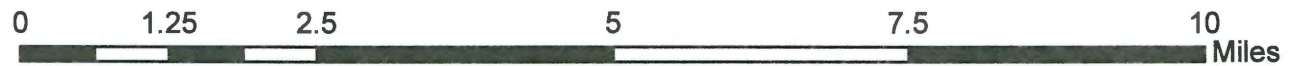
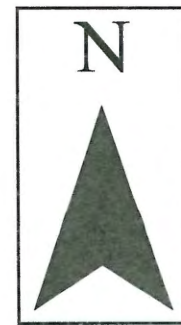
Radial Distance to BVTDPW (miles)	Population Served by Purveyors	Population Served by Private Potable Wells
0 to 0.25	0	29
0.25 to 0.50	0	107
0.50 to 1	93	565
1 to 2	918	1,377
2 to 3	3,620	2,562
3 to 4	6,161	2,634

Buena Vista Township Wellhead Protection Areas



Legend

- Well Head Protection Areas (Community)
- Well Head Protection Areas (Public Non-Community)
- Buena Vista Township DPW Yard



ATTACHMENT A

241 - 12/12/2014 5:00:00 PM

1 Results matched your query.				select new towns or counties Search Again Mailing Labels Generate List		
District	Block	Lot	Qualifier	Class	Location	Owner
105	7101	25		15C	430 UNION ROAD	BUENA VISTA TOWNSHIP

0

Property Information					
Property Location : 430 UNION ROAD , BUENA VISTA TWP.			<input type="button" value="Show Tax Map"/>		Last Sale Pr
County			<input type="button" value="Show Virtual Earth Map"/>		
District : 105 Block : 7101 Lot : 25 Qualifier :			Transfer Date :		
Additional Lots :			Transfer Price :		
Current Owner:			Deed Book :		
BUENA VISTA TOWNSHIP 890 HARDING HIGHWAY BUENA NJ 08310			Deed Page :		
			Class : 15C - Public Property		
Assessments					
Total Value :	\$313,600	2011 Tax Rate :	1.972	Zoning :	
Land Value :	\$93,200	2011 Tax Ratio :	106.86%	Building Description :	TV
Improve Value :	\$220,400	Estimated Property Taxes :	\$6,184.19	Land Description :	9.62 AC
% Improvement :	70%	2011 Taxes :	\$0.00	Acreage :	
Assessment at time of sale :		Useable/Non Usable :		Square Footage :	
				Year Constructed :	

ATTACHMENT B



OSHA



Newsletter



Was this page helpful?

Occupational Safety & Health Administration

We Can Help

What's New | Offices



- Home
- Workers
- Regulations
- Enforcement
- Data & Statistics
- Training
- Publications
- Newsroom
- Small Business
- Anti-Retaliation

Description for 4953: Refuse Systems

Division E: Transportation, Communications, Electric, Gas, And Sanitary Services | Major Group 49: Electric, Gas, And Sanitary Services

Industry Group 495: Sanitary Services

4953 Refuse Systems

Establishments primarily engaged in the collection and disposal of refuse by processing or destruction or in the operation of incinerators, waste treatment plants, landfills, or other sites for disposal of such materials. Establishments primarily engaged in collecting and transporting refuse without such disposal are classified in Transportation, Industry 4212.

- Acid waste, collection and disposal of
- Ashes, collection and disposal of
- Dumps, operation of
- Garbage: collecting, destroying, and processing
- Hazardous waste material disposal sites
- Incinerator operation
- Landfill, sanitary: operation of
- Radioactive waste materials, disposal of
- Refuse systems
- Rubbish collection and disposal
- Sludge disposal sites
- Street refuse systems
- Waste materials disposal at sea

SIC Search

Division Structure

Major Group Structure

Freedom of Information Act | Privacy & Security Statement | Disclaimers | Important Web Site Notices | International | Contact Us

U.S. Department of Labor | Occupational Safety & Health Administration | 200 Constitution Ave., NW, Washington, DC 20210

Telephone: 800-321-OSHA (6742) | TTY

www.OSHA.gov

ATTACHMENT C

State & County QuickFacts
Atlantic County, New Jersey

People QuickFacts	Atlantic County	New Jersey
Population, 2013 estimate	275,882	8,898,339
Population, 2012 estimate	275,362	8,867,749
Population, 2010 (April 1) estimates base	274,549	8,791,909
Population, percent change, April 1, 2010 to July 1, 2013	0.5%	1.2%
Population, percent change, April 1, 2010 to July 1, 2012	0.3%	0.9%
Population, 2010	274,549	8,791,894
Persons under 5 years, percent, 2012	6.0%	6.0%
Persons under 18 years, percent, 2012	22.7%	22.9%
Persons 65 years and over, percent, 2012	15.0%	14.1%
Female persons, percent, 2012	51.5%	51.2%
White alone, percent, 2012 (a)	71.5%	73.8%
Black or African American alone, percent, 2012 (a)	17.3%	14.7%
American Indian and Alaska Native alone, percent, 2012 (a)	0.7%	0.6%
Asian alone, percent, 2012 (a)	8.0%	9.0%
Native Hawaiian and Other Pacific Islander alone, percent, 2012 (a)	0.1%	0.1%
Two or More Races, percent, 2012	2.4%	1.9%
Hispanic or Latino, percent, 2012 (b)	17.7%	18.5%
White alone, not Hispanic or Latino, percent, 2012	67.6%	58.2%
Living in same house 1 year & over, percent, 2008-2012	88.6%	90.0%
Foreign born persons, percent, 2008-2012	16.2%	20.9%
Language other than English spoken at home, not age 5+, 2008-2012	25.6%	29.6%
High school graduate or higher, percent of persons age 25+, 2008-2012	83.7%	87.9%
Bachelor's degree or higher, percent of persons age 25+, 2008-2012	24.1%	35.4%
Veterans, 2008-2012	17,504	457,724
Mean travel time to work (minutes), workers age 18+, 2008-2012	23.7	30.3
Housing units, 2012	127,390	3,574,558
Homeownership rate, 2008-2012	69.6%	66.2%
Housing units in multi-unit structures, percent, 2008-2012	31.8%	35.9%
Median value of owner-occupied housing units, 2008-2012	\$248,100	\$337,900
Households, 2008-2012	101,018	3,185,878
Persons per household, 2008-2012	2.83	2.70
Per capita money income in past 12 months (2012 dollars), 2008-2012	\$27,227	\$36,928
Median household income, 2008-2012	\$54,559	\$71,637
Persons below poverty level, percent, 2008-2012	12.8%	9.9%

Business QuickFacts

Atlantic County New Jersey

Private nonfarm establishments, 2011	6,408	226,878 ¹
Private nonfarm employment, 2011	111,038	3,377,848 ¹
Private nonfarm employment, percent change, 2010-2011	-2.2%	0.3% ¹
Nonemployer establishments, 2011	15,951	616,142
Total number of firms, 2007	21,027	781,622
Black-owned firms, percent, 2007	7.0%	7.7%
American Indian- and Alaska Native-owned firms, percent, 2007	S	0.4%
Asian-owned firms, percent, 2007	7.4%	8.7%
Native Hawaiian and Other Pacific Islander-owned firms, percent, 2007	F	-0.1%
Hispanic-owned firms, percent, 2007	S	8.7%

B

4/16/2014

Atlantic County QuickFacts from the US Census Bureau

Women-owned firms, percent, 2007	27.9%	27.3%
Manufacturers shipments, 2007 (\$1000)	D 116,608,084	
Merchant wholesaler sales, 2007 (\$1000)	1,342,162	233,413,004
Retail sales, 2007 (\$1000)	4,429,355	124,813,560
Retail sales per capita, 2007	\$16,409	\$14,453
Accommodation and food services sales, 2007 (\$1000)	6,093,042	19,993,813
Building permits, 2012	441	17,939
Geography QuickFacts		
Land area in square miles, 2010	565.70	7,354.22
Persons per square mile, 2010	494.1	1,195.5
FIPS Code	031	34
Metropolitan or Micropolitan Statistical Area	Atlantic City-Hammonton, NJ Metro Area	New Jersey

†: Includes data not distributed by county.

(e) Includes persons reporting only one race.
 (f) Hispanics may be of any race, so also are included in applicable race categories.

- D: Suppressed to avoid disclosure of confidential information
- F: Fewer than 25 firms
- R: Footnote on this item for this area in place of data
- NA: Not available
- S: Suppressed, does not meet publication standards
- X: Not applicable
- Z: Value greater than zero but less than half unit of measure shown

Source: U.S. Census Bureau, State and County QuickFacts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Outlets, Building Permits
 Last Revised: Thursday, 27-Mar-2014 09:56:23 EDT

ATTACHMENT D

**New Jersey Department of
Environmental Protection
Site Remediation Program**

**Office of Community
Relations**

Phone: (609) 984-3081

Toll Free: 1-(800) 253-5647

Fax: (609) 633-2360

.....
**For more information
about the potable well
investigation or other
DEP activities at this site,
please contact:**

**Heather Swartz,
Community Relations
Coordinator**

**at
(609) 984-7135**

or

Heather.Swartz@dep.state.nj.us

.....
**CHRIS CHRISTIE
Governor**

**KIM GUADAGNO
Lt. Governor**

**BOB MARTIN
Commissioner**

Site Background

In March of 2014, the Atlantic County Health Department notified the New Jersey Department of Environmental Protection (DEP) that nine residential potable (drinking water) wells on Post Road and North Union Road in Buena Vista Township were contaminated with volatile organic compounds (VOCs), and in some cases mercury, at concentrations above New Jersey Ground Water Quality Standards. The VOCs detected in the well water included trichloroethene (TCE), vinyl chloride, cis -1,2 dichloroethene, 1,2 dichloropropane and benzene. The sources of the VOCs and mercury in the ground water are currently unknown. A DEP investigation is underway to determine the sources of these contaminants.

The contaminated private potable wells are being addressed through New Jersey's Spill Fund Claims process. Through this process, the affected residents may be eligible for installation of Point-of-Entry Treatment (POET) systems on their wells. The installation, monitoring and maintenance of the POET systems are provided at no cost to eligible claimants. Information about the New Jersey Spill Fund and a link to the Spill Fund claim form is available at www.nj.gov/dep/srp/finance/eca.htm.

On April 23 and 24, DEP is planning to test up to 30 additional private drinking water wells in the immediate area of Post Road and North Union Road for VOCs and mercury in an effort to identify the extent of the potable well contamination. Any resident whose well is determined to be contaminated with VOCs and/or mercury above New Jersey Ground Water Quality Standards may be eligible to have a POET system installed on their well at no charge. In the future, Buena Vista Township and DEP will evaluate the feasibility of extending public water mains as a long term solution to supply clean drinking water to the affected area.

.....
For information on filing a claim through the Spill Fund, please contact:

**Dominick Dortch
DEP Financial Services Element – Fund Management Section
Mail Code: 401-06J
P.O. Box 420
Trenton, NJ 08625-0420
Phone: (609) 777-0284
Fax: (609) 292-4401**

If you have any questions about possible health impacts due to the contaminated well water, please contact the New Jersey Department of Health, Environmental and Occupational Health, at (609) 826-4984.

For more information about the site contaminants, please visit:

**<http://www.epa.gov/superfund/health/index.html>
<http://www.atsdr.cdc.gov/toxfaq.html>**

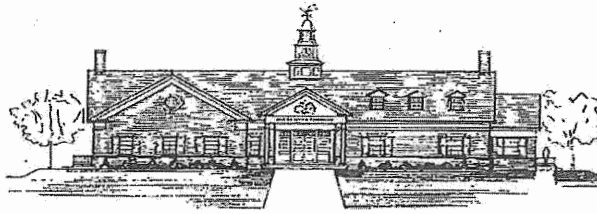


ATTACHMENT E

Mayor
Chuck Chiarello

Administrator
Joseph J. Alessandrino, Jr.

Township Clerk
Lisa A. Tilton



Township Committee
Sue Barber
Teresa Kelly
Steve Martinelli
John Williams

BUENA VISTA TOWNSHIP

P.O. Box 605, 890 Harding Highway
Buena, New Jersey 08310
Telephone: (856) 697-2100
Facsimile: (856) 697-8353

Public Notice Special Meeting on Thursday, October 30th

Public Notice is hereby given that the Buena Vista Township Committee will conduct a Special Meeting on Thursday, October 30, 2014 from 5:00 p.m. to 7:30 p.m. located at the Buena Vista Township Municipal Complex, 890 Harding Highway. Representatives of the State Department of Environmental Protection (DEP), the State Department of Health (DOH) and the Atlantic County Division of Public Health will be in attendance to discuss drinking water, well, and health issues that are being investigated in the area of Post Road, Union Road, LeJan Terrace, and Cimino Blvd.

THIS NOTICE DOES NOT MEAN YOU ARE AFFECTED

Re: Drinking Water / Well Issues / Health Issues

Date: October 20, 2014

From: Mayor Chuck Chiarello on behalf of Township Committee

As a result of additional questions being raised by residents in the Post Road area, the Township Committee has made special arrangements with the State and County to conduct an Open Forum and Presentation on the above referenced date and times.

The meeting will be held in our large meeting room at Township Hall and will follow the below listed format:

- 5:00 p.m. **Meeting Called to Order.**
- 5:05 p.m. **Open Forum** discussion will be held where you can address your individual concerns to members of the agencies in attendance that are listed above.
- 6:00 p.m. **Presentation and Updates** will be made to the group in attendance.
- 6:45 p.m. **Open Forum** resumes where you may ask any additional questions to the members of the agencies in attendance that are listed above.
- 7:30 p.m. **Meeting Adjourns.**

This meeting is a follow-up to the previous Special Meeting held on Thursday, April 10, 2014 at the Township Hall.

ATTACHMENT F

PRELIMINARY ASSESSMENT

Buena Township Department of Public Works Yard
430 South Union Road
Buena Vista Township, Atlantic County, NJ
EPA ID No.

Documentation indicates that Buena Vista Township operates its Department of Public Works (DPW) garage on site at 430 South Union Road, Buena Vista Township, Atlantic County, NJ. Formerly, the site also served as a fueling station for Buena Vista Township motor vehicles, though the three underground storage tanks (USTs) associated with those activities (two 550-gallon gasoline UST, one 1,000-gallon diesel UST) were removed in 1998 along with their corresponding dispensers. There is a closed municipal landfill on site. Prior to operation as a Public Works Yard, the site is rumored to have been a quarry. Historic aerials dating as far back as 1931 show disturbed land, potentially corroborating the quarry assertion. Currently, the site consists of parking/paved surfaces, a garage building and smaller ancillary buildings, a septic tank and seepage pit, and a closed municipal landfill to the west of the main garage building. The land surrounding the DPW Yard is made up primarily of residential and functioning agricultural properties with private wells.

Five monitoring wells exist on site. Four of these were installed in 1987 and are associated with the closed landfill. Vinyl chloride at levels as high as 102.3 ppb and trichloroethene (TCE) at levels as high as 82.5 ppb were detected in two of these wells as of their most recent sampling on April 9, 2014. The fifth well was installed in 2000 and is associated with the 1998 UST removal and has been sealed.

In March of 2014 the Atlantic County Health Department notified New Jersey Department of Environmental Protection (NJDEP) that nine residential potable wells on Post Road and North Union Road, in the vicinity and topographically down-gradient of the DPW property were contaminated with volatile organic compounds (VOCs), and in some cases mercury, at concentrations above New Jersey Ground Water Quality Standards. VOCs detected in the potable well water included TCE, vinyl chloride, cis-1,2-dichloroethene, cis-1,2-dichloropropane, benzene, mercury and perchlorate. A second round of sampling identified seven additional properties with potable well contamination in the vicinity. These results have not yet been confirmed but would potentially bring the number of wells known to be contaminated up to 16. The total number of potable wells impacted is still being determined. The wells confirmed to be contaminated thus far have been offered point of entry treatment systems (POETS) by NJDEP. As contamination is found and confirmed in additional wells, POETS will be offered accordingly.

Because the Buena Township DPW Yard is located upgradient and in close proximity to the cluster of potable wells hit by TCE and vinyl chloride, and existing monitoring wells show the presence of these chemicals on the site, NJDEP/BEMSA recommends that a Site Investigation be conducted to evaluate the Buena Vista DPW Yard's potential contribution to the TCE and vinyl chloride contamination detected in proximal private wells.

ATTACHMENT G

**PRE-CERCLIS SCREENING
DATA ENTRY FORM**

EPA I.D. NUMBER: FORM ISSUED DATE:

0000 25221

NAME OF FACILITY: Buena Township Department of Public Works Yard

STREET: 430 Union Road

CITY: Buena Vista Township **COUNTY:** Atlantic **STATE:** NJ **ZIP CODE:** 08360

LATITUDE: +39°29'37"N **Indicate + for Northern Hemisphere**

LONGITUDE: -74°55'15.528"W **Indicate - for Western Hemisphere**

Accuracy meters: 3

Collection method: GIS

Reference datum: NAD83

Reference point: Center point of facility

Source map scale: 1:2,000

Point/line/area: Point

Collection date: 9/9/2014

Verification method:

Source: NJDEP ArcGIS ArcMap10.2

NPL STATUS: Not on NPL

SITE TYPE MAIN CATEGORIES: Waste Management

SITE TYPE MAIN SUBCATEGORIES: Municipal solid waste landfill

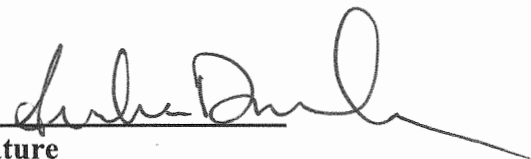
SITE DESCRIPTION: Buena Vista Township operates its Department of Public Works (DPW) garage on site at 430 South Union Road, Buena Vista Township, Atlantic County, NJ. Formerly, the site served as a fueling station for Buena Vista Township motor vehicles. A small municipal landfill, now closed, also exists on site. Prior to operation as a Public Works Yard, the site is rumored to have been a quarry. Historic aerials dating as far back as 1931 show disturbed land, potentially corroborating the quarry assertion.

In 2014 groundwater contamination was detected in private potable wells in the vicinity of 430 Union Road in Buena Vista Township, Atlantic County, NJ. As a result, Atlantic County's Health Department and New Jersey Department of Environmental Protection have sampled potentially impacted private wells in the area and detected a suite of contaminants occurring above the New Jersey Drinking Water Maximum Contaminant Level (MCL) including trichloroethene (TCE), vinyl chloride, cis-1,2-dichloroethene, cis-1,2-dichloropropane, benzene, mercury and perchlorate. The

extent of contamination is still being assessed but analytical results thus far have confirmed nine impacted wells and an additional six wells in need of confirmation sampling. These TCE impacted wells are located to the south and downgradient of the Buena Township DPW Yard

On April 9, 2014 four monitoring wells on site at the Buena Township DPW Yard, installed in 1987 and associated with the closed landfill, were sampled and results showed vinyl chloride at levels as high as 102.3 ppb and TCE at levels as high as 82.5 ppb in two of the wells. These levels are well above the MCL set at 1 ppb.

Because the Buena Township DPW Yard is located upgradient and in close proximity to the cluster of potable wells hit by TCE and vinyl chloride, and existing monitoring wells show the presence of these chemicals on the site, NJDEP/BEMSA recommends that a Site Investigation be conducted to evaluate the Buena Vista DPW Yard's potential contribution to the TCE and vinyl chloride contamination detected in proximal private wells.

Checklist preparer: Annie Dunham 
Print name/signature

Title:
Date:

Address: 380 Scotch Road
Ewing, New Jersey 08628

Phone Number: 609-530-4393
E-mail address: @dep.state.nj.us

Regional EPA Reviewer: _____
Print name/signature Date

ATTACHMENT H

Site Remediation and Waste Management Program
Division of Remediation Support
Bureau of Environmental Measurements & Site Assessment
PO Box 407
Trenton, New Jersey 08625-0407
(609) 584-4280

IN THE MATTER OF THE SITE, :
Buena Vista Township
Department of Public Works : SITE ACCESS AGREEMENT
Yard
PROGRAM INTEREST NO., 660004 :
430 South Union Road,
Buena Vista Township,
Atlantic County, NJ

And

New Jersey Department of
Environmental Protection

RECITALS

Buena Vista Township ("Property Owner") grants the New Jersey Department of Environmental Protection, its contractor(s) and subcontractor(s) (collectively, "DEP") permission to enter upon certain property located at 430 South Union Road, Buena Vista Township, Atlantic County ("the Site"), this property being also known and designated as Block 7101, Lot 25, on the Tax Map of Buena Vista Township, which DEP has designated as Site Remediation Program Interest No. 660004

PURPOSE

1. DEP and the Property Owner are entering into this Agreement so DEP may enter upon the Site to perform a site investigation. A copy of the work plan for the site

investigation is attached to this Agreement as Attachment A.

DEP COMMITMENTS

2. In return for the Property Owner granting DEP access to the Site for the site investigation, DEP agrees to the following:

a. DEP will give the Property Owner reasonable notice before commencing the on-site portion of the site investigation.

b. DEP will, to the greatest practicable extent, perform the site investigation in a way that minimizes interference with the Property Owner's ongoing business operations. If DEP determines, in its sole discretion, that any on-site activity may interfere with the Property Owner's business operations, DEP will first notify, and consult with, the Property Owner before commencing the activity. DEP will, however, decide, in its sole discretion, how to perform the activity.

c. The Property Owner shall have the opportunity to be present at any on-site sampling event, and to split any sample DEP takes to the extent the sample can be split. The Property Owner shall do so only when it agrees to:

i. Provide DEP with notice of its intention to be present when DEP performs the sampling, and its intent to split the sample(s);

ii. Not in any way interfere with the timing or performance of the sampling;

iii. Supply, at its own cost and expense, any equipment DEP requires for splitting the sample(s); and

iv. Perform, or arrange for the performance of, the analysis of each split sample it obtains, at its own cost and expense.

d. DEP shall, as practicable, return the Site to the general condition that existed before DEP's use or occupancy of the Site.

e. If DEP, in its sole discretion, determines that any boring installed during the site investigation is no longer needed, DEP shall properly close and seal the boring.

f. DEP shall, at the Property Owner's request, provide the Property Owner with a copy of any final report concerning the site investigation to the extent the report does not contain any confidential or otherwise privileged information.

INDEMNIFICATION & INSURANCE

3. The State, for itself, its successors and assigns, agrees to indemnify the Property Owner, its heirs, successors and assigns, from any and all liability, claims, damages and actions that may result from the negligent use or occupancy of the Property by the State, subject to the following exceptions: 1) The State shall have no obligation to indemnify or hold harmless the Property Owner, its heirs, successors or assigns, or any of them, for any claims or damages for which the State would have no liability under the New Jersey Tort Claims Act (N.J.S.A. 59:1-1 to -12-3) and the New Jersey Contractual Liability Act (N.J.S.A. 59:13-1 to -14-4); 2) the liability, if any, of the State shall be subject to the availability of the State of New Jersey's funds; and 3) the agreement of the State to indemnify, as set forth in this paragraph, shall not apply to any claims, actions or damages that may arise out of, be occasioned by or result from any condition existing on, or which did exist on, the Property at the time of the execution of this Agreement, or at any time prior to the execution of this Agreement.

4. Besides any other requirement placed upon it by law and the contract(s) the State awards for the site investigation, any contractor DEP retains for the site investigation shall obtain comprehensive general liability

insurance of \$1 million per occurrence and in the aggregate. The policy shall include an endorsement for broad form property damage coverage. Further, the contractor shall:

a. Maintain such insurance for the duration of the site investigation;

b. Name the Property Owner as an additional insured on the certificate of insurance for each policy required by the Request for Proposal DEP issues for the site investigation; and

c. No later than 7 calendar days before commencing any on-site activity, deliver to the Property Owner a copy of each certificate or policy evidencing the required coverage, with proof of payment of the premium, and a conformed copy of this Agreement.

TERM OF AGREEMENT

5. The Property Owner shall promptly sign, date and return this Agreement to DEP. This Agreement shall take effect as of the date DEP's authorized representative signs and dates it.

6. Unless terminated sooner by mutual agreement of the parties, this Agreement shall expire upon DEP giving the Property Owner written notice that use of the Site, or the site investigation, remedial investigation, is complete.

GENERAL CONDITIONS

7. The Property Owner agrees to notify DEP, in writing, no later than 30 calendar days before transferring title to some or all of the Property. The Property Owner shall submit this notice to the Site Assessment Supervisor, Frank Sorce, Bureau of Environmental Measurements and Site Assessment, Division of Site Remediation Management, New Jersey Department of Environmental Protection, 401 East State Street, Mail Code 380-01 PO Box 420, Trenton, New Jersey 08625-0420.

8. This Agreement, including the Attachment(s), represents the entire agreement between the parties

concerning site access, and supersedes all prior negotiations, representations, or agreements, either written or oral, unless otherwise expressly stated.

9. This Agreement may only be modified by the mutual agreement of the Parties. Further, any modification to this Agreement shall be in writing unless DEP, in its sole discretion, determines circumstances allow otherwise. Where any modification is verbal, DEP will document the modification, in writing, as soon as practicable.

10. This Agreement applies to and is binding upon DEP, the Property Owner, their successors and assigns.

NEW JERSEY DEPARTMENT OF
ENVIRONMENTAL PROTECTION



EDWARD RUTNAM [Name]
ASSISTANT DIR. [Title]

1/5/15 Dated:

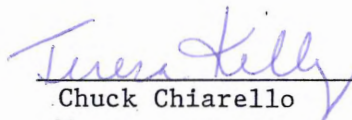
(ATTEST)

[PROPERTY OWNER]



Lisa A. Tilton Name:
Township Clerk Title:

November 24, 2014 Dated:



Chuck Chiarello Name:
Mayor Title:

November 24, 2014 Dated:

rev. 04/14

WORK PLAN FOR SITE INVESTIGATION

SITE NAME: Buena Vista Township Department of Public Works Yard

PI #: 660004

JOB NUMBER: A830410P **ACTIVITY CODE:** V6TE

AKA:

ADDRESS: 430 Union Road

MUNICIPALITY: Buena Vista Township **COUNTY:** Atlantic

EPA ID NUMBER: NJR 000025221

ACCESS GRANTED? Yes for offsite farm/residential properties; contingent upon access agreement for DPW property

SITE CONTACT(S): Lisa Tillman (Buena Vista Township) phone: 856-697-2100 Ext. *811; Rich Calereso (Operator DPW Yard) phone: 609-381-4677; Carol Panco (co-own Block 7101, lots 29, 28, 27, 26. Runs C&M greenhouse on lot 29) phone: 609-381-1987, Theresa and Kevin Seelman (co-own Block 7101, Lot 24) phone: 856-839-0039; Chris Alimenti (lessee of Seelman property, farms on lots 24, 26, 27, 28, 29) phone: 609-517-1052

PROJECT MANAGER NAME: Annie Dunham

AERIAL PHOTOS REVIEWED: Yes

BACKGROUND INFORMATION:

Buena Vista Township operates its Department of Public Works (DPW) garage on site at 430 South Union Road, Buena Vista Township, Atlantic County, NJ. Formerly, the site served as a fueling station for Buena Vista Township motor vehicles. A small municipal landfill, now closed, also exists on site. A specific closure date is not known but locals and DPW employees recall operations ceasing in the late 1970s or early 1980s. Prior to operation as a DPW Yard, the site may have been a gravel pit. Historic aerials dating as far back as 1931 show disturbed land, potentially corroborating its use as a gravel pit.

In 2014 groundwater contamination was detected in private potable wells in the vicinity of the 430 Union Road property. As a result, the Atlantic County Health Department and New Jersey Department of Environmental Protection (NJDEP) sampled potentially impacted private wells in the area and detected a suite of contaminants above the New Jersey Drinking Water Maximum Contaminant Level (MCL) for trichloroethene (TCE), vinyl chloride, cis-1,2-dichloroethene, cis-1,2-dichloropropane, benzene, mercury and perchlorate. The extent of contamination is still being assessed but analytical results thus far have confirmed 31 impacted wells. Of these 31, the majority of impacted wells are located to the south and southwest and down gradient of the Buena Township DPW Yard. As an interim measure, affected homes are being provided with point of entry treatment systems (POETS) through the Environmental Claims Administration (Spill Fund).

On April 9, 2014, four monitor wells on site at the Buena Township DPW Yard, installed in 1987 and associated with the closed landfill, were sampled and results showed vinyl chloride at levels as high as 102.3 ppb and TCE at levels as high as 82.5 ppb in two of the wells. These levels are well above the MCL set at 1 ppb.

PURPOSE OF WORKPLAN:

The purpose of the sampling is to determine if operations on site, past or present, have impacted ground water with any combination of volatile organic compounds, mercury, and perchlorate on and around the 430 Union Street property and to define the TCE/DCE/vinyl chloride plume down gradient of the property.

Ground water samples are proposed to be collected at 10 different locations. Four borings will be advanced on site. Samples will be collected from these at six proposed depths starting at 17-20 feet (i.e., the water table) and going down at 8-foot increments. One of these onsite borings is associated with the former municipal landfill and is located in the southwest corner of the property, with two of the remaining borings providing up-gradient and side-gradient background samples from the north and east sides of the property. The remaining sample is located in the down-gradient southern area of the DPW Yard's work area (where the former fueling station was located) and will help determine if that area of concern is a possible contributor to groundwater contamination on site. These samples will be analyzed for volatile organic compounds, mercury, and perchlorate. During sample collection a GPS unit will be used to record the location of each boring.

One boring is planned northeast of the DPW yard along Union Road. This boring will establish up-gradient background groundwater chemical constituents. This sample will be analyzed for VOCs, mercury, and perchlorate. During sample collection a GPS unit will be used to record the location of this boring.

The remaining five borings are to be taken off site and are primarily positioned linearly and run perpendicular to expected groundwater flow from the site (flow is toward the southwest, toward the Panther Branch Stream). Samples will be collected from these at six proposed depths starting at the water table and going down at 8-12 foot increments. One of these borings is located in Lot 29 of block 7101 on the western side of Union Road and south of the DPW's western property boundary. Two samples are located in lots 26 and 27 (combined lots) of block 7101 and are positioned to be southwest of the DPW's southwestern corner, with one located immediately adjacent to the property and the other approximately 300 to the southwest. The final two samples are planned for lot 24 of block 7101, which lies west of the DPW's western property boundary. One of these samples in the southwest corner of lot 24 and the other is along its western edge and is intended to provide an off-site background sample. These samples will be analyzed for VOCs. During sample collection a GPS unit will be used to record the location of each boring.

AREA OF CONCERN	SAMPLE ID	AREA/VOLUME OF AOC	NUMBER OF SAMPLES	SAMPLE JUSTIFICATION
Off Site Background	GW1		6	Offsite up-gradient background. Bore to 6 depths or refusal.
DPW Work Area	GW3		6	Down-gradient edge of the DPW Work area and former location of onsite USTs. Up-gradient of suspected contaminated area of former landfill. Potential to isolate former landfill as a contributing source. Bore to 6 depths or refusal.
Onsite Background	GW2, GW4		12	Onsite up and side-gradient background . Bore to 6 depths or refusal for each.
Former Municipal Landfill	GW5		6	DPW-installed monitoring wells indicate VOC contamination. Potential to confirm. Bore to 6 depths or refusal.
Block 7101, Lot 26/27	GW6, GW 10		12	Down-gradient off the south west corner property boundary of the DPW. Potential to help define plume. Bore to 6 depths or refusal for each
Block 7101, Lot 29	GW 7		6	Down-gradient off the southwest corner of the site, located between GW1 and GW2. Potential to help define plume. Bore to 6 depths or refusal.
Block 7101, Lot 24	GW 8, GW9		12	Located off the western edge of the DPW property. Potential to define western edge of the plume. Bore to 6 depths or refusal for each.

POTABLE WELLS/INDOOR AIR

OWNERS NAME	ADDRESS	OWNER NOTIFIED

AQUEOUS			
SAMPLE TYPE	NUMBER OF SAMPLES	TYPE OF ANALYSIS	LABORATORY
MONITORING WELL			
GROUND WATER	60 samples	VOCs, perchlorate, mercury	EPA CLP
SURFACE WATER			
POTABLE WELL			
DUPLICATE	3	VOCs, perchlorate, mercury	EPA CLP
FIELD BLANK	9	VOCs, perchlorate, mercury	EPA CLP
TRIP BLANK	9	VOCs, perchlorate, mercury	EPA CLP
MS/MSD			
TOTAL	81	VOCs, perchlorate, mercury	EPA CLP

NON-AQUEOUS			
SAMPLE TYPE	NUMBER OF SAMPLES	TYPE OF ANALYSIS	LABORATORY
SOIL			
SEDIMENT			
DUPLICATE			
MS/MSD			
TOTAL			

INDOOR AIR			
SAMPLE TYPE	NUMBER OF SAMPLES	TYPE OF ANALYSIS	LABORATORY
6 LITER			
1 LITER			
AMBIENT			
TOTAL			

EPA	ADLY MICHAEL	732-906-6161
EPA DESA LAB	JOHN BIRRI	732-906-6886/321-6707
TEST AMERICA	KIRK YOUNG	802-660-1990
COMMUNITY RELATIONS	MARC HERZBERG	609-633-1369
HANDEX	MIKE RUMEN	609-336-2590 ext. 1208


STAFF DESK PHONE AND CELL NUMBERS

STAFF MEMBER	DESK PHONE/CELL
CYR	530-8703
DUNHAM	530-4393
HOKE	530-8704
MCEVOY	530-8705
HANRAHAN	530-3956
RAPP	530-3944
SORCE	530-2457
DEP ENVIRONMENTAL LAB	530-2007/2071
WAREHOUSE	530-2144
WAREHOUSE (FAX)	530-2217
INSTRUMENT ROOM (CHUCK)	530-2082
MUMFORD	530-3347/306-2317
LOWRY	530-2461/306-7342
PUTNAM	984-3074

DIRECTIONS TO SITE FROM 380 SCOTCH ROAD:

According to Google Maps:

Driving directions to 430 S Union Rd, Vineland, NJ 08360

 380 Scotch Rd
Ewing Township, NJ 08628

1. Head west on **Scotch Rd** toward **Sam Weinroth Rd** 472 ft
2. Turn left onto **Sam Weinroth Rd** 0.2 mi
3. Turn right onto **Scotch Rd** 0.2 mi
4. Take the ramp onto **I-95 N** 6.6 mi
5. Continue onto **I-295 S** 10.2 mi
6. Take exit **57A-57B** for **US-130** toward **Bordentown/ Burlington** 0.2 mi
7. Take exit **57A** on the left for **US-130 N** toward **Bordentown** 0.2 mi
8. Keep right at the fork to stay on **Exit 57A** 0.3 mi
9. Keep left at the fork and merge onto **US-130 N** 0.5 mi
10. Turn right onto **Farnsworth Ave** 0.3 mi
11. Slight right onto **US-206 S** 17.5 mi
12. At the traffic circle, continue straight to stay on **US-206 S** 17.7 mi
13. Continue onto **Bellevue Ave** 1.2 mi

14. Continue onto NJ-54 S/12th St
Continue to follow NJ-54 S

10.7 mi

15. Turn left onto US-40 E

0.1 mi

16. Take the 1st right onto Cumberland Rd


0.1 mi

17. Slight left onto Tuckahoe Rd

0.4 mi

18. Slight right onto Union Rd
Destination will be on the right

0.9 mi

 430 S Union Rd
Vineland, NJ
08360

INJURIES WHILE ON THE JOB

For billing purposes the treating facility should be given the following information:

1. The injury/illness is occupationally related
2. The person requiring treatment is a NJDEP employee
3. Bill to: Horizon Casualty Services
 33 Washington Street
 Newark, New Jersey 07102
 800-985-7777

NOTE: DO NOT RELEASE ANY PERSONAL INSURANCE OR ANY OTHER PERSONAL INFORMATION TO THE TREATING FACILITY.

1. EMERGENCY CARE

- a. Should emergency medical assistance/treatment be necessary make a reasonable effort to go to the Horizon Healthcare Network Services Treatment Facility selected, however if the emergency is life threatening, then proceed directly to the nearest emergency hospital.
- b. Report your injury to your supervisor
- c. Your supervisor should contact the Employee Services Unit immediately.
- d. A case number and compensation ID card will be issued to you.

NOTE: If the injury occurs after 5:00 pm and until 8:00 am call the DEP Environmental Hotline at 877-WARNDEP (877-927-6337).

2. NON-EMERGENCY CARE

- a. Should non-emergency medical assistance/treatment be necessary go to the Horizon Healthcare Network Services Treatment Facility selected.
- b. Report your injury to your supervisor
- c. Your supervisor should contact the Employee Services Unit immediately
- d. A case number and compensation ID card will be issued to you.

Employee Services Unit (Maria Diem)609-984-3412

Environmental Equipment Service Center 609-530-2144

WORK PLAN APPROVAL SIGNATURES	DATE
CASE COORDINATOR <u><i>[Signature]</i></u>	<u>10/16/14</u>
SUPERVISOR <u><i>Frank Love</i></u>	<u>10/16/14</u>
SECTION CHIEF <u><i>[Signature]</i></u>	<u>10/30/14</u>

CC BUREAU CHIEF

Reporting Sample Shipment

Faxing the Regional copy of TR/COC daily to the Region Office, is still required.

1. On the last step of the FORMS II Lite wizard (Print/View a specific TR) is the "Export TR" button. This button allows the user to export all the TR/COCs for that site in .xml format.

Note: Please make sure to select the "Include Site and Field QC Information" checkbox.

2. With regard to the new procedure of reporting the shipping information by uploading the electronic files extracted from FORMS II Lite, OR **Scribe software**, please use the following URL to register/sign up to the **new** SMO portal website, to be able to upload your shipping information as extracted from either software you're using:

<http://epasmoweb.fedcsc.com/smoportal>

Please **register** as a New User, and follow the instruction. You will be notified of the approval by the website management, then you can proceed with uploading the shipping information electronically.

3. Select the "Browse" button and locate the XML file you wish to upload.

Once you login you will need to browse to your XML file location using the *browse* button. Once located, click the *upload* button. A list of all the XML files you upload will appear with your created name and the FormsII lite COC name. Click on any applicable boxes, add comments and your email address and click the *upload* button. Please review the instruction sheet provided for more information.

A message will be displayed saying your file has been submitted. You will also receive a confirmation email.

Safe Operating Instructions
For Direct Push Sampling Systems (Geoprobe)

This document establishes a set of safe operating instructions for the operation of hydraulically powered soil boring and ground water push point units. It represents the minimum safety requirements to be followed by Site Remediation Program staff and its contractors, when using such equipment in the field.

DEFINITIONS:

GeoProbe - "GeoProbe" is the brand name of a hydraulically powered machine that utilizes static force and percussion to advance sampling and logging tools into the subsurface. Geoprobe tools are used to perform soil core and gas sampling, groundwater sampling, soil conductivity and contaminant logging, grouting and materials injection. For the purpose of these instructions, Geoprobe will include the truck mounted units which are the type that are currently most frequently used by the Site Remediation Program. However, these instructions will also apply to other (including tractor and ATV mounted) units manufactured and marketed under other names that are designed for similar purposes.

SAFE OPERATING REQUIREMENTS:

1. PRE-TRANSPORT CHECK:

Before the Geoprobe is driven to the site, the sampling coordinator, or designated person, (usually the Certified Borer that will be transporting the unit and operating it at the site) will be responsible for ensuring that the unit will have readily available the following safety items:

Fire Extinguisher
Hearing Protection
Safety Goggles
Hard Hat
Outer Protective Gloves

Inspect hydraulic hoses and fittings for signs of wear, cracks or looseness. Have replaced or repair as needed before using.

The pre-transport check will also include inspecting the unit to insure that all equipment within the truck (rods, tools screen points etc..) is properly stored/secured.

For the trailer pulled units, the trailer will be inspected to insure it is free of damage and is in safe operating condition. (correct tire pressure, tread wear etc.) Check to make sure trailer is properly hitched, that safety chains are properly attached and that trailer stop/turn signal lights are connected and working.

2. TRANSPORTING UNIT:

OBEY ALL TRAFFIC LAWS including speed postings, especially on off ramps and around turns.

Use extra caution when backing up. When possible have someone outside assist in giving directions when backing into position.

Use extra caution when moving over rough terrain or uneven and slippery surfaces.

These vehicles are heavy. At site, walk/survey area that will be driven on first to make sure ground is not too soft or muddy to support vehicle.

3. SETUP:

Position vehicle on as level an area as possible.

If on, or near street, or in parking area where traffic is anticipated, wear safety vest and place traffic safety cones and warning signs as per DOT requirements. Utilize a flag person when in traffic lanes.

Do not park support vehicles along street in such a way that restrict/obstruct traffic.

Always take vehicle out of gear and set emergency brake before engaging remote ignition.

4. USAGE:

The following safety precautions/procedures must be followed:

OBEY MANUFACTURE'S INSTRUCTIONS FOR USE

Under Ground Utilities: (gas, water, sewer, cable, phone and electric or process related) No ground intrusive work is to commence without a **current** underground utility mark out **and** an inspection/check of the area by OSSH.

Untrained personnel should not operate machine unless an experience borer is present.

Operators and assistants must wear appropriate, OSHA approved eye, hand and foot protection

Operators and assistants must wear hearing protection.

Do not wear loose fitting clothing while operating unit.

Only one person should operate Geoprobe at one time.

Operator must stand to control side of machine, clear of the probe foot and derrick, while operating unit.

Turn off the hydraulic system at the control panel while changing rods, inserting hammer anvil, or attaching accessories.

Shut down hydraulic system and turn unit off before attempting to clean or service equipment.

Use caution when vehicle is parked on a loose, soft or slippery surface. Do not apply enough force to cause the vehicle to lighten the load on its suspension as the reduced weight on the vehicle's tires may allow it to shift or slide.

Do not exert more downward force on the probe so as to lift the probe foot more than 6 inches off the ground.

Hydraulic fluids are under high pressure. Be careful to watch for and avoid leaks.

If problem occurs, release all control levers. The controls are spring loaded and automatically return to neutral position and machine operation will cease. **Do not rig control levers to continue operating unit while it is unattended. This over rides the automatic shut off.**

Warning decals on unit to be obeyed, are not to be removed and must be replaced if removed or damaged.

Geoprobe unit is not to be modified or serviced using un-approved parts.

Safe Operating Instructions
For Hot Water Pressure Washer

This document establishes a set of safe operating instructions for the operation of pressure washing/steaming cleaning equipment. It represents the minimum requirements to be followed by Site Remediation Program staff, when using such equipment in the field.

DEFINITIONS:

Pressure washer - For the purpose of these instructions, a power washer will be defined as any power driven machine, piece of equipment, or devise, that generates pressurized stream, or spray of water, whether heated or unheated, for the purpose of cleaning/removing dirt, contaminants or other foreign matter from equipment. This definition will include machines/equipment commonly known as power washers and steam cleaners which develop sufficient pressure and, or heat, that have the potential to cause injury to its user, other nearby personnel and property.

SAFE OPERATING REQUIREMENTS:

NOTE: These instructions refer to the trailer mounted pressure washer which, is the type that is currently most frequently used by the Site Remediation Program. However, these instructions also will apply to any self-contained/portable, non-trailerred units that may be used.

5. PRE-TRANSPORT CHECK:

Before the pressure washer is transported to the site, the site sampling coordinator, or designated person, (usually the person that will be transporting the unit to the site) will be responsible for ensuring that the unit will have readily available the following safety items:

- Fire Extinguisher
- Hearing Protection
- Safety Goggles
- Outer Protective Gloves

Inspect hoses, gun, fittings and fuel connections for signs of wear, cracks or looseness. Replace/repair as needed.

The pre-transport check will also include inspecting the unit to insure that all equipment, including other items being transported with it, is properly secured.

Gasoline is to be transported only in DOT approved metal containers having self-closing fill spout openings.

For the trailer mounted unit, the trailer will be inspected to insure it is free of damage and is in safe operating condition. (correct tire pressure, tread wear etc.) Check to make sure trailer is properly hitched, that safety chains are properly attached and that trailer stop/turn signal lights are connected and working.

6. TRANSPORTING UNIT:

OBEY ALL TRAFFIC LAWS.

Use extra caution when turning and especially when backing up. When possible have someone outside of assist in giving directions.

Use extra caution when moving over rough terrain or uneven surfaces.

7. SETUP:

Park towing vehicle and trailer on as level an area as possible.

If on street, or in parking area where traffic is anticipated, set out traffic safety cones.

If trailer is to be separated from tow vehicle, block trailer wheels to prevent rolling. Disconnect safety chains and light wires. Install stand, crank to lower jack into stand until hitch is free.

Set up decon/equipment cleaning area in well drained area where water will not accumulate causing slippery conditions (winter use).

Make sure that spray direction will not be aimed at fellow workers, passing pedestrians, and traffic or at property that may be damaged.

Do not use near any unprotected/exposed electrical outlets or equipment.

When possible avoid use in dry wooded or grassy areas or near other flammable materials. If not possible, with unit in spray/wash mode (burner off), wet down surrounding dry materials before turning in burner.

Keep fire extinguisher nearby and available.

8. USAGE:

The following safety precautions/procedures must be followed:

OBEY MANUFACTURE'S INSTRUCTIONS FOR USE

Check hoses, gun, fittings and fuel connections for signs of wear/damage.

Wear appropriate eye, ear, hand, foot and skin protection. Eye protection will consist of a minimum of safety goggles. A full-face shield/hardhat combination worn over safety glasses is the preferred method of protection. All those working with power washer performing decontamination/cleaning activities (not just gun operator) will wear appropriate personal protection.

Do not point wand or trigger gun at yourself or at anyone else.

Do not place hands or fingers in front of high-pressure spray.

Do not allow machine to run unattended.

Do not run machine indoors or in an enclosed area or where flammable vapors may be present.

Pressure washer may produce kickback. To prevent fall, use a bracing posture and make sure footing is good. Do not block trigger so that gun is in open/on position.

Avoid touching un-insulated, potentially hot parts of unit.

Warning decals on machine are to be obeyed, are not to be removed and must be replaced if removed or damaged.

Machine is not to be modified or serviced using un-approved parts.

ATTACHMENT I



[opra home](#) | [contact opra](#) | [njdep home](#)

Underground Storage Tank Registration Summary

BUENA VISTA TWP PUBLIC WORKS YARD

430 UNION RD , East Vineland NJ 08360

PI Number	PI Name	Municipality	County
032698	BUENA VISTA TWP PUBLIC WORKS YARD	Buena Vista Twp	Atlantic

X Coord. Number	Y Coord. Number
373533	240536

ACTIVITY INFORMATION :

Activity Number (CF)	Registration Status	Status Date
UST000001	Terminated	8/31/1998

FACILITY INFORMATION :

Registration Period : 08/31/1998-09/30/2001

Contact Information :

Type	First Name	Last Name	Organization	Address	City	State	Zip Code
Facility Operator	Not Identified	Not Identified	Not Identified				
Tank Owner	RONALD	TREDING	BUENA VISTA TWP	PO BOX 605RT 40	Buena	NJ	08310

Facility Type : County/Municipal

Financial Responsibility :

Financial Type	Financial Carrier	Financial Effective Date (UST Reg)	Financial Policy Amount (UST Reg)	Financial Expiration

TANK SUMMARY :

Profile Name	UST Profile Status	Expiration Date (CF)
BUENA VISTA TWP PUBLIC WORKS YARD	Inactive	9/30/2001

Tank No.	Tank Size/Units	Tank Contents	Tank Status	Tank Status Date
E001	550.00	Unleaded Gasoline	Removed	10/17/1998
E002	550.00	Unleaded Gasoline	Removed	10/17/1998
		Medium Diesel Fuel		

E003 | 1,000.00(No. 2-D) | Removed | 10/17/1998

TANK DETAILED INFORMATION :

Tank No.	Tank Status	Closure No.
E001	Removed	

Construction :

Tank Install Date	1/1/1944
Tank Size/Units	550
Tank Contents	Unleaded Gasoline
Piping Operation	
Tank Structure	Single Wall
Pipe Structure	Single Wall

Compliance Monitoring ?	No
Compliance?	No
Compliance Upgrade?	No

Tank/Pipe Construction	Type
Pipe	Bare steel
Tank	Bare steel

Monitoring Detection :

Tank/Pipe Monitoring	Type
Pipe	None
Tank	Manual Tank Gauging

Spill Cont. Fill Pipe (Tank UST)	No
Tank Overfill Prot.	No

Tank No.	Tank Status	Closure No.
E002	Removed	

Construction :

Tank Install Date	1/1/1944
Tank Size/Units	550
Tank Contents	Unleaded Gasoline
Piping Operation	
Tank Structure	Single Wall
Pipe Structure	Single Wall

Compliance Monitoring ?	No
Compliance?	No
Compliance Upgrade?	No

Tank/Pipe Construction	Type
Pipe	Bare steel
Tank	Bare steel

Monitoring Detection :

Tank/Pipe Monitoring	Type
Pipe	None
Tank	Manual Tank Gauging

Spill Cont. Fill Pipe (Tank UST)	No
Tank Overfill Prot.	No

Tank No.	Tank Status	Closure No.
E003	Removed	

Construction :

Tank Install Date	1/1/1944
Tank Size/Units	1000
Tank Contents	Medium Diesel Fuel (No. 2-D)
Piping Operation	
Tank Structure	Single Wall
Pipe Structure	Single Wall

Compliance Monitoring ?	No
Compliance?	No
Compliance Upgrade?	No


Tank/Pipe Construction	Type
Pipe	Bare steel

Tank Bare steel

Monitoring Detection :

Tank/Pipe Monitoring	Type
Pipe	None
Tank	Manual Tank Gauging

Spill Cont. Fill Pipe (Tank UST)	No
Tank Overfill Prot.	No

[contact dep](#) | [privacy notice](#) | [legal statement](#) | [accessibility statement](#) 

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statewide: [njhome](#) | [citizen](#) | [business](#) | [government](#) | [services A to Z](#) | [departments](#) | [search](#)

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Department of Environmental Protection
P. O. Box 402
Trenton, NJ 08625-0402

Last Updated: December 13, 2005

ATTACHMENT J

SCHAEFFER & SCHEIDEGG

CONSULTING ENGINEERS, LLC

ENGINEERING AND PLANNING

5-B London Square Mall
201 Tilton Road
Northfield, New Jersey 08225
Phone: (609) 272-1166
Fax: (609) 272-8411

Andrew F. Schaeffer, PE, PP
David S. Scheidegg, PE, CME

February 17, 2000

Mr. Gary Sanderson, Supervisor
NJ Department of Environmental Protection
Bureau of Underground Storage Tanks
P.O. Box 433
401 East State Street
Trenton, New Jersey 08625

Re: **REMEDIAL INVESTIGATION REPORT**
Buena Vista Public Works Yard
Block 7101, Lot 25
430 Union Road
Buena Vista Twp., Atlantic County, NJ
Case #98-10-17-1344-17
Closure#N98-1924
UST # 0326982
Our File: 6058

Dear Mr. Sanderson:

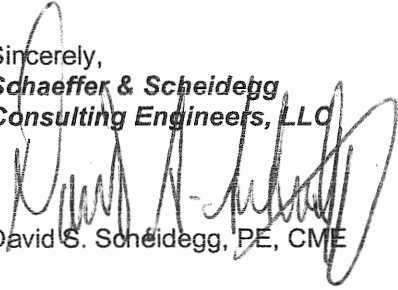
In accordance with your correspondence regarding the above, the following items and explanations are provided toward satisfying your request for additional information:

1. Scaled site diagrams were previously submitted with the RIR as figures 3, 7 and 8. Enclosed are additional copies of these revised site diagrams. These figures have been updated to indicate all other information as requested.
2. Our office, on behalf of the Township of Buena Vista, is currently reviewing bid proposals from several well drilling companies. Upon award of contracts, we will be conducting a remedial investigation of the groundwater at the location of the former gasoline tank location. All RI will be in accordance with NJAC 7:26E-4.4. If groundwater contamination is confirmed, we will then conduct an appropriate receptor evaluation and associated ecological evaluation.
3. Attached is a disk containing all sampling results to date. This data has been repackaged in accordance with the current NJDEP electronic deliverable format. Also attached is Page 16 (Table 1) of the original report which has been revised and is attached for inclusion.
4. The contaminated soil generated by the previous tank removal is scheduled to be removed in conjunction with the pending well installation process.
5. Casie Protank, Franklinville, NJ was the organization contracted to remove and backfill the UST's. As such, enclosed please find documentation certifying that the material utilized as backfill was free of contaminants and meets the requirements of NJAC 7:26E-6.4(b).

6. Enclosed please find an updated UST Site/Remedial Investigation Report Certification Form. This form is submitted in place of the UST Site/Remedial Investigation Report Certification Form that was previously submitted.
7. Pursuant to NJAC 7:14B, attached please find a check in the amount of \$1000.00 payable to the "Treasure, State of New Jersey" as a fee for the Department's review of the RI Report.

Should you have any questions or require any additional information, please do not hesitate to contact our office.

Sincerely,
Schaeffer & Scheidegg
Consulting Engineers, LLO



David S. Scheidegg, PE, CME

Attachments

cc: Mayor and Township Committee, Buena Vista Township
G. Todd Hill, Environmental Design Services Corp.

TABLE 1
ANALYTICAL/FIELD RESULTS OF SOILS SAMPLED ON OCTOBER 17, 1998

SAMPLE	G1-A	G1-B	G1-C	G1-D	G1-E	P-1	P-2	D-1	D-2	D-3	SOIL CLEANUP CRITERIA mg/kg
DEPTH (ft.)	97"	96"	97"	97"	103"	21"	21"	86"	87"	87"	
ANALYTE	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	
PID	7ppm	8 ppm	5ppm	2 ppm	4 ppm	nd	4ppm	22ppm	4 ppm	3 ppm	-
Toluene	.395 (.647)	nd (.682)	nd (.695)	nd (.757)	nd (.642)	nd (.690)	.155 (.692)	nd (.671)			500
Ethylbenzene	.513 (.647)	nd (.682)	nd (.695)	nd (.757)	nd (.642)	nd (.690)	.244 (.692)	.204 (.671)			100
Xylenes	3.16 (.259)	nd (.273)	0.544 (.278)	.368 (.303)	nd (.257)	.16 (.276)	1.466 (.277)	.983 (.269)			10
TPH								2820 (131)	444 (10.6)	16.6 (1.0)	10,000
Methylene chloride	.273 ^b (.259)	.198 ^b (.273)	.163 ^b (.278)	.214 ^b (.303)	nd (.257)	nd (.276)	nd (.277)	.303 ^b (.269)			1.0
Total TICs	3.3	nd	nd	nd	nd	nd	nd	65.92			1,000
Lead	3.88	2.91	11.5	6.97	nd	87.8	12.5	-	-	-	400

Only analytes detected are included on table (see Appendix C for complete laboratory reports).

nd = Not detected at the detection limits of the analytical method.

^b = Also found in blank sample.

(MDL) = Minimum detection limit of analytical method.

(Note: For results detected, but less than the MDL, results are not quantitatively accurate.)

¹ = Soil cleanup criteria as listed are Impact to Ground Water Soil Cleanup Criteria established by the State of New Jersey, except lead, which is listed as the Residential Direct Contact Soil Cleanup Criteria.

TIC = Tentatively Identified (volatile organic) Compounds.

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: Buena Vista Township Public Works Yard
Facility Street Address: 430 Union Road
Municipality: Buena Vista Township **County:** Atlantic
Block: 7101 **Lot(s):** 25 **Telephone Number:** (609) 697-2100

B. Owner (RP)'s Name: BUENA VISTA TOWNSHIP
Street Address: 890 HARDING HIGHWAY **City:** BUENA
State: NJ **Zip:** 08310 **Telephone Number:** (856) 697-2100

C. (Check as appropriate)

- Site Investigation Report (SIR) \$500 Fee
- Remedial Investigation Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager: STEPHEN J. TATAR
- UST Registration Number: 0326982 (7 digits)
- Incident Report Number 98-10-17-1344-17 (10 or 12 digits)
- Tank Closure Number C(N)8-1924 C9 - - C9 - - (7 characters)

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E Yes No

Name: G. Todd Hill **Signature:** [Signature] **UST Cert. No.:** 10905
Firm: Environmental Design Services Corporation **Firm's UST Cert. Number:** 01068
Firm Address: Po Box 405 **City:** Pitman
State: NJ **Zip:** 08071 **Telephone Number:** (609) 272-1166 or (404) 307-3736

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)] as follows:

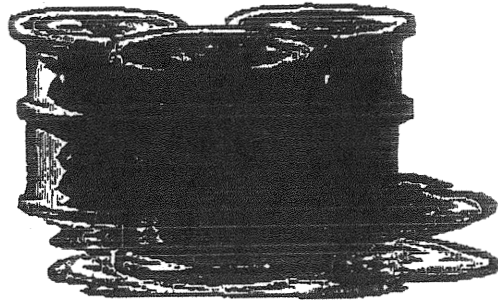
1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): CHUCK CHIARELLO **Title:** MAYOR
Signature: [Signature]
Company Name: BUENA VISTA TOWNSHIP **Date:** 4/2/00

Casie Protank

3209 North Mill Road
Vineland, NJ 08360
P: (856) 696-4401
F: (856) 696-7065



Waste Management and Recycling

To: Dave Scheidgg

From: Cliff

Fax: 1-609-272-8400

Pages:

Phone:

Date: 2-22-2000

Re:

CC:

- Urgent For Review Please Comment Please Reply Please Recycle

• Comments:

Clean Fill Cert.

Phone: 697-4444

PAT GAROPPO
TRUCKING

218 Tuckahoe Road • Newfield, N. J. 08344

August 6, 1999

Casie Pro-Tank
P. O. Box 92
Franklinville, NJ 08322

Attn: Brian Fallucca

As per our conversation on the telephone on September 20, 1994, this letter is in reference to our fill dirt material. Our fill dirt is free and clean of any contaminants and is of a virgin source. The fill has never come in contact with any petroleum products. If you have any questions, please feel free to call me.

Thank you,

Pat Garoppo

Pat Garoppo

PG/clr

REFERENCE/DESCRIPTION	NET AMOUNT
PO# 00-0117 Desc TREASURER - REMDL INVEST REPOT Vn T0055	1,000.00

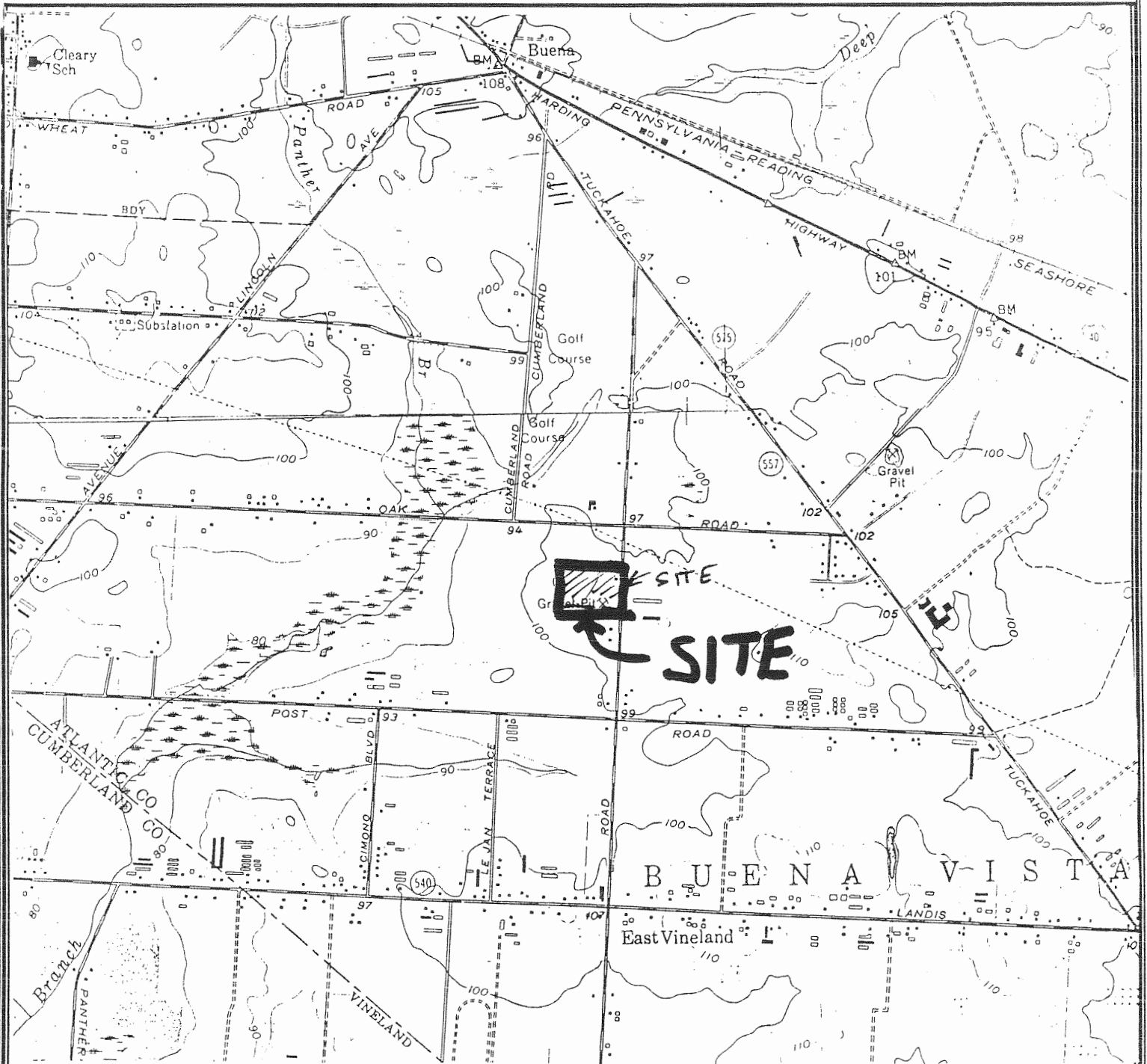
DETACH BEFORE DEPOSITING

\$*****1,000.00

-39-

CURRENT ACCOUNT	BUENA VISTA TOWNSHIP P.O. BOX 605 RT. 40 BUENA, NJ 08310	No. 8278 55-471/312	
	DATE	CHECK NO.	AMOUNT
	02/15/00	008278	\$*****1,000.00
One Thousand And 00/100 Dollars			
TO THE ORDER OF	[TREASURER, STATE OF NEW JERSEY P.O. BOX 433 401 E. STATE STREET TRENTON NJ 08625-0433]	MAYOR - CLERK - CHIEF FINANCIAL OFFICER <i>Clude Cirullo</i> <hr/> <i>Ronald P. Tulley</i> <hr/>	Security features included. Details on back.
MINOTOLA NATIONAL BANK			
⑈008278⑈ ⑆031204710⑆ 56 4000014⑈			

FIGURE 4



USGS Quad Map - Site Location
Buena Vista Township, Atlantic County, N.J.
Scale: 1"=2,000'



Environmental
des gn



State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Bureau of Underground Storage Tanks
P.O. Box 433
401 East State Street
Trenton, N.J. 08625-0433
Fax: (609) 633-1454

Buena Vista Township
Route 40
P.O. Box 605
Buena, NJ 08310
The Honorable Charles Chiarello Mayor

JUN 08 2000

Re: Buena Vista Township - **Public Works Yard** -
430 Union Road
Buena Vista Township, Atlantic County
Block 7101; Lot 25
Case #98-10-17-1344-17
Closure #N98-1924
UST #0326982

Dear Mayor Chiarello:

On **August 6, 1999**, the New Jersey Department of Environmental Protection (Department) sent a letter to Buena Vista Township requiring the submission of a **Remedial Investigation Report (RIR)** pursuant to the Underground Storage of Hazardous Substances Act, N.J.S.A. 58:10A-21 et seq. and implementing regulations, N.J.A.C. 7:14B et seq. Submittal of this report was required on or before **April 1, 2000**.

The Department acknowledges the receipt of the correspondence of Buena Vista Township dated **February 17, 2000**, however, this correspondence fails to fulfill all of the Department's technical requirements as detailed in the Department's letter dated **August 6, 1999**. Therefore, Buena Vista Township is in violation of the Underground Storage of Hazardous Substances Act and implementing regulations.

The **required report** shall be submitted to the Department at the above address, within **thirty (30) calendar days** of the date of this letter.

If Buena Vista Township fails to submit the required report within 30 days, the Bureau of Underground Storage Tanks (BUST) may initiate enforcement action, or alternatively, this case may be referred to the Bureau of Field Operations, Case Assignment Section (BFO/CAS) to determine the site's priority on the Comprehensive Site List (CSL).

If this case remains with BUST, the Department may initiate enforcement action, including but not limited to, the assessment of penalties and/or revocation of tank operating registrations pursuant to N.J.S.A. 58:10A-21 et seq. and N.J.A.C. 7:14B-12. Buena Vista Township may be subject to penalties of up to \$50,000.00 per day, denial or revocation of the registration or permit to operate the UST, and the initiation of a criminal action pursuant to N.J.S.A. 58:10A-10. Penalties may continue to accrue until all the actions and information required by N.J.S.A. 58:10A-21 et seq. and N.J.A.C. 7:14B are received by this office.

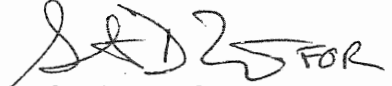
If this case is forwarded to BFO/CAS, the site will be ranked for the CSL. The CSL is a listing of all contaminated sites within the State of New Jersey. Each site is ranked based upon available data and exposure pathways by which contamination may migrate and impact human health or the environment. Those sites which have the greatest impact or potential for impact are prioritized to be remediated under an Administrative Consent Order (ACO) pursuant to the Spill Compensation and Control Act authorities noted in N.J.A.C. 7:26C. Should the addressed party refuse to enter into an ACO with the Department, the Department may utilize public funds to

remediate the site. The Department may then seek to recover *three times* its costs associated with the remediation.

This letter does not represent an extension or a modification of the time frames for compliance previously set forth. The Department reserves the right to implement all applicable enforcement measures.

If you should have any questions regarding this matter, please contact Stephen D. Tatar, Senior Environmental Specialist, of the Bureau of Underground Storage Tanks (BUST) at (609) 633-0580.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Sanderson" with a stylized flourish at the end.

Gary Sanderson, Supervisor
Bureau of Underground Storage Tanks

cc: Randi DeMartini, Atlantic County Department of Human Services
Municipal Clerk, Buena Vista Township
Stephen D. Tatar, Bureau of Underground Storage Tanks

New Jersey Department of Environmental Protection and Energy

REPORT OF: PHONE CALL

VISIT

DATE 19 APR 00

REFERRED TO _____

TIME 1445

BUREAU OR OFFICE BUST

FILE 981017134417

PERSON CONTACTED DAVID SCHEIDEGG PHONE # 609 272 1166

AFFILIATION/ADDRESS CONSULTANT

SUBJECT OF CALL/VISIT ADDRESS THE DEF. THAT REMAIN
AND PIN DOWN A TIME FRAME FOR WHEN
WORK WILL BE COMPLETED.

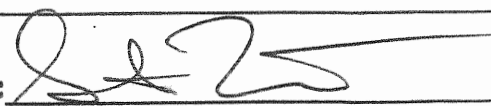
WITHIN A MONTH TOWN WILL HAVE
FUNDS AVAILABLE.

WORK WILL START WITHIN A MONTH AFTER
FUNDING

REPORT WILL BE ON MY DESK WITHIN
45 DAYS AFTER WORK.

ACTION RECOMMENDED 120 DAY EXTENTION

SIGNATURE





State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Bureau of Underground Storage Tanks
P.O. Box 433
401 East State Street
Trenton, N.J. 08625-0433
Fax (609)633-1454

Buena Vista Township
Route 40
P.O. Box 605
Buena, NJ 08310
The Honorable Charles Chiarello Mayor

JUN 29 2000

Re: Extension for Submittal of a Report
Buena Vista Township - Public Works Yard -
430 Union Road
Buena Vista Township, Atlantic County
Block 7101; Lot 25
Case #98-10-17-1344-17
Closure #N98-1924
UST #0326982

Dear Mayor Chiarello:

This letter is in response to Buena Vista Township's letter dated **June 19, 2000** requesting an extension for the submission of a report pursuant to N.J.A.C. 7:14B et seq. and the New Jersey Department of Environmental Protection's (Department) letter, dated **June 8, 2000**. The report was due on **April 1, 2000**. The extension request has been approved and the new deadline for submission is **October 19, 2000**.

This letter is only an extension and does not relieve Buena Vista Township of any obligation and/or responsibilities set forth in the regulations promulgated pursuant to the Underground Storage of Hazardous Substances Act, N.J.S.A. 58:10A-21 et seq. No further extensions will be granted for the submission of the required report.

Please note, pursuant to N.J.S.A. 58:10A-21 et seq. and N.J.A.C. 7:14B et seq., the owner and operator of the regulated underground storage tanks are strictly liable for compliance with these requirements. In addition, all state regulated USTs, except for heating oil USTs for on-site consumption, are regulated under 40 CFR Part 280. Non-compliance with these federal and state regulations exposes the tank owner and operator to the penalty and liability specified in 40 CFR Part 280, N.J.S.A. 58:10A-21 et seq. and N.J.A.C. 7:14B et seq.

If you should have any questions regarding this matter, please contact Stephen D. Tatar, Senior Environmental Specialist, of the Bureau of Underground Storage Tanks (BUST) at (609) 633-0580.

Sincerely,

Gary Sanderson, Supervisor
Bureau of Underground Storage Tanks

cc: Randi DeMartini, Atlantic County Department of Human Services
Municipal Clerk, Buena Vista Township
Stephen D. Tatar, Bureau of Underground Storage Tanks
David S. Scheidegg, Schaeffer & Scheidegg

SCHAEFFER & SCHEIDEGG

CONSULTING ENGINEERS, LLC

ENGINEERING AND PLANNING

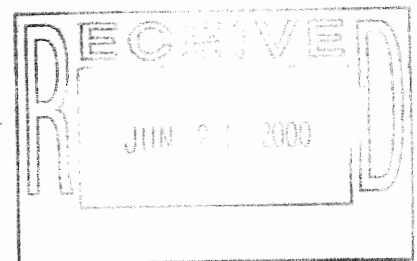
5-B London Square Mall
201 Tilton Road
Northfield, New Jersey 08225
Phone: (609) 272-1166
Fax: (609) 272-8411

Andrew F. Schaeffer, PE, PP
David S. Scheidegg, PE, CME

June 19, 2000

Mr. Stephen D. Tatar, Sr. Environmental Specialist
State of New Jersey
Department of Environmental Protection
Bureau of Underground Storage Tanks
PO Box 433
301 East State Street
Trenton, New Jersey 08625-0433

Re: Buena Vista Township Public Works Yard
430 Union Road
Buena Vista Township
Atlantic County, New Jersey
Block 7101, Lot 25
Case # 98-10-17-1344-17
Closure # N98-1929
UST # 0326982
Our File: 6058



Dear Mr. Tatar:

This letter is written as a follow up to our conversation of this afternoon and the NJDEP correspondence dated June 8, 2000. On April 19, 2000 we discussed the above referenced project and spoke of a 120 day extension in order to complete the information as required by the NJDEP for the remedial investigation report. It is our request to have verification of this 120 day extension in writing.

As the municipal engineer for Buena Vista Township, we are actively following up on the completion of this phase of this project. It is anticipated that the remaining work will be completed and the remedial investigation report submitted for review and approval to your department before the end of August.

Should you have any question or require any additional information, please do not hesitate to contact our office.

Sincerely,

Schaeffer & Scheidegg
Consulting Engineers, LLC

David S. Scheidegg, PE, CME

SCHAEFFER & SCHEIDEGG

CONSULTING ENGINEERS, LLC

ENGINEERING AND PLANNING

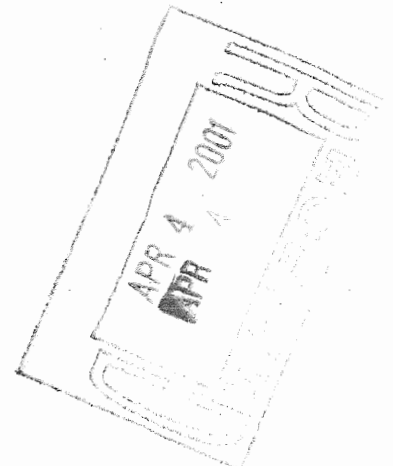
5-B London Square Mall
201 Tilton Road
Northfield, New Jersey 08225
Phone: (609) 272-1166
Fax: (609) 272-8411

Andrew F. Schaeffer, PE, PP
David S. Scheidegg, PE, CME

March 27, 2001

Mr. Stephen D. Tatar, Sr. Env. Specialist
State of New Jersey
Department of Environmental Protection
Bureau of Underground Storage Tanks
PO Box 433, 301 East State Street
Trenton, New Jersey 08625-0433

Re: Buena Vista Township Public Works Yard
430 Union Road
Buena Vista Township
Atlantic County, New Jersey
Block 7101, Lot 25
Case # 98-10-17-1344-17
Closure # N98-1929
UST # 0326982
Our File: 6058



Dear Mr. Tatar:

Enclosed please find one copy of the Ground Water Remedial Investigation at the Buena Vista Public Works Yard as prepared by *The Property Evaluation Group, Inc.* Also attached is a Baseline Ecological Evaluation of the site as prepared by *Junetta E. Nowell Consulting, Ltd.* The municipality is currently working with Aqua-Tex Inc. and Aqua-tex Transport to perform a confirmatory groundwater sampling event and for the removal of petroleum contaminated soils from the project location. Copies of their proposals are attached. Also attached is a copy of check #8278 from the Township of Buena Vista to the NJDEP dated 2/15/00 as previous payment for the review of the RI report.

Upon receipt of the results of our confirmatory sampling results, we will immediately forward them to your attention.

Should you have any question or require any additional information, please do not hesitate to contact our office.

Sincerely,
Schaeffer & Scheidegg
Consulting Engineers, LLC

David S. Scheidegg, PE, CME

Cc: Mayor and Township Committee

CURRENT ACCOUNT

BUENA VISTA TOWNSHIP

P.O. BOX 605 RT. 40
BUENA, NJ 08310

No.

8278

55-471/312

DATE

CHECK NO.

AMOUNT

02/15/00

008278

\$*****1,000.00

One Thousand And 00/100 Dollars

TO THE
ORDER
OF

TREASURER, STATE OF NEW JERSEY
P.O. BOX 433
401 E. STATE STREET
TRENTON NJ 08625-0433

MAYOR - CLERK - CHIEF FINANCIAL OFFICER

Clude Perullo

Ronald P. Tolby

MINOTOLA NATIONAL BANK

⑈008278⑈ ⑆031204710⑆ 56 400014⑈ ⑆0000100000⑆

96-178

Security Features:
 • Clear Window
 • Security Thread
 • Microprint
 • Security Screen

Read the security features listed below, as we have them listed in the security guidelines.

Results of document at:

- Stains or spots appear with original document
- While stain appears when pressed
- Absence of Original Document
- Verbiage on back of check

MAR - 6 00

⑆0310000114⑆
RUB-HA 0866000

Div of Payments
State of New Jersey
Horseshoe Bank
PHILA PA

1733 70086

FOR DEPOSIT ONLY
STATE OF NEW JERSEY
GENERAL TREASURY
BUREAU OF REVENUE

ATTACHMENT K

BASELINE ECOLOGICAL EVALUATION

FOR

Buena Vista Public Works Yard

430 Union Road

Buena Vista, New Jersey

NJDEP Case #98-10-17-1344-17

UST Facility Registration No. 0326982

Prepared by:

Junetta E. Nowell Consulting, Ltd.

ENVIRONMENTAL AND REGULATORY COMPLIANCE CONSULTING

213 East Seaview Avenue

Linwood, New Jersey 08221

Telephone/Facsimile: 609-927-5580

February 2001

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1.0 INTRODUCTION

The Buena Vista Public Works Yard (BVPWY) is located at 430 Union Road in Buena Vista Township, Atlantic County, New Jersey and is the subject location of regulated underground storage tank (UST) closure and removal activities. The property is identified on tax maps as Block 7101, Lot 25 and consists of approximately 9.5 acres (refer to Figures 1 and 2).

In October 1998, Environmental Design Services Corporation removed two 550-gallone gasoline USTs, one 1,000-gallon diesel UST, dispensers and associated piping from the site. Excavation of petroleum-contaminated soils occurred in proximity to one of the gasoline tank systems. Post excavation soil samples and a subsequent ground water investigation were conducted at the site.

The New Jersey Department of Environmental Protection (NJDEP) has requested that, as part of the requirements of the UST closure review, a Baseline Ecological Evaluation (BEE) be completed. This BEE has been prepared in accordance with the Technical Requirements for Site Remediation (Chapter 26E) of Title 7 of the New Jersey Administrative Code as well as in accordance with guidance on conducting a baseline ecological evaluation, provided in the Site Remediation News (January 1997).

The BEE was prepared by Ms. Junetta Nowell Dix, an environmental specialist with significant experience in threatened and endangered species studies, environmental impact assessment, wetlands science, natural resource inventories, and impact mitigation techniques, in the State of New Jersey. Ms. Dix is able to recognize the evidence of the presence of a species of flora or fauna by sight, sound, sign, and habitat. A copy of Ms. Dix's resume is included herein as Exhibit I.

2.0 EXISTING CONDITIONS AND ENVIRONMENTALLY SENSITIVE AREAS

The site consists of approximately 9.5 acres of land in Buena Vista Township, Atlantic County, New Jersey. The site is primarily developed with a maintenance building, bituminous paving, a subsurface sewage disposal system, and the formerly present tanks and associated dispensers. There is also a closed municipal landfill located on the subject property, which is located approximately 100 feet to the west of the former tank area (refer to Figure 3).

Ground surface cover surrounding the paved and developed portions of the site as well as that covering the closed landfill is generally herbaceous vegetation.

The following describes the existing environmental conditions of the site as well as any environmentally sensitive areas. In accordance with the NJDEP guidelines for preparing a BEE, Environmentally Sensitive Areas are defined at N.J.A.C. 7:1E-4.10 and include surface water areas, wetlands and wetland transition areas, bay islands and barrier island corridors, dunes, areas designated as wild, scenic, or recreational river corridors, water supply intakes and wells, beaches, breeding and migratory stopover areas.

2.1 Hydrology

The nearest surface water body is Panther Branch and its associated freshwater wetland areas, located approximately 2,500 feet to the west of the former tank locations. This stream flows southwest into Menantico Creek and ultimately into the Delaware Bay drainage basin.

Based on information provided in the Ground Water Remedial Investigation Report (The Property Evaluation Group, Inc., January 18, 2001), ground water was encountered at

approximately 21 feet below grade. Furthermore, The Property Evaluation Group, Inc. concluded that groundwater is expected to flow in a generally westerly direction.

No wetlands and/or surface water bodies are present on the subject property.

2.2 Topography

Based on information obtained from the USGS Topographic Maps, the subject site is at an elevation of approximately 100-feet above mean sea level. Topography in proximity to the site is relatively level; however, the localized area slopes slightly to the west toward Panther Branch.

2.3 Geology

The site is mapped by the New Jersey Geologic Survey as within the Atlantic Coastal Plain Physiographic Province. The area is underlain by the unconsolidated Cohansey Formation. These marine deposits are either tertiary or Cretaceous in age and consist of predominantly silty sand and uniform sand. About 5% of the project site geology consists of stratified alluvial deposits referred to on a map of New Jersey as the Bridgeton Formation. These alluvial deposits are Quaternary in age and consist predominantly of a silty and clayey mixture of sand and gravel (the ratio of sand to gravel is extremely variable throughout profile). The depth of bedrock in the project area is well in excess of 100 feet.

The Atlantic County Soil Survey maps the site as underlain by Aura (ArB) type soils. Classification of onsite soils by Environmental Design Services Corporation and The Property Evaluation Group, Inc. identified mostly loamy sand textured soils with some lenses of sandy loam. Additional soils data is provided under separate cover in the previously referenced Ground Water Remedial Investigation Report and the Site Investigation Report for Underground Storage Tank Closure (Schaeffer & Scheidegg

Consulting Engineers, LLC and Environmental Design Services Corporation, February 1999).

2.4 Wetlands

A site inspection was performed as part of this BEE, to assess the presence and/or extent of jurisdictional freshwater wetlands located onsite.

Wetlands are defined as, "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration to sufficiently support and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophilic vegetation".

Environmental maps and literature were reviewed prior to field reconnaissance of the site. Preliminary review included the compilation of U.S.G.S. Topographic Maps, USFWS National wetlands Inventory Maps, USDA Soil Survey Maps, existing wetland documentation, aerial photographs, and vegetation maps. The initial review provided information to target areas of onsite investigation.

Based on a site inspection and utilizing the above methodology, it is opined that the subject site does not contain any freshwater or tidal wetlands.

2.5 Vegetation

The majority of the site is cleared, developed land with surrounding areas dominated by herbaceous/landscaped and *Phragmites australis* (fox tail or common reed) vegetation. A minimal wooded buffer exists along the property boundaries; however, no areas of significant forested vegetation or other unique vegetative species are present.

3.0 CONTAMINANTS OF POTENTIAL ECOLOGICAL CONCERN AND CONTAMINANT MIGRATION PATHWAYS TO ENVIRONMENTALLY SENSITIVE AREAS

The underground storage tanks and associated appurtenances were removed from the site in October 1998. The Site Remediation Report was prepared in February 1999 and subsequently submitted to the NJDEP. Although all of the post-excavation soil samples reported concentrations below their respective NJDEP Soil Cleanup Criteria, mottling of the soils within the excavation was documented. Based on this observation, the NJDEP requested a Ground Water Remedial Investigation which was completed and documented in a report dated January 18, 2001.

The ground water investigation included installation of one monitoring well (MW-1) on November 20, 2000. The well was sampled on December 7, 2000, for VOC+10, MTBE, TBA, B/N+15 and Lead. As documented in the Ground Water Remedial Investigation Report, no sheens or appreciable odors were observed or encountered during sampling. In addition, no PID readings above background levels were noted within the well.

The laboratory results of the well samples reported that the only target VOC or B/N parameter reported was Methyl Tertiary Butyl Ether (MTBE) at a concentration of 390.0 PPB. This concentration exceeds its respective NJDEP cleanup criteria of 70.0 PPB. Property Evaluation Group, Inc. recommends in their remedial report that an additional confirmatory ground water sample be collected and analyzed and, should elevated concentrations of MTBE persist, additional investigative activities shall be proposed.

No special areas are present onsite and thus, the site is not considered a migration pathway or vector of contamination to any special areas.

4.0 RESULTS AND DISCUSSION

In accordance with the NJDEP guidelines for preparing a BEE, Environmentally Sensitive Areas are defined at N.J.A.C. 7:1E-4.10 and include surface water areas, wetlands and wetland transition areas, bay islands and barrier island corridors, dunes, areas designated as wild, scenic, or recreational river corridors, water supply intakes and wells, beaches, breeding and migratory stopover areas.

No special areas, as defined above, are present onsite and thus, the site is not considered a migration pathway or vector of contamination to any special areas.

No evidence of soil contamination was observed nor did the soil samples analyzed exceed NJDEP cleanup criteria. The NJDEP did, however, request a ground water remedial investigation.

The laboratory results of the well samples reported that the only target VOC or B/N parameter reported was Methyl Tertiary Butyl Ether (MTBE) at a concentration of 390.0 PPB. This concentration exceeds its respective NJDEP cleanup criteria of 70.0 PPB. Property Evaluation Group, Inc. recommends in their remedial report that an additional confirmatory ground water sample be collected and analyzed and, should elevated concentrations of MTBE persist, additional investigative activities shall be proposed.

Additional conclusions regarding adverse impacts to ground water are pending collection and analysis of an additional sample from MW-1.

5.0 REFERENCES

Department of the Army, "Corps of Engineers Wetland Delineation Manual", Technical Report. Y - 86-US Army Engineer Waterways Experiment Station.

Property Evaluation Group, Inc. January 18, 2001. Ground Water Remedial Investigation at the Buena Vista Public Works Yard, prepared for Buena Vista Township.

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and endangered species assessments; Phase I Environmental Site Assessments for property acquisition; oversight and quality control/assurance review of Master Contractors and other consultants; and assistance/guidance in wetland restoration design strategies.

Rutgers University Institute of Marine and Coastal Sciences: As a result of considerable New Jersey regulatory compliance experience and a background in marine biology, Ms. Dix has been retained by Rutgers University as a general environmental consultant for the proposed Multispecies Aquaculture Demonstration Facility in Cape May, New Jersey. Responsibilities include providing regulatory assessment oversight, quality control/quality assurance review of all project documents and permit applications, and design consultation for regulatory compliance and minimization of adverse environmental impacts for the proposed aquaculture facility.

Parkside Commons, Howell Township, Monmouth County, NJ: Delineated onsite wetlands and prepared/submitted permit applications to the NJDEP for a 600 unit single family home subdivision. Numerous roadway crossings of jurisdictional freshwater wetlands required a freshwater wetlands Individual Permit, pursuant to the Freshwater Wetlands Protection Act. The permit application included the proposal and design of a mitigation area, monitoring for success, and compliance documentation. Responsibilities also included oversight of construction of the mitigation area and preparation/submittal of annual monitoring reports to demonstrate plant survivability and wetland functioning success.

Smiths Run, Jackson Township, Ocean County, NJ: Delineated onsite wetlands on the 600 acre tract and prepared/submitted permit applications to the NJDEP for a 400 unit single family home subdivision. Proposed activities included wetland crossings for roadways, stormwater discharges, and other regulated activities in freshwater wetlands.

Realty Ownership Ventures, Sea Grit, NJ: Delineated, assessed resource classification and transition area width requirement, and submitted wetlands applications to the NJDEP. Conducted a field survey for the federally listed endangered species, *Helonias bullata* (Swamp Pink), in a successful appeal for a resource classification reduction from exceptional to intermediate.

New Jersey Turnpike Authority: Ms. Dix previously served as the project manager under the General Environmental Consultant (GEC) for three proposed NJTA projects: Interchange 1 Toll Plaza Relocation; Interchange 1-4 Widening; and, 1S/1N Service Area Sewer Extension. As GEC project manager, Ms. Dix was responsible for providing technical, environmental, quality control, and regulatory oversight services to numerous NJTA consultants. Responsibilities included regulatory assessments for applicable permits/approvals, including Executive Order No. 215; preparation and review of numerous permit

applications; and assistance with design strategies relative to regulatory constraints. Ms. Dix also worked on the NJTA/GAF hazardous waste incinerator project, providing technical and environmental services associated with the proposed ramps to local roads for access from the Turnpike to the proposed incinerator site. Responsibilities on the GAF project included the field wetlands delineation, impact assessment, analyses of alternatives, and preparation of the draft E.O.#215 Environmental Impact Statement.

Atlantic City Brigantine Connector Roadway (South Jersey Transportation Authority): As a subconsultant to the transportation design engineer, Ms. Dix provided environmental and planning services for the proposed 2½ mile connector road linking the Atlantic City Expressway to the Brigantine Bridge. Responsibilities included oversight/review of all technical study scopes of work; regulatory assessment; and, preparation of the draft Environmental Impact Statement for submittal to the NJDEP and U.S. Army Corps of Engineers. Ms. Dix was continually involved in the design phase of the project and provided guidance regarding design modifications to minimize adverse environmental impacts, comply with applicable regulations, and thus, facilitate receipt of required permits/approvals.

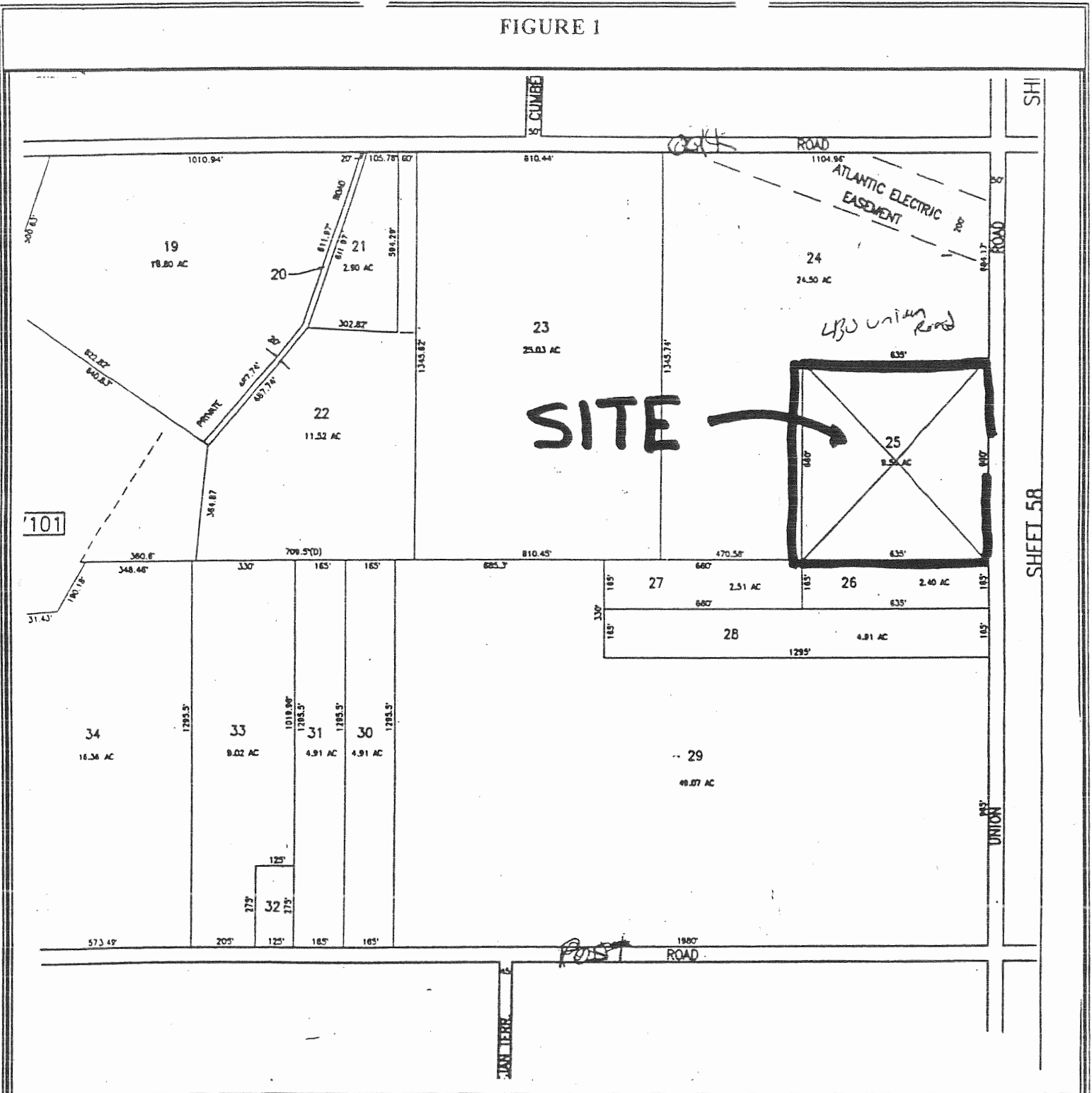
Ocean County Department of Engineering, New Hampshire Avenue Widening, Dover Township, NJ: Conducted an alternative alignment analysis with regard to environmental constraints including the crossing of an exceptional resource value wetland; completed the field wetland delineation and mitigation proposal; and, prepared and submitted a comprehensive environmental impact assessment in application for numerous NJDEP and local permits.

U.S. Environmental Protection Agency, Region II, New York, NY: Conducted a wetland trend analysis for 1977 to 1990, for cranberry agriculture of 500,000 acre study area in the New Jersey Pinelands, through aerial interpretation, stereoscopically delineating cranberry bogs, defining successional vegetation status and field verification utilizing the U.S. Army Corps of Engineers' methodology.

Confidential Client: Completed Phase I Environmental Site Assessments in Illinois, Kentucky, Louisiana, New Jersey and Texas for an industrial/manufacturing corporation. Assessments included the review and interpretation of database records, agency contacts and file reviews, aerial photograph interpretation, report preparation and recommendations for additional sampling. A sampling plan was prepared for numerous sites and implemented as a Phase II investigation.

Ciba-Geigy Corporation, Toms River, NJ: Conducted field studies and prepared wetland report for 1,200 acre National Priority List site. The wetlands delineation and assessment were completed under the supervision of the USEPA Record of

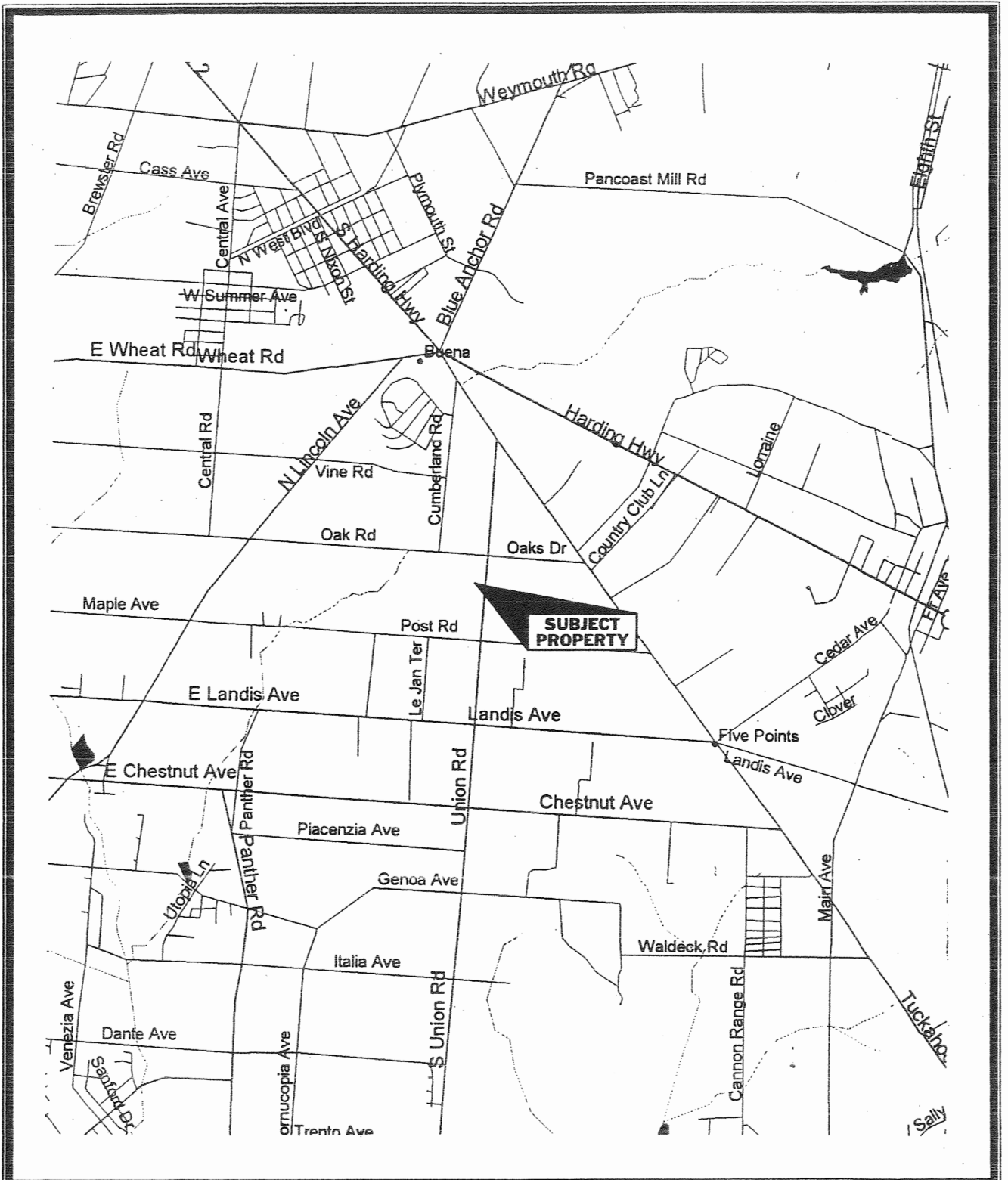
FIGURE 1



SHEET 58

Township Tax Map - Site Location
Buena Vista Township, Atlantic County, N.J.
Not To Scale





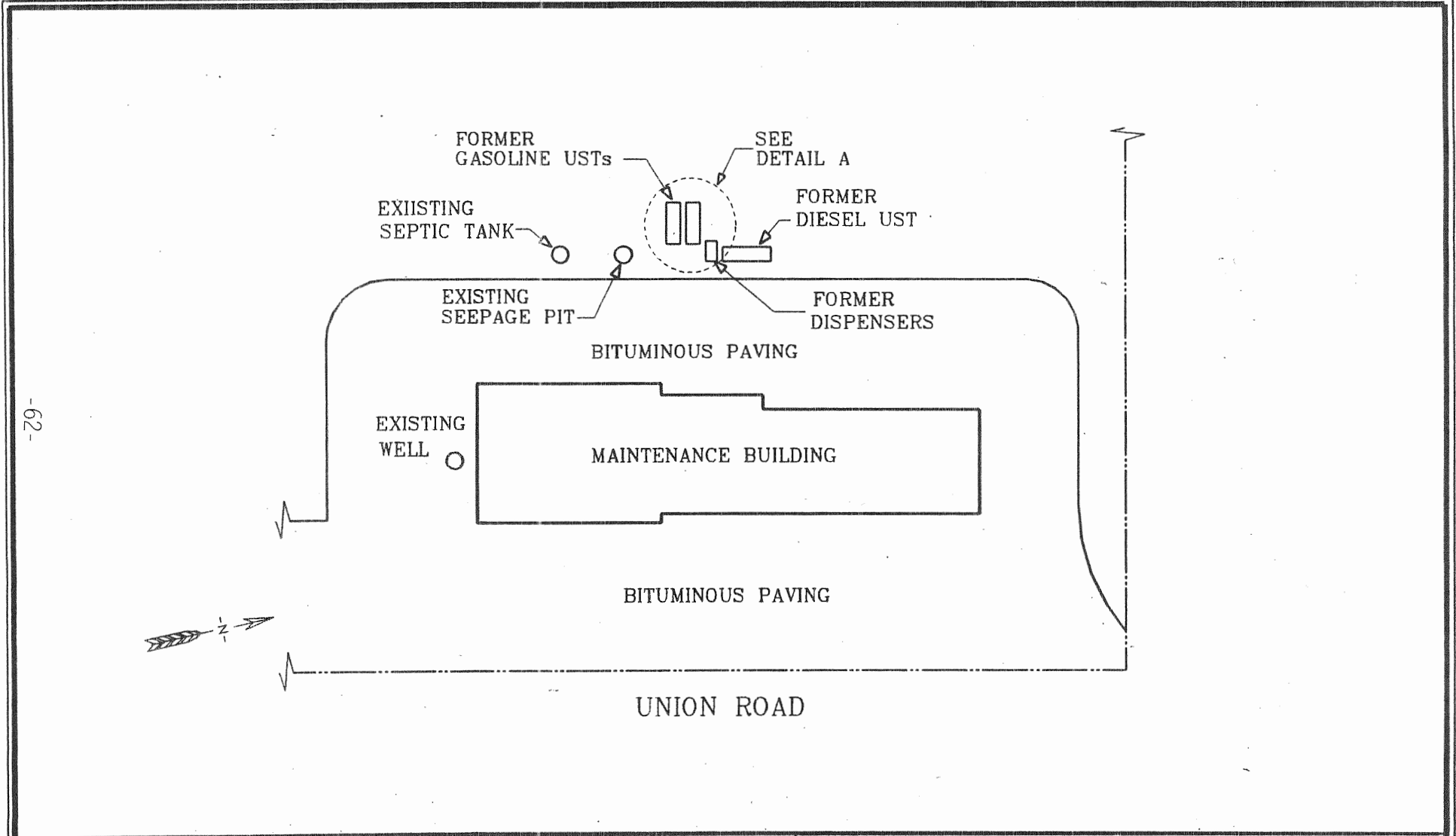
Project:

Buena Vista Public Works Yard
 430 Union Road
 Buena Vista, New Jersey

PROPERTY LOCATION MAP
 Buena Vista, New Jersey

Date:

December 7, 2000



SITE MAP
 TOWNSHIP PUBLIC WORKS YARD
 BLOCK 7101 LOT 25
 BUENA VISTA TOWNSHIP, NEW JERSEY

PROPERTY EVALUATION GROUP
 CHESTER AVENUE SUITE 306
 MOORSETOWN, NEW JERSEY 08057

SCALE: 1:50

DATE: DECEMBER 7, 2000

ATTACHMENT L

Project Number BV0011.1

January 18, 2001

**Ground Water
Remedial Investigation**

At the

**Buena Vista Public Works Yard
430 Union Road
Buena Vista, New Jersey**

NJDEP Case #98-10-17-1344-17
UST Facility Registration No. 0326982

Prepared For:

**Buena Vista Township
Route 40
P.O. Box 605
Buena, New Jersey 08310**

Prepared By:

The Property Evaluation Group, Inc.
**205 Chester Avenue – Suite 306
Moorestown, New Jersey**

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1.0 INTRODUCTION

This report provides the findings of a preliminary ground water investigation performed at the Buena Vista Public Works Garage, located at 430 Union Road, Block 7101, Lot 25, in Buena Vista, Atlantic County, New Jersey. The remedial investigative activities were performed at the former gasoline underground storage tank (UST) system located in the rear of the Public Works building. The Property Location Map and Site Map are included in Appendix I, Sections A and B, respectively.

1.1 Background Information

In October 1998, Environmental Design Services Corporation removed two 550-gallon gasoline USTs, one 1,000-gallon diesel UST, dispensers and associated piping from the site. Excavation of petroleum-contaminated soils occurred in proximity to one of the gasoline tank systems. Although all post-excavation samples reported concentration below their respective New Jersey Department of Environmental Protection (NJDEP) Soil Cleanup Criteria, mottling of the soils within the excavation was documented. Based on this observation, the NJDEP required an evaluation of ground water quality at the site.

Subsequent remedial investigations and the accompanying report were prepared in response to August 6, 1999 and June 8, 2000 letters from the NJDEP. This document addresses the initial evaluation of the ground water quality below the former gasoline tank system.

2.0 PHYSICAL SETTING

2.1 Topography

According to a review of the Buena New Jersey 7.5-minute United States Geologic Survey (USGS) Topographic Map, the subject property is at an elevation of approximately 100-ft. above mean sea level. Topography in proximity to the site is relatively level however the localized area slopes slightly to the west toward the Panther Branch, which is located approximately 2,000-ft from the site.

2.2 Ground Water

Ground water in the area is typically influenced by geology (aquifers/aquifers), surface topography (streams/wetlands) and by changes in local water use (pumping/withdrawal points, etc.). During the well installation and sampling, ground water was encountered at approximately 21 ft. below grade. From

observations at the time of the property reconnaissance and from a review of the USGS Buena New Jersey Topographic Map, ground water, in the immediate area, is expected to flow generally in a westerly direction. Site specific investigations would be required to better evaluate groundwater flow patterns. The deeper ground water aquifers can sometimes have a completely different direction of flow than the shallower unconfined aquifers.

2.3 Soils

During the installation of Monitoring Well MW-1, the subsurface stratigraphy was logged. The following is a typical description of the soils/materials encountered:

0 - 60 inches	Orange/Brown f-m silty Sand, tr. clay (Fill)
61 - 84 inches	Brown f silty Sand (Fill?)
85 - 108 inches	Tan/gray f Sand
109 - 132 inches	Lt.-Dk. Gray/Tan f-m Sand, mottling
133 - 156 inches	Gray f-c gravelly Sand
157 - 216 inches	Med.-Dk. Gray Sand w/ 3"+/- gravel layer
217 - 228 inches	Gray f-m Sand grading to f-m Gray silty Sand w/ thin Brown f-m silty Sand strata.
229 - 257 inches	Gray f Sand - GW @ 252"+/-
258 - 324 inches	White/Lt. Gray f-c Sand, tr. silt

End of Boring @ 27'

3.0 REMEDIAL INVESTIGATION

3.1 Monitoring Well Installation

On November 20, 2000, one ground water monitoring well (MW-1) was installed within the former gasoline UST excavation using hollow-stem auger drilling techniques. The location is depicted on Detail 01 in Appendix I, Section C. The well was installed to a depth of 27 feet and was constructed of 4" diameter, schedule 40 polyvinyl chloride (PVC). The flush joint threaded well was installed with 10 feet of 0.020" slotted PVC screen and 17 feet of solid PVC riser. A sand filter pack was placed around the screen. A bentonite seal was installed immediately above this. The well was subsequently developed to remove fines and to maximize the flow of ground water into the well. The Monitoring Well Permit and Construction Records are included Appendix II.

3.2 Ground Water Sampling

On December 7, 2000, an initial ground water sampling event was implemented. The well was evacuated to remove any stagnant water within the casing. After approximately three casing volumes were purged, the sample was collected using a dedicated, pre-cleaned, disposable Teflon® bailer and Teflon® leader. The Ground Water Well Purging/Sampling Record is included in Appendix II – Monitoring Well Construction Records/Certifications/Sampling Notes. Although the former UST discharge was from with the gasoline tank system, the analyses also included parameters associated with diesel UST system due to the close proximity of the dispenser and tank system. The ground water sample was subsequently analyzed for Volatile Organic Compounds plus a Forward Library Search (VOC+10), Methyl Tertiary Ether (MTBE), Tertiary Butyl Alcohol (TBA), Base Neutral Compounds plus a Forward Library Search (B/N+15) and the compound Lead. All samples were cooled to 4°C and submitted under Chain of Custody to EMSL Analytical, Inc. (NJDEP Laboratory Certification No. 04653) for analyses.

The sampling program during this most recent phase of the investigation was implemented per the requirements of the NJDEP as addressed in their previous correspondence, the “Field Sampling Procedures Manual” and in the “Technical Requirements for Site Remediation”.

4.0 FINDINGS

During this phase of the remedial investigation, one ground water monitoring well was installed and subsequently sampled on December 7, 2000. In addition to the sample, a Trip and Field Blank were also collected. TABLE 01 summarizes the analytical data from the sampling episode. The NJDEP standards reflect the most recent Ground Water Quality Criteria-IIA and Practical Quantitation Levels of September 25, 1998. The Laboratory Analytical Data Package is included as Appendix III - Volume 1. The Electronic Laboratory Deliverables Package is included as Appendix V, located in the Rear Cover Pocket.

TABLE 01

“Summary of Ground Water Data”
(Sample Collected December 7, 2000)

Sample Number	Analytical Parameter	Constituents Detected	Results (ug/L)	Ground Water Standards
#MW-01	Target VOCs	MTBE	390.0	70.0
	TIC VOCs	Unknown	25.0 J	NP
		Unknown Hydrocarbon	15.0 J	NP
	Target B/Ns	ND	--	NA
	TIC B/Ns	Unknown Hydrocarbon (2)	16.0 J	NP
	Lead	ND	--	NA
#TB	Target VOCs	Methylene Chloride	0.8	2.0
	TIC VOCs	ND	--	--
#FB	Target VOCs	Methylene Chloride	0.8	2.0
	TIC VOCs	ND	--	--
	Target B/N	ND	--	--
	TIC B/N	ND	--	--
	Lead	ND	--	--

Notes:

- J - Indicates an estimated concentration. Compound detected but at a concentration below the laboratory's reportable detection limit.
- ND - Not Detected.
- NA - Not Applicable
- NP - Cleanup Standard not published in the NJDEP's "Specific Ground Water Quality Criteria"(09/25/98).
- ug/L - Micrograms per Liter (Parts Per Billion)
- 390.0 - Indicates parameter/concentration exceeds its respective NJDEP Cleanup Criteria.

4.1 Discussion of Results

December 7, 2000 Ground Water Sampling Event

During this phase of the investigation, the ground water quality below the former gasoline UST system was evaluated. The one sample collected on December 7, 2000 was analyzed for VOC+10, MTBE, TBA, B/N+15 and Lead.

In evaluation of the Target VOC data for MW-1, Methyl Tertiary Butyl Ether (MTBE) was the only constituent detected. It was reported at a concentration of 390.0 Parts Per Billion (PPB). This concentration exceeds its respective NJDEP

Class IIA Groundwater Cleanup Criteria of 70.0 PPB. Within the VOC TIC scan, an Unknown (25.0 J PPB) and an Unknown Hydrocarbon (15.0 J PPB) were reported. In the Target VOC scan for the Trip and Field Blanks, Methylene Chloride was reported in both samples. Concentrations were below their respective Cleanup Criteria, however. In the VOC TIC scan for the Trip and Field Blanks, both samples reported non-detectable concentrations.

Within the Target B/N scan, MW-01 as well as the Field Blank reported non-detectable concentrations for all parameters. Within the TIC B/N scan, two Unknown Hydrocarbons were identified within MW-1. Their cumulative concentration was reported at 16.0 J PPB. In the TIC B/N scan for the Field Blank, all parameters were reported as non-detectable.

The parameter Lead was reported as non-detectable in both MW-1 and in the Field Blank.

5.0 PROJECT QUALITY ASSURANCE/QUALITY CONTROL

A Quality Assurance/Quality Control (QA/QC) program was performed as part of the site investigation at the subject property. The purpose of the QA/QC plan is to ensure the samples collected in the field and the analytical data generated are of the highest quality and truly representative of the sampling matrix.

The QA/QC plan typically includes trip and field blanks for the ground water samples (when collected); trip blanks for VOCs collected using the NJDEP Methanol Field Extraction/Preservation Procedure and field blanks for the soil samples. The purpose of the blanks are to provide an analytical check on sample handling, transport and storage as well as a check on the sample collection process, sampling equipment decontamination, container cleaning procedure and the ambient sampling atmosphere.

Field blanks are typically included with the samples and are analyzed for parameters collected. The field blanks consist of two (2) sets of laboratory cleaned sample containers. One (1) set of containers is empty and serves as the sample containers that are analyzed by the laboratory. The second set of containers contained laboratory demonstrated analyte-free water. The water is passed through and/or over the sampling equipment used that day and placed in the empty set of containers for analysis.

During the sampling episodes, one Trip Blank and one Field Blank were submitted for analyses.

6.0 CONCLUSIONS AND RECOMMENDATIONS

A Remedial Investigation of the ground water was performed at the Buena Vista Public Works Garage, located at 430 Union Road, Block 7101, Lot 25, in Buena Vista, Atlantic County, New Jersey.

In October 1998, Environmental Design Services Corporation removed two 550-gallon gasoline USTs, one 1,000-gallon diesel UST, dispensers and associated piping from the site. Excavation of petroleum-contaminated soils occurred in proximity to one of the gasoline tank systems. Although post-excavation samples reported concentrations below their respective New Jersey Department of Environmental Protection Soil Cleanup Criteria, mottling of the soils within the excavation was documented. Due to the presence of soil mottling within the excavation, an evaluation of the ground water quality below the tank area was subsequently required by the NJDEP.

To accomplish this, one ground water monitoring well (MW-1) was installed using hollow-stem auger drilling techniques on November 20, 2000. The flush-joint threaded PVC well was installed within the former gasoline UST excavation to a depth of 27 feet. It was sampled on December 7, 2000 for VOC+10, MTBE, TBA, B/N+15 and Lead. No sheens or appreciable odors were observed or encountered during sampling activities. In addition, no PID readings above background levels were noted within the well.

In evaluation of the laboratory data, all results were compared to the most recent NJDEP Ground Water Quality Criteria-IIA and Practical Quantitation Levels. Within the sample collected from MW-1, the only Target VOC or B/N parameter reported was Methyl Tertiary Butyl Ether (MTBE) at a concentration of 390.0 PPB. This concentration exceeds its respective NJDEP Groundwater Cleanup Criteria of 70.0 PPB. Within the VOC and B/N TIC scans, one Unknown and three Unknown Hydrocarbons were reported. The parameter Lead was reported as non-detectable in MW-1.

Based on the data, it is proposed that one additional confirmatory ground water sample be collected from #MW-1. Should an elevated concentration of MTBE still exist, additional investigative activities shall be proposed in order to delineate the full nature and extent of the contamination. The Underground Storage Tank Remedial Investigation Report Certification Form associated with this preliminary investigation of ground water quality is included in Appendix IV.

This report details the most recent phase of site investigative activities, which were implemented at the Buena Vista Public Works Yard. It is our hope that the preceding information adequately responds to the requirements of the NJDEP in regard to the initial investigation of ground water quality at the site.

predominately of sands, with lenses of clay and gravel. The soils at the site, as mapped by the USDA Soil Conservation Survey for Atlantic County, consist of Aura (ArB) type soils. Classification of on-site soils identified mostly loamy sand textured soils with some lenses of sandy loam.

2.3 Underground Storage Tank Closure

2.3.1 UST System Description

The site contained a total of three regulated USTs. Two of the tanks (E001 & E002) each stored gasoline with capacities of 550 gallons each. The remaining tank (E003) stored diesel No. 2 with a 1,000 gallon capacity. All of the tanks were constructed of single-wall steel, and the piping from the USTs to the dispensers was also constructed of steel. The USTs were located approximately 40 feet from the rear center of the building. The 550 gal. Tanks are 6' long with a 4' diameter, while the 1,000 gal. Tank was 10'8" long with a 4' diameter.

2.3.2 Closure Implementation

Prior to removal operations on October 17, 1998, underground utilities were marked out at the request of the contractor. Once the area was cleared, the cover soils were excavated to expose the tanks and piping to provide access for proper cleaning of the tanks. There was approximately 140 gallons of diesel remaining in tank E003 and 160 gallons of gasoline in the two remaining tanks. The piping was drained back into the tanks and removed. All liquids and tank bottoms were removed from the tanks by vac-truck and disposed of by Casie Protank. The tanks were then properly purged of explosive gases. The atmosphere within the tank was evaluated as the tank was purged, after which an access hole was cut in the top of the tank. The inside of the tank was cleaned with squeegees and absorbent rags and the residual fluid was sucked out and disposed of by Casie Protank (Appendix B). The Contractor then excavated soils from the sides of the tanks in preparation for removal. Once each tank was exposed on both sides, it was then removed from the excavation. There was no cradle assembly associated with any of the tanks (Figure 5).

Groundwater was not encountered during the removal process. During inspection of the tanks following removal and cleaning of the outer surface, only two small holes were identified in one of the gasoline tanks, and no severe pitting was found. No holes or severe pitting was observed on the two remaining tanks (Figure 6). Other than the holes in the one tank, there was no visual evidence of a release. However, strong odors of organic vapors were noted during removal of the gas tanks. PID readings of 350-470 were recorded in the soils immediately beneath the removed gasoline tanks. In addition it appeared that an overfill had occurred at the diesel tank due to odors and higher PID readings (200-300) found near the fill port of the diesel tank. All soils which were excavated in order to remove the tank system were screened with a photoionization device (PID) for organic compounds. Some elevated readings were recorded in the gas tank excavation, especially beneath the tank with the holes as noted above. The side walls and floor of the diesel tank excavation, and the over excavation of the gas tank area were also screened with the PID, which revealed no elevated readings.

After removal of the tank system, post-excavation soil samples were collected. As with the tank removal, all soil samples from the excavation were field screened using the PID. There were a total of three (3) usts to be removed at the site, however, the two (2) 550 gallon gasoline tanks were located in the same excavation (Figure 7). Therefore, this closure only involved two excavations and are identified as excavation "G" for gas and excavation "D" for diesel.

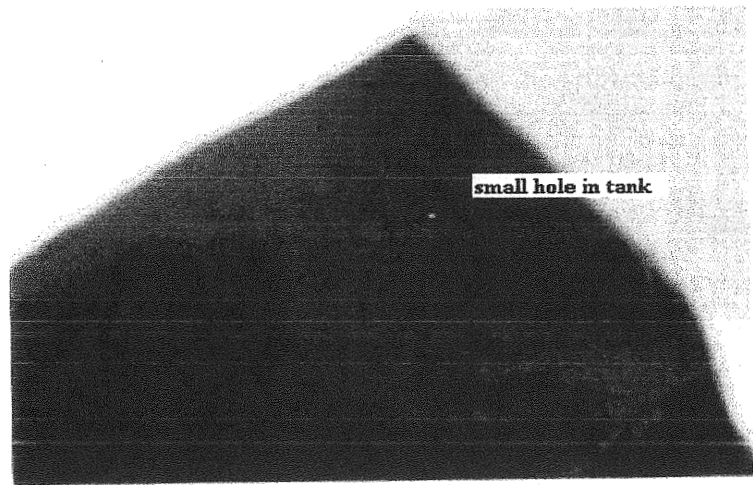
2.4 Soil Sample Collection

After removal of the tank systems, post excavation soil samples were collected as follows:

Excavation "G"- Since there was evidence of a discharge from one of the gasoline tanks, obviously contaminated soils were removed from the excavation prior to completing post excavation sampling. Soil sampling was completed following the standards described in NJAC 7:26E 6.4 2.ii.(2). The excavation which was approximately (11'x8') was sampled along each sidewall and also at the excavation invert. The piping from each tank to the individual dispensers were each less than 15' in length, therefore, one sample per piping run was completed. Each sample was biased near a joint

FIGURE 6

Small hole found in gasoline tank



Pulled diesel tank

Gasoline tank being removed from excavation



between the excavation and the dispenser. Each sample collected from this excavation and piping was sampled for lead, and volatile organic compounds. Sample locations are indicated on (Figure 8).

Excavation "D"- Although there was evidence of a discharge from the diesel tank, it appears that it was from an overfill since only soils around the fill port above the tank had elevated PID readings (25-100). There was no evidence of a release, or groundwater noted in the excavation during the removal process. Soil sampling was completed following the standards described in NJAC 7:26E6.3(b)6.i.(3)(A). Based on a tank length of just under 11', a total of (3) three centerline samples were taken. Since the fuel dispenser was located directly on top of the tank, it was not feasible or necessary to complete sampling for the piping. Each sample collected from this excavation was tested for total petroleum hydrocarbons. Samples were also designated for volatile organic compound (VOC) analysis should any of the TPH samples report results greater than 1,000 ppm. The soil sample locations are depicted on (Figure 8).

2.5 Sampling Methodology

The samples for TPH and lead were collected directly into laboratory provided sample containers. The sampling methodology for VOC utilized a laboratory provided plastic syringe to core the soils and obtain approximately 10 grams of sample. The weighed sample was then extruded into a laboratory prepared sampling container containing methanol. This method, known as field extraction/methanol preservation, was utilized for all VOC samples in accordance with the NJDEP guidelines. All samples were cooled and submitted under chain-of-custody (COC) to QC Laboratory, Inc. for analysis. Clean latex gloves were used to handle each sample and prevent contamination/cross contamination. A copy of the fully executed COC document is provided in Appendix C, as part of the complete laboratory analytical report.

3.0 SUMMARY OF FINDINGS

3.1 Field Observations

During removal of the USTs, the excavations were monitored visually and with a PID for evidence of organic vapors, visual staining, or other evidence of a release. Organic vapors were found in the "G" excavation and slight organic vapors were identified around the fill port of the diesel tank, but not in the excavation after removal of the tank.

3.2 Soil Sample Collection Results

As noted previously, three (3) post-excavation soil samples were collected along the center line of the diesel tank invert, and five (5) post excavation soil samples were collected from the "G" excavation and one sample below each of the two (2) piping runs. The soil sample locations are shown on Figure 8. Clean latex gloves were used to handle each sample and prevent contamination/cross contamination. The sample containers were cooled and submitted under Chain-of-Custody (COC) to QC Laboratory, Inc.

3.3 Soil Sampling Results

All samples in the "G" excavation were analyzed for lead and volatile organic compounds (VOCs). The analytical results are summarized in Table 1. Lead concentrations ranged from 3.08 ppm to 148 ppm. The VOCs analysis had detectable levels of methylene chloride, toluene, ethyl benzene, and xylenes. Methylene chloride is a common laboratory contaminant and since the concentrations are so minimal, we believe that there is no impact to the soil. The other volatiles detected are common petroleum constituents, however, all of these were found in concentrations below the impact to ground water, cleanup criteria for soils. There were no other VOCs detected in any of the soil samples above the Practical Quantitative Limits (PQLs). Since the PQLs were below the applicable remediation standards, it appears that no further soils remediation is necessary.

The analytical results were compared to the NJDEP's "Cleanup Standards for Contaminated Sites," Proposed New Rules: N.J.A.C. 7:26D, dated February 3, 1992, as amended. There were no compounds detected above the proposed subsurface soil cleanup standards in any of the post excavation samples.

Table 1 provides a summary of the analytical results. The analytical data package for the soils is included in Appendix C.

TABLE 1

ANALYTICAL/FIELD RESULTS OF SOILS SAMPLED ON OCTOBER 17, 1998

SAMPLE	G1-A	G1-B	G1-C	G1-D	G1-E	P-1	P-2	D-1	D-2	D-3	SOIL
DEPTH (ft.)	97"	96"	97"	97"	103"	21"	21"	86"	87"	87"	CLEANUP
ANALYTE	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	mg/kg (MDL)	CRITERIA mg/kg
PID	7ppm	8 ppm	5ppm	2 ppm	4 ppm	nd	4ppm	22ppm	4 ppm	3 ppm	-
Toluene	nd (0.01)	nd (0.01)	0.003 (0.01)	nd (0.01)	nd (0.01)	0.15 (1.0)	nd (0.01)	nd (0.01)	nd (0.01)	0.27 (1.0)	500
Ethylbenzene	nd (0.01)	nd (0.01)	0.005 (0.01)	nd (0.01)	nd (0.01)	nd (1.0)	nd (0.01)	nd (0.01)	nd (0.01)	0.18 (1.0)	100
Xylenes	0.003 (0.02)	0.003 (0.02)	0.044 (0.02)	0.003 (0.02)	0.003 (0.02)	1.5 (2.0)	nd (0.02)	0.003 (0.02)	0.003 (0.02)	4.5 (2.0)	10
TPH	nd (0.01)	nd (0.01)	0.011 ^b (0.01)	nd (0.01)	nd (0.01)	nd (1.0)	0.008 (0.01)	nd (0.01)	nd (0.01)	nd (1.0)	10,000
Methylene chloride	0.001 ^b (0.01)	0.001 ^b (0.01)	0.001 ^b (0.01)	0.001 ^b (0.01)	0.001 ^b (0.01)	nd (1.0)	0.002 ^b (0.01)	0.001 ^b (0.01)	0.001 ^b (0.01)	nd (1.0)	1.0
Total TICs	0.29	0.29	0.888	0.29	0.29	9.3	0.53	0.29	0.29	19.6	1,000
Lead	3.88	2.91	11.5	6.97	nd	87.8	12.5	-	-	-	400

Only analytes detected are included on table (see Appendix C for complete laboratory reports).

nd = Not detected at the detection limits of the analytical method.

^b = Also found in blank sample.

(MDL) = Minimum detection limit of analytical method.

(Note: For results detected, but less than the MDL, results are not quantitatively accurate.)

1 = Soil cleanup criteria as listed are Impact to Ground Water Soil Cleanup Criteria established by the State of New Jersey, except lead, which is listed as the Residential Direct Contact Soil Cleanup Criteria.

TIC = Tentatively Identified (volatile organic) Compounds.

Analytical results for all of the samples collected on October 17, 1998 indicated no concentrations of volatile aromatic hydrocarbons above the Impact to Ground Water Soil Cleanup Criteria established by the State of New Jersey. Furthermore, none of the samples had lead concentrations above the soil cleanup criteria. As a consequence of the field and laboratory evidence suggesting that no hydrocarbons had been released to the subsurface, additional investigative activities are not planned for the site.

4.0 CONCLUSIONS AND /RECOMMENDATIONS

The tank system was located to the rear of the Main Building. During the closure activities, the presence of a limited amount of petroleum contaminants were identified. This was determined by initial field screening of all soils which were excavated in conjunction with the physical removal of the tanks and piping. Based on PID readings in the gas excavation and some slight readings near the diesel tank fill port, a minimal amount of impacted soils were removed. There was no visual evidence of a release in the diesel excavation, and no compounds were detected above the NJDEP Standards. It appears that a surface spill or overfill at the diesel tank may have caused the limited impact to the soils. The NJDEP's proposed soil cleanup standards Soil Cleanup Criteria.

Two (2) small holes were identified in one of the gasoline tanks. Based on the PID readings from this excavation a release was evident. Obviously contaminated soils from the gas tank excavation were removed, and will be properly disposed of by the owner. Based on post excavation samples it appears that have been adequately remediated. During the excavation no ground water was encountered, and seasonal high water table was noted by mottling within the soils at a depth of 103". Based on these results, no further investigations are proposed for the site. Environmental Design requests, on behalf of Buena Vista Township, a No Further Action (NFA) letter for the Buena Vista Township public Works Yard UST system closure project.

5.0 REFERENCES

USDA Soil Survey, Atlantic County NJ, 1978

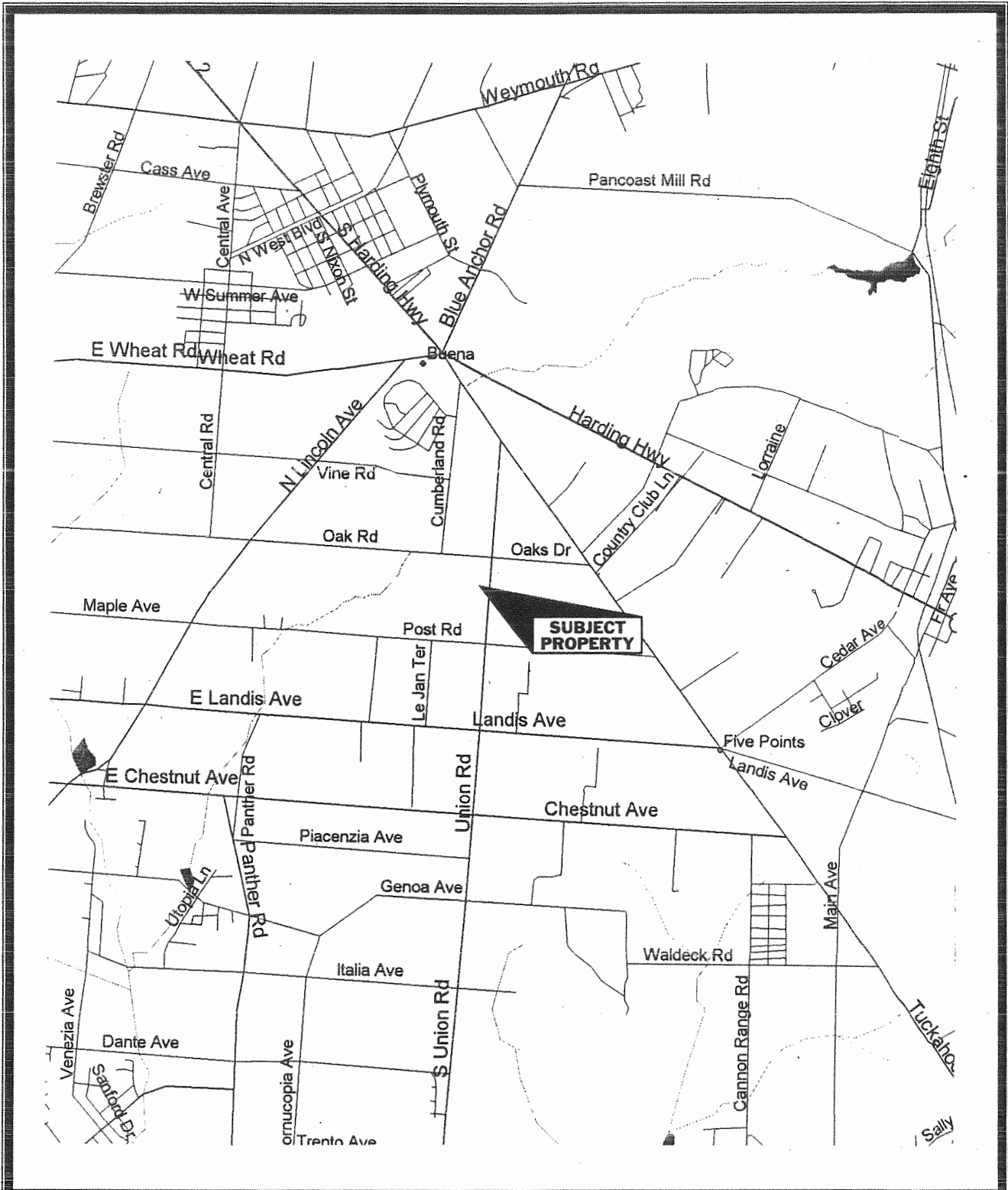
USGS 7.5 minute series Topographic Quadrangle, Buena, NJ Quad

APPENDICES

APPENDIX I

MAPS

Section A - Property Location Map



Project:

Buena Vista Public Works Yard
 430 Union Road
 Buena Vista, New Jersey

PROPERTY LOCATION MAP

Buena Vista, New Jersey

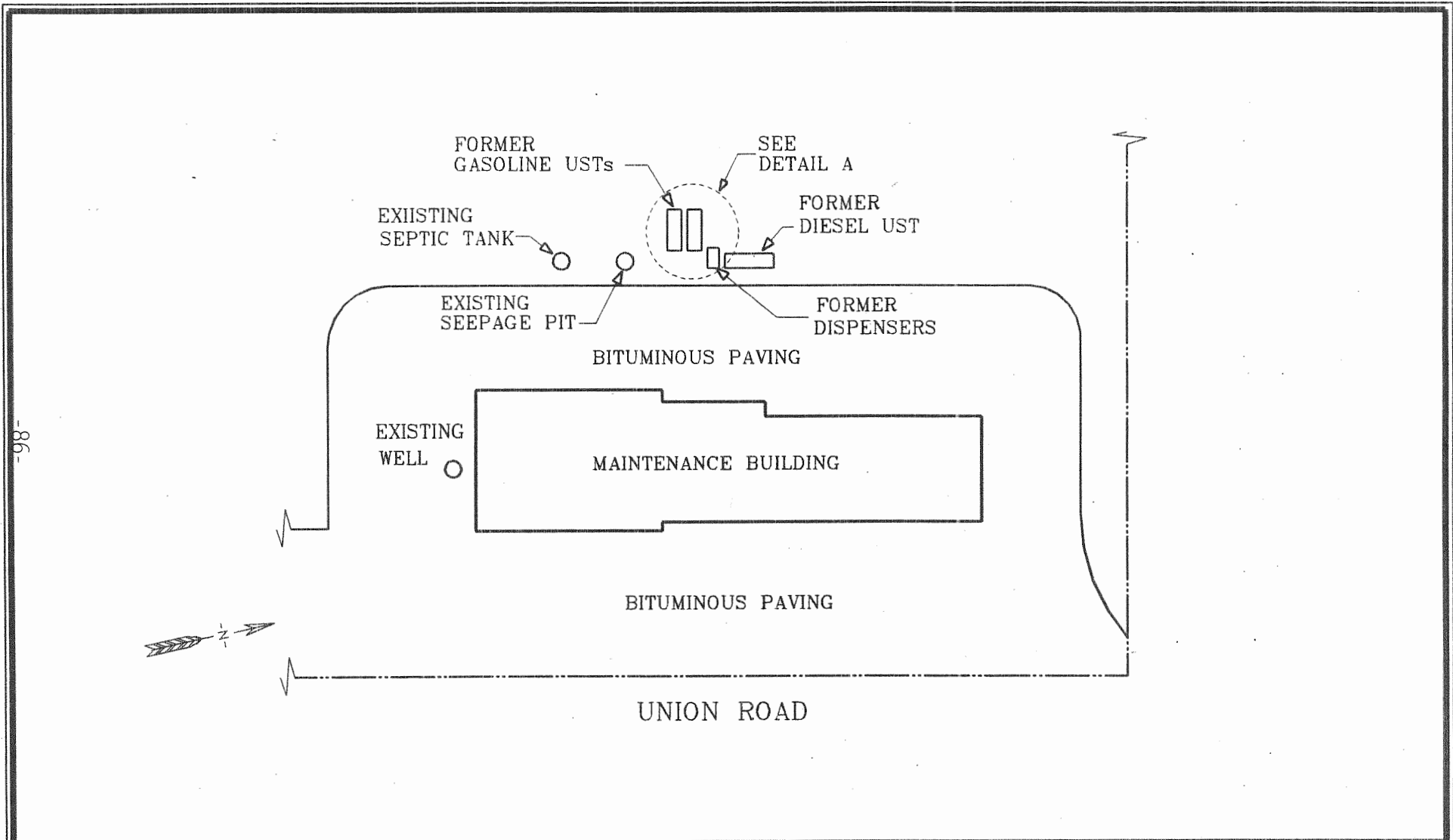
Date:

December 7, 2000

Project No.:

BV0011.1

Section B - Site Map



-98-

SITE MAP
 TOWNSHIP PUBLIC WORKS YARD
 BLOCK 7101 LOT 25
 BUENA VISTA TOWNSHIP, NEW JERSEY

PROPERTY EVALUATION GROUP
 CHESTER AVENUE SUITE 308
 MOORSETOWN, NEW JERSEY 08057

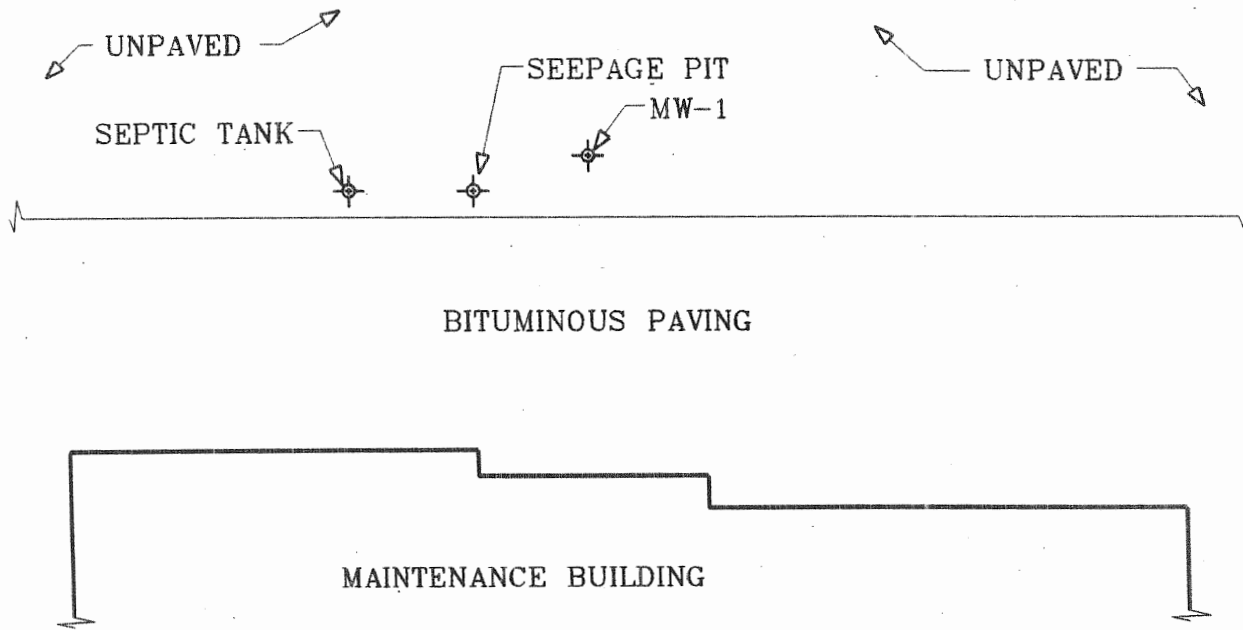
SCALE:
 1:50

DRAWING NO.
 01 OF 02

DATE:
 DECEMBER 7, 2000

PROJECT NO.:
 BV0011.1

Section C – Detail 01



DETAIL A
 TOWNSHIP PUBLIC WORKS YARD
 BLOCK 7101 LOT 25
 BUENA VISTA TOWNSHIP, NEW JERSEY

PROPERTY EVALUATION GROUP
 205 CHESTER AVENUE SUITE 306
 MOORESTOWN, NEW JERSEY 08057

SCALE: 1:30

DRAWING NO. 02 OF 02

DATE: DECEMBER 7, 2000

PROJECT NO.: BV0011.1

APPENDIX II
**MONITORING WELL CONSTRUCTION RECORDS/
CERTIFICATIONS/SAMPLING NOTES**

MONITORING WELL CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: BUENA VISTA TOWNSHIP

Name of Facility: PUBLIC WORKS YARD

Location: 430 UNION ROAD, BUENA, NJ

UST Registration Number: 0326982 SRP Case No.: 98-10-17-1344-17

LAND SURVEYOR'S CERTIFICATION

Well Permit Number: _____
(This number must be permanently affixed to the well casing.)

Owners Well Number (As shown on application or plans): MW-1

Geographic Coordinate NAD 83 (to nearest 1/10 of second):

Longitude: West 74°55'12.9" Latitude: North 39°29'36.8"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North 240728 East 373533

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 107.18'

Source of elevation datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation. Please note that, if information from the well is to be submitted electronically, the EDSA manual specifies the well elevation to be reported according to NAVD 1988 to an accuracy of 0.2'.)

NJGCS MON. 4895 EL. = 100.572 (NGVD 1929) converted

Significant observations and notes: to NAVD 1988.

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for knowingly submitting false, inaccurate, and complete information and that I am committing a crime in the fourth degree if I make a false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

SEAL

Wayne W. Burkett
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

1/10/01
DATE

WAYNE W. BURKETT 31654
PROFESSIONAL LAND SURVEYOR'S NAME AND LICENSE NUMBER
(Please print or type)

132 E. CLINTON ST. CLAYTON, NJ 08312 (856) 881-8677
PROFESSIONAL LAND SURVEYOR'S ADDRESS AND PHONE NUMBER

New Jersey Department of Environmental Protection
Bureau of Water Allocation
MONITORING WELL RECORD

Well Permit No. 35 - 21230
Atlas Sheet Coordinates 35 03 627

OWNER IDENTIFICATION - Owner BUENA VISTA TOWNSHIP
Address 430 UNION ROAD
City BUENA VISTA State NJ Zip Code _____

WELL LOCATION - If not the same as owner please give address, Owner's Well No. _____
County ATLANTIC Municipality BUENA VISTA TWP Lot No. 25 Block No. 7101
Address 430 UNION ROAD

TYPE OF WELL (as per Well Permit Categories) MONITORING DATE WELL STARTED 11/20/00
Regulatory Program Requiring Well _____ DATE WELL COMPLETED 11/20/00
Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 27 ft.
Well finished to 27 ft.
Borehole diameter: 8 in.
Top 8 in.
Bottom 8 in.

Well was finished: above grade
 flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.

Was steel protective casing installed?
 Yes No
Static water level after drilling 21.5 ft.

Water level was measured using mscope
Well was developed for 1 hours
at 2 gpm
Method of development Boiler

Was permanent pumping equipment installed? Yes No
Pump capacity _____ gpm
Pump type: _____
Drilling Fluid _____ Type of Rig B57

Health and Safety Plan submitted? Yes No
Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company B & F WELL DRILLING INC.
Well Driller (Print) William Michaelis Jr.
Driller's Signature William Michaelis Jr.
Registration No. 1513 Date 12/13/00

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	<u>5</u>	<u>17</u>	<u>4</u>	<u>PVC</u>	<u>40</u>
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	<u>17</u>	<u>27</u>	<u>4</u>	<u>PVC</u>	<u>20 slot 40</u>
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	<u>15</u>	<u>27</u>	<u>8</u>	<u>#2 sand</u>	<u>600</u>
Grout	<u>0</u>	<u>15</u>	<u>8</u>	<u>Neat Cement Bentonite</u>	<u>40 lbs.</u>

Grouting Method Pressure
Drilling Method HSA

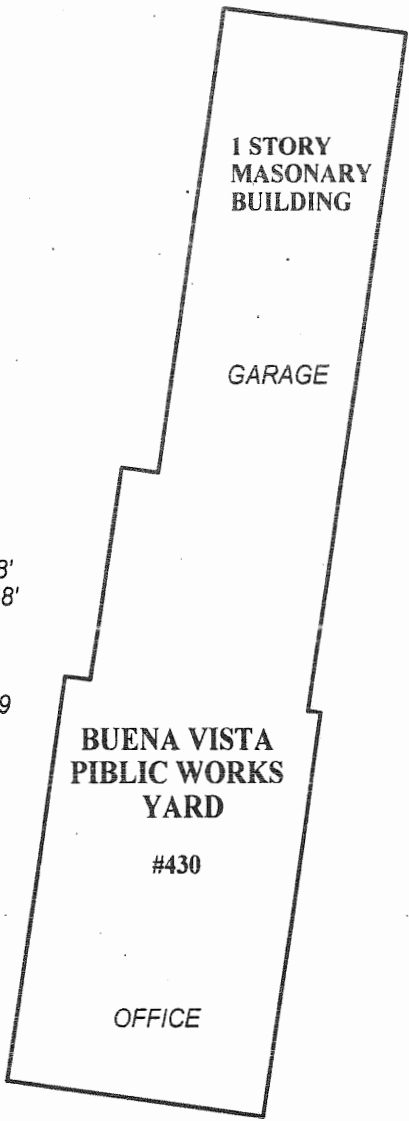
GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

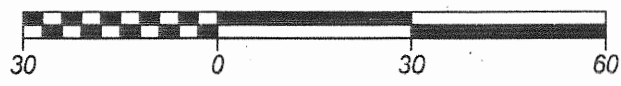
<u>0-10'</u>	<u>Fill Dirt</u>
<u>10-15'</u>	<u>Gray F to M sand with stones</u>
<u>15-20'</u>	<u>Gray F to C sand with stones</u>
<u>20-25'</u>	<u>Gray & white m. sand</u>
<u>25-27'</u>	<u>White M sand</u>



MW-1
 ● T.O.C. EL.=107.18'
 T.O.W. EL.=107.68'
 N 240728
 E 373533
 LAT.=39-29-36.8
 LONG.=74-55-12.9



UNION ROAD



NOTE:
 ELEVATIONS ARE NAVD 1988,
 LOCATIONS ARE NAD1983.

WAYNE W. BURGETT
 PROFESSIONAL LAND SURVEYOR
 NEW JERSEY LICENSE #31654

Wayne W. Burgett

1/10/01

PLAN OF SURVEY

**BUENA VISTA TOWNSHIP
 PUBLIC WORKS YARD
 430 UNION ROAD
 BUENA, NEW JERSEY**

DATE: 1/08/01	DRAWN BY: CLB	JOB NO.:
SCALE: 1"=30'	CHECKED BY: WWB	

ZENITH / NADIR SURVEY

132 E. CLINTON STREET
 CLAYTON, NEW JERSEY 08312

-93- (856) 881-8677 FAX (856) 863-0844

APPENDIX III

LABORATORY ANALYTICAL DATA PACKAGE

Volume I – Ground Water Data – December 7, 2000



ANALYTICAL, INC.

http://www.emsl.com



Corporate Office & Lab
 107 Haddon Avenue
 Westmont, NJ 08108
 1-800-220-3675

ANALYTICAL DATA REPORT
 FOR
PROPERTY EVALUATION GROUP, INC.
 205 Chester Avenue
 Suite 306
 Moorestown, NJ 08057

PROJECT : **Buena Vista Public Works**

EMSL Project: 010011051

Field Sample No. & Location	Laboratory Sample ID	Matrix	Date & Time of Collection	Date Received
MW01	010011051-0001	Aqueous	12/7/00 @ 1130	12/7/00
Field Blank	010011051-0002	Aqueous	12/7/00 @ 1140	12/7/00
Trip Blank	010011051-0003	Aqueous	12/7/00 @ -----	12/7/00

Laboratory Name

EMSL ANALYTICAL, INC.

Certification No.

NJDEPE No. 04653

Laboratory Manager

Gerold J. Miller
 Gerold J. Miller, Ph.D.
 01-02-07

Date

- Ann Arbor, MI
- Buffalo, NY
- Dallas, TX
- Houston, TX
- Minneapolis, MN
- San Francisco, CA
- Atlanta, GA
- Carlstadt, NJ
- Elmsford, NY
- Indianapolis, IN
- New York, NY
- Seattle, WA
- Baton Rouge, LA
- Charlotte, NC
- Fairfax, VA
- Long Island, NY
- Orlando, FL
- Warwick, RI
- Beltsville, MD
- Chicago, IL
- Greensboro, NC
- Miami, FL
- Piscataway, NJ
- Paris, France



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Analysis Conformance/Non-Conformance Summary Format _____ 34-38

GC/MS Volatile Organic Data Package _____ 39-86

- . Initial Calibration BFB Tune
- . Initial Calibration Data
- . Continuing Calibration BFB Tune
- . Continuing Calibration Data
- . Internal Standards Area Summary
- . Sample Results
- . Surrogate Recovery Form
- . Method Blank Data
- . Matrix Spike/Matrix Spike Duplicate Data

The required items listed are contained in this subsection. The order of presentation of the data is by "Daily Run" (date analyzed order).

GC/MS Semivolatile Organic Data Package

87-157

- . Initial Calibration DFTPP Tune
- . Initial Calibration Data
- . Continuing Calibration DFTPP Tune
- . Continuing Calibration Data
- . Internal Standards Area Summary
- . Sample Results
- . Surrogate Recovery Form
- . Method Blank Data
- . Matrix Spike/Matrix Spike Duplicate Data

The required items listed are contained in this subsection. The order of presentation of the data is by "Daily Run" (date analyzed order).

Metals Analysis Data Package

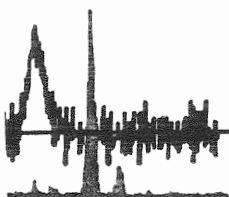
158-164

- . Sample Results
- . Calibrations
- . Blanks
- . Spike Recovery
- . Duplicates
- . Laboratory Control Sample

The required items listed are contained in this subsection. The order of presentation of the data is by Matrix (and date analyzed).

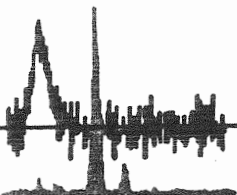
Statement of Authentication _____

165



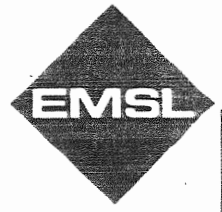


SAMPLE DATA SUMMARY PACKAGE



EMSL Analytical

3 Cooper St., Westmont, NJ 08108



Attn: Frank Hunsberger
THE PROPERTY EVALUATION GROUP INC.
205 CHESTER AVENUE
SUITE 306
MOORESTOWN, NJ 08057

Customer ID: TPEG50
Customer PO:
Received: 12/07/00 2:41 PM

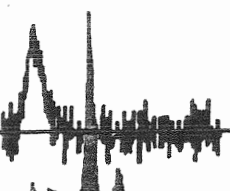
Fax: (856) 232-9681 Phone: 856-232-9682

EMSL Order: 010011051
EMSL Project ID: Buena Vista Public Works

Client Sample Description MW01 Grab

Lab ID: 0001

Test	Method	Parameter	Concentration Units	Notes
Lead, Total	200.7	Lead	<0.010 mg/L	
VOA	624 + 15	See Attached		
SVOA	625 BN + 25	See Attached		



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

5

Lab Name: EMSL ANALYTICAL

Contract: _____

11051-1

MW01 Grab

Project No.: _____ Site: _____ Location: _____ Group _____

Matrix: (soil/water) WATER Lab Sample ID: 11051-1

Sample wt/vol: 1.0 (g/mL) ML Lab File ID: c3325.d

Level: (low/med) _____ Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/13/00

GC Column: RTX-624 X 75 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____

Concentration Units:

CAS No. Compound (ug/L or ug/Kg) ug/L Q

74-87-3	Chloromethane	1.4	U
75-01-4	Vinyl Chloride	4.3	U
74-83-9	Bromomethane	7.9	U
75-00-3	Chloroethane	3.3	U
75-69-4	Trichlorofluoromethane	1.5	U
75-35-4	1,1-Dichloroethene	2.5	U
75-09-2	Methylene Chloride	2.0	U
156-60-5	trans-1,2-Dichloroethene	1.5	U
75-34-3	1,1-Dichloroethane	0.8	U
156-59-4	cis-1,2-Dichloroethene	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	0.7	U
56-23-5	Carbon tetrachloride	1.3	U
71-43-2	Benzene	1.4	U
107-06-2	1,2-Dichloroethane	1.2	U
79-01-6	Trichloroethene	6.8	U
78-87-5	1,2-Dichloropropane	1.1	U
75-27-4	Bromodichloromethane	0.8	U
10061-01-5	cis-1,3-Dichloropropene	0.8	U
108-88-3	Toluene	1.8	U
10061-02-6	trans-1,3-Dichloropropene	1.3	U
79-00-5	1,1,2-Trichloroethane	1.7	U
127-18-4	Tetrachloroethene	1.2	U
124-48-1	Dibromochloromethane	1.4	U
108-90-7	Chlorobenzene	1.5	U
100-41-4	Ethylbenzene	1.3	U
108-38-9	Xylene (para & meta)	3.2	U
95-47-6	Xylene (ortho)	1.1	U
75-25-2	Bromoform	2.8	U
79-34-5	1,1,2,2-Tetrachloroethane	6.2	U
110-75-8	2-Chloroethyl vinyl ether	1.1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

11051-1
MWOI Grab

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group _____

Matrix: (soil/water) WATER Lab Sample ID: 11051-1

Sample wt/vol: 1.0 (g/mL) ML Lab File ID: c3325.d

Level: (low/med) _____ Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/13/00

GC Column: RTX-624 X 75 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____

CAS No. Compound Concentration Units:
(ug/L or ug/Kg) ug/L Q

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg)	ug/L	Q
541-73-1	1,3-Dichlorobenzene		1.4	U
106-46-7	1,4-Dichlorobenzene		1.7	U
95-50-1	1,2-Dichlorobenzene		1.8	U
107-02-8	Acrolein		69	U
107-13-1	Acrylonitrile		2.3	U
1634-04-4	Methyl-tert butyl ether		390	
75-65-0	tert-Butyl Alcohol		33	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO. 7

11051-1
MWO1 Grab

Lab Name: EMSL ANALYTICAL Contract: _____
 Project No. _____ Site: _____ Location: _____ Group: _____
 Matrix: (soil/water) WATER Lab Sample ID: 11051-1
 Sample wt/vol: 1.0 (g/mL) ML Lab File ID: C3325.D
 Level: (low/med) _____ Date Received: _____
 % Moisture: not dec. _____ Date Analyzed: 12/13/00
 GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 5.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 2 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	22.62	25	J
2.	Unknown Hydrocarbon	25.12	15	J
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

11051-1
MW 01 Grab

Lab Name: EMSL ANALYTICAL Contract: _____
 Project No.: _____ Site: _____ Location: _____ Group: _____
 Matrix: (soil/water) WATER Lab Sample-ID: 11051-1
 Sample wt/vol: 900.0 (g/mL ML) Lab File ID: E9169.D
 Level: (low/med) _____ Date Received: _____
 % Moisture: _____ decanted: (Y/N): N Date Extracted: 12/8/00
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/12/00
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
62-75-9	N-nitrosodimethylamine		5	U
111-44-4	bis(2-Chloroethyl)ether		3	U
541-73-1	1,3-Dichlorobenzene		2	U
106-46-7	1,4-Dichlorobenzene		3	U
95-50-1	1,2-Dichlorobenzene		3	U
108-60-1	bis(2-chloroisopropyl)ether		3	U
621-64-7	N-Nitroso-Di-n-propylamine		2	U
67-72-1	Hexachloroethane		2	U
98-95-3	Nitrobenzene		3	U
78-59-1	Isophorone		3	U
111-91-1	bis(2-Chloroethoxy)methane		2	U
120-82-1	1,2,4-Trichlorobenzene		3	U
91-20-3	Naphthalene		2	U
87-68-3	Hexachlorobutadiene		2	U
77-47-4	Hexachlorocyclopentadiene		5	U
91-58-7	2-Chloronaphthalene		2	U
131-11-3	Dimethylphthalate		2	U
208-96-8	Acenaphthylene		2	U
606-20-2	2,6-Dinitrotoluene		2	U
83-32-9	Acenaphthene		2	U
121-14-2	2,4-Dinitrotoluene		3	U
84-66-2	Diethylphthalate		2	U
86-73-7	Fluorene		2	U
7005-72-3	4-Chlorophenyl-phenylether		2	U
86-30-6	n-Nitrosodiphenylamine		3	U
122-66-7	1,2-Diphenylhydrazine(as azo)		2	U
101-55-3	4-Bromophenyl-phenylether		1	U
118-74-1	Hexachlorobenzene		1	U
85-01-08	Phenanthrene		2	U
120-12-7	Anthracene		1	U
84-74-2	Di-n-butylphthalate		2	U
206-44-0	Fluoranthene		1	U
92-87-5	Benzidine		11	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO. **10**

11051-1
MWOL Grab

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 11051-1

Sample wt/vol: 900.0 (g/mL) ML Lab File ID: E9169.D

Level: (low/med) _____ Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/8/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/12/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Concentration Units:
(ug/L or ug/Kg) ug/L

Number TICs found: 2

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown Hydrocarbon	9.03	10	J
2.	Unknown Hydrocarbon	11.06	6	J
3.				
4.				
5.				
6.				
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EMSL Analytical

3 Cooper St., Westmont, NJ 08108



attn: Frank Hunsberger
 THE PROPERTY EVALUATION GROUP, INC.
 205 CHESTER AVENUE
 SUITE 306
 MOORESTOWN, NJ 08057

Customer ID: TPEG50
 Customer PO:
 Received: 12/07/00 2:41 PM

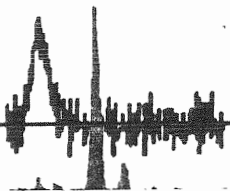
Fax: (856) 232-9681 Phone: 856-232-9682

EMSL Order: 010011051
 EMSL Project ID: Buena Vista Public Works

Client Sample Description FB Grab

Lab ID: 0002

<i>Test</i>	<i>Method</i>	<i>Parameter</i>	<i>Concentration Units</i>	<i>Notes</i>
Lead, Total	200.7	Lead	<0.010 mg/L	
VOA	624 + 15	See Attached		
SVOA	625 BN + 25	See Attached		



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: EMSL ANALYTICAL

Contract: _____

11051-2 FB

FB Grab

Project No.: _____ Site: _____ Location: _____ Group _____

Matrix: (soil/water) WATER Lab Sample ID: 11051-2 FBSample wt/vol: 5.0 (g/mL) ML Lab File ID: c3319.d

Level: (low/med) _____ Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/12/00GC Column: RTX-624 X 75 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____

CAS No.	Compound	Concentration Units:	
		(ug/L or ug/Kg)	ug/L Q
74-87-3	Chloromethane	0.3	U
75-01-4	Vinyl Chloride	0.9	U
74-83-9	Bromomethane	1.6	U
75-00-3	Chloroethane	0.7	U
75-69-4	Trichlorofluoromethane	0.3	U
75-35-4	1,1-Dichloroethene	0.5	U
75-09-2	Methylene Chloride	0.8	
156-60-5	trans-1,2-Dichloroethene	0.3	U
75-34-3	1,1-Dichloroethane	0.2	U
156-59-4	cis-1,2-Dichloroethene	0.2	U
67-66-3	Chloroform	0.2	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.2	U
79-01-6	Trichloroethene	1.4	U
78-87-5	1,2-Dichloropropane	0.2	U
75-27-4	Bromodichloromethane	0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.4	U
10061-02-6	trans-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.2	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.3	U
100-41-4	Ethylbenzene	0.3	U
108-38-9	Xylene (para & meta)	0.6	U
95-47-6	Xylene (ortho)	0.2	U
75-25-2	Bromoform	0.6	U
79-34-5	1,1,2,2-Tetrachloroethane	1.2	U
110-75-8	2-Chloroethyl vinyl ether	0.2	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

11051-2 FB
 FB Gmb

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group _____

Matrix: (soil/water) WATER Lab Sample ID: 11051-2 FB

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: c3319.d

Level: (low/med) _____ Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/12/00

GC Column: RTX-624 X 75 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____

CAS No.	Compound	Concentration Units:	
		(ug/L or ug/Kg)	ug/L Q
541-73-1	1,3-Dichlorobenzene	0.3	U
106-46-7	1,4-Dichlorobenzene	0.3	U
95-50-1	1,2-Dichlorobenzene	0.4	U
107-02-8	Acrolein	14	U
107-13-1	Acrylonitrile	0.5	U
1634-04-4	Methyl-tert butyl ether	0.2	U
75-65-0	tert-Butyl Alcohol	6.5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

14

11051-2
FB Grab

Lab Name: EMSL ANALYTICAL Contract: _____
 Project No. _____ Site: _____ Location: _____ Group: _____
 Matrix: (soil/water) WATER Lab Sample ID: 11051-2
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C3319.D
 Level: (low/med) _____ Date Received: _____
 % Moisture: not dec. _____ Date Analyzed: 12/12/00
 GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
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1B
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

Lab Name: <u>EMSL ANALYTICAL</u>	Contract: _____	11051-2 <i>FB Grab</i>
Project No.: _____	Site: _____	
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>11051-2</u>	
Sample wt/vol: <u>850.0</u> (g/mL <u>ML</u>)	Lab File ID: <u>E9170.D</u>	
Level: (low/med) _____	Date Received: _____	
% Moisture: _____	decanted: (Y/N): <u>N</u>	Date Extracted: <u>12/8/00</u>
Concentrated Extract Volume: <u>1000</u> (uL)	Date Analyzed: <u>12/12/00</u>	
Injection Volume: <u>1.0</u> (uL)	Dilution Factor: <u>1.0</u>	
GPC Cleanup: (Y/N) <u>N</u>	pH: _____	

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	<u>ug/L</u>	Q
62-75-9	N-nitrosodimethylamine	5		U
111-44-4	bis(2-Chloroethyl)ether	3		U
541-73-1	1,3-Dichlorobenzene	3		U
106-46-7	1,4-Dichlorobenzene	3		U
95-50-1	1,2-Dichlorobenzene	3		U
108-60-1	bis(2-chloroisopropyl)ether	3		U
621-64-7	N-Nitroso-Di-n-propylamine	2		U
67-72-1	Hexachloroethane	2		U
98-95-3	Nitrobenzene	3		U
78-59-1	Isophorone	3		U
111-91-1	bis(2-Chloroethoxy)methane	2		U
120-82-1	1,2,4-Trichlorobenzene	3		U
91-20-3	Naphthalene	2		U
87-68-3	Hexachlorobutadiene	2		U
77-47-4	Hexachlorocyclopentadiene	6		U
91-58-7	2-Chloronaphthalene	2		U
131-11-3	Dimethylphthalate	2		U
208-96-8	Acenaphthylene	2		U
606-20-2	2,6-Dinitrotoluene	2		U
83-32-9	Acenaphthene	2		U
121-14-2	2,4-Dinitrotoluene	3		U
84-66-2	Diethylphthalate	2		U
86-73-7	Fluorene	2		U
7005-72-3	4-Chlorophenyl-phenylether	2		U
86-30-6	n-Nitrosodiphenylamine	3		U
122-66-7	1,2-Diphenylhydrazine(as azo)	2		U
101-55-3	4-Bromophenyl-phenylether	1		U
118-74-1	Hexachlorobenzene	2		U
85-01-08	Phenanthrene	2		U
120-12-7	Anthracene	2		U
84-74-2	Di-n-butylphthalate	2		U
206-44-0	Fluoranthene	2		U
92-87-5	Benzidine	12		U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

11051-2

FB Grab

Lab Name: EMSL ANALYTICAL Contract: _____
 Project No.: _____ Site: _____ Location: _____ Group: _____
 Matrix: (soil/water) WATER Lab Sample ID: 11051-2
 Sample wt/vol: 850.0 (g/mL ML) Lab File ID: E9170.D
 Level: (low/med) _____ Date Received: _____
 % Moisture: _____ decanted: (Y/N): N Date Extracted: 12/8/00
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/12/00
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
129-00-0	Pyrene		2	U
85-68-7	Butylbenzylphthalate		2	U
56-55-3	Benzo[a]anthracene		1	U
91-94-1	3,3'-Dichlorobenzidine		6	U
218-01-9	Chrysene		2	U
117-81-7	bis(2-Ethylhexyl)phthalate		3	U
117-84-0	Di-n-octylphthalate		7	U
205-99-2	Benzo[b]fluoranthene		4	U
207-08-9	Benzo[k]fluoranthene		5	U
50-32-8	Benzo[a]pyrene		2	U
193-39-5	Indeno[1,2,3-cd]pyrene		7	U
53-70-3	Dibenz[a,h]anthracene		4	U
191-24-2	Benzo[g,h,i]perylene		6	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

11051-2
FB Grab

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 11051-2

Sample wt/vol: 850.0 (g/mL) ML Lab File ID: E9170.D

Level: (low/med) _____ Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/8/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/12/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
2.				
3.				
4.				
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EMSL Analytical

3 Cooper St., Westmont, NJ 08108



Attn: Frank Hunsberger
THE PROPERTY EVALUATION GROUP, INC.
205 CHESTER AVENUE
SUITE 306
MOORESTOWN, NJ 08057

Customer ID: TPEG50
Customer PO:
Received: 12/07/00 2:41 PM

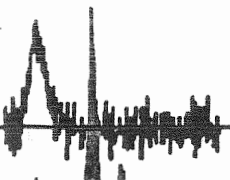
Fax: (856) 232-9681 Phone: 856-232-9682

EMSL Order: 010011051
EMSL Project ID: Buena Vista Public Works

Client Sample Description Trip Blank

Lab ID: 0003

<i>Test</i>	<i>Method</i>	<i>Parameter</i>	<i>Concentration Units</i>	<i>Notes</i>
VOA	624 + 15	See Attached		



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

19

Lab Name: EMSL ANALYTICAL

Contract: _____

11051-3 TB

Trip BLANK

Project No.: _____ Site: _____ Location: _____ Group _____

Matrix: (soil/water) WATER Lab Sample ID: 11051-3 TB

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: c3318.d

Level: (low/med) _____ Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/12/00

GC Column: RTX-624 X 75 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____

Concentration Units:

CAS No. Compound (ug/L or ug/Kg) ug/L Q

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	0.3		U
75-01-4	Vinyl Chloride	0.9		U
74-83-9	Bromomethane	1.6		U
75-00-3	Chloroethane	0.7		U
75-69-4	Trichlorofluoromethane	0.3		U
75-35-4	1,1-Dichloroethene	0.5		U
75-09-2	Methylene Chloride	0.8		
156-60-5	trans-1,2-Dichloroethene	0.3		U
75-34-3	1,1-Dichloroethane	0.2		U
156-59-4	cis-1,2-Dichloroethene	0.2		U
67-66-3	Chloroform	0.2		U
71-55-6	1,1,1-Trichloroethane	0.1		U
56-23-5	Carbon tetrachloride	0.3		U
71-43-2	Benzene	0.3		U
107-06-2	1,2-Dichloroethane	0.2		U
79-01-6	Trichloroethene	1.4		U
78-87-5	1,2-Dichloropropane	0.2		U
75-27-4	Bromodichloromethane	0.2		U
10061-01-5	cis-1,3-Dichloropropene	0.2		U
108-88-3	Toluene	0.4		U
10061-02-6	trans-1,3-Dichloropropene	0.3		U
79-00-5	1,1,2-Trichloroethane	0.3		U
127-18-4	Tetrachloroethene	0.2		U
124-48-1	Dibromochloromethane	0.3		U
108-90-7	Chlorobenzene	0.3		U
100-41-4	Ethylbenzene	0.3		U
108-38-9	Xylene (para & meta)	0.6		U
95-47-6	Xylene (ortho)	0.2		U
75-25-2	Bromoform	0.6		U
79-34-5	1,1,2,2-Tetrachloroethane	1.2		U
110-75-8	2-Chloroethyl vinyl ether	0.2		U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group _____

Matrix: (soil/water) WATER Lab Sample ID: 11051-3 TB

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: c3318.d

Level: (low/med) _____ Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/12/00

GC Column: RTX-624 X 75 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____

11051-3 TB

Trip BLANK

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
541-73-1	1,3-Dichlorobenzene	0.3		U
106-46-7	1,4-Dichlorobenzene	0.3		U
95-50-1	1,2-Dichlorobenzene	0.4		U
107-02-8	Acrolein	14		U
107-13-1	Acrylonitrile	0.5		U
1634-04-4	Methyl-tert butyl ether	0.2		U
75-65-0	tert-Butyl Alcohol	6.5		U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

21

11051-3
Trip BLANK

Lab Name: EMSL ANALYTICAL Contract: _____
 Project No. _____ Site: _____ Location: _____ Group: _____
 Matrix: (soil/water) WATER Lab Sample ID: 11051-3
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C3318.D
 Level: (low/med) _____ Date Received: _____
 % Moisture: not dec. _____ Date Analyzed: 12/12/00
 GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
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ATTACHMENT M

EF - 4747

August 26, 2005

Mr. Gary A. Slater
New Jersey Department of Environmental Protection
Bureau of Southern Case Management
401 East State Street
P.O. Box 433
Trenton, NJ 08625-0433

**Re: Project 04-306
Well Search Results
Buena Vista Township Public Works Yard
430 Union Road
Block 7101, Lot 25
Buena Vista Township, NJ 08310
Case # 98-10-17-1344-17
UST 0326982
TMS# N98-1924**

AUG 29 2005

NJDEP
INDUSTRIAL SITE EVALUATION ELEMENT
BUREAU OF UNDERGROUND STORAGE TANKS
CN - 028
TRENTON, NJ 08625

Dear Mr. Slater:

On behalf of our client, Buena Vista Township, Calmar Associates, LLC (CMA) is submitting this well search for your review regarding the above referenced site. CMA requested a NJDEP manual well search identifying all monitoring and domestic wells within a 1/2 mile radius and a one (1) mile radius well search identifying all irrigation, industrial, public supply wells and wells with water allocation permits for the property identified above. Please find enclosed a Site Location Map (Figure 1), a Well Search Map (Figure 2) indicating the location of each well, a well search table describing the location and construction of each well and well permits and well records for each well.

If you have any questions or concerns regarding this request, please contact the undersigned at (609) 476-4500.

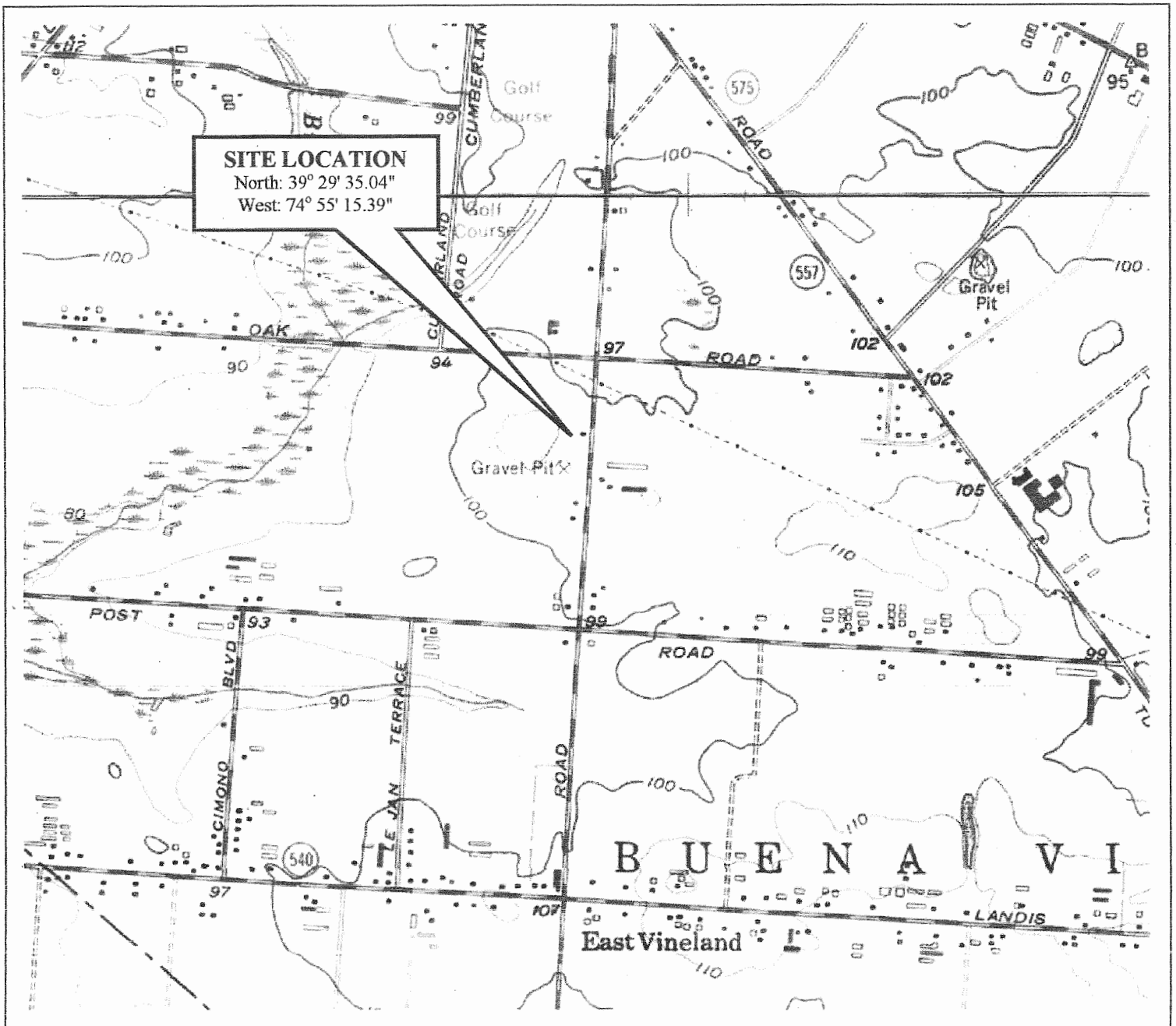
Sincerely,



John F. Callaghan
Principal

Enclosures

FIGURES



SITE LOCATION MAP

**USGS 7.5 MINUTE TOPOGRAPHIC MAP
FIVE POINTS QUADRANGLE - 1977**

CALMAR ASSOCIATES, LLC

1415 13th Avenue
Dorothy, New Jersey 08317

NORTH



**BUENA VISTA TOWNSHIP
PUBLIC WORKS YARD
430 UNION ROAD
BLOCK 7101, LOT 25**

**BUENA VISTA TOWNSHIP
ATLANTIC COUNTY, NJ**

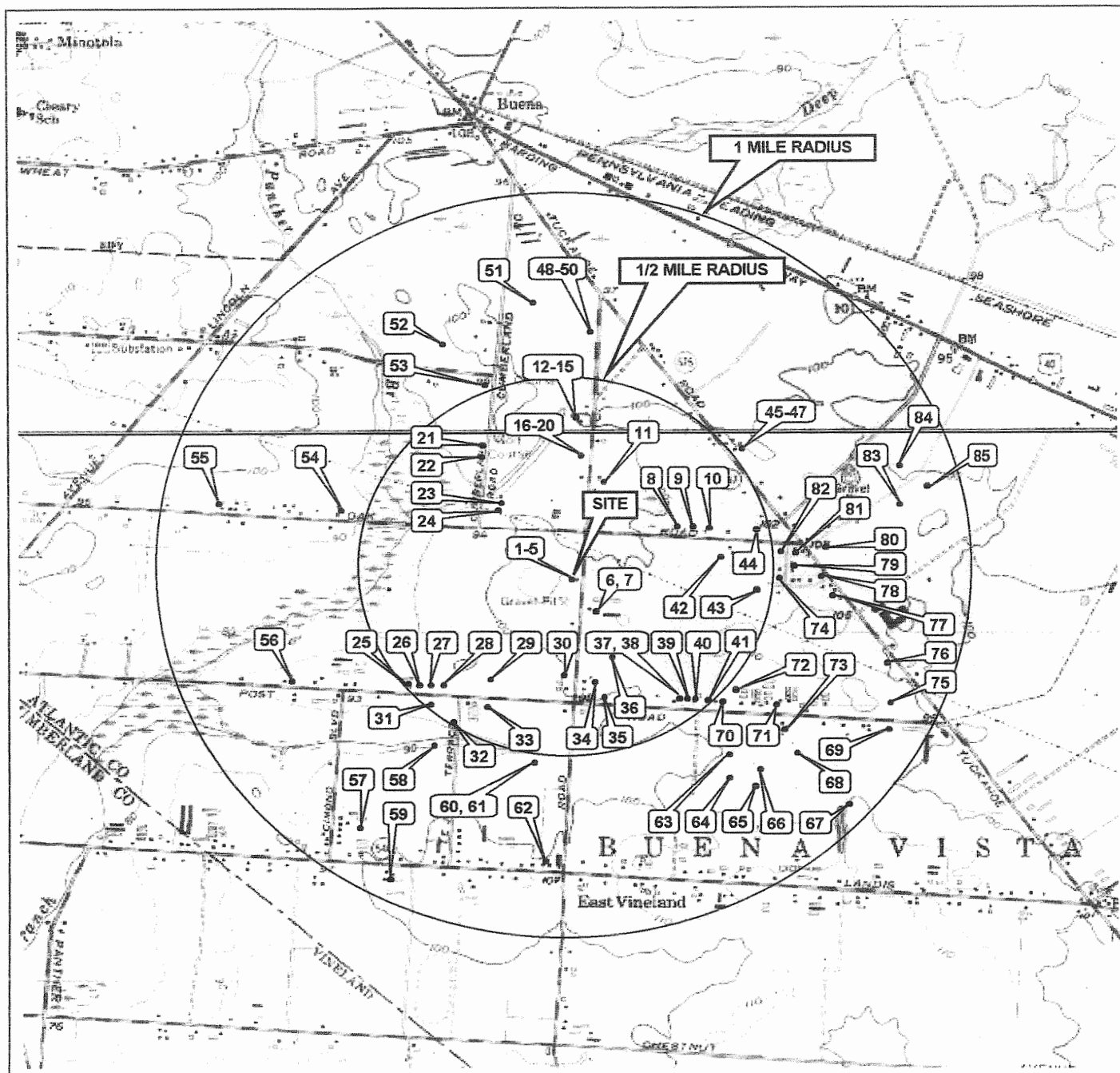
DRWN: MT

SCALE: 1" = 2,000'

CHK'D: JM

APPD:

FIGURE 1



USGS 7.5 MINUTE TOPOGRAPHIC MAP
FIVE POINTS QUADRANGLE - 1977

NORTH



**BUENA VISTA TOWNSHIP
PUBLIC WORKS YARD
430 UNION ROAD
BLOCK 7101, LOT 25**

**BUENA VISTA TOWNSHIP
ATLANTIC COUNTY, NJ**

WELL SEARCH

CALMAR ASSOCIATES, LLC

1415 13th Avenue
Dorothy, NJ 08317

DRWN: MT

SCALE: 1" = 2,000'

CHK'D: JM

APPD:

FIGURE 2

TABLES

WELL SEARCH RESULTS
AS PER N.J.A.C. 7:26E-3.7, e3i
BUENA VISTA TOWNSHIP
DEPARTMENT OF PUBLIC WORKS
BUENA VISTA TOWNSHIP, ATLANTIC COUNTY, NEW JERSEY

Map ID #	Well Owner	Well Address	Block	Lot	Permit #	Well Diameter (in.)	Well Construction	Total Depth (ft.)	Length of Casing (ft.)	Length of Screen (ft.)	Static Water Level bgs. (ft.)	Date Completed	Well Use	Source of Information
1,000 Foot Radius														
1	Buena Vista Township Landfill	430 Union Road, E. Vineland, NJ	7101	35	35-06403-0	4	PVC	42.5	22.5	20	22	04/05/1988	Monitoring (Well #4)	Well Record/Well Permit
2	Buena Vista Township Landfill	430 Union Road, E. Vineland, NJ	7101	35	35-06404-8	4	PVC	42.5	22.5	20	25	04/05/1988	Monitoring (Well #3)	Well Record/Well Permit
3	Buena Vista Township Landfill	430 Union Road, E. Vineland, NJ	7101	35	35-06405-6	4	PVC	42.5	22.5	20	22.5	04/05/1988	Monitoring (Well #2)	Well Record/Well Permit
4	Buena Vista Township Landfill	430 Union Road, E. Vineland, NJ	7101	35	35-06406-4	4	PVC	41	21	20	21.5	04/05/1988	Monitoring (Well # 1)	Well Record/Well Permit
5	Buena Vista Township	430 Union Road, Buena Vista, NJ	7101	25	35-21230	4	PVC	27	17	10	21.5	11/20/2000	Monitoring (MW-1)	Well Record
6	A. Alimenti	435 North Union Road, Vineland, NJ	5801	1	35-14379	4	PVC	180	170	10	28	10/19/1993	Domestic	Well Record/Well Permit
7	Alfred Alimenti	435 Union Road	5801	1	35-21369	4	PVC	120	110	10	26	12/18/2000	Non-Public	Well Record
1/2 Mile Radius														
8	Angelo Bylone	Post Road, Vineland, NJ	N/A	N/A	35-347	5	N/A	100	N/A	N/A	N/A	8/4/54 (approved)	Irrigation	Well Permit
9	Lou Amico	3940 Oak Road, Buena Vista Township, NJ	5701	14	35-14959	4	PVC	152	146	5	10	06/06/1994	Domestic	Well Record/Well Permit
10	Michael Iacovelli	3946 Oak Road	5701	13	35-24210	4	PVC	90	80	10	9	07/21/2003	Domestic Replacement	Well Record
11	Rose Yegla	377 Union Road, Vineland, NJ	5701	19	35-18121	4	PVC	115	105	10	10	11/06/1997	Domestic Replacement	Well Record/Well Permit
12	Peter Levari Jr.	350 Union Road, Vineland, NJ	5601	11	35-1127	4	PVC	98	38	60	6	05/11/1971	Irrigation	Well Record/Well Permit
13	Gloria Levari	350 Union Road, E. Vineland, NJ	5601	11	35-16790	4	N/A	80	N/A	N/A	N/A	4/2/96 (approved)	Domestic Replacement	Well Permit
14	Gloria Levari	350 Union Road, E. Vineland, NJ	5601	11	35-18085	4	N/A	100	N/A	N/A	N/A	10/8/97 (approved)	Domestic Replacement	Well Permit
15	Gloria Levari	North Union Road	5701	10	35-22206	4	PVC	65	55	10	10	10/11/2001	Non-Public	Well Record
16	Nicholas Levari	372 Union Road, Vineland, NJ	5601	13	35-17895	4	N/A	120	N/A	N/A	N/A	7/15/97 (approved)	Domestic	Well Permit
17	Nicholas Levari	372 Union Road, Buena, NJ	5601	13	35-18142	4	N/A	120	N/A	N/A	N/A	10/28/1997	Domestic	Well Permit

WELL SEARCH RESULTS
AS PER N.J.A.C. 7:26E-3.7, e3i
BUENA VISTA TOWNSHIP
DEPARTMENT OF PUBLIC WORKS
BUENA VISTA TOWNSHIP, ATLANTIC COUNTY, NEW JERSEY

Map ID #	Well Owner	Well Address	Block	Lot	Permit #	Well Diameter (in.)	Well Construction	Total Depth (ft.)	Length of Casing (ft.)	Length of Screen (ft.)	Static Water Level bgs. (ft.)	Date Completed	Well Use	Source of Information
18	Nicholas Levari	372 Union Road, Buena, NJ	5601	13B	35-18485	4	PVC	105	95	10	10	09/01/1998	Domestic	Well Record/Well Permit
19	Nicholas Levari	372 Union Road, Buena, NJ	5601	13	35-18979	4	PVC	105	95	10	8	09/22/1998	Domestic	Well Record/Well Permit
20	Nicholas Levari	372 Union Road, Buena, NJ	5601	13B	35-19174	4	PVC	105	95	10	10	11/24/1998	Domestic	Well Record/Well Permit
21	Mellessia Zitkus	135 Cumberland Road	7201	10	35-21283	4	PVC	70	60	10	12	11/10/2000	Domestic Replacement	Well Record
22	Tom Zitkus	129 Cumberland Road	7201	11	35-21284	4	PVC	70	60	10	11	11/10/2000	Domestic Replacement	Well Record
23	Latona Country Club	3806 Oak Road, Buena, NJ	5601	1	55-14861	4	PVC	50	25	25	4	10/20/1994	Domestic	Well Record/Well Permit
24	Latona Country Club	3806 Oak Road, Buena, NJ	5601	1	35-15970	4	PVC	135	115	20	8	06/15/1995	Domestic	Well Record/Well Permit
25	Adeline Turche	4324 Post Road	7101	32	35-21124	4	PVC	80	70	10	15	09/28/2000	Domestic Replacement	Well Record
26	Andrew Marcznski	Post Road, E. Vineland, NJ	426	15	35-07057	2	PVC	70	65	5	3	05/03/1988	Domestic	Well Record/Well Permit
27	Vineland Development Center	4328 Post Road, E. Vineland, NJ	7101	31	35-5557	2	PVC	110	100	10	16	10/15/1986	Domestic	Well Record/Well Permit
28	Ronald Capriotti	4332 Post Road, Buena Vista Township, NJ	7101	30	35-06603	4	PVC	90	80	10	12	06/08/1988	Domestic	Well Record/Well Permit
29	Alfred Alimenti	N/A	N/A	N/A	3503769	N/A	N/A	160	N/A	N/A	N/A	N/A	Fire	Computer Database
30	Mark Panco	North Union Road	7101	29	35-19935	4	PVC	125	115	10	13	09/17/1999	Irrigation	Well Record
31	Herbert Bylone	N/A	N/A	N/A	3501501	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Non-Public	Computer Database
32	Peter Fury	157 Lejan Terrace	7001	9	35-21494	4	PVC	158	108	50	6	04/20/2001	Irrigation	Well Record
33	Mick Hintzer	4409 Post Road, E. Vineland, NJ	7002	20	35-07362	2	Steel	95	90	4	12	03/25/1988	Domestic	Well Record/Well Permit
34	Beatrice Bergonzi	469 North Union Road	5801	40	35-23889	4	PVC	100	90	10	14	05/19/2003	Domestic Replacement	Well Record
35	Dan McNeill	4508 Post Road, Vineland, NJ	5801	39	35-14548	4	PVC	84	74	84	12	02/01/1994	Domestic	Well Record/Well Permit
36	Alfred Alimenti	N/A	N/A	N/A	3501228	N/A	N/A	154	N/A	N/A	N/A	N/A	Fire	Computer Database

WELL SEARCH RESULTS
AS PER N.J.A.C. 7:26E-3.7, e3i
BUENA VISTA TOWNSHIP
DEPARTMENT OF PUBLIC WORKS
BUENA VISTA TOWNSHIP, ATLANTIC COUNTY, NEW JERSEY

Map ID #	Well Owner	Well Address	Block	Lot	Permit #	Well Diameter (in.)	Well Construction	Total Depth (ft.)	Length of Casing (ft.)	Length of Screen (ft.)	Static Water Level bgs. (ft.)	Date Completed	Well Use	Source of Information
37	Daniel Cragno	4532 Post Road, Vineland, NJ	5801	36&37	35-1484	4	PVC	75	35	40	13	7/76	Irrigation	Well Record/Well Permit
38	Dan Caregnato	4532 Post Road, Buena Vista Township, NJ	5801	36	35-10666	4	PVC	95	85	10	14	07/12/1990	Domestic Replacement	Well Record/Well Permit
39	Florance Konrad	4540 East Post Road, E. Vineland, NJ	5801	35	35-06040	2	PVC	120	115	5	12	11/03/1986	Domestic	Well Record/Well Permit
40	Leonard Konrad	4540 Post Road, E. Vineland, NJ	5801	35	35-2064	2	Galv Steel	116	111	5	10	08/13/1979	Domestic	Well Record/Well Permit
41	Carlo DeThomasi	4546 Post Road, Vineland, NJ	5801	34	35-13653	4	PVC	125	115	10	15	07/12/1993	Domestic	Well Record/Well Permit
42	Wanda Corsiglia	3955 Oak Road, Vineland, NJ	5801	3	35-14768	4	PVC	150	140	10	20	09/20/1994	Domestic	Well Record/Well Permit
43	George Lenko	Oak Road, Buena Vista Township, NJ	5801	5	35-08919	4	PVC	100	90	10	14	05/27/1989	Irrigation	Well Record/Well Permit
44	James Marandino	3960 Oak Road, Vineland, NJ	5701	11	35-5325	4	PVC	80	70	10	14	07/28/1986	Domestic	Well Record/Well Permit
1 Mile Radius														
45	George Ruggeri	N/A	N/A	N/A	5500243	N/A	N/A	46	N/A	N/A	N/A	N/A	Test	Computer Database
46	George Ruggeri	N/A	N/A	N/A	5500242	N/A	N/A	50	N/A	N/A	N/A	N/A	Test	Computer Database
47	George Ruggeri	N/A	N/A	N/A	5500244	N/A	N/A	50	N/A	N/A	N/A	N/A	Test	Computer Database
48	Latona Country Club	3806 Oak Road, Buena, NJ	5601	2	55-14862	4	PVC	50	22	25	3	5/8/94 (approved)	Irrigation	Well Record/Well Permit
49	Latona Country Club	3806 Oak Road, Buena, NJ	5601	2	55-14863	4	PVC	50	22	25	3	5/94 (approved)	Irrigation	Well Record/Well Permit
50	Latona Country Club	3806 Oak Road, Buena, NJ	5601	2	55-14864	4	PVC	50	22	25	3	5/94 (approved)	Irrigation	Well Record/Well Permit
51	John Vannini	N/A	N/A	N/A	3502874	N/A	N/A	140	N/A	N/A	N/A	N/A	Fire	Computer Database
52	Erman Manzoni	N/A	N/A	N/A	5514562	N/A	N/A	180	N/A	N/A	N/A	N/A	Test	Computer Database
53	James Marandino	159 Cumberland Road	7201	9	35-19906	4	PVC	135	125	10	10	10/29/1999	Irrigation	Well Record
54	Sparky Brennan	3702 Oak Road, Vineland NJ	7201	15	35-4678	2	PVC	120	120	10	12	03/20/1985	Domestic Replacement	Well Record/Well Permit

WELL SEARCH RESULTS
AS PER N.J.A.C. 7:26E-3.7, e3j
BUENA VISTA TOWNSHIP

DEPARTMENT OF PUBLIC WORKS
BUENA VISTA TOWNSHIP, ATLANTIC COUNTY, NEW JERSEY

Map ID #	Well Owner	Well Address	Block	Lot	Permit #	Well Diameter (in.)	Well Construction	Total Depth (ft.)	Length of Casing (ft.)	Length of Screen (ft.)	Static Water Level hgs. (ft.)	Date Completed	Well Use	Source of Information
55	Henry Coia	3650 Oak Road, Vineland NJ	7201	24	35-146	4	Steel Pipe	54	10	10	N/A	04/10/1953	Irrigation	Well Record/Well Permit
56	Herb Bylone	4254 Post Road	7101	39	35-21160	4	PVC	90	80	10	13	10/16/2000	Domestic Replacement	Well Record
57	Ralph Laielli	N/A	N/A	N/A	3503265	N/A	N/A	75	N/A	N/A	N/A	N/A	Non-Public	Computer Database
58	Herbert Bylone	N/A	N/A	N/A	Panther Branch	N/A	N/A	100	N/A	N/A	N/A	N/A	Fire	Computer Database
59	Joseph Mish and Sons	N/A	N/A	N/A	3500960	N/A	N/A	180	N/A	N/A	N/A	N/A	Fire	Computer Database
60	Five Points Realty	Post Road and N. Union Road, Vineland, NJ	7002	3	35-14835	4	PVC	90	40	50	2	05/06/1994	Irrigation	Well Record/Well Permit
61	Five Points Realty	Post Road and N. Union Road, Vineland, NJ	7002	3	35-14859	4	PVC	90	40	50	2	05/06/1994	Irrigation	Well Record/Well Permit
62	East Vineland Fire Company	4934 Landis Avenue	7002	5	35-21303	4	PVC	110	100	10	24	11/15/2000	Non-Public	Well Record
63	Badaracco Farms	N/A	N/A	N/A	5517498	N/A	N/A	120	N/A	N/A	N/A	N/A	N/A	Computer Database
64	Ralph Laielli	N/A	N/A	N/A	5500241	N/A	N/A	65	N/A	N/A	N/A	N/A	Fire	Computer Database
65	Robert P. Levari	N/A	N/A	N/A	3512084	N/A	N/A	110	N/A	N/A	N/A	N/A	Fire	Computer Database
66	Robert P. Levari	N/A	N/A	N/A	3500929	N/A	N/A	76	N/A	N/A	N/A	N/A	Fire	Computer Database
67	Karl Molinelli	N/A	N/A	N/A	3500967	N/A	N/A	87	N/A	N/A	N/A	N/A	Fire	Computer Database
68	Herbet Bylone	N/A	N/A	N/A	5500226	N/A	N/A	48	N/A	N/A	N/A	N/A	Fire	Computer Database
69	Patrick Construction/Carroll	4621 Post Road, Buena Vista Township, NJ	5901	5	35-17202	4	PVC	95	85	10	30	11/27/1996	Domestic	Well Record/Well Permit
70	Mario DeAcetis	4552 Post Road, Vineland, NJ	5801	33	35-4239	4	PVC	125	100	25	N/A	07/04/1984	Irrigation	Well Record/Well Permit
71	Victoria Reale	4572 Post Road, Buena Vista Township, NJ	5801	30	35-12771	4	PVC	80	70	10	21	03/04/1992	Domestic Replacement	Well Record/Well Permit
72	Edward Bachinski	N/A	N/A	N/A	5500237	N/A	N/A	65	N/A	N/A	N/A	N/A	Fire	Computer Database
73	Herbert Bylone	4579 Post Road	5901	1	35-22510	4	PVC	80	70	10	22	01/28/2002	Domestic Replacement	Well Record

WELL SEARCH RESULTS
AS PER N.J.A.C. 7:26E-3.7, e3i
BUENA VISTA TOWNSHIP
DEPARTMENT OF PUBLIC WORKS
BUENA VISTA TOWNSHIP, ATLANTIC COUNTY, NEW JERSEY

Map ID #	Well Owner	Well Address	Block	Lot	Permit #	Well Diameter (in.)	Well Construction	Total Depth (ft.)	Length of Casing (ft.)	Length of Screen (ft.)	Static Water Level bgs. (ft.)	Date Completed	Well Use	Source of Information
74	Sam Brunozzi	201 DeRosa Drive, E. Vineland, NJ	5801	11	35-17674	4	PVC	95	85	10	10	04/30/1997	Domestic Replacement	Well Record/Well Permit
75	Marion Villa Libby	4630 Post Road	5801	24	35-18021	4	N/A	100	N/A	N/A	N/A	9/10/97 (approved)	Domestic	Well Permit
76	Jon Henson	Post Road	5801	24.01	35-24142	4	PVC	130	110	10	15	08/27/2003	Domestic	Well Record
77	Joseph Betty	418 Tuckahoe Road	5801	20	35-21431	4	PVC	115	105	10	22	01/25/2001	Domestic Replacement	Well Record
78	Pauline Phlimee	120 DeRosa Drive	5802	8	35-19634	4	PVC	65	55	10	12	04/27/1999	Domestic Replacement	Well Record
79	Rosalie Gunston	208 DeRosa Drive	5802	14	35-23896	4	PVC	100	90	10	14	04/10/2003	Domestic Replacement	Well Record
80	David W. Fresne	Tuckahoe Road	5201	1	35-22054	4	PVC	100	90	10	19	08/14/2001	Domestic Replacement	Well Record
81	Maria T. Roman	214 DeRosa Drive, Buena Vista Township, NJ	5802	1	35-08939	2	Steel	80	75	5	10	05/01/1989	Domestic	Well Record/Well Permit
82	Anthony Cerrato - Anthony Joseph's Barber	3973 Oak Road, Vineland, NJ	5801	6	35-3790	4	PVC	65	55	10	14	08/11/1983	Domestic - Replacement	Well Record/Well Permit
83	Paul Coia	N/A	N/A	N/A	5500210	N/A	N/A	90	N/A	N/A	N/A	N/A	Fire	Computer Database
84	Paul Coia	N/A	N/A	N/A	3500146	N/A	N/A	54	N/A	N/A	N/A	N/A	Fire	Computer Database
85	Paul Coia	N/A	N/A	N/A	5500211	N/A	N/A	90	N/A	N/A	N/A	N/A	Fire	Computer Database

ATTACHMENT N

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
TRENTON, N.J.

Permit No. 3506403-0

Mail to

Water Allocation
CN 029
Trenton, N.J. 08625

PERMIT TO DRILL WELL

VALID ONLY AFTER APPROVAL BY THE D.E.P. 35-03-624

Owner Buena Vista Twp.
Address Harding Hi-Way
Buena, N.J. 08310
Name of Facility Buena Vista Twp Landfill
Address N. Union Rd.
E. Vineland, N.J. 08360

Driller Jack Quinlan
Address E. Landis Ave.
E. Vineland, N.J. 08360

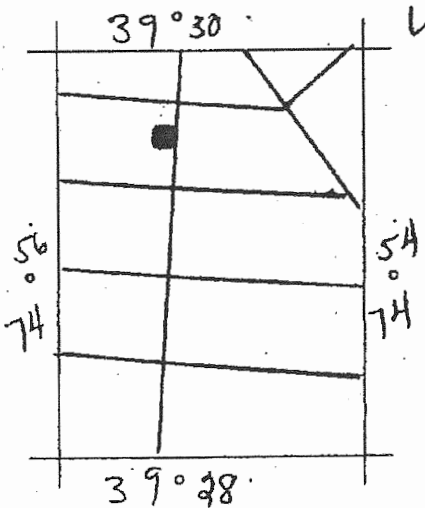
Diameter of Well	<u>4</u>	Inches	Proposed Depth of Well	<u>40</u>	Feet
Proposed Capacity of Pump	<u>2</u>	GPM	Method of Drilling	<u>(cable-foot, rotary, etc.) Rotary</u>	
Use of Well (See Reverse)	<u>Monitoring</u>				

LOCATION OF WELL

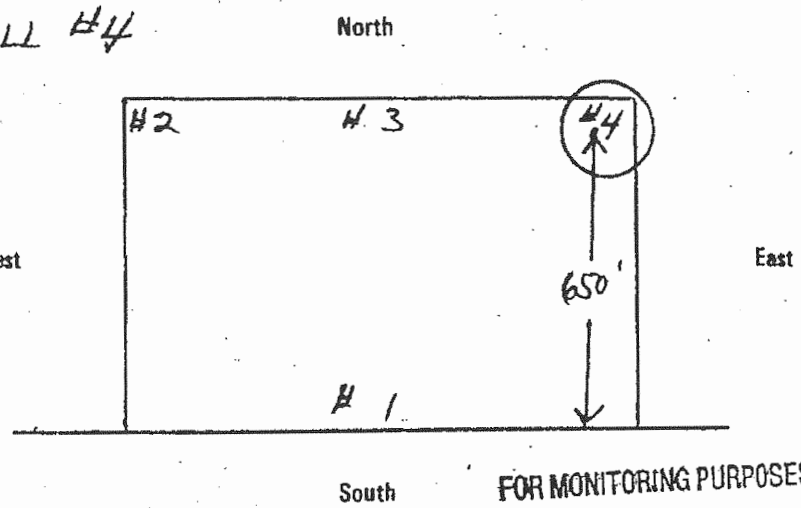
Lot #	Block #	Municipality	County
<u>2A</u>	<u>182</u>	<u>Buena Vista Twp</u>	<u>Atlantic</u>

Draw sketch showing distance and relations of well site to nearest public roads, streets, septic systems, etc.

State Atlas Map No. 35



WELL #4



FOR MONITORING PURPOSES ONLY

SEE REVERSE SIDE for IMPORTANT PROVISIONS AND REGULATIONS pertaining to this permit. APPROVAL of this permit is made SUBJECT TO acceptance of and compliance with the following ADDITIONAL CONDITIONS.

- Pinelands - Well must be drilled over 100' deep or a clay layer at least 4' in thickness must be encountered.
- It is necessary that Geophysical Logs of this well be made. Permanent pumping equipment SHALL NOT be installed until such logs are made.
- Authorization by rule under N.J.A.C. 7:14A-1 et seq.
- Samples of cuttings required every _____ feet or change in material.
- The results of a volatile organic scan must be obtained prior to using the water and submitted to _____.
- Domestic Potable Water Supply - The service line for water from the public community water supply system shall be turned off at the curb cock, and the meter shall be removed by the water purveyor.
- Domestic Irrigation Supply - No piping from the well for which the permit applies shall enter any building.
- Industrial/Commercial Supply - A physical connection permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10-1 et seq., and a vigorous cross connections control program shall be instituted and maintained within the premises.
- Heat Pump Wells - Wells must be 50 feet apart and the water must be returned to the same aquifer as the production well.
- _____

This Space for Approval Stamp

WELL PERMIT APPROVED
Dept. of Environmental Protection
Water Resources/Water Allocation

APR 07 1987

In compliance with R.S. 58:4A-14, application is made for a permit to drill a well as described above.

Date 3/24/87

Authorized Agent: Jack Quinlan
Signature of Owner

COPIES:

Water Allocation - White

Health Dept. - Yellow

Owner - Blue

WELPMT 011 0004

WELL RECORD

Well Permit No. 35-06403-0
Atlas Sheet Coordinates 35:03:024

OWNER IDENTIFICATION - Owner Buena Vista Township
Address Harding Hi-Way
City Buena State N.J. Zip Code 08310

WELL LOCATION - If not the same owner please give address. Owner's Well No. _____
Address N. Union Rd.
County Atlantic Municipality Buena Vista Twp Lot No. 2A Block No. 182

WELL USE Monitoring Status Completed

WATER USE _____ Average _____ gals. daily Maximum _____ gals. daily

WELL CONSTRUCTION Data well completed 4/5/88
BOREHOLE DIMENSIONS Depth: Total 42.5 ft. Finished 42.5 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 110 ft. Elevation was determined using map
Casing Height (stick-up) above land surface 24" ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Mat Size(s)
Casing 1		<u>22.5</u>	<u>4</u>	<u>PVC</u>
Casing 2				
Casing 3				
Screen 1	<u>22.5</u>	<u>20</u>	<u>4</u>	<u>PVC .020</u>
Screen 2				
Tail Piece				
Gravel Pack	<u>22.5</u>	<u>20</u>		<u>41</u>
Grout	<u>0</u>	<u>22.5</u>		<u>Bennite</u>
Grouting Method				

WELL FLOWS NATURALLY No gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 4/5/88
Static water-level before pumping 25' ft. below land surface. Water level _____ ft. below land surface after _____ hrs. of pumping.
Water level was measured using pressure Drawdown _____ ft.
Discharge rate measured using _____ Discharge Rate 10 gals. per min.
Well was pumped using air Specific Capacity _____ gals. per min. per ft. of drawdown
Observed effects on nearby wells _____
Water Quality (taste, odor, color, etc.) _____

PERMANENT PUMPING EQUIPMENT Installed by None Pump Type _____
Mfr. Name _____ Model _____
CAPACITY: Pump delivers _____ GPM at _____ PSI pressure.
POWER: _____ HP at _____ RPM Power Source _____
DEPTHS: Pump _____ ft. Footplate _____ ft. Airline _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor Quinlan Well Drilling
Address E. Landis Ave.
City E. Vineland State N.J. Zip Code 08360
Name of Driller Jack Quinlan License No. 962

Signature of Contractor Jack Quinlan Date 11/1/88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

5

DWR-133 (5/85)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
TRENTON, N.J.

Permit No. 3506404-8

Mail to

Water Allocation
CN 029
Trenton, N.J. 08625

PERMIT TO DRILL WELL

VALID ONLY AFTER APPROVAL BY THE D.E.P.

35.03.424

Owner Buena Vista Twp.
Address Harding- Hi-Way
Buena, N.J. 08310
Name of Facility Buena Vista Twp. Landfill
Address N. Union Rd.
E. Vineland, N.J. 08360

Driller Jack Quinlan
Address E. Landis Ave.
E. Vineland, N.J. 08360

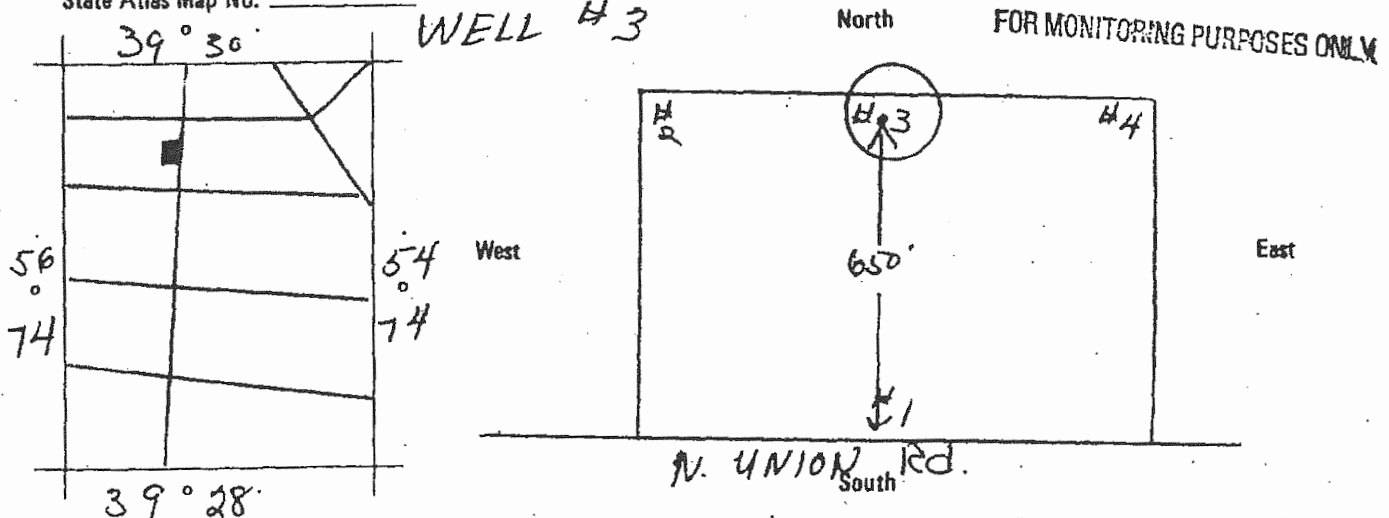
Diameter of Well	4	Inches	Proposed Depth of Well	40	Feet
Proposed Capacity of Pump	2	GPM	Method of Drilling	(cable-tool, rotary, etc.) Rotary	
Use of Well (See Reverse)	Monitoring				

LOCATION OF WELL

Lot #	Block #	Municipality	County
2A	182	Buena Vista Twp	Atlantic

Draw sketch showing distance and relations of well site to nearest public roads, streets, septic systems, etc.

State Atlas Map No. 35



SEE REVERSE SIDE for IMPORTANT PROVISIONS AND REGULATIONS pertaining to this permit. APPROVAL of this permit is made SUBJECT TO acceptance of and compliance with the following ADDITIONAL CONDITIONS.

- Pinelands - Well must be drilled over 100' deep or a clay layer at least 4" in thickness must be encountered.
- It is necessary that Geophysical Logs of this well be made. Permanent pumping equipment SHALL NOT be installed until such logs are made.
- Authorization by rule under N.J.A.C. 7:14A-1 et seq.
- Samples of cuttings required every _____ feet or change in material.
- The results of a volatile organic scan must be obtained prior to using the water and submitted to _____.
- Domestic Potable Water Supply - The service line for water from the public community water supply system shall be turned off at the curb cock, and the meter shall be removed by the water purveyor.
- Domestic Irrigation Supply - No piping from the well for which the permit applies shall enter any building.
- Industrial/Commercial Supply - A physical connection permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10-1 et seq., and a vigorous cross connections control program shall be instituted and maintained within the premises.
- Heat Pump Wells - Wells must be 50 feet apart and the water must be returned to the same aquifer as the production well.
-

This Space for Approval Stamp

WELL PERMIT APPROVED
Dept. of Environmental Protection
Water Resources/Water Allocation

APR 27 1987

In compliance with R.S. 58:4A-14, application is made for a permit to drill a well as described above.

Date 3/24/87

Authorized Agent: Jack Quinlan
Signature of Owner

COPIES:

Water Allocation - White

Health Dept. - Yellow

Owner - Blue

WELPMT 011 0005

WELL RECORD

Well Permit No. 35-06404-8
Atlas Sheet Coordinates 35 : 03 : 024

OWNER IDENTIFICATION - Owner Buena Vista Township
Address Harding Hi-Way
City Buena State N.J. Zip Code 08310

WELL LOCATION - If not the same owner please give address. Owner's Well No. _____
Address N. Union Rd.
County Atlantic Municipality Buena Vista Twp Lot No. 2A Block No. 182

WELL USE Monitoring Status Completed

WATER USE _____ Average _____ gals. daily Maximum _____ gals. daily

WELL CONSTRUCTION Date well completed 4-15-88
BOREHOLE DIMENSIONS Depths: Total 42.5 ft. Finished 42.5 ft.
Diameter: Top 8 in. Bottom 8 in.

Land Surface Elevation at well 110 ft. Elevation was determined using map
Casing Height (stick-up) above land surface _____ ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Elot Blue(s)
Casing 1		<u>22.5</u>	<u>4</u>	<u>PVC</u>
Casing 2				
Casing 3				
Screen 1	<u>22.5</u>	<u>20</u>	<u>4</u>	<u>PVC .020</u>
Screen 2				
Tail Piece				
Gravel Pack	<u>22.5</u>	<u>20</u>		<u>N/A</u>
Grout	<u>0</u>	<u>22.5</u>		<u>Bennite</u>
Grouting Method				

WELL FLOWS NATURALLY No gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 4-15-88
Static water-level before pumping 25 ft. below land surface. Water level _____ ft. below land surface after _____ hrs. of pumping.
Water level was measured using cell Drawdown _____ ft.
Discharge rate measured using _____ Discharge Rate 10+ gals. per min.
Well was pumped using _____ Specific Capacity _____ gals. per min. per ft. of drawdown
Observed effects on nearby wells _____
Water Quality (taste, odor, color, etc.) _____

PERMANENT PUMPING EQUIPMENT Installed by None Pump Type _____
Mfrs. Name _____ Model _____
CAPACITY: Pump delivers _____ GPM at _____ PSI pressure.
POWER: _____ HP at _____ RPM Power Source _____
DEPTHS: Pump _____ ft. Footpieces _____ ft. Airline _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor Quinlan Well Drilling
Address E. Landis Ave.
City E. Vineland State N.J. Zip Code 08360
Name of Driller Jack Quinlan License No. 962

Signature of Contractor Jack Quinlan Date 11 / 1 / 88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
TRENTON, N.J.

5

Permit No. 3506405-6

Mail to
Water Allocation
CN 029
Trenton, N.J. 08625

PERMIT TO DRILL WELL

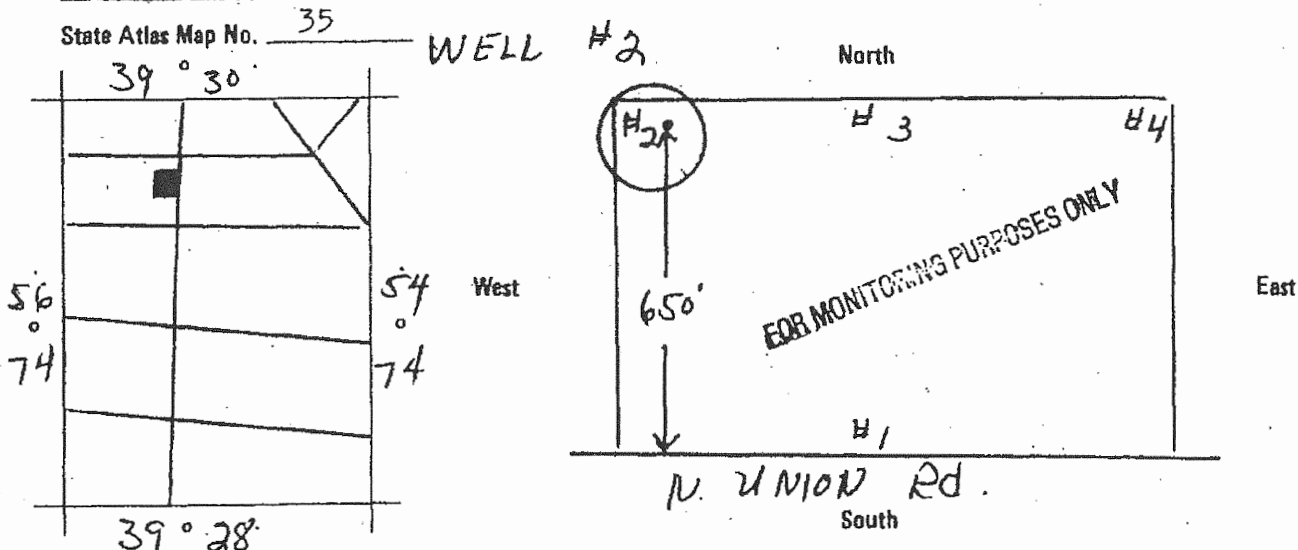
VALID ONLY AFTER APPROVAL BY THE D.E.P. 35.03.6 24

Owner <u>Buena Vista Twp.</u>	Driller <u>Jack Quinlan</u>
Address <u>Harding Hi-Way</u>	Address <u>E. Landis Ave.</u>
<u>Buena, N.J. 08310</u>	<u>E. Vineland, N.J. 08360</u>
Name of Facility <u>Buena Vista Twp. Landfill</u>	Diameter of Well <u>4</u> Inches
Address <u>N. Union Rd.</u>	Proposed Depth of Well <u>40</u> Feet
<u>E. Vineland, N.J. 08360</u>	Proposed Capacity of Pump <u>2</u> GPM
	Method of Drilling <u>Rotary</u>
	Use of Well (See Reverse) <u>Monitoring</u>

LOCATION OF WELL

Lot #	Block #	Municipality	County
2A	182	Buena Vista Twp	Atlantic

Draw sketch showing distance and relations of well site to nearest public roads, streets, septic systems, etc.



SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS pertaining to this permit. APPROVAL of this permit is made SUBJECT TO acceptance of and compliance with the following ADDITIONAL CONDITIONS.

- Pinelands - Well must be drilled over 100' deep or a clay layer at least 4' in thickness must be encountered.
- It is necessary that Geophysical Logs of this well be made. Permanent pumping equipment SHALL NOT be installed until such logs are made.
- Authorization by rule under N.J.A.C. 7:14A-1 et seq.
- Samples of cuttings required every _____ feet or change in material.
- The results of a volatile organic scan must be obtained prior to using the water and submitted to _____
- Domestic Potable Water Supply - The service line for water from the public community water supply system shall be turned off at the curb cock, and the meter shall be removed by the water purveyor.
- Domestic Irrigation Supply - No piping from the well for which the permit applies shall enter any building.
- Industrial/Commercial Supply - A physical connection permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10-1 et seq., and a vigorous cross connections control program shall be instituted and maintained within the premises.
- Heat Pump Wells - Wells must be 50 feet apart and the water must be returned to the same aquifer as the production well.
- _____

This Space for Approval Stamp

WELL PERMIT APPROVED
Dept. of Environmental Protection
Water Resources/Water Allocation

APR 07 1987

In compliance with R.S. 58:4A-14, application is made for a permit to drill a well as described above.

Date 3/24/87

Authorized Agent: Jack Quinlan
Signature of Owner

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue WELPMT 011 0006

WELL RECORD

Well Permit No. 35-06405-6
Atlas Sheet Coordinates 35:03:604

OWNER IDENTIFICATION - Owner Buena Vista Township
Address Harding Hi-Way
City Buena State N.J. Zip Code 08310

WELL LOCATION - If not the same owner please give address. Owner's Well No. _____
Address N. Union Rd.
County Atlantic Municipality Buena Vista Twp Lot No. 2A Block No. 182

WELL USE Monitoring Status Completed

WATER USE _____ Average _____ gals. daily Maximum _____ gals. daily

WELL CONSTRUCTION Date well completed 4/5/88
BOREHOLE DIMENSIONS Depth: Total 42.5 ft. Finished 42.5 ft.
Diameter: Top 8 in. Bottom 8 in.

Land Surface Elevation at well 110 ft. Elevation was determined using map
Casing Height (stick-up) above land surface 18" ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		<u>22.5</u>	<u>4</u>	<u>PVC</u>
Casing 2				
Casing 3				
Screen 1	<u>22.5</u>	<u>20</u>	<u>4</u>	<u>PVC .020</u>
Screen 2				
Tail Piece				
Gravel Pack	<u>22.5</u>	<u>20</u>		<u>#1</u>
Grout	<u>0</u>	<u>22.5</u>		<u>Remnant</u>
Grouting Method				

WELL FLOWS NATURALLY No gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 4/5/88
Static water-level before pumping 22.5 ft. below land surface. Water level _____ ft. below land surface after _____ hrs. of pumping.
Water level was measured using level Drawdown _____ ft.
Discharge rate measured using _____ Discharge Rate 10 gals. per min.
Well was pumped using air Specific Capacity _____ gals. per min. per ft. of drawdown
Observed effects on nearby wells _____
Water Quality (taste, odor, color, etc.) _____

PERMANENT PUMPING EQUIPMENT Installed by None Pump Type _____
Mfrs. Name _____ Model _____
CAPACITY: Pump delivers _____ GPM at _____ PSI pressure.
POWER: _____ HP at _____ RPM Power Source _____
DEPTHS: Pump _____ ft. Footpiece _____ ft. Airlift _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor Quinlan Well Drilling
Address E. Landis Ave.
City E. Vineland State N.J. Zip Code 08360
Name of Driller Jack Quinlan License No. 962

Signature of Contractor Jack Quinlan Date 11/1/88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
TRENTON, N.J.

5

Mail to

Water Allocation
CN 029
Trenton, N.J. 08625

Permit No. 3506406-4

PERMIT TO DRILL WELL

VALID ONLY AFTER APPROVAL BY THE D.E.P.

35.03.6²⁴

Owner Buena Vista Twp.
Address Harding Hi-Way
Buena, N.J. 08310

Driller Jack Quinlan
Address E. Landis Ave.
E. Vineland, N.J. 08360

Name of Facility Buena Vista Twp Landfill
Address N. Union Rd.
E. Vineland, N.J. 08360

Diameter of Well	4	Inches	Proposed Depth of Well	40	Feet
Proposed Capacity of Pump	2	GPM	Method of Drilling	(cable-tool, rotary, etc.) Rotary	
Use of Well (See Reverse) <u>Monitoring</u>					

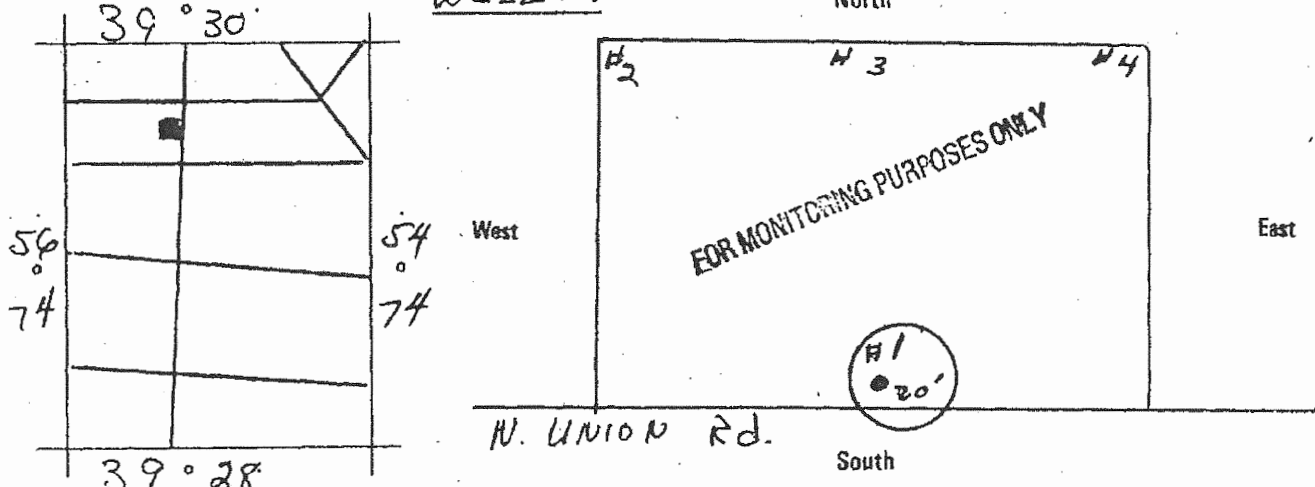
LOCATION OF WELL

Lot #	Block #	Municipality	County
2A	182	Buena Vista Twp	Atlantic

Draw sketch showing distance and relations of well site to nearest public roads, streets, septic systems, etc.

State Atlas Map No. 35

WELL #1



SEE REVERSE SIDE for IMPORTANT PROVISIONS AND REGULATIONS pertaining to this permit. APPROVAL of this permit is made SUBJECT TO acceptance of and compliance with the following ADDITIONAL CONDITIONS.

- Pinelands - Well must be drilled over 100' deep or a clay layer at least 4' in thickness must be encountered.
- It is necessary that Geophysical Logs of this well be made. Permanent pumping equipment SHALL NOT be installed until such logs are made.
- Authorization by rule under N.J.A.C. 7:14A-1 et seq.
- Samples of cuttings required every _____ feet or change in material.
- The results of a volatile organic scan must be obtained prior to using the water and submitted to _____.
- Domestic Potable Water Supply - The service line for water from the public community water supply system shall be turned off at the curb cock, and the meter shall be removed by the water purveyor.
- Domestic Irrigation Supply - No piping from the well for which the permit applies shall enter any building.
- Industrial/Commercial Supply - A physical connection permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10-1 et seq., and a vigorous cross connections control program shall be instituted and maintained within the premises.
- Heat Pump Wells - Wells must be 50 feet apart and the water must be returned to the same aquifer as the production well.
- _____

This Space for Approval Stamp

WELL PERMIT APPROVED
Dept. of Environmental Protection
Water Resources/Water Allocation

APR 07 1987

In compliance with R.S. 58:4A-14, application is made for a permit to drill a well as described above.

Date 3/24/87

Authorized Agent: Jack Quinlan
Signature of Owner

COPIES:

Water Allocation - White

Health Dept. - Yellow

Owner - Blue

WELPMT 011 0007

WELL RECORD

Well Permit No. 35-06406-4
Atlas Sheet Coordinates 35:03:0674

OWNER IDENTIFICATION - Owner Buena Vista Township
Address Harding Hi-Way
City Buena State N.J. Zip Code 08310

WELL LOCATION - If not the same owner please give address. Owner's Well No. _____
Address N. Union Rd.
County Atlantic Municipality Buena Vista Twp Lot No. 2A Block No. 182

WELL USE Monitoring Status Completed

WATER USE _____ Average _____ gals. daily Maximum _____ gals. daily

WELL CONSTRUCTION Data well completed 4/5/88
BOREHOLE DIMENSIONS Depths: Total 41 ft. Finished 41 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 110 ft. Elevation was determined using map
Casing Height (stick-up) above land surface 18" ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL <small>Screens: Note Slot Size(s)</small>
Casing 1		<u>21</u>	<u>4</u>	<u>PVC</u>
Casing 2				
Casing 3				
Screen 1	<u>21</u>	<u>20</u>	<u>4</u>	<u>PVC .020</u>
Screen 2				
Tail Piece				
Gravel Pack	<u>21</u>	<u>20</u>		<u>H/ bentonite</u>
Grout	<u>0</u>	<u>21</u>		
Grouting Method				

WELL FLOWS NATURALLY No gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 4/5/88
Static water-level before pumping 21.5 ft. below land surface. Water level _____ ft. below land surface after _____ hrs. of pumping.
Water level was measured using cell Drawdown _____ ft.
Discharge rate measured using _____ Discharge Rate 107 gals. per min.
Well was pumped using air Specific Capacity _____ gals. per min. per ft. of drawdown
Observed effects on nearby wells _____
Water Quality (taste, odor, color, etc.) _____

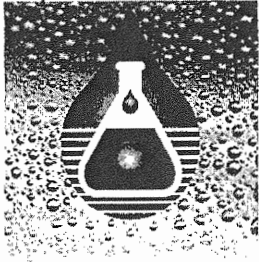
PERMANENT PUMPING EQUIPMENT Installed by None Pump Type _____
Mfrs. Name _____ Model _____
CAPACITY: Pump delivers _____ GPM at _____ PSI pressure.
POWER: _____ HP at _____ RPM Power Source _____
DEPTHS: Pump _____ ft. Footpiece _____ ft. Airline _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor Quinlan Well Drilling
Address E. Landis Ave.
City E. Vineland State N.J. Zip Code 08360
Name of Driller Jack Quinlan License No. 962

Signature of Contractor Jack Quinlan Date 11/1/88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

ATTACHMENT O



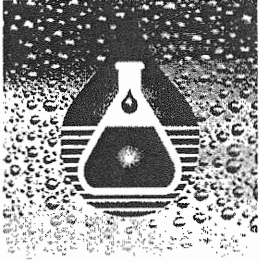
**South Jersey
Water Test, LLC**
4077 South Black Horse Pike
Williamstown, NJ 08094
856-875-3506 Phone
856-875-3507 Fax

www.sjwatertest.com
NJ DEP Certified Lab #08006
Professional Septic Inspections

Buena Township Landfill - Sampled on April 4, 2014

Depth to Water and Total Depth

Well ID	Depth to Water	Total Depth
MWA	23.85	43.00
MWB	13.14	40.50
MWC	18.42	33.00
MWD	24.44	42.50



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Williamstown, NJ 08094
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NJ DEP Certified Lab #08006
Professional Septic Inspections

Tuesday, April 08, 2014

Mr. Rich Calareso
Buena Vista Township
890 Harding Highway
Buena, NJ 08310

Certificate of Analysis

Property Address: Buena Township, Monitoring Wells

Sample Location: MWA

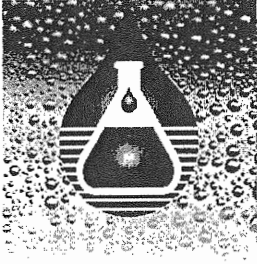
Date/Time Sampled: 04/04/2014 14:15

Test/ Parameter	Date/Time Analyzed	Result	Allowable Limit	Units	Reporting Limit	Method
Sample ID	M44244					
Nitrate	04/04/2014 18:12	4,416	10,000	ug/L	1,000	SM4500NO3D
Mercury	04/07/2014 16:49	<0.5	2	ug/L	0.5	EPA 245.1

Sample Location: MWB

Date/Time Sampled: 04/04/2014 14:50

Test/ Parameter	Date/Time Analyzed	Result	Allowable Limit	Units	Reporting Limit	Method
Sample ID	M44245					
Nitrate	04/04/2014 18:14	3,672	10,000	ug/L	1,000	SM4500NO3D
Mercury	04/07/2014 16:51	<0.5	2	ug/L	0.5	EPA 245.1



**South Jersey
Water Test, LLC**
 4077 South Black Horse Pike
 Williamstown, NJ 08094
 856-875-3506 Phone
 856-875-3507 Fax

www.sjwatertest.com
 NJ DEP Certified Lab #08006
 Professional Septic Inspections

Certificate of Analysis

Sample Location: MWC

Date/Time Sampled: 04/04/2014 15:55

Test/ Parameter	Date/Time Analyzed	Result	Allowable Limit	Units	Reporting Limit	Method
Sample ID	M44246					
Nitrate	04/04/2014 18:24	43,207	10,000	ug/L	1,000	SM4500NO3D
Mercury	04/07/2014 16:54	<0.5	2	ug/L	0.5	EPA 245.1

Sample Location: MWD

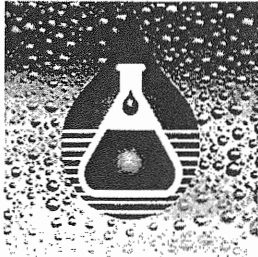
Date/Time Sampled: 04/04/2014 15:35

Test/ Parameter	Date/Time Analyzed	Result	Allowable Limit	Units	Reporting Limit	Method
Sample ID	M44247					
Nitrate	04/04/2014 18:30	56,177	10,000	ug/L	1,000	SM4500NO3D
Mercury	04/07/2014 17:06	<0.5	2	ug/L	0.5	EPA 245.1

This report relates only to the samples as received by the laboratory.

Mark J. Riether, Lab Director

4/8/14
Date



**South Jersey
Water Test, LLC**
4077 South Black Horse Pike
Williamstown, NJ 08094
856-875-3506 Phone
856-875-3507 Fax

www.sjwatertest.com
NJ DEP Certified Lab #08006
Professional Septic Inspections

4/8/2014

Buena Vista Township

Rich Calareso
890 Harding Highway
Buena, NJ 08310

Property Address: Buena Vista Twp - Monitoring Wells
MWA

Lab ID# M44244

Date sampled: 04/04/14 14:15
Date analyzed: 04/07/14 15:29

Volatile Organics (EPA Method 524.2)

Analyte	Results	Reporting Limit	MCL*
Dichlorodifluoromethane	ND	0.5	
Chloromethane	ND	0.5	
Vinyl chloride	5.08	0.5	2
Bromomethane	ND	0.5	
Chloroethane	1.57	0.5	
Trichlorofluoromethane	ND	0.5	
Methyl-tert-butyl ether	2.22	0.5	70
1,1-dichloroethene	ND	0.5	2
Methylene chloride	ND	0.5	3
trans-1,2-dichloroethene	ND	0.5	100
1,1-dichloroethane	ND	0.5	50
2,2-dichloropropane	ND	0.5	
cis-1,2-dichloroethene	ND	0.5	70
Chloroform	ND	0.5	**
Bromochloromethane	0.67	0.5	
1,1,1-trichloroethane	ND	0.5	30
1,1-dichloropropene	ND	0.5	
Carbon tetrachloride	ND	0.5	2
Benzene	1.18	0.5	1
1,2-dichloroethane	0.75	0.5	2
Trichloroethene	ND	0.5	1
1,2-dichloropropane	ND	0.5	5
Bromodichloromethane	0.52	0.5	**
Dibromomethane	0.85	0.5	
cis-1,3-dichloropropylene	ND	0.5	
Toluene	ND	0.5	1000
trans-1,3-dichloropropylene	0.5	0.5	
1,1,2-trichloroethane	0.91	0.5	3
Tetrachloroethene	ND	0.5	1
1,3-dichloropropane	ND	0.5	
Dibromochloromethane	0.77	0.5	**
1,2-dibromoethane	0.93	0.5	
Chlorobenzene	3.02	0.5	50
Ethylbenzene	ND	0.5	700
1,1,1,2-tetrachloroethane	ND	0.5	
p-xylene	ND	0.5	1000
m-xylene	ND	0.5	
o-xylene	ND	0.5	
Styrene	ND	0.5	100
Bromoform	1.04	0.5	**
1,1,2,2-tetrachloroethane	1.21	0.5	1
1,2,3-trichloropropane	1.11	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	0.57	0.5	
1,3,5-trimethylbenzene	ND	0.5	
2-chlorotoluene	ND	0.5	
4-chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
4-isopropyltoluene	ND	0.5	
1,3-dichlorobenzene	ND	0.5	600
1,4-dichlorobenzene	2.06	0.5	75
n-Butylbenzene	ND	0.5	
1,2-dichlorobenzene	0.96	0.5	600
1,2,4-trichlorobenzene	0.98	0.5	9
Hexachlorobutadiene	0.74	0.5	
Naphthalene	1.75	0.5	300
1,2,3-trichlorobenzene	1.51	0.5	

Units

(ug/L)

(ug/L)

(ug/L)

ND = Not Detected

*New Jersey or Federal Maximum Contaminant Level (MCL)

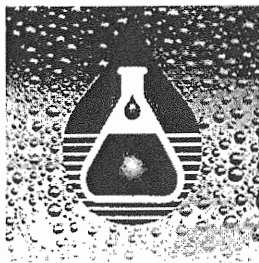
** The MCL for the sum of these 4 THMs is 80 ppb.

Mark J. Riether, Lab Director

Date

4/8/14

This report relates only to the samples as received by the laboratory.



**South Jersey
Water Test, LLC**
4077 South Black Horse Pike
Williamstown, NJ 08094
856-875-3506 Phone
856-875-3507 Fax

www.sjwatertest.com
NJ DEP Certified Lab #08006
Professional Septic Inspections

4/8/2014

Buena Vista Township

Rich Calareso
890 Harding Highway
Buena, NJ 08310

Property Address: Buena Vista Twp - Monitoring Wells
MWB

Lab ID# M44245

Date sampled: 04/04/14 14:15

Date analyzed: 04/07/14 15:29

Volatile Organics (EPA Method 524.2)

Analyte	Results	Reporting Limit	MCL*
Dichlorodifluoromethane	ND	0.5	
Chloromethane	ND	0.5	
Vinyl chloride	102.3	0.5	2
Bromomethane	ND	0.5	
Chloroethane	ND	0.5	
Trichlorofluoromethane	ND	0.5	
Methyl-tert-butyl ether	ND	0.5	70
1,1-dichloroethene	0.73	0.5	2
Methylene chloride	ND	0.5	3
trans-1,2-dichloroethene	4.91	0.5	100
1,1-dichloroethane	1.32	0.5	50
2,2-dichloropropane	ND	0.5	
cis-1,2-dichloroethene	410.8	0.5	70
Chloroform	ND	0.5	**
Bromochloromethane	ND	0.5	
1,1,1-trichloroethane	0.81	0.5	30
1,1-dichloropropene	ND	0.5	
Carbon tetrachloride	ND	0.5	2
Benzene	ND	0.5	1
1,2-dichloroethane	ND	0.5	2
Trichloroethene	82.5	0.5	1
1,2-dichloropropane	ND	0.5	5
Bromodichloromethane	ND	0.5	**
Dibromomethane	ND	0.5	
cis-1,3-dichloropropylene	ND	0.5	
Toluene	ND	0.5	1000
trans-1,3-dichloropropylene	ND	0.5	
1,1,2-trichloroethane	ND	0.5	3
Tetrachloroethene	ND	0.5	1
1,3-dichloropropane	ND	0.5	
Dibromochloromethane	ND	0.5	**
1,2-dibromoethane	ND	0.5	
Chlorobenzene	1.45	0.5	50
Ethylbenzene	ND	0.5	700
1,1,1,2-tetrachloroethane	ND	0.5	
p-xylene	ND	0.5	1000
m-xylene	ND	0.5	
o-xylene	ND	0.5	↓
Styrene	ND	0.5	100
Bromoform	ND	0.5	**
1,1,2,2-tetrachloroethane	ND	0.5	1
1,2,3-trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-trimethylbenzene	ND	0.5	
2-chlorotoluene	ND	0.5	
4-chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
4-isopropyltoluene	ND	0.5	
1,3-dichlorobenzene	ND	0.5	600
1,4-dichlorobenzene	ND	0.5	75
n-Butylbenzene	ND	0.5	
1,2-dichlorobenzene	ND	0.5	600
1,2,4-trichlorobenzene	ND	0.5	9
Hexachlorobutadiene	ND	0.5	
Naphthalene	ND	0.5	300
1,2,3-trichlorobenzene	ND	0.5	

Units

(ug/L)

(ug/L)

(ug/L)

ND = Not Detected

*New Jersey or Federal Maximum Contaminant Level (MCL)

** The MCL for the sum of these 4 THMs is 80 ppb.

Mark J. Riether, Lab Director

Date

4/8/14

This report relates only to the samples as received by the laboratory.



**South Jersey
Water Test, LLC**
4077 South Black Horse Pike
Williamstown, NJ 08094
856-875-3506 Phone
856-875-3507 Fax

www.sjwatertest.com
NJ DEP Certified Lab #08006
Professional Septic Inspections

4/8/2014

Buena Vista Township

Rich Calareso
890 Harding Highway
Buena, NJ 08310

Property Address: Buena Vista Twp - Monitoring Wells
MWC

Lab ID# M44246

Date sampled: 04/04/14 15:55
Date analyzed: 04/07/14 17:42

Volatile Organics (EPA Method 524.2)

Analyte	Results	Reporting Limit	MCL*
Dichlorodifluoromethane	ND	0.5	
Chloromethane	ND	0.5	
Vinyl chloride	ND	0.5	2
Bromomethane	ND	0.5	
Chloroethane	ND	0.5	
Trichlorofluoromethane	ND	0.5	
Methyl-tert-butyl ether	ND	0.5	70
1,1-dichloroethene	ND	0.5	2
Methylene chloride	ND	0.5	3
trans-1,2-dichloroethene	ND	0.5	100
1,1-dichloroethane	ND	0.5	50
2,2-dichloropropane	ND	0.5	
cis-1,2-dichloroethene	ND	0.5	70
Chloroform	ND	0.5	**
Bromochloromethane	ND	0.5	
1,1,1-trichloroethane	ND	0.5	30
1,1-dichloropropene	ND	0.5	
Carbon tetrachloride	ND	0.5	2
Benzene	ND	0.5	1
1,2-dichloroethane	ND	0.5	2
Trichloroethene	ND	0.5	1
1,2-dichloropropane	ND	0.5	5
Bromodichloromethane	ND	0.5	**
Dibromomethane	ND	0.5	
cis-1,3-dichloropropylene	ND	0.5	
Toluene	ND	0.5	1000
trans-1,3-dichloropropylene	ND	0.5	
1,1,2-trichloroethane	ND	0.5	3
Tetrachloroethene	ND	0.5	1
1,3-dichloropropane	ND	0.5	
Dibromochloromethane	ND	0.5	**
1,2-dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	50
Ethylbenzene	ND	0.5	700
1,1,1,2-tetrachloroethane	ND	0.5	
p-xylene	ND	0.5	1000
m-xylene	ND	0.5	↓
o-xylene	ND	0.5	↓
Styrene	ND	0.5	100
Bromoform	ND	0.5	**
1,1,2,2-tetrachloroethane	ND	0.5	1
1,2,3-trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-trimethylbenzene	ND	0.5	
2-chlorotoluene	ND	0.5	
4-chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
4-isopropyltoluene	ND	0.5	
1,3-dichlorobenzene	ND	0.5	600
1,4-dichlorobenzene	ND	0.5	75
n-Butylbenzene	ND	0.5	
1,2-dichlorobenzene	ND	0.5	600
1,2,4-trichlorobenzene	ND	0.5	9
Hexachlorobutadiene	ND	0.5	
Naphthalene	ND	0.5	300
1,2,3-trichlorobenzene	ND	0.5	

Units

(ug/L)

(ug/L)

(ug/L)

ND = Not Detected

*New Jersey or Federal Maximum Contaminant Level (MCL)

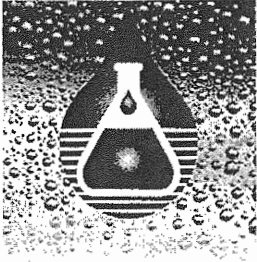
** The MCL for the sum of these 4 THMs is 80 ppb.

Mark J. Riether, Lab Director

Date

4/8/14

This report relates only to the samples as received by the laboratory.



**South Jersey
Water Test, LLC**
4077 South Black Horse Pike
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NJ DEP Certified Lab #08006
Professional Septic Inspections

4/8/2014

Buena Vista Township

Rich Calareso
890 Harding Highway
Buena, NJ 08310

Property Address: Buena Vista Twp - Monitoring Wells
MWD

Lab ID# M44247

Date sampled: 04/04/14 15:35
Date analyzed: 04/07/14 16:58

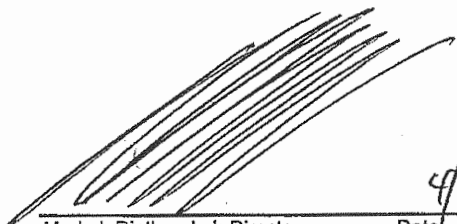
Volatile Organics (EPA Method 524.2)

Analyte	Results	Reporting Limit	MCL*
Dichlorodifluoromethane	ND	0.5	
Chloromethane	ND	0.5	
Vinyl chloride	ND	0.5	2
Bromomethane	ND	0.5	
Chloroethane	ND	0.5	
Trichlorofluoromethane	ND	0.5	
Methyl-tert-butyl ether	ND	0.5	70
1,1-dichloroethene	ND	0.5	2
Methylene chloride	ND	0.5	3
trans-1,2-dichloroethene	ND	0.5	100
1,1-dichloroethane	ND	0.5	50
2,2-dichloropropane	ND	0.5	
cis-1,2-dichloroethene	ND	0.5	70
Chloroform	ND	0.5	**
Bromochloromethane	ND	0.5	
1,1,1-trichloroethane	ND	0.5	30
1,1-dichloropropene	ND	0.5	
Carbon tetrachloride	ND	0.5	2
Benzene	ND	0.5	1
1,2-dichloroethane	ND	0.5	2
Trichloroethene	ND	0.5	1
1,2-dichloropropane	ND	0.5	5
Bromodichloromethane	ND	0.5	**
Dibromomethane	ND	0.5	
cis-1,3-dichloropropylene	ND	0.5	
Toluene	ND	0.5	1000
trans-1,3-dichloropropylene	ND	0.5	
1,1,2-trichloroethane	ND	0.5	3
Tetrachloroethene	ND	0.5	1
1,3-dichloropropane	ND	0.5	
Dibromochloromethane	ND	0.5	**
1,2-dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	50
Ethylbenzene	ND	0.5	700
1,1,1,2-tetrachloroethane	ND	0.5	
p-xylene	ND	0.5	1000
m-xylene	ND	0.5	
o-xylene	ND	0.5	
Styrene	ND	0.5	100
Bromoform	ND	0.5	**
1,1,2,2-tetrachloroethane	ND	0.5	1
1,2,3-trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-trimethylbenzene	ND	0.5	
2-chlorotoluene	ND	0.5	
4-chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
4-isopropyltoluene	ND	0.5	
1,3-dichlorobenzene	ND	0.5	600
1,4-dichlorobenzene	ND	0.5	75
n-Butylbenzene	ND	0.5	
1,2-dichlorobenzene	ND	0.5	600
1,2,4-trichlorobenzene	ND	0.5	9
Hexachlorobutadiene	ND	0.5	
Naphthalene	ND	0.5	300
1,2,3-trichlorobenzene	ND	0.5	
Units	(ug/L)	(ug/L)	(ug/L)

ND = Not Detected

*New Jersey or Federal Maximum Contaminant Level (MCL)

** The MCL for the sum of these 4 THMs is 80 ppb.


Mark J. Riether, Lab Director
Date: 4/8/14

This report relates only to the samples as received by the laboratory.

CHAIN OF CUSTODY RECORD



South Jersey Water Test, LLC
 4077 South Black Horse Pike
 Williamstown, NJ 08094
 Phone: 856-875-3506 Fax: 856-875-3507
 www.sjwatertest.com
 NJ DEP Certification #08006

Customer:	Buena Township Public Works Dept
Contact:	Rich Calareso
Address:	890 Harding Highway Buena, NJ 08310
Phone:	856-697-2100 Fax:
Cell:	609-381-4677

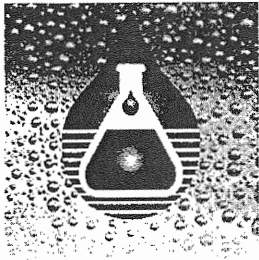
Lab ID#	Sample Location	Collection		Grab	Comp	Matrix	Field Measurements	No. of Bottles	Pres.	Analysis Required
		Date	Time							
M44244	BUENA TWP MWA	4/4/14	14:15	X		GW	Depth = 23.85	2 X 40	HCL	VO + 10
				X		D		1 X 125	HNO3	Hg
				X		D		1 X 125	NA	Nitrates
M44245	BUENA TWP MWB		7:50	X		GW	Depth = 13.01	2 X 40	HCL	VO + 10
				X		D		1 X 125	HNO3	Hg
				X		D		1 X 125	NA	Nitrates
M44246	BUENA TWP, MWC		15:55	X		GW	Depth = 18.92	2 X 40	HCL	VO + 10
				X		D		1 X 125	HNO3	Hg
				X		D		1 X 125	NA	Nitrates
M44247	BUENA TWP, MWD		15:35	X		GW	Depth = 24.44	2 X 40	HCL	VO + 10
				X		D		1 X 125	HNO3	Hg
				X		D		1 X 125	NA	Nitrates

-142-

MATRIX ABBREVIATIONS: D\DRINKING WATER A\AQUEOUS S\SOIL SL\SLUDGE GW\GROUND WATER SW\SURFACE WATER WW\WASTE WATER

Turnaround Time <input checked="" type="checkbox"/> SJWT Standard is 10 work days <input type="checkbox"/> Rush turnaround available upon request and lab approval _____	Report Format <input type="checkbox"/> Standard <input type="checkbox"/> NJ DEP Reduced Deliverables <input type="checkbox"/> NJ DEP Full Deliverables <input type="checkbox"/> Electronic Data Deliverables <input type="checkbox"/> PWT A Format	Comments/Special Instructions <input type="checkbox"/> If this box is checked a VOC trip blank sample has been collected and will be analyzed if VOC hits are above the MCL.	Cooler Temp 100 ± 0.0 °C
		<input type="checkbox"/> If this box is checked, duplicate pH, Bacteria, and Residual Chlorine samples have been collected. pH = _____ Res. Cl. = _____	Properly Preserved <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Sampled by: (Print) <i>MAAM</i>		pH 3 Hour Check			
		pH Meter #:	Lot #:	pH 7 Reread:	
		pH Buffer:	Exp:	Time:	
Relinquished by: (Signature) <i>E Ham</i>	Date 4/4/14	Time 16:30	Received by: (Signature) <i>[Signature]</i>	Date 4/4/14	Time 1630
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time



**South Jersey
Water Test, LLC**
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Williamstown, NJ 08094
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Tuesday, April 08, 2014

Mr. Rich Calareso
Buena Vista Township
890 Harding Highway
Buena, NJ 08310

Certificate of Analysis

Property Address: 890 Harding Highway

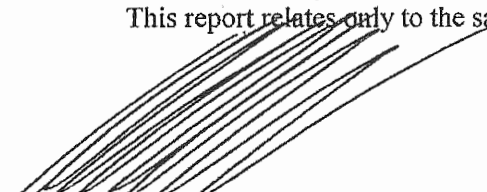
Sample Location: Men's Bathroom Sink

Date/Time Sampled: 04/03/2014 15:30

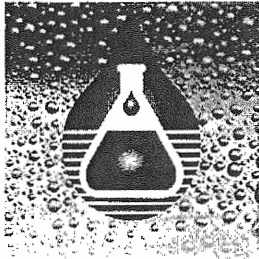
Test/ Parameter	Date/Time Analyzed	Result	Allowable Limit	Units	Reporting Limit	Method
Sample ID	M44221					
pH	04/03/2014 15:30	5.56	6.5 to 8.5	su	N.A.	SM4500HB
Nitrate	04/04/2014 08:56	<1,000	10,000	ug/L	1,000	SM4500NO3D
Total Coliform Bacteria	04/04/2014 09:30	Presence	Absence	Presence/ Absence	N.A.	SM9223BUV
E. coli	04/04/2014 09:30	Absence	Absence	Presence/ Absence	N.A.	SM9223BUV
Iron	04/07/2014 12:09	<0.10	0.3	mg/L	0.10	SM3111B
Lead	04/07/2014 15:14	5.83	5	ug/L	2.0	SM3113B
Manganese	04/07/2014 13:08	<0.025	0.05	mg/L	0.025	SM3111B
Mercury	04/07/2014 18:15	<0.5	2	ug/L	0.5	EPA 245.1
Gross Alpha ¹	04/04/2014 17:00	2.0±0.6	15	pCi/L	0.6	ECLS-R-GA
Volatile Organics	04/08/2014 13:45	see attached				EPA 524.2

¹ Parameters were analyzed by KNL Laboratory Services. NJDEP Cert # FL008.

This report relates only to the samples as received by the laboratory.


Mark J. Riether, Lab Director


Date



**South Jersey
Water Test, LLC**
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NJ DEP Certified Lab #08006
Professional Septic Inspections

4/8/2014

Buena Vista Township

Rich Calareso
890 Harding Highway
Buena, NJ 08310

Property Address: 890 Harding Highway
Buena, NJ 08310
Public Works Building

Lab ID# M44221

Date sampled: 04/03/14 15:30
Date analyzed: 04/08/14 13:45

Volatile Organics (EPA Method 524.2)

Analyte	Results	Reporting Limit	MCL*
Dichlorodifluoromethane	ND	0.5	
Chloromethane	ND	0.5	
Vinyl chloride	ND	0.5	2
Bromomethane	ND	0.5	
Chloroethane	ND	0.5	
Trichlorofluoromethane	ND	0.5	
Methyl-tert-butyl ether	ND	0.5	70
1,1-dichloroethene	ND	0.5	2
Methylene chloride	ND	0.5	3
trans-1,2-dichloroethene	ND	0.5	100
1,1-dichloroethane	ND	0.5	50
2,2-dichloropropane	ND	0.5	
cis-1,2-dichloroethene	ND	0.5	70
Chloroform	ND	0.5	**
Bromochloromethane	ND	0.5	
1,1,1-trichloroethane	ND	0.5	30
1,1-dichloropropene	ND	0.5	
Carbon tetrachloride	ND	0.5	2
Benzene	ND	0.5	1
1,2-dichloroethane	ND	0.5	2
Trichloroethene	ND	0.5	1
1,2-dichloropropane	ND	0.5	5
Bromodichloromethane	ND	0.5	**
Dibromomethane	ND	0.5	
cis-1,3-dichloropropylene	ND	0.5	
Toluene	ND	0.5	1000
trans-1,3-dichloropropylene	ND	0.5	
1,1,2-trichloroethane	ND	0.5	3
Tetrachloroethene	ND	0.5	1
1,3-dichloropropane	ND	0.5	
Dibromochloromethane	ND	0.5	**
1,2-dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	50
Ethylbenzene	ND	0.5	700
1,1,1,2-tetrachloroethane	ND	0.5	
p-xylene	ND	0.5	1000
m-xylene	ND	0.5	
o-xylene	ND	0.5	↓
Styrene	ND	0.5	100
Bromoform	ND	0.5	**
1,1,2,2-tetrachloroethane	ND	0.5	1
1,2,3-trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-trimethylbenzene	ND	0.5	
2-chlorotoluene	ND	0.5	
4-chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
4-isopropyltoluene	ND	0.5	
1,3-dichlorobenzene	ND	0.5	600
1,4-dichlorobenzene	ND	0.5	75
n-Butylbenzene	ND	0.5	
1,2-dichlorobenzene	ND	0.5	600
1,2,4-trichlorobenzene	ND	0.5	9
Hexachlorobutadiene	ND	0.5	
Naphthalene	ND	0.5	300
1,2,3-trichlorobenzene	ND	0.5	
Units	(ug/L)	(ug/L)	(ug/L)

ND = Not Detected

*New Jersey or Federal Maximum Contaminant Level (MCL)

** The MCL for the sum of these 4 THMs is 80 ppb.

This report relates only to the samples as received by the laboratory.

Mark J. Riether, Lab Director

Date

4/8/14

CHAIN OF CUSTODY RECORD



South Jersey Water Test, LLC
 4077 South Black Horse Pike
 Williamstown, NJ 08094
 Phone: 856-875-3506 Fax: 856-875-3507
 www.sjwatertest.com
 NJ DEP Certification #08006

Customer:	
Contact	
Address:	
Phone:	Fax:
Cell:	

Lab ID#	Sample Location	Collection		Grab	Comp	Matrix	Field Measurements	No. of Bottles	Pres.	Analysis Required
		Date	Time							
M44221	Mens Bathroom [unclear]	4/3/14	15:30	X		D	Res. Cl. = <05	----	----	Time Analyzed: 15:30 Meter # 3
	Public Works			X		D		1 X 120	NaThio	Total Coliform/E.coli
	Bldg. raw			X		D		1 X 125	NA	Nitrates
				X		D		1 X 250	HNO3	Fe, Mn, Pb, Hg
				X		D		2 X 40	HCL	VOC's
				X		D		1 X 125	HNO3	Gross Alpha
				X		D	pH = 5.56	----	----	Time Analyzed: 15:30 Meter # 3
				X		D		1 X 125	HNO3	Fe, Mn
				X		D	pH =	----	----	Time Analyzed: Meter #

MATRIX ABBREVIATIONS: D\DRINKING WATER A\AQUEOUS S\SOIL SL\SLUDGE GW\GROUND WATER SWS\SURFACE WATER WWW\WASTE WATER

Turnaround Time <input checked="" type="checkbox"/> SJWT Standard is 10 work days <input type="checkbox"/> Rush turnaround available upon request and lab approval _____	Report Format <input checked="" type="checkbox"/> Standard <input type="checkbox"/> NJ DEP Reduced Deliverables <input type="checkbox"/> NJ DEP Full Deliverables <input type="checkbox"/> Electronic Data Deliverables <input type="checkbox"/> PWTa Format	Comments/Special Instructions <input type="checkbox"/> If this box is checked a VOC trip blank sample has been collected and will be analyzed if VOC hits are above the MCL. <input type="checkbox"/> If this box is checked, duplicate pH, Bacteria, and Residual Chlorine samples have been collected. pH = _____ Res. Cl. = _____	Cooler Temp cool 2.8 °C Properly Preserved <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	--	--	---

pH 3 Hour Check			
pH Meter #:	Lot #:	pH 7 Reread:	
pH Buffer:	Exp:	Time:	

Sampled by: (Print) <i>[Signature]</i>					
Relinquished by: (Signature) <i>[Signature]</i>	Date 4/3/14	Time 16:00	Received by: (Signature) <i>[Signature]</i>	Date 4/3/14	Time 16:00
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

-145-

ATTACHMENT P



South Jersey Water Test, LLC

4077 South Black Horse Pike

Williamstown, NJ 08094

856-875-3506 Phone

856-875-3507 Fax

www.sjwatertest.com

NJDEP Certified Lab # 08006

Professional Septic Inspections

Monday, October 27, 2014

Mr. Rich Calareso
Buena Vista Township
430 Union Rd.
East Vineland, NJ 08310

Reference: Buena Vista Township – Public Works Facility
Groundwater Sampling and Testing (10/23/14)

Dear Rich:

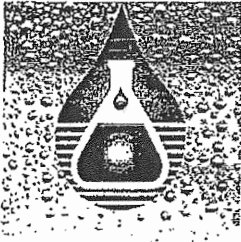
Enclosed find the a site plan, field measurements, and laboratory results for the monitoring well sampling at the Buena Vista Township – Public Works Facility.

Please call me if you have any questions.

Sincerely,

Mark J. Riether

Mark J. Riether
Laboratory Director



**South Jersey
Water Test, LLC**
4077 South Black Horse Pike
Williamstown, NJ 08094
856-875-3506 Phone
856-875-3507 Fax

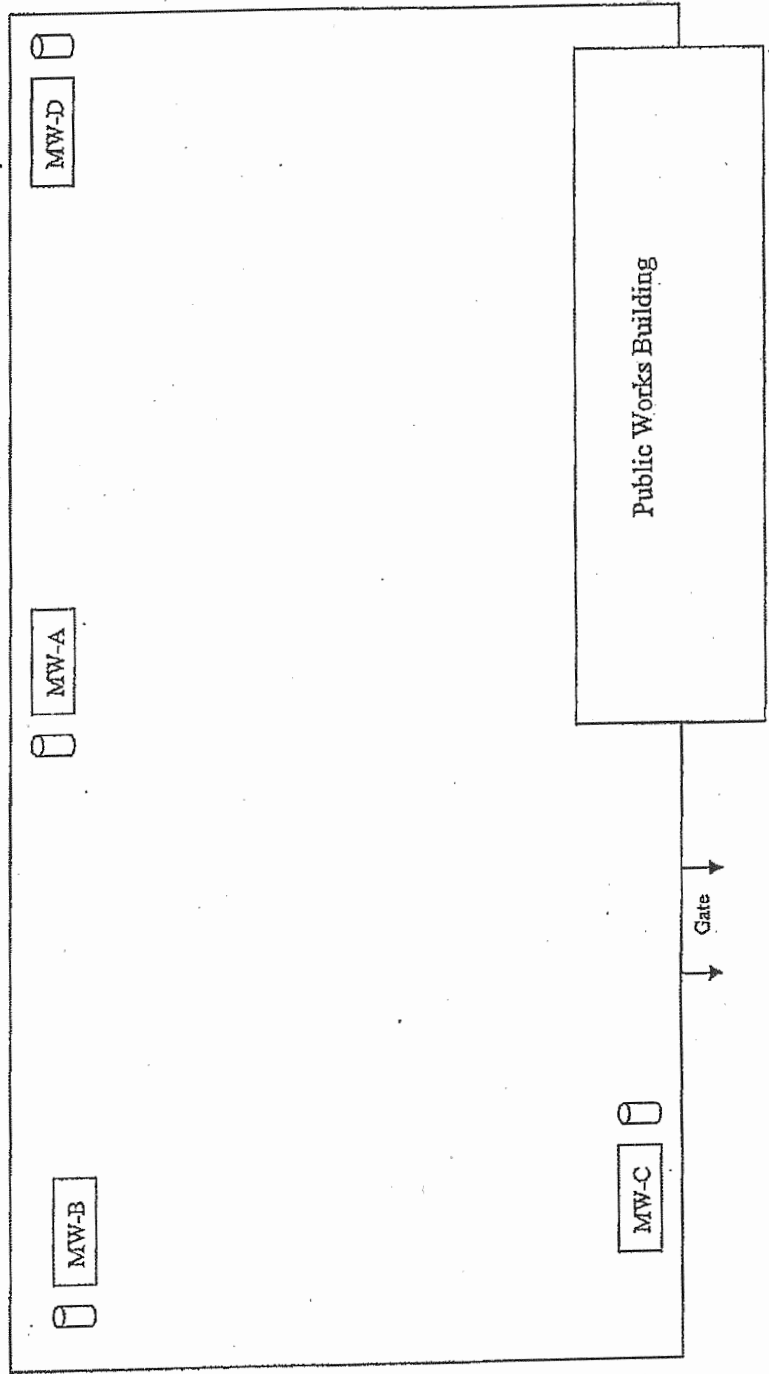
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NJ DEP Certified Lab #08006
Professional Septic Inspections

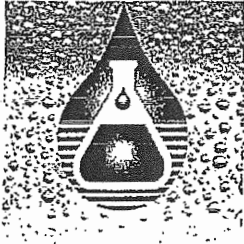
Buena Township Landfill - Sampled on Oct. 23, 2014

Depth to Water and Total Depth

Well ID	Depth to Water	Total Depth
MWA	26.32	43.00
MWB	15.81	40.50
MWC	20.79	33.00
MWD	27.11	42.50

Buena Twp Public Works -- Site Map





**South Jersey
Water Test, LLC**
 4077 South Black Horse Pike
 Williamstown, NJ 08094
 856-875-3506 Phone
 856-875-3507 Fax

www.sjwatertest.com
 NJ DEP Certified Lab #08006
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Monday, October 27, 2014

Mr. Rich Calareso
 Buena Vista Township
 430 Union Rd.
 East Vineland, NJ 08310

Certificate of Analysis

Property Address: Buena Township, Monitoring Wells

Sample Location: MWC

Date/Time Sampled: 10/23/2014 14:20

Test/ Parameter	Date/Time Analyzed	Result	Allowable Limit	Units	Reporting Limit	Method
Sample ID	M47347					
Mercury	10/27/2014 17:21	<0.5	2	ug/L	0.5	EPA 245.1

Sample Location: MWD

Date/Time Sampled: 10/23/2014 15:20

Test/ Parameter	Date/Time Analyzed	Result	Allowable Limit	Units	Reporting Limit	Method
Sample ID	M47348					
Mercury	10/27/2014 17:24	<0.5	2	ug/L	0.5	EPA 245.1

Sample Location: MWA

Date/Time Sampled: 10/23/2014 15:45

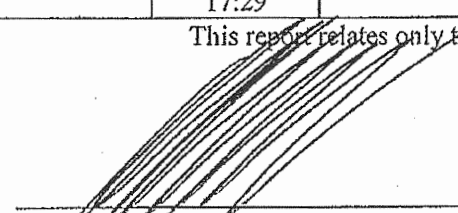
Test/ Parameter	Date/Time Analyzed	Result	Allowable Limit	Units	Reporting Limit	Method
Sample ID	M47349					
Mercury	10/27/2014 17:26	<0.5	2	ug/L	0.5	EPA 245.1

Sample Location: MWB

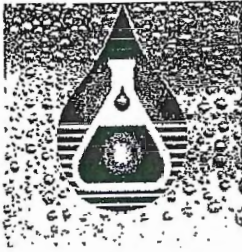
Date/Time Sampled: 10/23/2014 15:30

Test/ Parameter	Date/Time Analyzed	Result	Allowable Limit	Units	Reporting Limit	Method
Sample ID	M47350					
Mercury	10/27/2014 17:29	<0.5	2	ug/L	0.5	EPA 245.1

This report relates only to the samples as received by the laboratory.


 Mark J. Riether, Lab Director


 Date



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Professional Septic Inspections

10/27/2014

Buena Vista Township
Rich Calareso
890 Harding Highway
Buena, NJ 08310

Property Address: Buena Vista Twp - Monitoring Wells
MWC

Lab ID# M47347

Date sampled: 10/23/14 14:20
Date analyzed: 10/24/14 16:27

Volatile Organics (EPA Method 524.2)


Analyte	Results	Reporting Limit	MCL*
Dichlorodifluoromethane	ND	0.5	
Chloromethane	ND	0.5	
Vinyl chloride	ND	0.5	2
Bromomethane	ND	0.5	
Chloroethane	ND	0.5	
Trichlorofluoromethane	ND	0.5	
Methyl-tert-butyl ether	ND	0.5	70
1,1-dichloroethene	ND	0.5	2
Methylene chloride	ND	0.5	3
trans-1,2-dichloroethene	ND	0.5	100
1,1-dichloroethane	ND	0.5	50
2,2-dichloropropane	ND	0.5	
cis-1,2-dichloroethene	ND	0.5	70
Chloroform	ND	0.5	**
Bromochloromethane	ND	0.5	
1,1,1-trichloroethane	ND	0.5	30
1,1-dichloropropene	ND	0.5	
Carbon tetrachloride	ND	0.5	2
Benzene	ND	0.5	1
1,2-dichloroethane	ND	0.5	2
Trichloroethene	ND	0.5	1
1,2-dichloropropane	ND	0.5	5
Bromodichloromethane	ND	0.5	**
Dibromomethane	ND	0.5	
cis-1,3-dichloropropylene	ND	0.5	
Toluene	ND	0.5	1000
trans-1,3-dichloropropylene	ND	0.5	
1,1,2-trichloroethane	ND	0.5	3
Tetrachloroethene	ND	0.5	1
1,3-dichloropropane	ND	0.5	
Dibromochloromethane	ND	0.5	**
1,2-dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	50
Ethylbenzene	ND	0.5	700
1,1,1,2-tetrachloroethane	ND	0.5	
p-xylene	ND	0.5	1000
m-xylene	ND	0.5	
o-xylene	ND	0.5	
Styrene	ND	0.5	100
Bromoform	ND	0.5	**
1,1,2,2-tetrachloroethane	ND	0.5	1
1,2,3-trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-trimethylbenzene	ND	0.5	
2-chlorotoluene	ND	0.5	
4-chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
4-Isopropyltoluene	ND	0.5	
1,3-dichlorobenzene	ND	0.5	600
1,4-dichlorobenzene	ND	0.5	75
n-Butylbenzene	ND	0.5	
1,2-dichlorobenzene	ND	0.5	600
1,2,4-trichlorobenzene	ND	0.5	9
Hexachlorobutadiene	ND	0.5	
Naphthalene	ND	0.5	300
1,2,3-trichlorobenzene	ND	0.5	
Units	(ug/L)	(ug/L)	(ug/L)

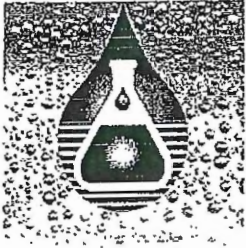
ND = Not Detected

*New Jersey or Federal Maximum Contaminant Level (MCL)

** The MCL for the sum of these 4 THMs is 80 ppb.

This report relates only to the samples as received by the laboratory.


Mark J. Rlether, Lab Director
Date 10/27/14



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Professional Septic Inspections

10/27/2014

Buena Vista Township
Rich Calareso
890 Harding Highway
Buena, NJ 08310

Property Address: Buena Vista Twp - Monitoring Wells
MWD

Lab ID# M47348

Date sampled: 10/23/14 15:20
Date analyzed: 10/24/14 17:12

Volatle Organics (EPA Method 524.2)

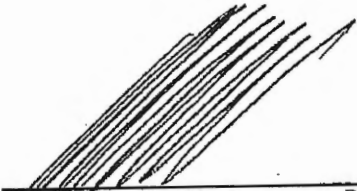
Analyte	Results	Reporting Limit	MCL*
Dichlorodifluoromethane	ND	0.5	
Chloromethane	ND	0.5	
Vinyl chloride	ND	0.5	2
Bromomethane	ND	0.5	
Chloroethane	ND	0.5	
Trichlorofluoromethane	ND	0.5	
Methyl-tert-butyl ether	ND	0.5	70
1,1-dichloroethene	ND	0.5	2
Methylene chloride	ND	0.5	3
trans-1,2-dichloroethene	ND	0.5	100
1,1-dichloroethane	ND	0.5	50
2,2-dichloropropane	ND	0.5	
cis-1,2-dichloroethene	ND	0.5	70
Chloroform	ND	0.5	**
Bromochloromethane	ND	0.5	
1,1,1-trichloroethane	ND	0.5	30
1,1-dichloropropene	ND	0.5	
Carbon tetrachloride	ND	0.5	2
Benzene	ND	0.5	1
1,2-dichloroethane	ND	0.5	2
Trichloroethene	ND	0.5	1
1,2-dichloropropane	ND	0.5	6
Bromodichloromethane	ND	0.5	**
Dibromomethane	ND	0.5	
cis-1,3-dichloropropylene	ND	0.5	
Toluene	ND	0.5	1000
trans-1,3-dichloropropylene	ND	0.5	
1,1,2-trichloroethane	ND	0.5	3
Tetrachloroethene	ND	0.5	1
1,3-dichloropropane	ND	0.5	
Dibromochloromethane	ND	0.5	**
1,2-dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	50
Ethylbenzene	ND	0.5	700
1,1,1,2-tetrachloroethane	ND	0.5	
p-xylene	ND	0.5	1000
m-xylene	ND	0.5	↓
o-xylene	ND	0.5	↓
Styrene	ND	0.5	100
Bromoform	ND	0.5	**
1,1,2,2-tetrachloroethane	ND	0.5	1
1,2,3-trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-trimethylbenzene	ND	0.5	
2-chlorotoluene	ND	0.5	
4-chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
4-Isopropyltoluene	ND	0.5	
1,3-dichlorobenzene	ND	0.5	600
1,4-dichlorobenzene	ND	0.5	75
n-Butylbenzene	ND	0.5	
1,2-dichlorobenzene	ND	0.5	600
1,2,4-trichlorobenzene	ND	0.5	9
Hexachlorobutadiene	ND	0.5	
Naphthalene	ND	0.5	300
1,2,3-trichlorobenzene	ND	0.5	
Units	(ug/L)	(ug/L)	(ug/L)

ND = Not Detected

*New Jersey or Federal Maximum Contaminant Level (MCL)

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Mark J. Riether, Lab Director

Date

10/27/14



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Professional Septic Inspections

10/27/2014

Buena Vista Township
Rich Calareso
890 Harding Highway
Buena, NJ 08310

Property Address: Buena Vista Twp - Monitoring Wells
MWA

Lab ID# M47349

Date sampled: 10/23/14 15:45
Date analyzed: 10/24/14 17:57

Volatile Organics (EPA Method 524.2)

Analyte	Results	Reporting Limit	MCL*
Dichlorodifluoromethane	ND	0.5	
Chloromethane	ND	0.5	
Vinyl chloride	0.79	0.5	2
Bromomethane	ND	0.5	
Chloroethane	1.49	0.5	
Trichlorofluoromethane	ND	0.5	
Methyl-tert-butyl ether	3.95	0.5	70
1,1-dichloroethene	ND	0.5	2
Methylene chloride	ND	0.5	3
trans-1,2-dichloroethene	ND	0.5	100
1,1-dichloroethane	ND	0.5	50
2,2-dichloropropane	ND	0.5	
cis-1,2-dichloroethene	ND	0.5	70
Chloroform	ND	0.5	**
Bromochloromethane	ND	0.5	
1,1,1-trichloroethane	ND	0.5	30
1,1-dichloropropene	ND	0.5	
Carbon tetrachloride	ND	0.5	2
Benzene	3.36	0.5	1
1,2-dichloroethane	ND	0.5	2
Trichloroethene	ND	0.5	1
1,2-dichloropropane	ND	0.5	5
Bromodichloromethane	ND	0.5	**
Dibromomethane	ND	0.5	
cis-1,3-dichloropropylene	ND	0.5	
Toluene	ND	0.5	1000
trans-1,3-dichloropropylene	ND	0.5	
1,1,2-trichloroethane	ND	0.5	3
Tetrachloroethane	ND	0.5	1
1,3-dichloropropane	ND	0.5	
Dibromochloromethane	ND	0.5	**
1,2-dibromoethane	ND	0.5	
Chlorobenzene	3.91	0.5	50
Ethylbenzene	ND	0.5	700
1,1,1,2-tetrachloroethane	ND	0.5	
p-xylene	ND	0.5	1000
m-xylene	ND	0.5	
o-xylene	ND	0.5	
Styrene	ND	0.5	100
Bromoform	ND	0.5	**
1,1,2,2-tetrachloroethane	ND	0.5	1
1,2,3-trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-trimethylbenzene	ND	0.5	
2-chlorotoluene	ND	0.5	
4-chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
4-isopropyltoluene	ND	0.5	
1,3-dichlorobenzene	2.24	0.5	600
1,4-dichlorobenzene	2.13	0.5	75
n-Butylbenzene	ND	0.5	
1,2-dichlorobenzene	ND	0.5	600
1,2,4-trichlorobenzene	ND	0.5	9
Hexachlorobutadiene	ND	0.5	
Naphthalene	ND	0.5	300
1,2,3-trichlorobenzene	ND	0.5	
Units	(ug/L)	(ug/L)	(ug/L)

ND = Not Detected

*New Jersey or Federal Maximum Contaminant Level (MCL)

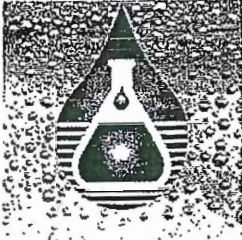
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Mark J. Riether, Lab Director

Date

10/27/14



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Professional Septic Inspections

10/27/2014

Buena Vista Township

Rich Calareso
890 Harding Highway
Buena, NJ 08310

Property Address: Buena Vista Twp - Monitoring Wells
MWB

Lab ID# M47350

Date sampled: 10/23/14 15:30
Date analyzed: 10/24/14 18:41

Volatile Organics (EPA Method 524.2)

Analyte	Results	Reporting Limit	MCL*
Dichlorodifluoromethane	ND	0.5	
Chloromethane	ND	0.5	
Vinyl chloride	195	0.5	2
Bromomethane	ND	0.5	
Chloroethane	ND	0.5	
Trichlorofluoromethane	ND	0.5	
Methyl-tert-butyl ether	ND	0.5	70
1,1-dichloroethene	5.16	0.5	2
Methylene chloride	ND	0.5	3
trans-1,2-dichloroethane	11.54	0.5	100
1,1-dichloroethane	4.76	0.5	60
2,2-dichloropropane	ND	0.5	
cis-1,2-dichloroethene	1284	0.5	70
Chloroform	ND	0.5	**
Bromochloromethane	ND	0.5	
1,1,1-trichloroethane	5.49	0.5	30
1,1-dichloropropene	ND	0.5	
Carbon tetrachloride	ND	0.5	2
Benzene	ND	0.5	1
1,2-dichloroethane	ND	0.5	2
Trichloroethene	936	0.5	1
1,2-dichloropropane	ND	0.5	5
Bromodichloromethane	ND	0.5	**
Dibromomethane	ND	0.5	
cis-1,3-dichloropropylene	ND	0.5	
Toluene	ND	0.5	1000
trans-1,3-dichloropropylene	ND	0.5	
1,1,2-trichloroethane	ND	0.5	3
Tetrachloroethene	1.29	0.5	1
1,2-dichloropropane	ND	0.5	
Dibromochloromethane	ND	0.5	**
1,2-dibromoethane	ND	0.5	
Chlorobenzene	2.29	0.5	50
Ethylbenzene	ND	0.5	700
1,1,1,2-tetrachloroethane	ND	0.5	
p-xylene	ND	0.5	1000
m-xylene	ND	0.5	
o-xylene	ND	0.5	
Styrene	ND	0.5	100
Bromoform	ND	0.5	**
1,1,2,2-tetrachloroethane	ND	0.5	1
1,2,3-trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-trimethylbenzene	ND	0.5	
2-chlorotoluene	ND	0.5	
4-chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
4-Isopropyltoluene	ND	0.5	
1,3-dichlorobenzene	0.61	0.5	600
1,4-dichlorobenzene	0.58	0.5	75
n-Butylbenzene	ND	0.5	
1,2-dichlorobenzene	ND	0.5	600
1,2,4-trichlorobenzene	ND	0.5	9
Hexachlorobutadiene	ND	0.5	
Naphthalene	ND	0.5	300
1,2,3-trichlorobenzene	ND	0.5	
Units	(ug/L)	(ug/L)	(ug/L)

ND = Not Detected

*New Jersey or Federal Maximum Contaminant Level (MCL)
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Mark J. Riether, Lab Director

Date

10/27/14

This report relates only to the samples as received by the laboratory.

CHAIN OF CUSTODY RECORD



South Jersey Water Test, LLC
 4077 South Black Horse Pike
 Williamstown, NJ 08094
 Phone: 856-875-3506 Fax: 856-875-3507
 www.sjwatertest.com
 NJ DEP Certification #08006

Customer:	Buena Township Public Works Department	
Contact:	Rich Calareso	
Address:	890 Harding Highway	
	Buena, NJ 08310	
Phone:	856-697-2100	Fax:
E-mail:		

Lab ID#	Sample Location	Collection		Grab	Comp	Matrix	Field Measurements	No. of Bottles	Pres.	Analysis Required
		Date	Time							
M47347	Buena TWP, MWC	10/23/14	14:00	X		GW	Depth = 20.79	2 X 40	HCL	VO + 10
			↓	X		D		1 X 125	HNO3	Mercury
M47348	Buena Twp, MWD	10/23/14	15:20	X		GW	Depth = 27.11	2 X 40	HCL	VO + 10
			↓	X		D		1 X 125	HNO3	Mercury
M47349	Buena Twp, MWA	10/23/14	15:45	X		GW	Depth = 26.32	2 X 40	HCL	VO + 10
			↓	X		D		1 X 125	HNO3	Mercury
M47350	Buena Twp, MWB	10/23/14	15:30	X		GW	Depth = 15.81	2 X 40	HCL	VO + 10
			↓	X		D		1 X 125	HNO3	Mercury

MATRIX ABBREVIATIONS: D|DRINKING WATER A|AQUEOUS S|SOIL SL|SLUDGE GW|GROUND WATER SWS|SURFACE WATER WWW|WASTE WATER

Turnaround Time Standard X SJWT Standard is 10 work days Rush turnaround available upon request and lab approval _____	Report Format X Standard NJ DEP Reduced Deliverables NJ DEP Full Deliverables Electronic Data Deliverables PWTA Format	Comments/Special Instructions	Cooler Temp
		Report to Kluk Consultants for TAT consult Kluk	10/23/14 2.0 °C Properly Preserved Yes No

Sampled by: (Print) <i>JMull</i>					
Sampled by/Relinquished by: (Signature) <i>JMull</i>	Date 10/23/14	Time 16:30	Received by: (Signature) <i>[Signature]</i>	Date 10/23/14	Time 16:30
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

ATTACHMENT Q



New Jersey Department of Environmental Protection
Site Remediation Program

RECEPTOR EVALUATION (RE) FORM

JUL 7 0 2012
Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Bunes Vista Township Public Works Yard

List all AKAs: _____

Street Address: 430 Union Road

Municipality: Buena Vista Township (Township, Borough or City)

County: Atlantic Zip Code: 08310

Program Interest (PI) Number(s): PI 032698 Case Tracking Number(s): _____

Indicate the type of submission:

Initial RE Submission

Updated RE Submission

Indicate the reason for submission of an updated RE form

Submission of an Immediate Environmental Concern (IEC) source control report;

Submission of a Remedial Investigation Report;

Submission of a Remedial Action Report;

Check if included in updated RE

The known concentration or extent of contamination in any medium has increased;

A new AOC has been identified;

A new receptor is identified;

A new exposure pathway has been identified.

SECTION B. ON SITE AND SURROUNDING PROPERTY USE

1. Identify any sensitive populations/uses that are currently on-site or surrounding property usage within 200 feet of the site boundary (check all that apply):

	On-site	Off-site
None of the following	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Residences or residential property	<input type="checkbox"/>	<input type="checkbox"/>
Public or Private Schools grades K-12	<input type="checkbox"/>	<input type="checkbox"/>
Child care centers	<input type="checkbox"/>	<input type="checkbox"/>
Public parks, playgrounds or other recreation areas	<input type="checkbox"/>	<input type="checkbox"/>
Other sensitive population use(s) Explain _____	<input type="checkbox"/>	<input type="checkbox"/>

If any of the above applies, attach a list of addresses, facility names, type of use, and a map depicting each location relative to the site.

2. Current site uses (check all that apply):

- | | | | |
|---|--|---|---------------------------------------|
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Residential | <input type="checkbox"/> Commercial | <input type="checkbox"/> Agricultural |
| <input type="checkbox"/> School or child care | <input checked="" type="checkbox"/> Government | <input type="checkbox"/> Park or recreational use | |
| <input type="checkbox"/> Vacant | <input type="checkbox"/> Other: _____ | | |

3. Planned future site uses and off-site use within 200 ft of site boundary (check all that apply):

- | | | | |
|---|--|---|---------------------------------------|
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Residential | <input type="checkbox"/> Commercial | <input type="checkbox"/> Agricultural |
| <input type="checkbox"/> School or child care | <input checked="" type="checkbox"/> Government | <input type="checkbox"/> Park or recreational use | |
| <input type="checkbox"/> Vacant | <input type="checkbox"/> Other: _____ | | |

Provide a map depicting the location of the proposed changes in land use.

SECTION C. DESCRIPTION OF CONTAMINATION

1. Identify if any of the following exist at the site (check all that apply):
- Free product [N.J.A.C. 7:26E-1.8] identified is LNAPL* or DNAPL**. Date identified: _____
 - Residual product [N.J.A.C. 7:26E-1.8]
 - Other high concentration source materials not identified above (e.g., buried drums, containers, unsecured friable asbestos)
- Explain: _____
- * LNAPL – measured thickness of .01 feet or more
**DNAPL – See US EPA DNAPL Overview
2. Soil Migration Pathway
- Has soil contamination been delineated to the applicable Direct Contact Soil Remediation Standard? Yes No
- Are all soils either below the applicable Direct Contact Criteria or under an institutional control (i.e. deed notice)? Yes No
3. If this evaluation is submitted with a technical document that includes contaminant summary information, proceed to Section D. Otherwise attach a brief summary of all currently available data and information to be included in the site investigation or remedial investigation report.

SECTION D. GROUND WATER USE

1. Has the requirement for ground water sampling been triggered? Yes No Unknown
If "No," proceed to Section F. If "Unknown," explain: _____
2. Is Ground water contaminated above the Ground Water Remediation Standards [N.J.A.C.7:9C]? Yes No Unknown
Or Awaiting laboratory data with the expected due date: _____
If "Yes," provide the date that the laboratory data was available and confirmed contamination above the Ground Water Remediation Standards. Date: 01/18/2001
If "Unknown," explain: _____
If "No," or awaiting laboratory data proceed to Section F.
3. Has ground water contamination been delineated to the applicable Remediation Standard? Yes No
4. Has a well search been completed? Yes No
Date of most recent or updated well search: _____
Identify if any of the following conditions exist based on the well search [N.J.A.C.7:26E-1.14(a)] (check all that apply):
- Potable wells located within 500 feet from the downgradient edge of the currently known extent of contamination.
 - Potable well located 250 feet upgradient or 500 feet side gradient of the currently known extent of contamination.
 - Ground water contamination is located within a Tier 1 wellhead protection area (WHPA).
5. Is a completed Well Search Spreadsheet or historical well search table attached and has an electronic copy of the spreadsheet been submitted to srpgis_wrs@dep.state.nj.us. Yes No
If "No," explain: Potable Well sampling has occurred
6. Are any private potable or irrigation wells located within 1/2 mile of the currently known extent of contamination? Yes No
If "Yes," was a door to door survey completed? Yes No
If survey was not completed explain: _____
7. Has sampling been conducted of potable well(s) and /or non-potable use well(s)? Yes No
If "No," provide justification then proceed to Section E.

8 Has contamination been identified in potable well(s) above Ground Water Remediation Standards that is not suspected to be from the site? (If "Yes," provide justification) Yes No

9 Has contamination been identified in potable well(s) that is above the Ground Water Remediation Standards or Federal Drinking Water Standards? Yes No

Provide date laboratory data was received: _____

Or awaiting laboratory data with the expected due date: _____

If "Yes" for potable well contamination **not attributable to background**, follow the IEC Guidance Document at <http://www.nj.gov/dep/srp/guidance/index.html#iec> for required actions and answer the following:

Has an engineered system response action been completed on all receptors? Yes No

Provide a brief narrative description:

Date completed: _____ NJDEP Case Manager: _____

10. Were Non-potable use well(s) sampled and results were above Class II Ground Water Remediation Standards? Yes No

Provide date laboratory data was received: _____

Or awaiting laboratory data with the expected due date: _____

11. Has the ground water use evaluation been completed? Yes No

SECTION E. VAPOR INTRUSION (VI)

1. Contaminants present in ground water exceed the Vapor Intrusion Ground Water Screening Levels that trigger a VI evaluation. (see NJDEP Vapor Intrusion Technical Guidance). ... Yes No Unknown

Or Awaiting laboratory data and the expected due date: _____

Provide the date that the laboratory data was available and confirmed contamination above the Vapor Intrusion Trigger Levels. Date: _____

2. Other existing conditions that trigger a VI evaluation. (see NJDEP Vapor Intrusion Technical Guidance)

- Wet basement or sump containing free product or ground water containing volatile organics
- Methane generating conditions causing oxygen deficient or explosion concern
- Other human or safety concern from the VI pathway (i.e. elemental mercury, unsaturated contamination, elevated soil gas or indoor vapor (explain):

If you answered "No," or awaiting laboratory data to Question 1., *and* did not check any boxes in Question 2, proceed to Section F, "Ecological Receptors", otherwise complete the rest of this section.

3. Has ground water contamination been delineated to the applicable Ground Water Vapor Screening Level? Yes No

4. Was a site specific screening level, modeling or other alternative approach employed for the VI pathway? Yes No

5. Identify and locate on a scaled map any buildings/sensitive populations that exist within the following distances from ground water contamination with concentrations above the Vapor Intrusion Ground Water Screening Levels or specific threats (check all that apply):

- 30 feet of petroleum free product or dissolved petroleum hydrocarbon contamination in ground water
- 100 feet of any non-petroleum free product or any non-petroleum dissolved volatile organic ground water contamination
- No buildings exist within the specified distances

6. The vapor intrusion pathway is a concern at or adjacent to the site (if "No," attach justification) Yes No

7. Has soil gas sampling of the building(s) been conducted? Yes No N/A
If "No," or "N/A," proceed to #10
8. Has indoor air sampling been conducted at the identified building(s)? Yes No
If "No," proceed to #10
9. Has indoor air contamination been identified but not suspected to be from the site?
(if "Yes," attach justification) Yes No
10. Indoor air results were above the NJDEP's Rapid Action Levels. Yes No
Provide the date that the laboratory data was available and confirmed contamination above the Rapid Action Levels. Date: _____
Or Awaiting laboratory data with the expected due date: _____
If "Yes" to #8 above, follow the IEC Guidance Document at <http://www.nj.gov/dep/srp/guidance/index.html#iec> for required actions.
The IEC engineering system response for control was implemented for all identified structures Yes No
Date: _____ NJDEP Case Manager: _____
11. Indoor air sampling was conducted and results were above the NJDEP's Indoor Air Screening Levels but at or below the Rapid Action Levels..... Yes No
Provide the date that the laboratory data was available. Date: _____
Or Awaiting laboratory data with the expected due date: _____
If "Yes" to #10 above, answer the following:
Has the Vapor Concern (VC) Response Action Form notifying the NJDEP of the exceedances been submitted? Yes No
Date: _____
Has a plan to mitigate and monitor the exposure been submitted? Yes No
Date: _____
Has the Mitigation Response Action Report been submitted? Yes No
Date: _____
12. Has the vapor intrusion investigation been completed? Yes No
If "No," is the vapor intrusion investigation stepping out as part of the site investigation or remedial investigation. (If "No," attach justification) Yes No

SECTION F. ECOLOGICAL RECEPTORS

1. Has an Ecological Evaluation (EE) has been conducted? [N.J.A.C. 7:26E-1.16] Yes No
Date conducted: 05/17/2010
2. Do the results of an EE trigger a remedial investigation of ecological receptors? [N.J.A.C. 7:26E-4.8]. Yes No
3. Has a remedial investigation of ecological receptors been conducted? Yes No
Date conducted: _____
4. Provide the name(s) of any surface water body on or within 200 feet of the site:

5. Is free product or residual product located within 100 feet from an ecological receptor? Yes No
6. Available data indicate an impact on: Ecological receptor(s) Surface water Sediment
If this evaluation is submitted with a technical document that includes contaminant summary information, proceed to Section G. Otherwise attach a description of the type of contamination and provide a schedule and a description of all actions to be taken to mitigate exposure

SECTION G. PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION INFORMATION AND CERTIFICATION

Full Legal Name of the Person Responsible for Conducting the Remediation: Buena Vista Township

Representative First Name: Dawn Representative Last Name: Gorman

Title: Administrator

Phone Number: (856) 697-2100 Ext: _____ Fax: _____

Mailing Address: 890 Harding Highway

City/Town: Buena Vista Township State: New Jersey Zip Code: 08310

Email Address: _____

This certification shall be signed by the person responsible for conducting the remediation who is submitting this notification in accordance with Administrative Requirements for the Remediation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Signature:  Date: 4/5/12

Name/Title: Dawn Gorman - Administrator **No Changes Since Last Submittal**

SECTION H. LICENSED SITE REMEDIATION PROFESSIONAL INFORMATION AND STATEMENT

LSRP ID Number: 509042

First Name: John

Last Name: Callaghan

Phone Number: (609) 476-4500

Ext: _____

Fax: (609) 476-4300

Mailing Address: 1415 13th Avenue

City/Town: Dorothy

State: New Jersey

Zip Code: 08317

Email Address: calmarassociates@aol.com

This statement shall be signed by the LSRP who is submitting this notification in accordance with SRRRA Section 16 d. and Section 30 b.2.

I certify that I am a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C to conduct business in New Jersey. As the Licensed Site Remediation Professional of record for this remediation, I:

[SELECT ONE OR BOTH OF THE FOLLOWING AS APPLICABLE]:

directly oversaw and supervised all of the referenced remediation, and/or

personally reviewed and accepted all of the referenced remediation presented herein.

I believe that the information contained herein, and including all attached documents, is true, accurate and complete.

It is my independent professional judgment and opinion that the remediation conducted at this site, as reflected in this submission to the Department, conforms to, and is consistent with, the remediation requirements in N.J.S.A. 58:10C-14.

My conduct and decisions in this matter were made upon the exercise of reasonable care and diligence, and by applying the knowledge and skill ordinarily exercised by licensed site remediation professionals practicing in good standing, in accordance with N.J.S.A. 58:10C-16, in the State of New Jersey at the time I performed these professional services.

I am aware pursuant to N.J.S.A. 58:10C-17 that for purposely, knowingly or recklessly submitting false statement, representation or certification in any document or information submitted to the board or Department, etc., that there are significant civil, administrative and criminal penalties, including license revocation or suspension, fines and being punished by imprisonment for conviction of a crime of the third degree.

LSRP Signature: _____

Date: 6-28-13

LSRP Name/Title: John Callaghan

No Changes Since Last Submittal

Company Name: CALMAR Associates LLC

Completed forms should be sent to the municipal clerk, designate health department, and:

Bureau of Case Assignment & Initial Notice
Site Remediation Program
NJ Department of Environmental Protection
401-05H
PO Box 420
Trenton, NJ 08625-0420

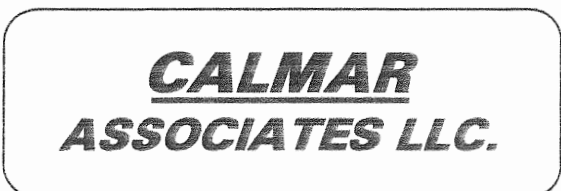
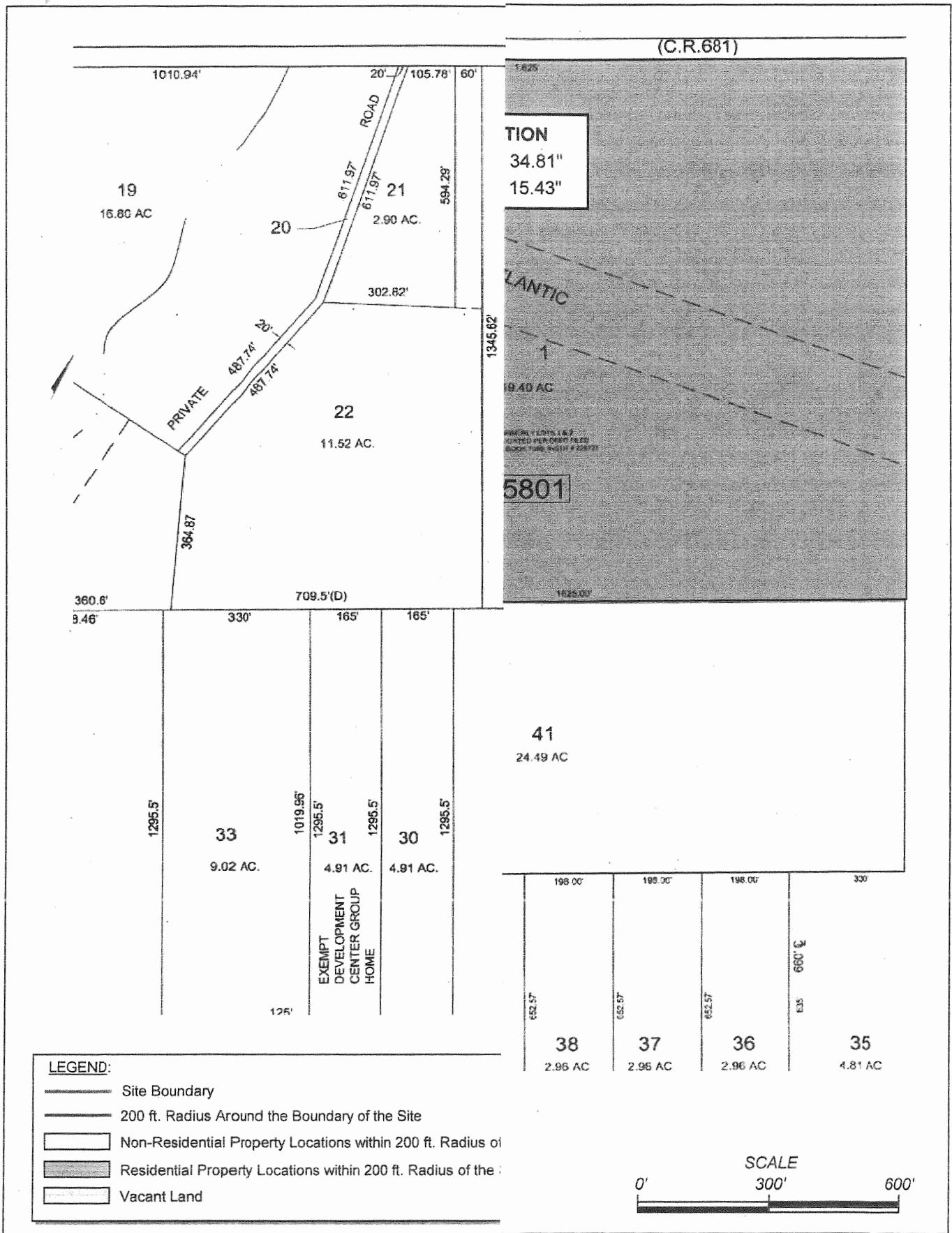
TABLE 1
Residential Properties within a 200 foot Radius of the Property Boundary
Buena Vista DPW
430 Union Road
Block 7101, Lot 25
Buena Vista Township, Atlantic County, New Jersey

Block	Lot	Property Address	Mailing Address	Owner
7101	26	440 UNION ROAD VINELAND NJ 08360	440 UNION ROAD VINELAND NJ 08360	BERTONAZZI, CARLO N
7101	28	444 UNION ROAD VINELAND, NJ 08360	435 UNION ROAD VINELAND, NJ 08360	ALIMENTI, ALFRED & ANITA
5801	1	435 UNION ROAD VINELAND, NJ 08360	435 UNION ROAD VINELAND, NJ 08360	ALIMENTI, ALFRED & ANITA

PROJECT SUMMARY
Buena Vista Township Public Works Yard
430 Union Road
Buena Vista Township, NJ 08310
PI# 032698

Listed below is a summary of tasks completed at the above referenced project site:

- In October 1998 Environmental Design removed two (2) 550-gallon gasoline underground storage tanks (USTs) and one (10 1,000 gallon No 2 Diesel UST at the site.
- Groundwater was not encountered in the tank excavation pits
- Fuel odors were observed in the excavation pit of the tow 550 –gallon gasoline USTs. No fuel odors were observed in the 1,000-gallon No 2 Diesel UST excavation pit
- One small hole was observed in one of the two 550-gallon gasoline USTs
- Soils that revealed a petroleum odor were excavated
- Post excavation soil sampling results revealed low levels of volatile organic compounds (VOCs) in one soil sample, which included toluene, ethyl benzene, and xylene detected below the NJDEP soil remediation standard. These levels included Toluene at 0.003 ppm, ethyl benzene at 0.005 ppm and xylene at 0.003 ppm.
- All other soil sample results were non detect for VOCs
- In November 2000 Property Evaluation Group performed a groundwater investigation which included installing one four inch diameter groundwater monitoring well within the former gasoline USTs location. This well was installed to a depth of 27 feet below grade surface
- In December 2000 The Property Evaluation Group collected one groundwater sample from MW-1. The sample was sent to a NJDEP certified laboratory and analyzed for VOCs (VOC +10) plus a forward library search, MTBE, TBA and base neutrals (BN +15), and Lead
- The results of this groundwater-sampling event revealed elevated levels of MTBE at 390.0 parts per billion (ppb). No other compounds were detected above the NJDEP Class-IIA aquifer standards.
- In February 2001 Junetta Dix Consulting performed a Baseline Ecological Evaluation. No ecological receptors were identified.
- On May 8, 2001 Aqua-Tex collected one groundwater sample from MW-1 this sample was analyzed for VOCs (VOC+10), MTBE, and TBA, The results of this well sampling event revealed elevated levels of MTBE at 260 ppb. No other compound was detected above the NJDEP Class IIA aquifer standards.



DRWN: MT	SCALE: 1" = 300'
CHK'D: JC	
APPD:	FIGURE 1

ATTACHMENT R

REMINGTON & VERNICK ENGINEERS AND AFFILIATES

EDWARD VERNICK, PE, CME, President
CRAIG F. REMINGTON, PLS, PP, Vice President

EXECUTIVE VICE PRESIDENTS
Michael D. Vena, PE, PP, CME (deceased 2006)
Edward J. Walberg, PE, PP, CME
Thomas F. Beach, PE, CME
Richard G. Arango, PE, CME

DIRECTOR OF OPERATIONS
CORPORATE SECRETARY
Bradley A. Blubaugh, BA, MPA

SENIOR ASSOCIATES
John J. Cantwell, PE, PP, CME
Alan Dittenhofer, PE, PP, CME
Frank J. Seney, Jr., PE, PP, CME
Terence Vogt, PE, PP, CME
Dennis K. Yoder, PE, PP, CME, LEED
Charles E. Adamson, PLS, AET
Kim Wendell Bibbs, PE, CME
Marc DeBlasio, PE, PP, CME
Leonard A. Faiola, PE, CME
Christopher J. Fazio, PE, CME
Kenneth C. Ressler, PE, CME
Gregory J. Sullivan, PE, PP, CME
Richard B. Czekanski, PE, CME, BCEE

Remington & Vernick Engineers
232 Kings Highway East
Haddonfield, NJ 08033
(856) 795-9595
(856) 795-1882 (fax)

Remington, Vernick
& Vena Engineers
9 Allen Street
Toms River, NJ 08753
(732) 286-9220
(732) 505-8416 (fax)

3 Jocama Boulevard, Suite 300-400
Old Bridge, NJ 08857
(732) 955-8000
(732) 591-2815 (fax)

Remington, Vernick
& Walberg Engineers
845 North Main Street
Pleasantville, NJ 08232
(609) 645-7110
(609) 645-7076 (fax)

4907 New Jersey Avenue
Wildwood City, NJ 08260
(609) 522-5150
(609) 522-5313 (fax)

Remington, Vernick
& Beach Engineers
922 Fayette Street
Conshohocken, PA 19428
(610) 940-1050
(610) 940-1161 (fax)

1000 Church Hill Road, Suite 220
Pittsburgh, PA 15205
(412) 263-2200
(412) 263-2210 (fax)

Univ. Office Plaza, Bellevue Building
262 Chapman Road, Suite 105
Newark, DE 19702
(302) 266-0212
(302) 266-6208 (fax)

Remington, Vernick
& Arango Engineers
The Presidential Center
Lincoln Building, Suite 600
101 Route 130
Cinnaminson, NJ 08077
(856) 303-1245
(856) 303-1249 (fax)

300 Penhorn Avenue, 3rd Floor
Secaucus, NJ 07094
(201) 624-2137
(201) 624-2136 (fax)

February 3, 2014

Buena Vista Township
890 Harding Highway
PO Box 605
Buena, NJ 08310

Attention: Mayor Sue Barber

Re: **Response Action Outcome**

Remedial Action Type: Unrestricted Use

Scope of Remediation: Areas of Concern: One (1) 550 Gallon Gasoline UST (Tank E001), dispenser and piping, One (1) 550 Gallon Gasoline UST (Tank E002), dispenser and piping, One (1) 1,000 Gallon Diesel Fuel UST (Tank E003) and no other areas.

Case Name: Buena Vista Township Public Works Yard

Address: 430 Union Road

Municipality: Buena Vista

County: Atlantic

Block: 7101 Lot: 25

Preferred ID: 032698

Child Care License # NA

KCSL # 57470

Communication Center # 98-10-17-1344-17

UST Registration # 0326982

UST Closure # N98-1924

ISRA Transaction: N/A

ISRA Case # N/A

Well Permit # 35-21230

Dear Mayor Barber:

As a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C to conduct business in New Jersey, I hereby issue this Response Action Outcome for the remediation of the areas of concern specifically referenced above. I directly oversaw and supervised all of the referenced remediation, and personally reviewed and accepted all of the referenced remediation and based upon this work, it is my professional opinion that this remediation has been completed in compliance with the Administrative Requirements for the Remediation of Contaminated Sites (N.J.A.C. 7:26C), that is protective of public health, safety and the environment. Also, full payment has been made for all Department fees and oversight costs pursuant to N.J.A.C. 7:26C-4.

This remediation includes the completion of a Site Investigation, Remedial Investigation and Remedial Action as defined pursuant to the Technical Requirements for Site Remediation (N.J.A.C. 7:26E),

My decision in this matter is made upon the exercise of reasonable care and diligence and by applying the knowledge and skill ordinarily exercised by licensed site remediation professionals in good standing practicing in the State at the time these professional services are performed.

As required pursuant to N.J.A.C. 7:26C-6.2(b)2ii, a copy of all records related to the remediation that occurred at this location is being simultaneously filed with the New Jersey Department of Environmental Protection (Department). These records contain all information upon which I based my decision to issue this Response Action Outcome.

By operation of law a Covenant Not to Sue pursuant to N.J.S.A. 58:10B -13.2 applies to this remediation. The Covenant Not to Sue is subject to any conditions and limitations contained herein. The Covenant Not to Sue remains effective only as long as the real property referenced above continues to meet the conditions of this Response Action Outcome.

CONDITIONS

Pursuant to N.J.S.A. 58:10B-12o, Buena Vista Township and any other person who is liable for the cleanup and removal costs, and remains liable pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. shall inform the Department in writing, on a form available from the Department, within 14 calendar days after its name or address changes. Any notices you submit pursuant to this paragraph shall reference the above case numbers and shall be sent to:

New Jersey Department of Environmental Protection
Bureau of Case Assignment and Initial Notice
Mail Code 401-05H
401 East State Street, 5th floor
PO Box 420
Trenton, New Jersey 08625-0420

NOTICES

Well Decommissioning

Pursuant to N.J.A.C. 7:9D-3, all wells installed as part of this remediation have been properly decommissioned by a New Jersey licensed well driller of the proper class in accordance with the procedures set forth in N.J.A.C. 7:9D and the well driller's well decommissioning report has been submitted to the Bureau of Water Allocation and Well Permitting.

Building Interiors Not Addressed (Non-Child Care)

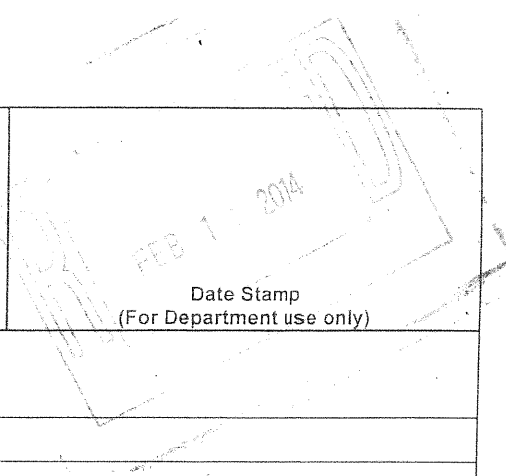
Please be advised that the remediation that is covered by this Response Action Outcome does not address the remediation of hazardous substances that may exist in building interiors or equipment, including, but not limited to, radon, asbestos and lead. As a result, any risks to human health presented by any building interior or equipment remains. A complete building interior evaluation should be completed before any change in use or re-occupancy is considered.

In concluding that this remediation has been completed, I am offering no opinions concerning whether either primary restoration (restoring natural resources to their pre-discharge condition) or compensatory restoration (compensating the citizens of New Jersey for the lost interim value of the natural resources) has been completed.



New Jersey Department of Environmental Protection
Site Remediation Program

RESPONSE ACTION OUTCOME FORM



Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Buena Vista Township Public Works Yard

List All AKAs:

Street Address: 430 Union Road

Municipality: Buena Vista (Township, Borough or City)

County: Atlantic Zip Code: 08310

Program Interest (PI) Number(s): 032698 Case Tracking Number(s): 98-10-17-1344-17

Date Remediation Initiated Pursuant to N.J.A.C. 7:26C-2: 10/17/1998

State Plane Coordinates for a central location at the site: Easting: 373529 Northing: 240755

Municipal Block(s) and Lot(s):

Block #: 7101 Lot #: 25 Block #: Lot #:

Block #: Lot #: Block #: Lot #:

Block #: Lot #: Block #: Lot #:

Block #: Lot #: Block #: Lot #:

SECTION B. SUBMITTAL STATUS

	Not Applicable	Included in This Submission	Previously Submitted	Date of Submission	Date of Revised Submission	Date of Document Withdrawal
Public Notification Form	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Immediate Environmental Concern Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
IEC Engineered System Response Action Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Vapor Concern Mitigation Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
LNAPL Interim Remedial Measure Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Preliminary Assessment Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Receptor Evaluation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Site Investigation Report	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	05/27/1999		
Remedial Investigation/Remedial Action Work Plan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Remedial Action Report	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Response Action Outcome	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Alternative Soil Remediation Standard and/or Screening level Application Form	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Case Inventory Document	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Technical Impracticability Determination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Permit Application – list:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Radionuclide Remedial Investigation Workplan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Radionuclide Remedial Investigation Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Radionuclide Remedial Action Workplan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Radionuclide Remedial Action Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

SECTION C. SITE USE

Current Site Use (check all that apply)

- Industrial
- Residential
- Commercial
- School/Childcare
- Other: DPW Yard
- Agricultural
- Park or recreational use
- Vacant
- Government

Intended Future Use (check all that apply)

- Industrial
- Residential
- Commercial
- School/Childcare
- Park or recreational use
- Vacant
- Government
- Future site use unknown

SECTION D. CASE TYPE: (check all that apply)

- Administrative Consent Order (ACO)
- Brownfield Development Area (BDA)
- Child Care Facility
- Chrome Site (Chromate chemical production waste)
- Coal Gas
- Due Diligence with RAO
- Hazardous Discharge Remediation Fund (HDSRF) Grant/Loan
- ISRA
- Landfill (SRP subject only)
- Regulated Underground Storage Tank (UST)
- Remediation Agreement (RA)
- School Development Authority (SDA)
- School facility
- Spill Act Defense – Government Entity
- Spill Act Discharge
- UST Grant/Loan

Federal Case (check all that apply)

- RCRA GPRA 2020
- CERCLA/NPL
- USDOD
- USDOE
- TSCA
- Other (explain): _____

SECTION E. PUBLIC FUNDS

Did the remediation utilize public funds? Yes No

- If "Yes," check applicable:
- UST Grant
 - HDSRF Grant
 - Spill Fund
 - UST Loan
 - HDSRF Loan
 - Schools Development Authority
 - Brownfield Reimbursement Program
 - Landfill Reimbursement Program

SECTION F. SCOPE OF THE RESPONSE ACTION OUTCOME

1. Check only 1 box
 - Area(s) of Concern Only
 - Entire Site
 - Entire Site – Child Care Center Facility License
 - Lease Hold Portion Only – Child Care Center Facility (Refer to RAO Guidance Document for license details)
 - ISRA Subject Industrial Establishment (leasehold portion only)
2. Total number of contaminated AOCs associated with the site: 3
3. Total number of contaminated AOCs addressed in this submittal: 3
4. Are there any outstanding contaminated AOCs associated with the case where an RAO has not been filed? Yes No

SECTION G. FEES

- All Oversight Invoices and Annual Remediation Fees are Paid in Full.
- Attach a copy of the Financial Obligation Report

SECTION H. EXTENT OF REMEDIATION COVERED BY THE RESPONSE ACTION OUTCOME (check only 1 box)

- Unrestricted RAO
- Limited Restricted RAO
- Restricted RAO

SECTION I. RESPONSE ACTION OUTCOME PREPARATION CHECKS

- 1. Was the RAO issued only to the "Person(s) that conducted the Remediation"? Yes No
- 2. Does the language in the issued RAO document conform to the RAO shell document?..... Yes No
- 3. Were all the applicable individuals/agencies noted in the shell document copied on the RAO?.. Yes No
- 4. Are there electronic copies of all remediation related records included with this submittal? Yes No
- 5. Have all NJDEP fees and outstanding oversight costs been paid? Yes No
- 6. Have any identified deficiencies been addressed in this or prior submittal?..... Yes No N/A
- 7. Did the remedial action render the property unusable for future redevelopment or recreation use? Yes No

SECTION J. APPLICABLE REMEDIATION STANDARDS

- 1. Were Default Remediation Standards used for all contaminants? Yes No
 (If "Yes," check all that apply)
 - Direct Contact
 - Impact to Ground Water Soil Screening Levels
 - Ecological Screening Levels

- 2. Has compliance averaging been utilized to determine compliance with the Inhalation Pathway? Yes No
 If "Yes," check all that apply:

Compliance Averaging Method Utilized

Pathway	Arithmetic Mean	95 Percent UCL	Spatially Weighted Average	75 Percent/ 10X Procedure
<input type="checkbox"/> Ingestion-Dermal Pathway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Inhalation Pathway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Impact to Ground Water Pathway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 3. Has a compliance option been utilized to determine compliance with the Impact to Ground Water Pathway? (If "Yes," check all that apply) Yes No
 - Immobile Compounds
 - Data evaluation for metals and semi-volatiles
 - Data evaluation for volatile organics derived from discharges of petroleum mixtures

- 4. Were Alternate Remediation Standards used for the Ingestion/Dermal Pathway? Yes No

- 5. Were Alternate Remediation Standards used for the Inhalation Pathway?..... Yes No

- 6. Were Site Specific Standards used for the Impact to Ground Water Pathway? Yes No
 (If "Yes," check all that apply)

- Soil-Water Partitioning Equation SPLP Sesoil Sesoil/AT123D
- DAF Modification Immobile Chemicals List
- Soil and Ground Water Analytical Data Evaluation

- 7. Were Site Specific Ecological Remediation Goals used?..... Yes No

- 8. What is the ground water classification for this site as per N.J.A.C. 7:9C? (check all that apply)

- Class I-A Class II-A
- Class I-PL Pinelands Protection Area Class III-A
- Class I-PL Pinelands Preservation Area Class III-B

SECTION K. MEDIA IMPACTED/REMEDIATED

- 1. Soil Remediation Types (check all that apply):

- No remedial action required Excavation
- Capping / other engineering controls Treatment
- Institutional Control Other _____

2. Ground Water

Have the Ground Water Quality Standards been met? Yes No

Do groundwater concentrations remain above the Ground Water Quality Standards but concentrations are low and non-decreasing? Yes No N/A

3. Ground Water Remediation Types (check all that apply):

- No remedial action required
- In-Situ
- Monitored Natural Attenuation
- Physical Containment
- Hydraulic Control,
- Other _____
- Pump & Treat
- Institutional Control

4. Ecological

Was wetlands mitigation/restoration required? Yes No

Was a wetlands mitigation/restoration plan approved by NJDEP? Yes No

Do contaminant levels currently meet ecological screening levels or Site Specific Ecological Remediation Goals?

- Surface water Yes No N/A
- Sediment Yes No N/A

5. Wetland Remediation Types (check all that apply):

- No remedial action required
- Excavation
- Capping
- Other _____

6. Sediment Remediation Types (check all that apply):

- No remedial action required
- Excavation
- Capping
- Other _____

7. General

Has radionuclide contamination been addressed in any media? Yes No N/A

SECTION L. ALTERNATIVE STANDARD / VARIANCES

Alternative remediation standard / screening level

If proposing an alternative remediation standard pursuant to N.J.A.C. 7:26D-7.4, alternate vapor intrusion screening level, or ecological site specific goal check here and attach the Alternative Soil Remediation Standard and/or Screening Level Application Form as an addendum.

A site-specific screening level was developed for the evaluation of the VI pathway Yes No

Variance from regulations

If the Licensed Site Remediation Professional has varied from the Technical Rules, provide the citation(s) from which the remediation varied and the page(s) in the attached document where the rationale for the variance is provided.

- N.J.A.C. 7:26E- _____ Page _____
- N.J.A.C. 7:26E- _____ Page _____
- N.J.A.C. 7:26E- _____ Page _____

SECTION M. RESPONSE ACTION OUTCOME NOTICES (check all the apply and were used in the RAO document)

1. General Notices

- Well Decommissioning
- Building Interiors Not Addressed

2. Child Care Center Notices

- Child Care Center Notices (Use this notice in all Child Care Center RAOs)
- Child Care Center Specific-Multi-Tenant Situations

3. Contamination Remaining Onsite

- Regional Natural Background Levels of Contamination
- Existing CEA or Deed Notice
- Soils Only RAO
- Ground Water Contamination Not Yet Investigated
- Ground Water Contamination Due to Regional Historic Fill
- Contamination Remaining Onsite Due to Migration from Off-site Source
- Known Onsite Contamination Source Not Yet Remediated
- Less than an Order of Magnitude Remediation Standard Change For A Site With An Approved RAW Prior To A New Remediation Standard
- Less than an Order of Magnitude Remediation Standard Change For A Site With A Final Remediation Document Prior to A New Remediation Standard

4. ISRA Specific Notices

- ISRA Specific – RCRA Situations
- ISRA Specific – Multi-Tenant Situations
- ISRA Specific – Landfill Situations

SECTION N. REMEDIATION FUNDING SOURCE

1. Has a Remediation Funding Source been posted for this site pursuant to N.J.A.C. 7:26C-5? Yes No

If "Yes, check a. or b. below as applicable:

- a. This RAO is for the entire site and serves as notice to the NJDEP to return the Remediation Funding Source posted for this site*.
- b. This RAO is for an Area of Concern only and (check one below):
 - Serves as notice to the NJDEP to decrease the Remediation Funding Source posted for this site*.
 - No adjustments to the Remediation Funding Source are requested at this time.

Note: If any box in a. or b. above identified with an asterisk (*) is checked, be sure to include the completed "Remediation Cost Review and RFS-FA Form" available at <http://nj.gov/dep/srp/srra/forms>

SECTION O. PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION INFORMATION AND CERTIFICATION

Full Legal Name of the Person Responsible for Conducting the Remediation: Buena Vista Township

Representative First Name: Susan Representative Last Name: Quinones

Title: Township Administrator

Phone Number: (856) 697-2100 Ext: 12 Fax: _____

Mailing Address: 890 Harding Highway

City/Town: Buena Vista State: Nj Zip Code: 08310

Email Address: buenavst-admin@comcast.net

This certification shall be signed by the person responsible for conducting the remediation who is submitting this notification in accordance with Administrative Requirements for the Remediation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Signature:  Date: 12/16/2013

Name/Title: Susan Quinones/Administrator-CFO

Company Name: Buena Vista Township

No changes to contact information since last submittal

SECTION P. LICENSED SITE REMEDIATION PROFESSIONAL INFORMATION AND STATEMENT

LSRP ID Number: 575429
First Name: Paul Last Name: Kenny
Phone Number: (856) 795-9595 Ext: 1073 Fax: (856) 429-5904
Mailing Address: 232 Kings Highway East
City/Town: Haddonfield State: Nj Zip Code: 08033
Email Address: Paul.Kenny@rve.com

This statement shall be signed by the LSRP who is submitting this notification in accordance with SRRA Section 16 d. and Section 30 b.2.

I certify that I am a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C to conduct business in New Jersey. As the Licensed Site Remediation Professional of record for this remediation, I:

[SELECT ONE OR BOTH OF THE FOLLOWING AS APPLICABLE]:

- directly oversaw and supervised all of the referenced remediation, and/or*
- personally reviewed and accepted all of the referenced remediation presented herein.*

I believe that the information contained herein, and including all attached documents, is true, accurate and complete.

It is my independent professional judgment and opinion that the remediation conducted at this site, as reflected in this submission to the Department, conforms to, and is consistent with, the remediation requirements in N.J.S.A. 58:10C-14.

My conduct and decisions in this matter were made upon the exercise of reasonable care and diligence, and by applying the knowledge and skill ordinarily exercised by licensed site remediation professionals practicing in good standing, in accordance with N.J.S.A. 58:10C-16, in the State of New Jersey at the time I performed these professional services.

I am aware pursuant to N.J.S.A. 58:10C-17 that for purposely, knowingly or recklessly submitting false statement, representation or certification in any document or information submitted to the board or Department, etc., that there are significant civil, administrative and criminal penalties, including license revocation or suspension, fines and being punished by imprisonment for conviction of a crime of the third degree.

LSRP Signature: 

Date: 2/6/14

LSRP Name/Title: Paul Kenny/Senior Project Manager

Company Name: Remington, Vernick & Walberg Engineers

No changes to contact information since last submittal

Completed forms should be sent to:

Bureau of Case Assignment & Initial Notice
Site Remediation Program
NJ Department of Environmental Protection
401-05H
PO Box 420
Trenton, NJ 08625-0420

ATTACHMENT S



Ground Water Quality Standards - Class IIA by Constituent

Constituents name	casrn	Ground Water Quality	Practical Quantitation Level (PQL)	Higher of (PQL) Ground Water	Interim Type
		μ g/l or ppb	μ g/l or ppb	μ g/l or ppb	
Acenaphthene	83-32-9	400	10	400	Specific
Acenaphthylene	208-96-8	100	10	100	Interim Specific
Acetone	67-64-1	6,000	10	6,000	Specific
Acetonitrile	75-05-8	100	9	100	Interim Generic
Acetophenone	98-86-2	700	10	700	Specific
Acrolein	107-02-8	4	5	5	Specific
Acrylamide	79-06-1	0.008	0.2	0.2	Specific
Acrylonitrile	107-13-1	0.06	2	2	Specific
Adipates (Di(ethylhexyl)adipate) (DEHA)	103-23-1	30	3	30	Specific
Alachlor	15972-60-8	0.4	0.1	0.4	Specific
Aldicarb sulfone	1646-88-4	7	0.3	7	Specific
Aldrin	309-00-2	0.002	0.04	0.04	Specific
Aluminum	7429-90-5	200	30	200	Specific
Ammonia	7664-41-7	3,000	200	3,000	Specific
Aniline	62-53-3	6	2	6	Specific
Anthracene	120-12-7	2,000	10	2,000	Specific
Antimony (Total)	7440-36-0	6	3	6	Specific
Arsenic (Total)	7440-38-2	0.02	3	3	Specific
Asbestos	1332-21-4	7X10 ⁶ f/L>1	10 ⁶ f/L>10um	7X10 ⁶ f/L>1	Specific
Atrazine	1912-24-9	3	0.1	3	Specific
Barium	7440-39-3	6,000	200	6,000	Specific
Benzo(a)anthracene	56-55-3	0.05	0.1	0.1	Specific
Benzene	71-43-2	0.2	1	1	Specific
Benzidine	92-87-5	0.0002	20	20	Specific
Benzo(a)pyrene(BaP)	50-32-8	0.005	0.1	0.1	Specific
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	0.05	0.2	0.2	Specific
Benzo(ghi)perylene	191-24-2	100	0.3	100	Interim Generic
Benzo(k)fluoranthene	207-08-9	0.5	0.3	0.5	Specific
Benzoic Acid	65-85-0	30,000	50	30,000	Specific
Benzyl Alcohol	100-51-6	2,000	20	2,000	Specific
Beryllium	7440-41-7	1	1	1	Specific

Constituents name	casrn	Ground Water Quality	Practical Quantitation Level (PQL)	Higher of (PQL) - Ground Water	Interim Type
		μ g/l or ppb	μ g/l or ppb	μ g/l or ppb	
alpha-BHC (alpha-HCH) (benzenhydrochloride)	319-84-6	0.006	0.02	0.02	Specific
beta-BHC (beta-HCH)	319-85-7	0.02	0.04	0.04	Specific
BHC (gamma-HCH/Lindane)	58-89-9	0.03	0.02	0.03	Specific
Biphenyl (Diphenyl) (1,1-biphenyl)	92-52-4	400	10	400	Specific
Bis(2-chloroethyl) ether (Dichloroethyl ether)	111-44-4	0.03	7	7	Specific
Bis(2-chloroisopropyl)ether	108-60-1	300	10	300	
Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7	2	3	3	Specific
Bromodichloromethane(Dichlorobromomethane)	75-27-4	0.6	1	1	Specific
Bromoform	75-25-2	4	0.8	4	Specific
Bromomethane (Methyl bromide)	74-83-9	10	1	10	Specific
2-Butanone (MEK)	78-93-3	300	2	300	Specific
Butyl benzyl phthalate	85-68-7	100	1	100	Specific
Cadmium	7440-43-9	4	0.5	4	Specific
Camphor	76-22-2	1,000	0.5	1,000	Specific
Caprolactam	105-60-2	3,500	5,000	5,000	Interim Specific
Carbofuran	1563-66-2	40	0.5	40	Specific
Carbon Disulfide	75-15-0	700	1	700	Specific
Carbon Tetrachloride	56-23-5	0.4	1	1	Specific
Chlordane	57-74-9	0.01	0.5	0.5	Specific
Chloride	16887-00-6	250,000	2,000	250,000	Specific
4-Chloro-3-methylphenol (3-Methyl-4-chlorophenol)	59-50-7	100	20	100	Interim Generic
Chlorobenzene	108-90-7	50	1	50	Specific
Chloroethane	75-00-3	5	0.5	5	Interim Generic
Chloroform	67-66-3	70	1	70	Specific
2-Chloronaphthalene	91-58-7	600	10	600	
2-Chlorophenol	95-57-8	40	20	40	Specific
Chlorpyrifos	2921-88-2	20	0.1	20	Specific
Chromium (Total)	7440-47-3	70	1	70	Specific
Chrysene	218-01-9	5	0.2	5	Specific
Cobalt	7440-48-4	100	0.5	100	Interim Specific
Color (measure by "Color Unit")	color	10 CU	5 CU	10 CU	Specific

Constituents name	casrn	Ground Water Quality	Practical Quantitation Level (PQL)	Higher of (PQL) Ground Water	Interim Type
		μ g/l or ppb	μ g/l or ppb	μ g/l or ppb	
Copper	7440-50-8	1,300	4	1,300	Specific
Cumene (isopropyl benzene)	98-82-8	700	1	700	Specific
Cyanide (free cyanide)	57-12-5	100	6	100	Specific
Dalapon (2,2-Dichloropropionic acid)	75-99-0	200	0.1	200	Specific
4,4'-DDD (p,p'-TDE)	72-54-8	0.1	0.02	0.1	Specific
4,4'-DDE	72-55-9	0.1	0.01	0.1	Specific
4,4'-DDT	50-29-3	0.1	0.1	0.1	Specific
Demeton	8065-48-3	0.3	1	1	Specific
Dibenz(a,h)anthracene	53-70-3	0.005	0.3	0.3	Specific
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.02	0.02	0.02	Specific
Dibromochloromethane (Chlorodibromomethane)	124-48-1	0.4	1	1	Specific
Dichlormid	37764-25-3	600	50	600	Interim Specific
1,3-Dichlorobenzene (meta)	541-73-1	600	5	600	Specific
1,2-Dichlorobenzene (ortho)	95-50-1	600	5	600	Specific
1,4-Dichlorobenzene (para)	106-46-7	75	5	75	Specific
3,3'-Dichlorobenzidine	91-94-1	0.08	30	30	Specific
1,2-Dichloroethane	107-06-2	0.3	2	2	Specific
1,1-Dichloroethane (1,1-DCA)	75-34-3	50	1	50	Specific
1,1-Dichloroethylene (1,1-DCE)	75-35-4	1	1	1	Specific
cis-1,2-Dichloroethylene	156-59-2	70	1	70	Specific
trans-1,2-Dichloroethylene	156-60-5	100	1	100	Specific
2,4-Dichlorophenol	120-83-2	20	10	20	Specific
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	70	2	70	Specific
1,2-Dichloropropane	78-87-5	0.5	1	1	Specific
1,3-Dichloropropene(cis and trans)	542-75-6	0.4	1	1	Specific
Dieldrin	60-57-1	0.002	0.03	0.03	Specific
Diethyl phthalate	84-66-2	6,000	1	6,000	Specific
Diisodecyl phthalate (DIDP)	26761-40-0	100	3	100	Specific
Diisopropyl ether (DIPE)	108-20-3	20,000	5	20,000	Specific
2,4-Dimethyl phenol	105-67-9	100	20	100	Specific
Dimethyl phthalate	131-11-3	100	10	100	Interim Specific
Di-n-butyl phthalate	84-74-2	700	1	700	Specific
4,6-Dinitro-O-Cresol (2-Methyl-4,6-Dinitrophenol)	534-52-1	0.7	1	1	Interim Specific

Constituents name	casrn	Ground Water Quality	Practical Quantitation Level (PQL)	Higher of (PQL) Ground Water	Interim Type
		μ g/l or ppb	μ g/l or ppb	μ g/l or ppb	
2,4-Dinitrophenol	51-28-5	10	40	40	Specific
2,4-Dinitrotoluene/2,6-Dinitrotoluene Mix	25321-14-6	0.05	10	10	Specific
Di-n-octyl phthalate	117-84-0	100	10	100	Specific
Dinoseb	88-85-7	7	2	7	Specific
1,4-Dioxane	123-91-1	3	10	10	Interim Specific
Diphenyl oxide (ether)	101-84-8	100	10	100	Interim Specific
Diphenylamine	122-39-4	200	20	200	Specific
1,2-Diphenylhydrazine	122-66-7	0.04	20	20	Specific
Diquat	85-00-7	20	2	20	Specific
Endosulfan (alpha and beta)	115-29-7	40	0.1	40	Specific
Alpha-Endosulfan (Endosulfan I)	959-98-8	40	0.02	40	Specific
Beta-Endosulfan (Endosulfan II)	33213-65-9	40	0.04	40	Specific
Endosulfan Sulfate	1031-07-8	40	0.02	40	Specific
Endothall	145-73-3	100	60	100	Specific
Endrin	72-20-8	2	0.03	2	Specific
Epichlorohydrin	106-89-8	4	5	5	Specific
Ethion	563-12-2	4	0.5	4	Specific
Ethyl acetate	141-78-6	6,000	10	6,000	Specific
Ethyl ether	60-29-7	1,000	50	1,000	Specific
2-Ethyl-1-Hexanol	104-76-7	200	0.5	200	Interim Specific
Ethylbenzene	100-41-4	700	2	700	Specific
Ethylene dibromide (EDB) (1,2-dibromoethane)	106-93-4	0.0004	0.03	0.03	Specific
Ethylene glycol	107-21-1	300	200	300	Specific
Ethylene glycol monomethyl ether	109-86-4	7	20,000	20,000	Specific
Fluoranthene	206-44-0	300	10	300	Specific
Fluorene	86-73-7	300	1	300	Specific
Fluoride	7782-41-4	2,000	500	2,000	
Foaming Agents (ABS/LAS)	foaming	500	0.5	500	Specific
Formaldehyde	50-00-0	100	30	100	Specific
Freon 11 (Trichlorofluoromethane)	75-69-4	2,000	1	2,000	Specific
Freon 12 (Dichlorodifluoromethane)	75-71-8	1,000	2	1,000	Specific
Glyphosate	1071-83-6	700	30	700	Specific
Hardness (as CaCO3)	hardness	250,000	10,000	250,000	Specific

Constituents name	casrn	Ground Water Quality	Practical Quantitation Level (PQL)	Higher of (PQL) Ground Water	Interim Type
		μ g/l or ppb	μ g/l or ppb	μ g/l or ppb	
Heptachlor	76-44-8	0.008	0.05	0.05	Specific
Heptachlor epoxide	1024-57-3	0.004	0.2	0.2	Specific
n-Heptane	142-82-5	100	0.5	100	Interim Generic
Hexachlorobenzene	118-74-1	0.02	0.02	0.02	Specific
Hexachlorobutadiene	87-68-3	0.4	1	1	Specific
Hexachlorocyclopentadiene	77-47-4	40	0.5	40	Specific
Hexachloroethane	67-72-1	2	7	7	Specific
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	0.3	0.5	0.5	Interim Specific
Hexane (n-Hexane)	110-54-3	30	5	30	Specific
2-Hexanone	591-78-6	300	1	300	Interim Specific
Indeno (1,2,3-cd)pyrene	193-39-5	0.05	0.2	0.2	Specific
Iron	7439-89-6	300	20	300	Specific
Isophorone	78-59-1	40	10	40	Specific
Lead (Total)	7439-92-1	5	5	5	Specific
Malathion	121-75-5	100	0.6	100	Specific
Manganese	7439-96-5	50	0.4	50	Specific
Mercury (Total)	7439-97-6	2	0.05	2	Specific
Methanol	67-56-1	4,000	70	4,000	Specific
Methoxychlor	72-43-5	40	0.1	40	Specific
Methyl acetate	79-20-9	7,000	0.5	7,000	Specific
Methyl Salicylate	119-36-8	4,000	50	4,000	Specific
Methyl tert butyl ether (MTBE)	1634-04-4	70	1	70	Specific
2-(2-Methyl-4-chlorophenoxy) propionic acid (MCPA)	93-65-2	7	0.5	7	Interim Specific
Methylene chloride	75-09-2	3	1	3	Specific
2-Methylnaphthalene	91-57-6	30	10	30	Interim Specific
Metolachlor	51218-45-2	100	0.5	100	Interim Specific
Mirex	2385-85-5	0.1	0.08	0.1	Specific
Molybdenum	7439-98-7	40	2	40	Specific
Naphthalene	91-20-3	300	2	300	Specific
n-Butanol (n-butyl alcohol)	71-36-3	700	20	700	Specific
Nickel (Soluble salts)	7440-02-0	100	4	100	Specific
Nitrate	14797-55-8	10,000	100	10,000	Specific
Nitrate and Nitrite	n&n	10,000	10	10,000	Specific

Constituents name	casrn	Ground Water Quality	Practical Quantitation Level (PQL)	Higher of (PQL) Ground Water	Interim Type
		μ g/l or ppb	μ g/l or ppb	μ g/l or ppb	
Nitrite	14797-65-0	1,000	10	1,000	Specific
Nitrobenzene	98-95-3	4	6	6	Specific
N-Nitrosodimethylamine	62-75-9	0.0007	0.8	0.8	Specific
N-Nitrosodi-n-propylamine (Di-n-propylnitrosamine)	621-64-7	0.005	10	10	Specific
N-Nitrosodiphenylamine	86-30-6	7	10	10	Specific
n-Propanol	71-23-8	100	40	100	Interim Generic
Odor (measure by Threshold Odor Number)	odor	3b	NA	3b	Specific
Oxamyl	23135-22-0	200	1	200	Specific
Parathion	56-38-2	4	0.08	4	Specific
PBBs (Polybrominated biphenyls)	67774-32-7	0.004	0.001	0.004	Specific
PCBs (Polychlorinated biphenyls)	1336-36-3	0.02	0.5	0.5	Specific
Pentachlorophenol	87-86-5	0.3	0.1	0.3	Specific
Perchlorate	14797-73-0	5	2.7	5	Interim Specific
pH	pH	6.5-8.5	NA	6.5-8.5	Specific
Phenanthrene	85-01-8	100	0.3	100	Interim Generic
Phenol	108-95-2	2,000	10	2,000	Specific
Pyrene	129-00-0	200	0.1	200	Specific
Salicylic acid	69-72-7	80	30	80	Specific
Selenium (Total)	7782-49-2	40	4	40	Specific
Silver	7440-22-4	40	1	40	Specific
Simazine	122-34-9	0.3	0.8	0.8	Specific
Sodium	7440-23-5	50,000	400	50,000	Specific
Styrene	100-42-5	100	2	100	Specific
Sulfate	14808-79-8	250,000	5,000	250,000	Specific
Taste	taste	None Objec	NA	None Objec	Specific
TDS (Total Dissolved Solids)	TDS	500,000	10000	500,000	Specific
Tertiary-Butyl alcohol (TBA)	75-65-0	100	2	100	Specific
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1746-01-6	2e-007	1e-005	1e-005	Specific
1,1,2,2-Tetrachloroethane	79-34-5	1	1	1	Specific
1,1,1,2-Tetrachloroethane	630-20-6	1	1	1	Specific
Tetrachloroethylene (PCE)	127-18-4	0.4	1	1	Specific
2,3,4,6-Tetrachlorophenol	58-90-2	200	3	200	Specific
Tetrahydrofuran	109-99-9	10	10	10	Specific

Constituents name	casrn	Ground Water Quality	Practical Quantitation Level (PQL)	Higher of (PQL) Ground Water	Interim Type
		μ g/l or ppb	μ g/l or ppb	μ g/l or ppb	
Thallium	7440-28-0	0.5	2	2	Specific
Toluene	108-88-3	600	1	600	Specific
Toxaphene	8001-35-2	0.03	2	2	Specific
1,2,4-Trichlorobenzene	120-82-1	9	1	9	Specific
1,1,2-Trichloroethane	79-00-5	3	2	3	Specific
1,1,1-Trichloroethane (TCA)	71-55-6	30	1	30	Specific
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	1	1	1	Specific
2,4,5-Trichlorophenol	95-95-4	700	10	700	Specific
2,4,6-Trichlorophenol	88-06-2	1	20	20	Specific
2-(2,4,5-trichlorophenoxy)propionic acid (Silvex) (2,4,5-TP)	93-72-1	60	0.6	60	Specific
1,2,3-Trichloropropane	96-18-4	0.005	0.03	0.03	Specific
2,4,6-Trinitrotoluene (TNT)	118-96-7	1	0.3	1	Interim Specific
Vanadium Pentoxide	1314-62-1	60	1	60	Specific
Vinyl Acetate	108-05-4	7,000	5	7,000	Specific
Vinyl Chloride	75-01-4	0.08	1	1	Specific
Xylenes (Total)	1330-20-7	1,000	2	1,000	Specific
Zinc	7440-66-6	2,000	10	2,000	Specific

Ground Water Explanation of Terms

* = Ground Water Quality Criteria and PQLs are expressed as ug/L unless otherwise noted. Table 1 criteria are all maximum values unless clearly indicated as a range for which the minimum value is to the left and the maximum value is to the right.

** = revised via administrative change (see 39 N.J.R. 3538(a)).

PQL = Practical Quantitation Level as defined in N.J.A.C. 7:9C-1.4

CASRN = Chemical Abstracts System Registration Number

NA = not available for this constituent.

a = Asbestos criterion is measured in terms of fibers/L longer than 10 micrometers (f/L > 10 μ m)

ug = micrograms, L = liter, f = fibers, CU= Standard Cobalt Units

b = Odor Threshold Number, mg = milligrams, H = Hardness

(Total) = means the concentration of metal in an unfiltered sample following treatment with hot dilute mineral acid (as defined in "Methods for Chemical Analysis of Water Wastes", EPA-600/4-79-020, March 1979) or other digestion defined by the analytical method. However samples that contain less than 1 nephelometric turbidity unit (NTU) and are properly preserved, may be directly analyzed without digestion.

m = Pursuant to prevailing Safe Drinking Water Act Regulations any positive result for fecal coliform is in violation of the MCL and is therefore an exceedance of the ground water quality standards.



Soil Remediation Standards

Acenaphthene CAS No 83-32-9

Residential Direct Contact Health Based Criteria and Soil Remediation Standard (mg/kg)

ingestion dermal 3,400 inhalation NA soil PQL 0.2 soil remediation 3,400 effective date: 6/2/2008 interim:

Non-Residential Direct Contact Health Based Criteria and Soil Remediation Standard (mg/kg)

ingestion dermal 37,000 inhalation 300,000 soil PQL 0.2 soil remediation 37,000 effective date: 6/2/2008 interim:

Acenaphthylene CAS No 208-96-8

Residential Direct Contact Health Based Criteria and Soil Remediation Standard (mg/kg)

ingestion dermal NA inhalation NA soil PQL 0.2 soil remediation NA effective date: 6/2/2008 interim:

Non-Residential Direct Contact Health Based Criteria and Soil Remediation Standard (mg/kg)

ingestion dermal NA inhalation 300,000 soil PQL 0.2 soil remediation 300,000 effective date: 6/2/2008 interim:

Acetone (2-Propanone) CAS No 67-64-1

Residential Direct Contact Health Based Criteria and Soil Remediation Standard (mg/kg)

ingestion dermal 70,000 inhalation NA soil PQL 0.01 soil remediation 70,000 effective date: 6/2/2008 interim:

Non-Residential Direct Contact Health Based Criteria and Soil Remediation Standard (mg/kg)

ingestion dermal NA inhalation NA soil PQL 0.01 soil remediation NA effective date: 6/2/2008 interim:

Acetophenone CAS No 98-86-2

Residential Direct Contact Health Based Criteria and Soil Remediation Standard (mg/kg)

ingestion dermal 6,100 inhalation 2 soil PQL 0.2 soil remediation 2 effective date: 6/2/2008 interim:

Non-Residential Direct Contact Health Based Criteria and Soil Remediation Standard (mg/kg)

ingestion dermal 68,000 inhalation 5 soil PQL 0.2 soil remediation 5 effective date: 6/2/2008 interim:

Acrolein CAS No 107-02-8

Residential Direct Contact Health Based Criteria and Soil Remediation Standard (mg/kg)

ingestion dermal 39 inhalation 0.5 soil PQL 0.5 soil remediation 0.5 effective date: 6/2/2008 interim:

Non-Residential Direct Contact Health Based Criteria and Soil Remediation Standard (mg/kg)

ingestion dermal 570 inhalation 1 soil PQL 0.5 soil remediation 1 effective date: 6/2/2008 interim:

NA = Standard not available

ATTACHMENT T



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| A | A | A

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Search

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Map Unit Legend

Atlantic County, New Jersey (NJ001)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AugB	Aura sandy loam, 2 to 5 percent slopes	2.9	24.7%
UdrB	Udorthents, refuse substratum, 0 to 8 percent slopes	8.7	75.3%
Totals for Area of Interest		11.6	100.0%



Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:24,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Soil Data Available

To see a description of the soil data available for a specific point on the map:

1. Click anywhere in the map. The soil data availability for that point will be shown here.
2. The point you clicked is marked with the identified point icon:
3. To see a map showing soil data availability for all locations in the U.S. and territories, click the **Soil Survey Status** link in the Navigation Bar above.

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Map Unit Description

Report — Map Unit Description

Atlantic County, New Jersey

AugB—Aura sandy loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: t12y
 Elevation: 0 to 150 feet
 Mean annual precipitation: 28 to 59 inches
 Mean annual air temperature: 46 to 79 degrees F
 Frost-free period: 161 to 231 days
 Farmland classification: All areas are prime farmland

Map Unit Composition

Aura and similar soils: 85 percent
 Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Aura

Setting

Landform: Low hills
 Landform position (three-dimensional): Interfluvial, side slope
 Down-slope shape: Linear
 Across-slope shape: Convex
 Parent material: Old loamy alluvium and/or old gravelly alluvium

Typical profile

Ap - 0 to 8 inches: sandy loam
Bt1 - 8 to 13 inches: coarse sandy loam
Bt2 - 13 to 22 inches: coarse sandy loam
2Btx1 - 22 to 28 inches: gravelly coarse sandy loam
2Btx2 - 28 to 44 inches: gravelly sandy clay loam
2Btx3 - 44 to 59 inches: gravelly sandy clay loam
2C - 59 to 80 inches: gravelly loamy coarse sand

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: 15 to 40 inches to fragipan
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat):
 Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B

Minor Components

Downer

Percent of map unit: 5 percent
Landform: Low hills
Down-slope shape: Linear
Across-slope shape: Convex

Woodstown

Percent of map unit: 5 percent
Landform: Drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave

Sassafras

Percent of map unit: 5 percent
Landform: Knolls
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluvium
Down-slope shape: Convex
Across-slope shape: Linear

Description — Map Unit Description

Detailed Soil Map Units

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil

properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

ATTACHMENT U



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Map Unit Legend

Atlantic County, New Jersey (NJ001)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AugB	Aura sandy loam, 2 to 5 percent slopes	2.9	24.7%
UdrB	Udortheents, refuse substratum, 0 to 8 percent slopes	8.7	75.3%
Totals for Area of Interest		11.6	100.0%

Soil Map

(not to scale)

Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:24,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scale.

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3. To see a map showing soil data availability for all locations in the U.S. and territories, click the **Soil Survey Status** link in the Navigation Bar above.

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Map Unit Description

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Report — Map Unit Description

Atlantic County, New Jersey

UdrB—Udortheents, refuse substratum, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: v42z
Elevation: 0 to 260 feet
Mean annual precipitation: 30 to 64 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 131 to 178 days
Farmland classification: Not prime farmland

Map Unit Composition

Udortheents, refuse substratum, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udortheents, Refuse Substratum

Setting

Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluvium
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy human-transported material over refuse

Typical profile

^A - 0 to 5 inches: loam
^Cu1 - 5 to 21 inches: gravelly loam
^Cu2 - 21 to 80 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat):
Moderately low to very high (0.01 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 2 percent
Available water storage in profile: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B

Description — Map Unit Description

ATTACHMENT V



Mineral Resources On-Line Spatial Data

Mineral Resources > Online Spatial Data > Geology > by state > New Jersey

Cohansey Formation

*Cohansey Formation - Sand, fine- to coarse-grained, locally gravelly, massive to crossbedded, gray-brown or dark-gray; weathers yellow to white. Typically, the weathered sand is nearly all quartz or rock fragments of orthoquartzite. Where less weathered, small amounts (5-10 percent) of potassium feldspar are present. Interbedded with discrete beds of clay or silty clay, thin- to thick-bedded, massive to finely laminated, dark-gray; weathers white, yellow, or red. Darkgray beds commonly contain carbonized wood fragments, some of which are log size. The thicker clay beds occur in lenses that commonly have small to very large pieces of lignitized wood. An extensive, well-preserved leaf flora was collected from a very thick clay lens in the Cohansey near Millville, Cumberland County. The leaf flora were dominated by *Alangium* sp., a tree no longer growing in eastern North America (J.A. Wolfe, written commun., 1992). Locally, formation consists of several thin- to thickbedded, upward-coarsening sections (clay to sand). The depth of weathering ranges from 24 m (79 ft) in the ACGS-4 corehole near Mays Landing, Atlantic County (Owens and others, 1988), to 70 m (230 ft) in the Atlantic City corehole (F-F'). In the southern part of the southern sheet, in the Belleplain State Forest, Cape May County (G-G'), the formation consists of thin to thick beds of fine- to medium-grained, micaceous quartz (both colorless and green) sand and dark-gray to grayish-brown, woody clay. The sand is locally coarsely stratified (typically small-amplitude crossbeds) and locally highly bioturbated. The clay is extensively bioturbated. These beds represent the deepest marine beds found in the Cohansey in the New Jersey Coastal Plain. The basal contact with underlying units has considerable relief. The contact is sharp and commonly consists of a thin bed of fine gravelly sand. The original thickness of the Cohansey is difficult to ascertain because of extensive erosion. The formation lies in a broad channel and is thickest in the thalweg near Atlantic City where it is nearly 107 m (351 ft) thick. The base of the formation rises rapidly to the south and north of this channel axis. In downdip areas near Belleplain State Forest, the Cohansey contains marginal marine and shelfal facies. The shelfal facies is composed of interbedded, highly bioturbated, micaceous, slightly glauconitic quartz sand and massive clay. Most of the sand in the Cohansey is medium grained and moderately sorted although coarse and fine sandy beds also are common. Beds that have gravel as a major component are locally common in the mixed marine-nonmarine facies in the*

northeastern corner of the southern sheet. Here, the gravel occurs in well-defined channels. Most of the gravel is 2.5 cm (1 in) or less in diameter, although clasts up to 13 cm (5 in) in diameter have been locally observed. The gravel is mostly quartz or quartzite with lesser amounts of white and black chert. Previously, the age of the Cohansey was postulated from its stratigraphic position, its perceived contact relations with the underlying Kirkwood Formation (conformable or unconformable), and its macro- and microflora. The palynology of upper Tertiary formations in the northeastern United States is, however, only generally understood. Commonly, Pliocene beds have less exotic species than Oligocene or Miocene beds. If this is the case, then the Cohansey, which has a large number of exotics of some species, has more Miocene affinities than Pliocene, an age some have assigned to this formation. Ager (in Owens and others, 1988) discusses the microflora in the Cohansey near Mays Landing. He notes that the Cohansey has a large number of exotics similar to those in the underlying Wildwood Member of the Kirkwood, and because of this, thought the Cohansey to be Miocene. Pollen from the Cohansey at Belleplain also has a large variety of exotics in a warm temperate to subtropical pollen assemblage (Les Sirkin, Adelphi University, oral commun., 1991), which includes Clethra, Cyathea, Cyrilla, Engelhardia, Epilobium, Gordonia, Planera, Podocarpus, Pterocarya, and Symplocos. The major sources of tree pollen at Belleplain are pine, oak, and hickory. The contained dinocyst flora from marine beds at Belleplain can be correlated with the known dinocyst assemblages from the Choptank and the lower part of the St. Marys Formation of the Chesapeake Bay region and therefore is middle Miocene in age (Laurent de Verteuil, University of Toronto, written commun., 1991). These dinoflagellate data therefore confirm the Miocene rather than Pliocene age for the Cohansey. The strontium-isotope age from shells at the base of the Cohansey in an offshore well (ACOW-1) was approximately 11 Ma or latest middle Miocene or late Serravallian

State New Jersey

Name Cohansey Formation

Geologic age Middle Miocene, Serravallian

Original map label Tch

Comments Subsurface unit shown in cross section (NJ002) with different description than surficial units.

Primary rock type alluvium

Secondary rock type

Other rock types

Lithologic constituents Major

Unconsolidated > Coarse-detrital > Sand (Alluvial)

Minor

Unconsolidated > Fine-detrital > Silt (Bed)

Unconsolidated > Fine-detrital > Clay (Bed)
 Unconsolidated > Coarse-detrital > Gravel (Bed)

Map references Dalton, R. F., Herman, G. C., Monteverde, D. H., Pristas, R. S., Sugarman, P. J., Volkert, R. A., 1999, New Jersey Department Of Environmental Protection, Bedrock Geology and Topographic Base Maps of New Jersey: New Jersey Geological Survey CD Series CD 00-1; ARC/INFO (v. 7.1) export file: geology.e00, scale 1:100,000, unit description files: cslegend.pdf and nlegend.pdf, metadata: metast.pdf.

Unit references Dalton, R. F., Herman, G. C., Monteverde, D. H., Pristas, R. S., Sugarman, P. J., Volkert, R. A., 1999, New Jersey Department Of Environmental Protection, Bedrock Geology and Topographic Base Maps of New Jersey: New Jersey Geological Survey CD Series CD 00-1; ARC/INFO (v. 7.1) export file: geology.e00, scale 1:100,000, unit description files: cslegend.pdf and nlegend.pdf, metadata: metast.pdf.

Owens, James P., Sugarman, Peter J., Sohl, Norman F., Parker, Ronald A., Houghton, Hugh F., Volkert, Richard A., Drake, Avery A., Jr., and Orndorff, Randall C., 1998, Bedrock Geologic Map of Central and Southern New Jersey: U.S. Geological Survey Miscellaneous Investigations Series Map I-2540-B, scale 1 to 100,000, 8 cross sections, 4 sheets, each size 58x41.
 [<http://pubs.er.usgs.gov/publication/i2540B>]

Owens, J.P., Bybell, L.M., Paulachok, Gary, Ager, T.A., Gonzalez, V.M., and Sugarman, P.J., 1988, Stratigraphy of the Tertiary sediments in a 945-foot-deep corehole near Mays Landing in the southeastern New Jersey Coastal Plain: U.S. Geological Survey Professional Paper 1484, 39 p.
 [<http://pubs.er.usgs.gov/publication/pp1484>]

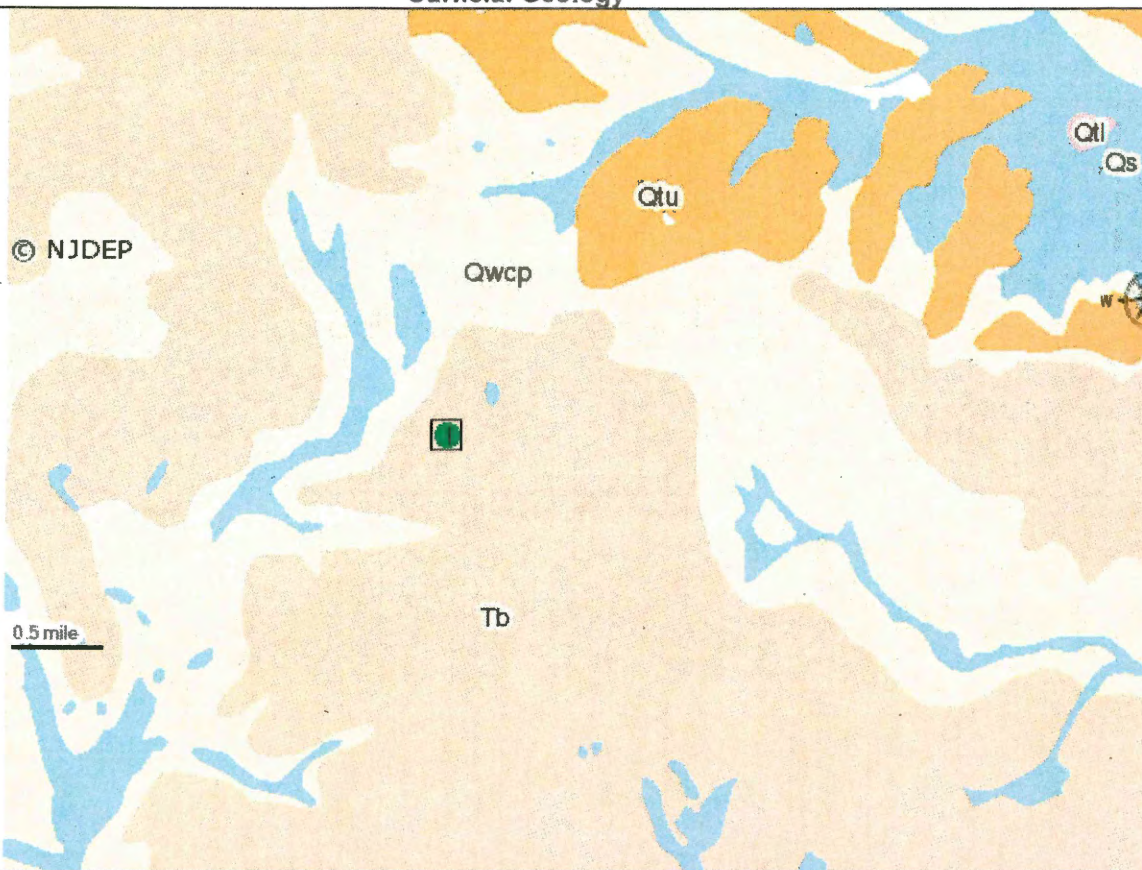
Counties Atlantic - Burlington - Camden - Cape May - Gloucester - Monmouth - Ocean - Salem

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U.S. Department of the Interior | U.S. Geological Survey
 URL: <http://mrdata.usgs.gov/geology/state/sgmc-unit.php?unit=NJTch;0>
 Page Contact Information: Peter Schweitzer

ATTACHMENT W

Buena Vista Township DPW Yard
Surficial Geology



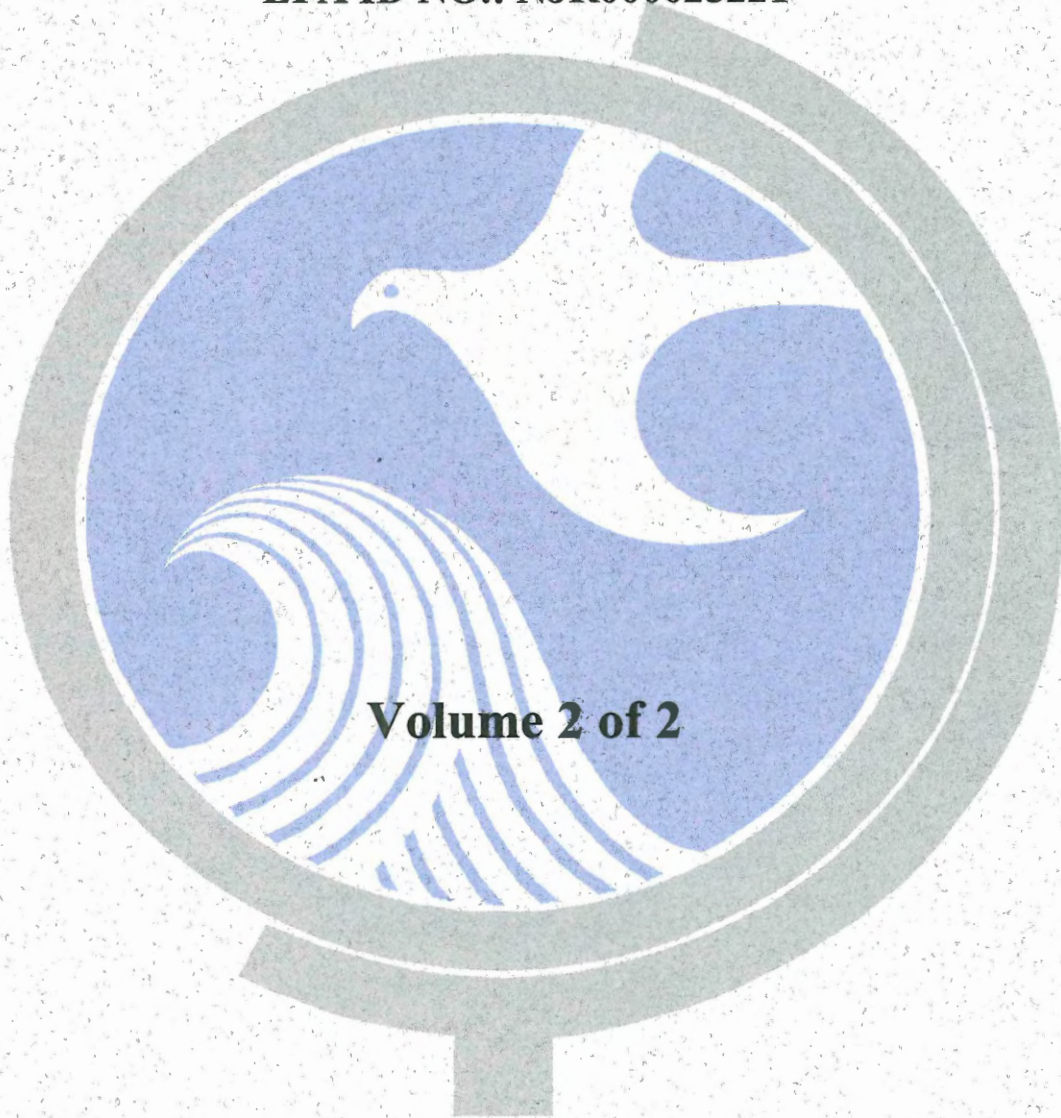
Surficial Geology (up to 1:30000 scale)

Attribute	Value
Geologic Formation Name Abbreviation	Tb
Geologic Formation Name	BRIDGETON FORMATION
Lithology	Sand, clayey sand, pebble gravel, minor silt and cobble gravel; reddish-yellow, red, yellow, white, very pale brown. Sand commonly includes weathered feldspar. As much as 40 feet thick.
Geologic Age	late Miocene
Notes	Occurs as erosional remnants of a former fluvial plain, capping the highest hills and uplands south of the Berlin area. Elevation of the base of the deposit grades from 180 feet near Berlin to 40 feet along the Atlantic coast.

Map Printed On {2015-06-18 14:43}

SITE INVESTIGATION

**BUENA VISTA TOWNSHIP
DEPARTMENT OF PUBLIC WORKS YARD
430 UNION ROAD
BUENA VISTA TWP., ATLANTIC COUNTY, NEW JERSEY
EPA ID NO.: NJR000025221**

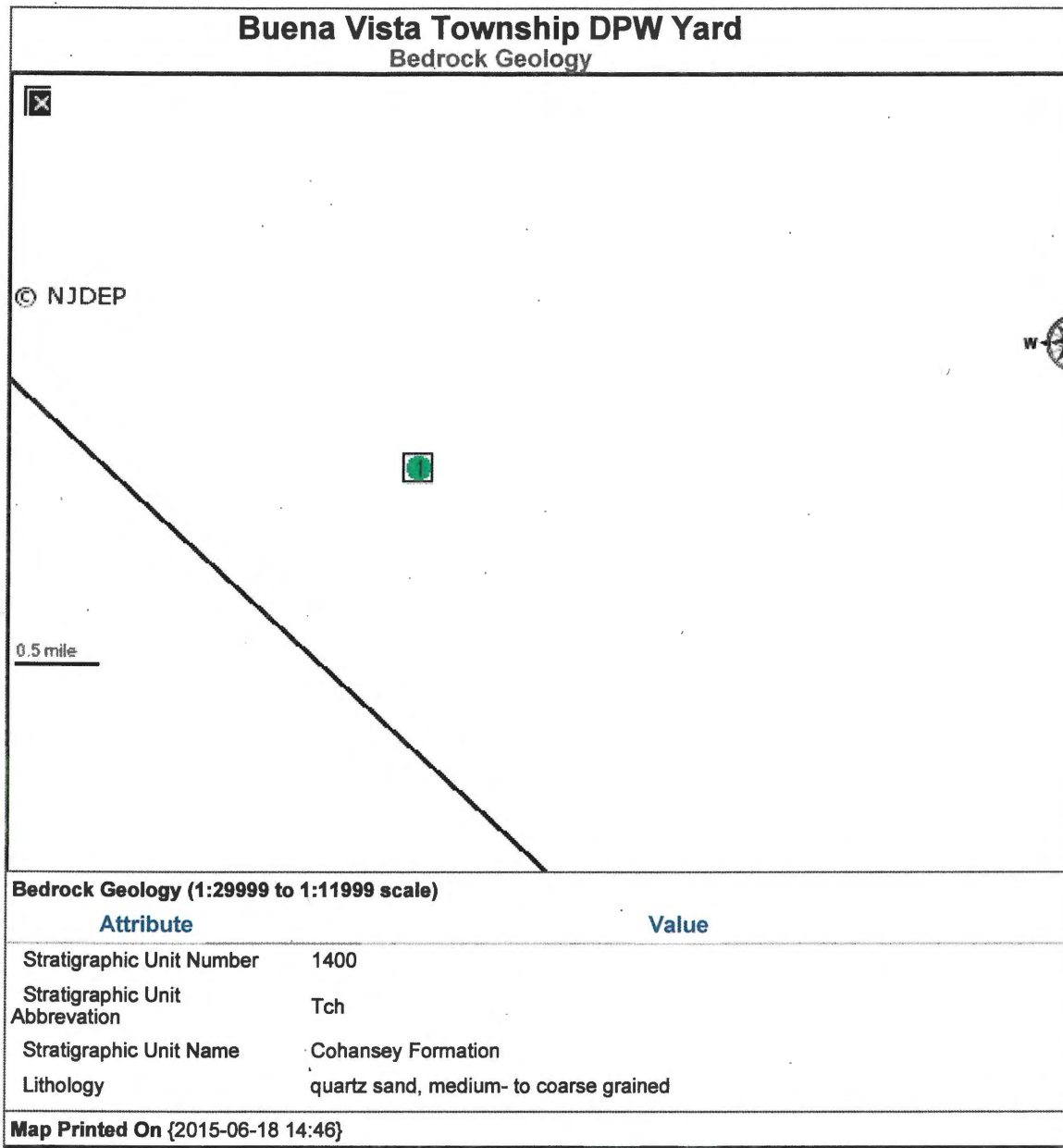


Volume 2 of 2

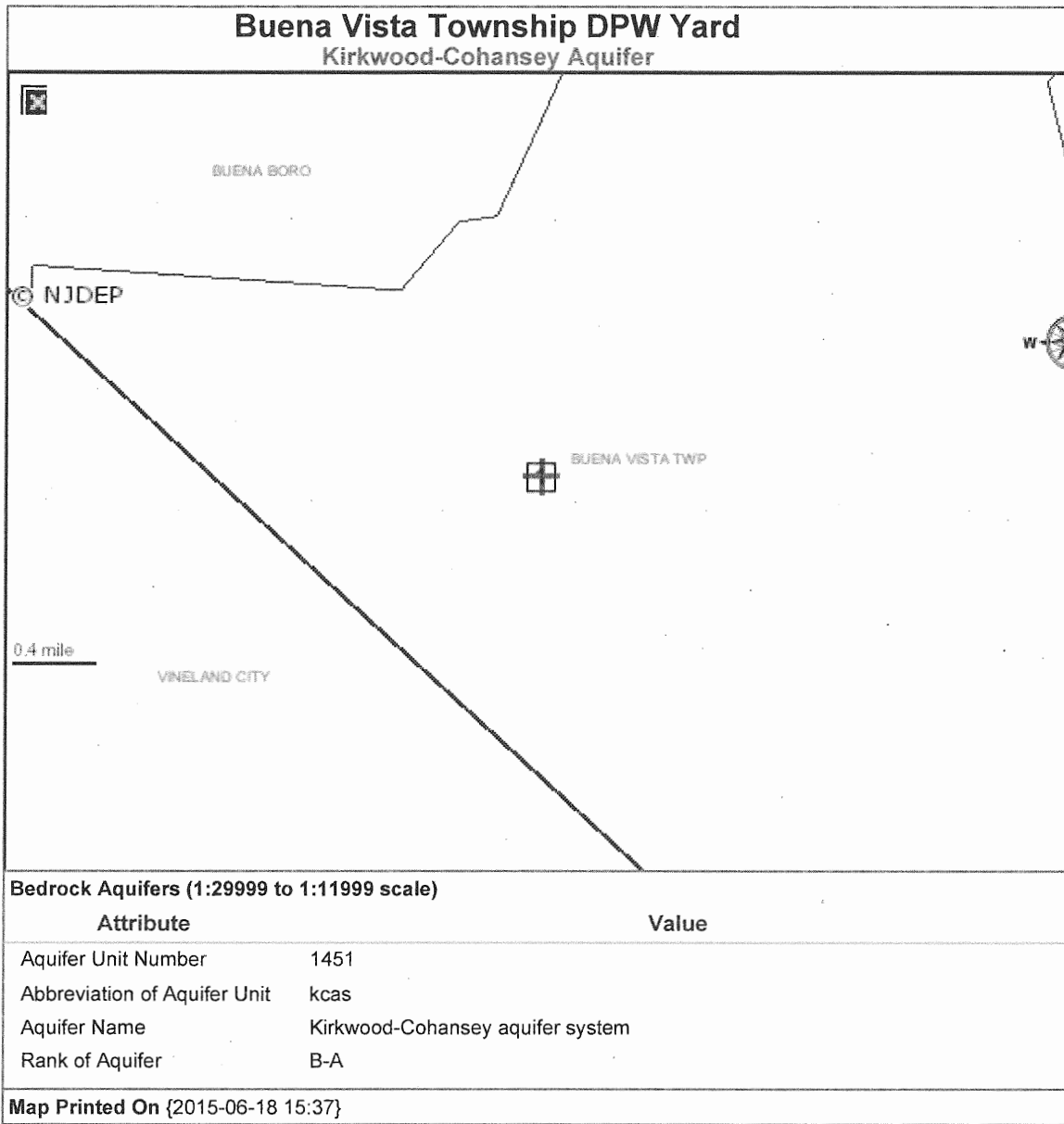
**New Jersey Department of Environmental Protection
Division of Remediation Management
Bureau of Environmental Measurements and Site Assessment**

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ATTACHMENT X



ATTACHMENT Y



ATTACHMENT Z

New Jersey Department of Environmental Protection
EXTERNAL CHAIN OF CUSTODY AND SAMPLE ANALYSIS REQUEST FORM
(with Shipping Container)

LABORATORY INFORMATION

Name of Laboratory: EPI Region 2 DISA LAB Individual Preparing Sample Bottles and Shipping Container(s)

Address: 2 DUNSMuir, NJ Name: _____ Title: _____

Time/Date Sample Shipping Container Sealed: _____ Laboratory Affixed Seal Number: _____

NJDEP INFORMATION

Division: SRP, Public/Industrial Bureau: EMSA

Phone: () _____ Job Number: Brown Vista Twp DPW Area

REQUESTED ANALYSIS

NJDEP FIELD SAMPLE NUMBER	SAMPLING TIME START/STOP	SAMPLING DATE	PARAMETER	METHOD	PRESERV.	CONTAINER		MATRIX
						VOLUME	QUANTITY	
<u>GW5A</u>	<u>1030</u>	<u>18 Feb 2015</u>	<u>VOA</u>		<u>HCl</u>	<u>40ml</u>	<u>3</u>	<u>Aqueous</u>
<u>GW5B</u>	<u>1115</u>	<u>"</u>	<u>"</u>		<u>"</u>	<u>"</u>	<u>3</u>	<u>Aq</u>
<u>GW5C</u>	<u>1240</u>	<u>"</u>	<u>"</u>		<u>"</u>	<u>"</u>	<u>3</u>	<u>"</u>
<u>GW5D</u>	<u>1430</u>	<u>"</u>	<u>"</u>		<u>"</u>	<u>"</u>	<u>3</u>	<u>"</u>
<u>FB 1</u>	<u>1515</u>	<u>"</u>	<u>"</u>		<u>"</u>	<u>"</u>	<u>2</u>	<u>"</u>
<u>TB 1</u>	<u>1730</u>	<u>"</u>	<u>"</u>		<u>"</u>	<u>"</u>	<u>3</u>	<u>"</u>

Preservative Added: (check one) LABORATORY FIELD UNPRESERVED

Contract Number: _____ Task Number: _____ Report Format: _____

EXTERNAL CHAIN OF CUSTODY

Hand Delivered, Direct flow sampling / Chain begins 2/19/15

RELINQUISHED	RECEIVED	TIME/DATE	REASON FOR CHANGE OF EXTERNAL CUSTODY BREAK SEAL/SAMPLE
<u>XXXXXXXXXXXXXXXXXXXX</u>	<u>[Signature]</u>	<u>02345</u>	
<u>[Signature]</u>	<u>[Signature]</u>	<u>2/19/2015</u>	
	<u>11:45</u>		

Individual Resealing Shipping Container: Name: _____ Title: _____

Time/Date Sample Shipping Container Resealed: _____ NJDEP Affixed Seal Number: _____

Individual Breaking Shipping Container Seal and Accepting Responsibility at the Laboratory for the Sample: Name: _____

Time/Date Sample Shipping Container Opened: _____

Time/Date Internal Chain of Custody Initiated on NJDEP Form 077 (Internal Chain of Custody): _____

New Jersey Department of Environmental Protection
EXTERNAL CHAIN OF CUSTODY AND SAMPLE ANALYSIS REQUEST FORM
(with Shipping Container)

LABORATORY INFORMATION

Name of Laboratory: EPA DESA LAB Individual Preparing Sample Bottles and Shipping Container(s) _____
 Address: EDISON, NJ Name: Annex Dushinsky Title: Env. Sci.

 Time/Date Sample Shipping Container Sealed: _____ Laboratory Affixed Seal Number: _____

NJDEP INFORMATION

Division: NJDEP SRP-PFR Bureau: FMSA
 Phone: (609) 530 4393 Job Number: Bucina Vista Twp DPW yard

REQUESTED ANALYSIS

NJDEP FIELD SAMPLE NUMBER	SAMPLING TIME START/STOP	SAMPLING DATE	PARAMETER	METHOD	PRESERV.	CONTAINER		MATRIX
						VOLUME	QUANTITY	
GW5E	0830	19 Feb 2015	VOA		HCl	40ml	3	Ag
GW4A	1105	↓	↓		↓	↓	3	↓
GW4B	1125	↓	↓		↓	↓	3	↓
GW4C	1200	↓	↓		↓	↓	2	↓
GW4D	1305	↓	↓		↓	↓	3	↓
GW4E	1400	↓	↓		↓	↓	3	↓
FB2	1425	↓	↓		↓	↓	3	↓
TB2	0600	↓	↓		↓	↓	2	↓

Preservative Added: (check one) LABORATORY FIELD UNPRESERVED
 Contract Number: _____ Task Number: _____ Report Format: _____

EXTERNAL CHAIN OF CUSTODY

MS/MSD
 RELINQUISHED RECEIVED TIME/DATE REASON FOR CHANGE OF EXTERNAL CUSTODY BREAK SEAL/SAMPLE
 XXXXXXXXXXXXXXXXXXXX

Individual Resealing Shipping Container: Name: _____ Title: _____
 Time/Date Sample Shipping Container Resealed: _____ NJDEP Affixed Seal Number: _____
 Individual Breaking Shipping Container Seal and Accepting Responsibility at the Laboratory for the Sample: Name: _____
 Time/Date Sample Shipping Container Opened: _____
 Time/Date Internal Chain of Custody Initiated on NJDEP Form 077 (Internal Chain of Custody): _____

1062

New Jersey Department of Environmental Protection
EXTERNAL CHAIN OF CUSTODY AND SAMPLE ANALYSIS REQUEST FORM
(with Shipping Container)

LABORATORY INFORMATION

Name of Laboratory: EDM Research Individual Preparing Sample Bottles and Shipping Container(s) _____
Address: _____ Name: _____ Title: _____
Time/Date Sample Shipping Container Sealed: _____ Laboratory Affixed Seal Number: _____

NJDEP INFORMATION

Division: EDM Bureau: EMSA
Phone: (609) 532 4293 Job Number: 1000 V 10 TPAV 1000

REQUESTED ANALYSIS

NJDEP FIELD SAMPLE NUMBER	SAMPLING TIME START/STOP	SAMPLING DATE	PARAMETER	METHOD	PRESERV.	CONTAINER		MATRIX
						VOLUME	QUANTITY	
TR3	0745	23 Feb 15	VOCS		HCl	40ml	3	
FR3	1505		VOCS		HCl	40ml	3	
GW3A	0900		VOCS		HCl	40ml	3	
GW2A-Mercury	0700		Mercury		HNO ₃	500ml	1	
GW2B	0940		VOCS		HCl	40ml	3	
GW2B-Mercury	0940		Mercury		HNO ₃	500ml	1	
GW3C	1040		VOCS		HCl	40ml	3	
GW3C-Mercury	1040		Mercury		HNO ₃	500ml	1	
GW3D	1140		VOCS		HCl	40ml	3	
GW3D-D	1140		VOCS		HCl	40ml	3	
GW3D-Mercury	1140		Mercury		HNO ₃	500ml	1	
GW2A	1230		VOCS		HCl	40ml	3	
GW2A-Mercury	1330		Mercury		HNO ₃	500ml	1	
GW2B	1415		VOCS		HCl	40ml	3	
GW2B-Mercury	1415		Mercury		HNO ₃	500ml	1	
GW2B-Mercury	1505		"		"	"	1	

Preservative Added: (check one) LABORATORY FIELD UNPRESERVED

Contract Number: _____ Task Number: _____ Report Format: _____

EXTERNAL CHAIN OF CUSTODY

Hard Delivered, I took from sampling, checking began 2/24/15

RELINQUISHED	RECEIVED	TIME/DATE	REASON FOR CHANGE OF EXTERNAL CUSTODY
XXXXXXXXXXXXXXXXXXXX	<u>[Signature]</u>	<u>2/24/15 10:20 AM</u>	<u>BREAK SEAL/SAMPLE</u>
_____	_____	_____	_____
_____	_____	_____	_____

Individual Resealing Shipping Container: Name: _____ Title: _____
Time/Date Sample Shipping Container Resealed: _____ NJDEP Affixed Seal Number: _____
Individual Breaking Shipping Container Seal and Accepting Responsibility at the Laboratory for the Sample: Name: _____
Time/Date Sample Shipping Container Opened: _____
Time/Date Internal Chain of Custody Initiated on NJDEP Form 077 (Internal Chain of Custody): _____

New Jersey Department of Environmental Protection
EXTERNAL CHAIN OF CUSTODY AND SAMPLE ANALYSIS REQUEST FORM
(with Shipping Container)

2062

LABORATORY INFORMATION

Name of Laboratory: EPA Region 2 DESA LAB Individual Preparing Sample Bottles and Shipping Container(s)

Address: EDISON, NJ Name: _____ Title: _____

Time/Date Sample Shipping Container Sealed: 23 Feb 2015 Laboratory Affixed Seal Number: _____

NJDEP INFORMATION

Division: NJDEP-SPP-PFR Bureau: EMSA

Phone: (609) 530 4293 Job Number: Bucna V. H. Tap DPW YARD
ANNIE DUNHAM @ DEP.NJ GOV

REQUESTED ANALYSIS

NJDEP FIELD SAMPLE NUMBER	SAMPLING TIME START/STOP	SAMPLING DATE	PARAMETER	METHOD	PRESERV.	CONTAINER		MATRIX
						VOLUME	QUANTITY	
<u>9102C</u>	<u>1450</u>	<u>23 Feb 15</u>	<u>VOCS</u>		<u>HCl</u>	<u>40ml</u>	<u>3</u>	<u>Ag</u>
<u>9102C-Mercury</u>			<u>Mercury</u>		<u>HNO₃</u>	<u>500ml</u>	<u>1</u>	<u>11</u>

Preservative Added: (check one) LABORATORY FIELD UNPRESERVED

Contract Number: _____ Task Number: _____ Report Format: _____

EXTERNAL CHAIN OF CUSTODY

RELINQUISHED	RECEIVED	TIME/DATE	REASON FOR CHANGE OF EXTERNAL CUSTODY BREAK SEAL/SAMPLE
<u>XXXXXXXXXXXXXXXXXXXX</u>	<u>[Signature]</u>	<u>2/24/15 10:20 AM</u>	
<u>[Signature]</u>	<u>[Signature]</u>		

Individual Resealing Shipping Container: Name: _____ Title: _____
Time/Date Sample Shipping Container Resealed: _____ NJDEP Affixed Seal Number: _____
Individual Breaking Shipping Container Seal and Accepting Responsibility at the Laboratory for the Sample: Name: _____
Time/Date Sample Shipping Container Opened: _____
Time/Date Internal Chain of Custody Initiated on NJDEP Form 077 (Internal Chain of Custody): _____

New Jersey Department of Environmental Protection
EXTERNAL CHAIN OF CUSTODY AND SAMPLE ANALYSIS REQUEST FORM
(with Shipping Container)

LABORATORY INFORMATION

Name of Laboratory: EPA Region 2 DESA LAB Individual Preparing Sample Bottles and Shipping Container(s) _____

Address: EDISON, NJ Name: _____ Title: _____

Time/Date Sample Shipping Container Sealed: 25 Feb 2015 Laboratory Affixed Seal Number: _____

NJDEP INFORMATION

Division: SRP-PFR Bureau: EMSA

Phone: (609) 530 4393 Job Number: BUENA VISTA TWP DPW YARD
ANNIE DUNHAM RDPF NJ 192V

REQUESTED ANALYSIS

NJDEP FIELD SAMPLE NUMBER	SAMPLING TIME START/STOP	SAMPLING DATE	PARAMETER	METHOD	PRESERV.	CONTAINER		MATRIX
						VOLUME	QUANTITY	
TB 4	0625	24 Feb 2015	VOA		HCl	40ml	3	Aq-TB
FB 4	1320	"	"		"	40ml	3	Aq-FB
FW2D-Mercur	1320	"	Hg		HNO ₃	500ml	1	Aq-FR
FW2D	0815	"	VOA		HCl	40 ml	3	Aq
FW2D-Mercur	"	"	Hg		HNO ₃	500ml	1	Aq
FWZE	0930	"	VOA		HCl	40 ml	3	Aq
FWZE-Mercur	"	"	Hg		HNO ₃	500ml	1	Aq
FW11A-Mercur	1050	"	"		"	500ml	1	Aq
FW11A	"	"	VOA		HCl	40ml	3	Aq
FW11A MS/MT	"	"	"		"	40ml	3	Aq-MT/MS
FW11A Dups	"	"	"		"	40ml	3	Aq Duplicate
FW11B	1145	"	"		"	40ml	3	Aq
FB 5	1140	25 Feb 2015	Hg		HNO ₃	500ml	1	Aq-FB
BS 11A	1215	"	VOA	ENCORE		Encore	4	Soil
BS 11A Mercur	1215	"	Hg		Amber Jar		1	Soil

Preservative Added: (check one) LABORATORY FIELD UNPRESERVED

Contract Number: _____ Task Number: _____ Report Format: _____

EXTERNAL CHAIN OF CUSTODY

RELINQUISHED	RECEIVED	TIME/DATE	REASON FOR CHANGE OF EXTERNAL CUSTODY BREAK SEAL/SAMPLE
XXXXXXXXXXXXXXXXXXXX			

Individual Resealing Shipping Container: Name: _____ Title: _____
Time/Date Sample Shipping Container Resealed: _____ NJDEP Affixed Seal Number: _____
Individual Breaking Shipping Container Seal and Accepting Responsibility at the Laboratory for the Sample: Name: _____
Time/Date Sample Shipping Container Opened: _____
Time/Date Internal Chain of Custody Initiated on NJDEP Form 077 (Internal Chain of Custody): _____

2 of 2

New Jersey Department of Environmental Protection
EXTERNAL CHAIN OF CUSTODY AND SAMPLE ANALYSIS REQUEST FORM
(with Shipping Container)

LABORATORY INFORMATION

Name of Laboratory: EPARegion 2 DESA LAB Individual Preparing Sample Bottles and Shipping Container(s)

Address: EDISON, NJ Name: _____ Title: _____

Time/Date Sample Shipping Container Sealed: 25 FEB 2015 Laboratory Affixed Seal Number: _____

NJDEP INFORMATION

Division: SRP-PFR Bureau: EMSA

Phone: (609) 530 4393 Job Number: BURNAVISTA Twp DPW YARD

REQUESTED ANALYSIS

NJDEP FIELD SAMPLE NUMBER	SAMPLING TIME START/STOP	SAMPLING DATE	PARAMETER	METHOD	PRESERV.	CONTAINER		MATRIX
						VOLUME	QUANTITY	
GW11B-Meeting	1145	24 Feb 2015	Hg		HNO ₃	500ml	1	Ag
GW11C-Meeting	1250	"	"		HNO ₃	500ml	1	Ag
GW11E	1250	"	VOA		HCl	40ml	3	Ag
GW14A-Meeting	0850	25 Feb 2015	Hg		HNO ₃	500ml	1	Ag
GW14AD-Meeting	0850	"	Hg		"	500ml	3	Ag-Duplicate
GW14B-Meeting	0720	"	"		"	500ml	3	Ag-MSD
GW14E-MSD Meeting	0920	"	"		"	500ml	3	Ag-MSD
GW14B-Meeting	"	"	"		"	500ml	1	Ag
GW14C	0940	"	"		"	500ml	1	Ag
GW14D	1010	"	"		"	500ml	1	Ag
GW14E	1050	"	"		"	500ml	1	Ag

Preservative Added: (check one) LABORATORY FIELD UNPRESERVED

Contract Number: _____ Task Number: _____ Report Format: _____

EXTERNAL CHAIN OF CUSTODY

RELINQUISHED	RECEIVED	TIME/DATE	REASON FOR CHANGE OF EXTERNAL CUSTODY BREAK SEAL/SAMPLE
XXXXXXXXXXXXXXXXXXXX			

Individual Resealing Shipping Container: Name: _____ Title: _____
Time/Date Sample Shipping Container Resealed: _____ NJDEP Affixed Seal Number: _____
Individual Breaking Shipping Container Seal and Accepting Responsibility at the Laboratory for the Sample: Name: _____
Time/Date Sample Shipping Container Opened: _____
Time/Date Internal Chain of Custody Initiated on NJDEP Form 077 (Internal Chain of Custody): _____

ATTACHMENT AA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

**Region 2 Laboratory
2890 Woodbridge Avenue
Edison , New Jersey 08837
732-906-6886 Phone
732-906-6165 Fax**

March 24, 2015

Annie Dunham
NJDEP Site Remediation Program
PO Box 420, 380-01
Trenton, NJ 08625

RE: Buena Vista Twp. DPW Yard - 1502026

Enclosed are the results of analyses for samples received by the laboratory between 2/19/2015 and 2/26/2015. The signature below reflects the laboratory's approval of the reported results. If you have any questions concerning this report, please refer to Project Number 1502026 and contact John Birri by phone at 732-906-6886, or via Email at birri.john@epa.gov.

Sincerely,

A handwritten signature in cursive script that reads "Gregory J. Santacroce".

Gregory J. Santacroce
Acting Chief, DESA/LB



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Project Narrative:

The National Environmental Laboratory Accreditation Conference Institute (TNI) is a voluntary environmental laboratory accreditation association of State and Federal agencies. TNI established and promoted a National Environmental Laboratory Accreditation Program (NELAP) that provides a uniform set of standards for the generation of environmental data that are of known and defensible quality. The EPA Region 2 Laboratory is NELAP accredited. The Laboratory tests that are accredited have met all the requirements established under the TNI Standards.

Condition Comments

None

Comment(s):

None

Data Qualifier(s):

- U- The analyte was not detected at or above the Reporting Limit.
- J- The identification of the analyte is acceptable; the reported value is an estimate.
- K- The identification of the analyte is acceptable; the reported value may be biased high.
- L- The identification of the analyte is acceptable; the reported value may be biased low.
- NJ- There is presumptive evidence that the analyte is present; the analyte is reported as a tentative identification. The reported value is an estimate.

Reporting Limit(s):

The Laboratory was able to achieve the appropriate limits for each analyte requested.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

SUMMARY REPORT FOR SAMPLES

Field ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW 5A	1502026-01	Aqueous	02/18/2015 10:30	02/19/2015 14:45
GW 5B	1502026-02	Aqueous	02/18/2015 11:15	02/19/2015 14:45
GW 5C	1502026-03	Aqueous	02/18/2015 12:40	02/19/2015 14:45
GW 5D	1502026-04	Aqueous	02/18/2015 14:30	02/19/2015 14:45
FB1	1502026-05	Aqueous	02/18/2015 15:15	02/19/2015 14:45
TB1	1502026-06	Aqueous	02/18/2015 07:30	02/19/2015 14:45
GW 5E	1502028-01	Aqueous	02/19/2015 08:30	02/20/2015 12:30
GW 4A	1502028-02	Aqueous	02/19/2015 11:05	02/20/2015 12:30
GW 4B	1502028-03	Aqueous	02/19/2015 11:25	02/20/2015 12:30
GW 4C	1502028-04	Aqueous	02/19/2015 12:00	02/20/2015 12:30
GW 4D	1502028-05	Aqueous	02/19/2015 13:05	02/20/2015 12:30
GW 4E	1502028-06	Aqueous	02/19/2015 14:00	02/20/2015 12:30
FB 2	1502028-07	Aqueous	02/19/2015 14:25	02/20/2015 12:30
TB 2	1502028-08	Aqueous	02/19/2015 06:00	02/20/2015 12:30
TB 3	1502035-01	Aqueous	02/23/2015 07:45	02/24/2015 10:20
FB 3	1502035-02	Aqueous	02/23/2015 15:05	02/24/2015 10:20
GW 3A	1502035-03	Aqueous	02/23/2015 09:00	02/24/2015 10:20
GW 3B	1502035-04	Aqueous	02/23/2015 09:40	02/24/2015 10:20
GW 3C	1502035-05	Aqueous	02/23/2015 10:40	02/24/2015 10:20
GW 3D	1502035-06	Aqueous	02/23/2015 11:40	02/24/2015 10:20
GW 3DD	1502035-07	Aqueous	02/23/2015 11:40	02/24/2015 10:20
GW 2A	1502035-08	Aqueous	02/23/2015 13:30	02/24/2015 10:20
GW 2B	1502035-09	Aqueous	02/23/2015 14:15	02/24/2015 10:20
GW 2C	1502035-10	Aqueous	02/23/2015 14:50	02/24/2015 10:20
TB 4	1502040-01	Aqueous	02/24/2015 06:25	02/26/2015 10:05
FB 4	1502040-02	Aqueous	02/24/2015 13:20	02/26/2015 10:05
GW 2D	1502040-03	Aqueous	02/24/2015 08:15	02/26/2015 10:05
GW 2E	1502040-04	Aqueous	02/24/2015 09:30	02/26/2015 10:05
GW 11A	1502040-05	Aqueous	02/24/2015 10:50	02/26/2015 10:05



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

SUMMARY REPORT FOR SAMPLES

Field ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW 11A Dup	1502040-06	Aqueous	02/24/2015 10:50	02/26/2015 10:05
GW 11B	1502040-07	Aqueous	02/24/2015 11:45	02/26/2015 10:05
FB 5	1502040-08	Aqueous	02/25/2015 11:40	02/26/2015 10:05
SS 11A	1502040-09	Solid	02/25/2015 12:15	02/26/2015 10:05
GW 11C	1502040-10	Aqueous	02/24/2015 12:50	02/26/2015 10:05
GW 4A	1502040-11	Aqueous	02/25/2015 08:50	02/26/2015 10:05
GW 4A Dup	1502040-12	Aqueous	02/25/2015 08:50	02/26/2015 10:05
GW 4B	1502040-13	Aqueous	02/25/2015 09:20	02/26/2015 10:05
GW 4C	1502040-14	Aqueous	02/25/2015 09:40	02/26/2015 10:05
GW 4D	1502040-15	Aqueous	02/25/2015 10:10	02/26/2015 10:05
GW 4E	1502040-16	Aqueous	02/25/2015 10:50	02/26/2015 10:05



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

SUMMARY REPORT FOR METHODS

Analysis	Method	Certification	Matrix
Mercury	EPA 245.1 SOP C-110 Rev2.4	NELAP	Aqueous
Mercury	EPA 245.1 SOP C-110 Rev2.4	NELAP	Solid
VOA Low Level Soil	SOM 2.2 SOP C-123 Rev2.5	NELAP	Solid
VOA SOM 1.2	EPA 624 SOP C-89 Rev3.3	NELAP	Aqueous



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 5A

Sample ID: 1502026-01

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 5A

Sample ID: 1502026-01

VOA GCMS

Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 5A

Sample ID: 1502026-01

VOA GCMS

1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: GW 5B

Sample ID: 1502026-02

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	33		5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	13		10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 5B

Sample ID: 1502026-02

VOA GCMS

Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	24		5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 5B

Sample ID: 1502026-02

VOA GCMS

1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: GW 5C

Sample ID: 1502026-03

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L



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Field ID: GW 5C

Sample ID: 1502026-03

VOA GCMS

Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	12		10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L



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Field ID: GW 5C

Sample ID: 1502026-03

VOA GCMS

1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L



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Field ID: GW 5C

Sample ID: 1502026-03

VOA GCMS

1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: GW 5D

Sample ID: 1502026-04

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	13		10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L



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Field ID: GW 5D

Sample ID: 1502026-04

VOA GCMS

2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L



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Field ID: GW 5D

Sample ID: 1502026-04

VOA GCMS

Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: FB1

Sample ID: 1502026-05

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L



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Field ID: FB1

Sample ID: 1502026-05

VOA GCMS

1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L



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Field ID: FB1

Sample ID: 1502026-05

VOA GCMS

4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: FB1

Sample ID: 1502026-05

VOA GCMS

1,2,3-Trichlorobenzene	---	U	5.0	ug/L
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Field ID: TB1

Sample ID: 1502026-06

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: TB1

Sample ID: 1502026-06

VOA GCMS

Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L



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Field ID: TB1

Sample ID: 1502026-06

VOA GCMS

o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: GW 5E

Sample ID: 1502028-01

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 5E

Sample ID: 1502028-01

VOA GCMS

Carbon Disulfide	---	U	5.0	ug/L
Acetone	23		10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW SE

Sample ID: 1502028-01

VOA GCMS

trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,1,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 4A

Sample ID: 1502028-02

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 4A

Sample ID: 1502028-02

VOA GCMS

Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L



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Field ID: GW 4A

Sample ID: 1502028-02

VOA GCMS

1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: GW 4B

Sample ID: 1502028-03

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 4B

Sample ID: 1502028-03

VOA GCMS

trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 4B

Sample ID: 1502028-03

VOA GCMS

Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: GW 4C

Sample ID: 1502028-04

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L



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Field ID: GW 4C

Sample ID: 1502028-04

VOA GCMS

Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	11		10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 4C

Sample ID: 1502028-04

VOA GCMS

Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 4C

Sample ID: 1502028-04

VOA GCMS

1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: GW 4D

Sample ID: 1502028-05

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	19		10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L



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Field ID: GW 4D

Sample ID: 1502028-05

VOA GCMS

cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 4D

Sample ID: 1502028-05

VOA GCMS

Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: GW 4E

Sample ID: 1502028-06

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	5.3		5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 4E

Sample ID: 1502028-06

VOA GCMS

1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	23		10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 4E

Sample ID: 1502028-06

VOA GCMS

4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 4E

Sample ID: 1502028-06

VOA GCMS

1,2,3-Trichlorobenzene	---	U	5.0	ug/L
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Field ID: FB 2

Sample ID: 1502028-07

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: FB 2

Sample ID: 1502028-07

VOA GCMS

Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: FB 2

Sample ID: 1502028-07

VOA GCMS

o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: TB 2

Sample ID: 1502028-08

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: TB 2

Sample ID: 1502028-08

VOA GCMS

Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: TB 2

Sample ID: 1502028-08

VOA GCMS

trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,1,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: TB 3

Sample ID: 1502035-01

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L



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Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: TB 3

Sample ID: 1502035-01

VOA GCMS

Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: TB 3

Sample ID: 1502035-01

VOA GCMS

1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: FB 3

Sample ID: 1502035-02

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: FB 3

Sample ID: 1502035-02

VOA GCMS

trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: FB 3

Sample ID: 1502035-02

VOA GCMS

Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,1,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Field ID: GW 3A

Sample ID: 1502035-03

VOA GCMS



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3A

Sample ID: 1502035-03

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3A

Sample ID: 1502035-03

VOA GCMS

Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3A

Sample ID: 1502035-03

VOA GCMS

1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Field ID: GW 3B

Sample ID: 1502035-04

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	18		10	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3B

Sample ID: 1502035-04

VOA GCMS

Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3B

Sample ID: 1502035-04

VOA GCMS

Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3C

Sample ID: 1502035-05

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	15		10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3C

Sample ID: 1502035-05

VOA GCMS

Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3C

Sample ID: 1502035-05

VOA GCMS

1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Field ID: GW 3D

Sample ID: 1502035-06

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	UL	10	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3D

Sample ID: 1502035-06

VOA GCMS

Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3D

Sample ID: 1502035-06

VOA GCMS

Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3DD

Sample ID: 1502035-07

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	10		10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3DD

Sample ID: 1502035-07

VOA GCMS

Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L



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Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 3DD

Sample ID: 1502035-07

VOA GCMS

1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: GW 2A

Sample ID: 1502035-08

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L



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Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 2A

Sample ID: 1502035-08

VOA GCMS

trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L



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Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 2A

Sample ID: 1502035-08

VOA GCMS

Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L
Methane, chlorofluoro-	5.7	NJ		ug/L

Mercury CVAA

Mercury	0.27		0.20	ug/L
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Field ID: GW 2B

Sample ID: 1502035-09



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 2B

Sample ID: 1502035-09

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	12		10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L



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Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 2B

Sample ID: 1502035-09

VOA GCMS

Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L



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Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 2B

Sample ID: 1502035-09

VOA GCMS

1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Field ID: GW 2C

Sample ID: 1502035-10

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	11		10	ug/L



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Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 2C

Sample ID: 1502035-10

VOA GCMS

Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L



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Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 2C

Sample ID: 1502035-10

VOA GCMS

Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: TB 4

Sample ID: 1502040-01

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L



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Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: TB 4

Sample ID: 1502040-01

VOA GCMS

Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: TB 4

Sample ID: 1502040-01

VOA GCMS

1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Field ID: FB 4

Sample ID: 1502040-02

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: FB 4

Sample ID: 1502040-02

VOA GCMS

trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: FB 4

Sample ID: 1502040-02

VOA GCMS

Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,1,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Field ID: GW 2D

Sample ID: 1502040-03

VOA GCMS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 2D

Sample ID: 1502040-03

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	16		10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L



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Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 2D

Sample ID: 1502040-03

VOA GCMS

Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 2D

Sample ID: 1502040-03

VOA GCMS

1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Field ID: GW 2E

Sample ID: 1502040-04

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	33		10	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 2E

Sample ID: 1502040-04

VOA GCMS

Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 2E

Sample ID: 1502040-04

VOA GCMS

Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L
Propene	30	NJ		ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 11A

Sample ID: 1502040-05

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	290		100	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	11		5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	1100		100	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 11A

Sample ID: 1502040-05

VOA GCMS

Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 11A

Sample ID: 1502040-05

VOA GCMS

1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Field ID: GW 11A Dup

Sample ID: 1502040-06

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	330		100	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 11A Dup

Sample ID: 1502040-06

VOA GCMS

Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	16		5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	5.0		5.0	ug/L
cis-1,2-Dichloroethene	1300		100	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 11A Dup

Sample ID: 1502040-06

VOA GCMS

Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L
Ethene, 1,2-dichloro-, (Z)-	3.7	NJ		ug/L

Field ID: GW 11B

Sample ID: 1502040-07

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 11B

Sample ID: 1502040-07

VOA GCMS

Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	11		5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L
Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 11B

Sample ID: 1502040-07

VOA GCMS

1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L
o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW 11B

Sample ID: 1502040-07

VOA GCMS

1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Field ID: FB 5

Sample ID: 1502040-08

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Field ID: SS 11A

Sample ID: 1502040-09

VOA GCMS

Dichlorodifluoromethane	---	U	4.4	ug/kg dry
Chloromethane	---	U	4.4	ug/kg dry
Vinyl Chloride	---	U	8.7	ug/kg dry
Bromomethane	---	U J	41	ug/kg dry
Chloroethane	---	U	4.4	ug/kg dry
Trichlorofluoromethane	---	U	4.4	ug/kg dry
1,1-Dichloroethene	---	U	4.4	ug/kg dry
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	4.4	ug/kg dry



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: SS 11A

Sample ID: 1502040-09

VOA GCMS

Carbon Disulfide	---	U	4.4	ug/kg dry
Acetone	---	U	89	ug/kg dry
Methyl Acetate	---	U, J, L	4.4	ug/kg dry
Methylene Chloride	---	U	4.4	ug/kg dry
trans-1,2-Dichloroethene	---	U	4.4	ug/kg dry
cis-1,2-Dichloroethene	---	U	4.4	ug/kg dry
Methyl tert-Butyl Ether	---	U	4.4	ug/kg dry
1,1-Dichloroethane	---	U, L	4.4	ug/kg dry
2-Butanone	---	U	8.7	ug/kg dry
Bromochloromethane	---	U	4.4	ug/kg dry
Chloroform	---	U	4.4	ug/kg dry
1,2-Dichloroethane	---	U	4.4	ug/kg dry
1,1,1-Trichloroethane	---	U	4.4	ug/kg dry
Cyclohexane	---	U	4.4	ug/kg dry
Carbon Tetrachloride	---	U, L	17	ug/kg dry
Benzene	---	U	4.4	ug/kg dry
Trichloroethene	---	U	4.4	ug/kg dry
Methylcyclohexane	---	U	4.4	ug/kg dry
1,2-Dichloropropane	---	U	4.4	ug/kg dry
Bromodichloromethane	---	U	4.4	ug/kg dry
cis-1,3-Dichloropropene	---	U	4.4	ug/kg dry
trans-1,3-Dichloropropene	---	U	4.4	ug/kg dry



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: SS 11A

Sample ID: 1502040-09

VOA GCMS

1,1,2-Trichloroethane	---	U	4.4	ug/kg dry
Dibromochloromethane	---	U	4.4	ug/kg dry
Bromoform	---	U	4.4	ug/kg dry
4-Methyl-2-Pentanone	---	U	17	ug/kg dry
Toluene	---	U	4.4	ug/kg dry
Tetrachloroethene	---	U	4.4	ug/kg dry
2-Hexanone	---	U L	17	ug/kg dry
1,2-Dibromoethane	---	U	4.4	ug/kg dry
Chlorobenzene	---	U	4.4	ug/kg dry
Ethylbenzene	---	U	4.4	ug/kg dry
m/p-Xylene	---	U	4.4	ug/kg dry
o-Xylene	---	U	4.4	ug/kg dry
Styrene	---	U	4.4	ug/kg dry
Isopropylbenzene	---	U	4.4	ug/kg dry
1,1,2,2-Tetrachloroethane	---	U	4.4	ug/kg dry
1,3-Dichlorobenzene	---	U	4.4	ug/kg dry
1,4-Dichlorobenzene	---	U	4.4	ug/kg dry
1,2-Dichlorobenzene	---	U	4.4	ug/kg dry
1,2-Dibromo-3-Chloropropane	---	U	4.4	ug/kg dry
1,2,4-Trichlorobenzene	---	U L	39	ug/kg dry
1,2,3-Trichlorobenzene	---	U L	82	ug/kg dry

Mercury CVAA



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Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: SS 11A

Sample ID: 1502040-09

Mercury CVAA

Mercury	---	U	0.047	mg/kg dry
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Field ID: GW 11C

Sample ID: 1502040-10

VOA GCMS

Dichlorodifluoromethane	---	U	5.0	ug/L
Chloromethane	---	U	5.0	ug/L
Vinyl Chloride	---	U	5.0	ug/L
Bromomethane	---	U	5.0	ug/L
Chloroethane	---	U	5.0	ug/L
Trichlorofluoromethane	---	U	5.0	ug/L
1,1-Dichloroethene	---	U	5.0	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	---	U	5.0	ug/L
Carbon Disulfide	---	U	5.0	ug/L
Acetone	---	U	10	ug/L
Methyl Acetate	---	U	5.0	ug/L
Methylene Chloride	---	U	5.0	ug/L
trans-1,2-Dichloroethene	---	U	5.0	ug/L
Methyl tert-Butyl Ether	---	U	5.0	ug/L
1,1-Dichloroethane	---	U	5.0	ug/L
cis-1,2-Dichloroethene	---	U	5.0	ug/L
2-Butanone	---	U	10	ug/L
Bromochloromethane	---	U	5.0	ug/L



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW IIC

Sample ID: 1502040-10

VOA GCMS

Chloroform	---	U	5.0	ug/L
1,1,1-Trichloroethane	---	U	5.0	ug/L
Cyclohexane	---	U	5.0	ug/L
Carbon Tetrachloride	---	U	5.0	ug/L
Benzene	---	U	5.0	ug/L
1,2-Dichloroethane	---	U	5.0	ug/L
Trichloroethene	---	U	5.0	ug/L
1,2-Dichloropropane	---	U	5.0	ug/L
Bromodichloromethane	---	U	5.0	ug/L
cis-1,3-Dichloropropene	---	U	5.0	ug/L
4-Methyl-2-Pentanone	---	U	20	ug/L
Toluene	---	U	5.0	ug/L
trans-1,3-Dichloropropene	---	U	5.0	ug/L
1,1,2-Trichloroethane	---	U	5.0	ug/L
Tetrachloroethene	---	U	5.0	ug/L
Methylcyclohexane	---	U	5.0	ug/L
Dibromochloromethane	---	U	5.0	ug/L
1,2-Dibromoethane	---	U	5.0	ug/L
2-Hexanone	---	U	20	ug/L
Chlorobenzene	---	U	5.0	ug/L
Ethylbenzene	---	U	5.0	ug/L
m/p-Xylene	---	U	5.0	ug/L



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory**

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
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Field ID: GW IIC

Sample ID: 1502040-10

VOA GCMS

o-Xylene	---	U	5.0	ug/L
Styrene	---	U	5.0	ug/L
Bromoform	---	U	5.0	ug/L
Isopropylbenzene	---	U	5.0	ug/L
1,1,2,2-Tetrachloroethane	---	U	5.0	ug/L
1,3-Dichlorobenzene	---	U	5.0	ug/L
1,4-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dichlorobenzene	---	U	5.0	ug/L
1,2-Dibromo-3-Chloropropane	---	U	5.0	ug/L
1,2,4-Trichlorobenzene	---	U	5.0	ug/L
1,2,3-Trichlorobenzene	---	U	5.0	ug/L

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Field ID: GW 4A

Sample ID: 1502040-11

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Field ID: GW 4A Dup

Sample ID: 1502040-12

Mercury CVAA

Mercury	---	U	0.20	ug/L
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Field ID: GW 4B

Sample ID: 1502040-13



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project: Buena Vista Twp. DPW Yard - 1502026

Project Number: 1502026

Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: GW 4B Sample ID: 1502040-13				
Mercury CVAA				
Mercury	---	U	0.20	ug/L
Field ID: GW 4C Sample ID: 1502040-14				
Mercury CVAA				
Mercury	---	U	0.20	ug/L
Field ID: GW 4D Sample ID: 1502040-15				
Mercury CVAA				
Mercury	---	U	0.20	ug/L
Field ID: GW 4E Sample ID: 1502040-16				
Mercury CVAA				
Mercury	---	U	0.20	ug/L

ATTACHMENT BB

SAMPLING TRIP REPORT

Site Name: Buena Vista Township Department of Public Works Yard

CERCLIS ID Number:

Sampling Dates: 20 October 2014 – 20 October 2014

CLP Case Number: 44806

Site Location: 430 South Union Road Vicinity Buena Vista Township, NJ

Sample Descriptions: See below

Laboratories Receiving Samples (Table 1):

Case Number	Sample Type & No.	Name and Address of Laboratory
44806	VOAs	ALS Labofatory Group – Salt Lake City - DATAC 960 West LeVoy Drive Salt Lake City, UT 84123

Sample Dispatch Data (Table 2):

Between October 21 and 22, 2014 NJDEP shipped 23 samples to ALS Laboratory (Salt Lake City, UT) for analyses as follows:

Twenty three (23) aqueous samples for VOA analyses.

FedEx Airbill No.	Number of Coolers	Number and Type of Samples	Time and Date of Shipping
1ZF089W60194076 164	1	14 total Aqueous Groundwater Samples preserved with HCl including 1 equipment blank, and 1 trip blank for VOAs analyses	10/21/14 @ 1200 TO: ALS Laboratory Group
1ZF089W60191110 176	1	9 total Aqueous Groundwater Samples preserved with HCl including 1 equipment blank, 1 trip blank, and 1 duplicate sample for VOAs analyses.	10/22/14 @ 1700 TO: ALS Laboratory Group

Sampling Personnel (Table 3):

Name	Organization	Site Duties
Annie Dunham	NJDEP	Remedial Project Manager
Dave Dibblee	NJDEP	Sampling Operations/Team Leader
David Springer	NJDEP	Health & Safety/Sampler
Chad VanSciver	NJDEP	Decontamination
Gary Smarsh	NJDEP	Sampling Operations

Sample Numbers and Collection Points (Table 4):

Laboratory	Analyses	Sample Type	Sample #	Sample Collection Point(SCP)
ALS Laboratories	VOAs	Aqueous Groundwater	B0AA0	Farm Borings 10/20
			B0AA1	Farm Borings 10/20
			B0AA2	Farm Borings 10/20
			B0AA3	Farm Borings 10/20
			B0AA4	Farm Borings 10/20
			B0AA5	Farm Borings 10/20
			B0AA6	Farm Borings 10/20
			B0AA7	Farm Borings 10/20
			B0AA8	Farm Borings 10/20
			B0AA9	Farm Borings 10/20
			B0AB0	Farm Borings 10/20
			B0AD3	Field Blank 10/20
			B0AE0	Trip Blank 10/20
			B0AE7	Farm Borings 10/20: extra volume for ms/msd. Sent in error.
			B0AB1	Farm Borings 10/21
			B0AB2	Farm Borings 10/21
			B0AB3	Farm Borings 10/21
			B0AB4	Farm Borings 10/21
			B0AB5	Farm Borings 10/21
			B0AB6	Farm Borings 10/21
B0AB7	Duplicate 10/21			
B0AD4	Field Blank 10/21			
B0AE1	Trip Blank 10/21			

Remarks:

We sampled five of five collection points for groundwater samples on 10/20/2014 and 10/21/2014. We collected and sent 17 of 30 planned samples. Samples collected on 10/20/2014 shipped on 10/21/2014 and samples collected on 10/21/2014 shipped on 10/22.

Two trip blanks , two field blanks, and one duplicate sample was sent (One of each type of blank with each shipment and the one duplicate shipped on 10/22)

Through an administrative error, on 10/21 B0AE7 was shipped designated as an extra volume for ms/msd when in fact it should have been sent as a field duplicate.

cc: RSCC

ATTACHMENT CC

COPY

USEPA CLP COC (LAB COPY)

CHAIN OF CUSTODY RECORD

No: 2-102114-101253-0002

Date Shipped: 10/21/2014

Carrier Name: UPS

Airbill No: 1ZF089W60194076164

Case #: 44806

Cooler #: DEP001

Lab: ALS Laboratory Group - Salt Lake City

Lab Contact: Roxy Olson

Lab Phone: 801-266-7700

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
44806-0001 GW 7A	B0AA0 7A	Ground Water/	Discrete Interval	VOA(21)	1000 (HCl) (3)	FARM BORINGS	10/20/2014 09:24	
44806-0002 7B	B0AA1 7B	Ground Water/	Discrete Interval	VOA(21)	1001 (HCl) (3)	FARM BORINGS	10/20/2014 09:40	
44806-0003 7C	B0AA2 7C	Ground Water/	Discrete Interval	VOA(21)	1002 (HCl) (3)	FARM BORINGS	10/20/2014 10:00	
44806-0004 7D	B0AA3 7D	Ground Water/	Discrete Interval	VOA(21)	1003 (HCl) (3)	FARM BORINGS	10/20/2014 10:42	
44806-0005	B0AA4 8A	Ground Water/	Discrete Interval	VOA(21)	1004 (HCl) (3)	FARM BORINGS	10/20/2014 11:40	
44806-0006	B0AA5 8B	Ground Water/	Discrete Interval	VOA(21)	1005 (HCl) (3)	FARM BORINGS	10/20/2014 11:50	
44806-0007	B0AA6 8C	Ground Water/	Discrete Interval	VOA(21)	1006 (HCl) (3)	FARM BORINGS	10/20/2014 12:11	
44806-0008	B0AA7 8D	Ground Water/	Discrete Interval	VOA(21)	1007 (HCl) (3)	FARM BORINGS	10/20/2014 13:55	
44806-0009	B0AA8 10A	Ground Water/	Discrete Interval	VOA(21)	1008 (HCl) (3)	FARM BORINGS	10/20/2014 14:40	
44806-0010	B0AA9 10B	Ground Water/	Discrete Interval	VOA(21)	1009 (HCl) (3)	FARM BORINGS	10/20/2014 14:49	

Special Instructions: Please Return Cooler with prepaid UPS Airbill	B0AA2 = MS/KSP	Shipment for Case Complete? N
	B0AA7 = extra vol for B0AA2	Samples Transferred From Chain of Custody #
Analysis Key: VOA=CLP Volatiles		

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Del. Tol. sb	N. D. E. P.	10/21/14 1100			

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USEPA CLP COC (LAB COPY)

CHAIN OF CUSTODY RECORD

No: 2-102114-101253-0002

Date Shipped: 10/21/2014

Lab: ALS Laboratory Group - Salt Lake City

Carrier Name: UPS

Case #: 44806

Lab Contact: Roxy Olson

Airbill No: 1ZF089W60194076164

Cooler #: DEP001

Lab Phone: 801-266-7700

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
44806-0011	B0AB0 IDC	Ground Water/	Discrete Interval	VOA(21)	1010 (HCl) (3)	FARM BORINGS	10/20/2014 15:10	
44806-0034	B0AD3 FBI	Water/	Grab	VOA(21)	1033 (HCl) (3)	FARM BORINGS	10/20/2014 14:30	
44806-0041	B0AE0 TBI	Water/		VOA(21)	1040 (HCl) (3)	FARM BORINGS	10/20/2014 08:30	
44806-0048	B0AE7 MS/MSD	Ground Water/	Discrete Interval	VOA(21)	1047 (HCl) (3)	FARM BORINGS	10/20/2014 10:00	

Sample(s) to be used for Lab QC: 44806-0034 Tag 1033, 44806-0041 Tag 1040, 44806-0048 Tag 1047 - Special Instructions: Please Return Cooler with prepaid UPS Airbill	Shipment for Case Complete? N
	Samples Transferred From Chain of Custody #
Analysis Key: VOA=CLP Volatiles	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

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USEPA CLP COC (REGION COPY)

DateShipped: 10/22/2014

CarrierName: UPS

AirbillNo: 1ZF089W60191110176

CHAIN OF CUSTODY RECORD

BUENA DPW YARD

Case #: 44806

Cooler #:

No: 2-102214-162845-0003

Lab: ALS Laboratory Group - Salt Lake City

Lab Contact: Roxy Olson

Lab Phone: 801-266-7700

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
44806-0012	B0AB1 9A	Ground Water/ Dunham	Discrete Interval	VOA(21)	1011 (HCl) (3)	FARM BORINGS	10/21/2014 09:30	Field Sample
44806-0013	B0AB2 9B	Ground Water/ Dunham	Discrete Interval	VOA(21)	1012 (HCl) (3)	FARM BORINGS	10/21/2014 09:46	Field Sample
44806-0014	B0AB3 9C	Ground Water/ Dunham	Discrete Interval	VOA(21)	1013 (HCl) (3)	FARM BORINGS	10/21/2014 10:10	Field Sample
44806-0015	B0AB4 6A	Ground Water/ Dunham	Discrete Interval	VOA(21)	1014 (HCl) (3)	FARM BORINGS	10/21/2014 11:05	Field Sample
44806-0016	B0AB5 6B	Ground Water/ Dunham	Discrete Interval	VOA(21)	1015 (HCl) (3)	FARM BORINGS	10/21/2014 11:30	Field Sample
44806-0017	B0AB6 6E	Ground Water/ Dunham	Discrete Interval	VOA(21)	1016 (HCl) (3)	FARM BORINGS	10/21/2014 12:05	Field Sample
44806-0018	B0AB7 DVP(6C)	Ground Water/ Dunham	Discrete Interval	VOA(21)	1017 (HCl) (3)	FARM BORINGS	10/21/2014 12:05	Field Duplicate
44806-0035	B0AD4 FB2	Water/ dunham		VOA(21)	1034 (HCl) (3)	FARM BORINGS	10/21/2014 11:15	Lab QC
44806-0042	BOAE1 TB2	Water/ Dunham		VOA(21)	1041 (HCl) (3)	FARM BORINGS	10/21/2014 09:00	Trip Blank

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Sample(s) to be used for Lab QC: 44806-0035 Tag 1034, 44806-0042 Tag 1041	Shipment for Case Complete? Y
	Samples Transferred From Chain of Custody #
Analysis Key: VOA=CLP Volatiles	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

ATTACHMENT DD



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EXECUTIVE NARRATIVE

Case No. : 44806

Site: Buena Vista Township

Number of Samples: 22 (water)

Analysis: VOA

SDG No.: B0AA0

Laboratory: DATAC

Sampling dates: 10/20/14-10/21/14

Validation SOP: HW-33 (Rev.3)

QAPP: Not available.

SUMMARY OF DEFINITIONS:

Critical: Results have an unacceptable level of uncertainty and should not be used for making decisions. Data have been qualified "R" rejected.

Major: A level of uncertainty exists that may not meet the data quality objectives for the project. A bias is likely to be present in the results. Data has been qualified "J" estimated. "J+" and "J-" represent likely direction of the bias.

Minor: The level of uncertainty is acceptable. No significant bias in the data was observed.

Critical Findings:

None

Major Findings:

Samples B0AD3 and B0AE1 have analytes that have been qualified "J" "J+" or "J-".

Minor Findings:

VOA: RRF for 1, 4-Dioxane and 1, 4-Dioxane-d8 is below limits in the initial and continuing calibrations.

COMMENT: None.

Reviewer Name(s): Israel Okwuonu

Approver's Signature:

Date: 11/19/2014

Name: Narendra Kumar

Affiliation: USEPA/R2/HWSB/HWSS



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Data Qualifier Definitions (National Functional Guidelines)			
Qualifier Symbol	Explanation		
	INORGANICS	ORGANICS	CHLORINATED DIOXIN/FURAN
U	The analyte was analyzed for, but was not detected above the level of the reported quantitation limit.	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method	The analyte was analyzed for but not detected. The value preceding the "U" may represent the adjusted Contract Required Quantitation Limit (see DLM02.X, Exhibit D, Section 1.2 and Table 2), or the sample specific estimated detection limit (EDL, see Method 8290A, Section 11.9.5).
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to an issue with the quality of the data generated because certain QC criteria were not met, or the concentration of the analyte was below the adjusted CRQL).
J+	The result is an estimated quantity, but the result may be biased high.	The result is an estimated quantity, but the result may be biased high.	
J-	The result is an estimated quantity, but the result may be biased low.	The result is an estimated quantity, but the result may be biased low.	
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.	The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.	The analyte was not detected (see definition of "U" flag, above). The reported value should be considered approximate.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
N		The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".	
NJ		The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	
C		This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by Gas Chromatograph/Mass Spectrometer (GC/MS).	
X		This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful.	



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DATA ASSESSMENT

ANALYSIS: VOA

The current SOP HW-33/VOA (Revision 3) March 2013, USEPA Region II Data Validation SOP for Statement of Work SOM01.2 for evaluating organic data has been applied. Data has been reviewed according to TDF specifications, the National Functional Guidelines Report and the CCS Semi- Automated Screening Results Report. Tentatively Identified Compounds (TICS) for VOA organic fraction is not validated.

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded. Qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

2. DEUTERATED MONITORING COMPOUNDS (DMCs)

All samples are spiked with DMC compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured DMC recovery concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

The following volatile samples have one or more DMC/SMC recovery values less than the primary lower limit but greater than or equal to the expanded lower limit of the criteria window. Detected compounds are qualified J-. Non-detected compounds are qualified UJ.

Vinyl chloride-d3 B0AE1
Vinyl chloride

3. MATRIX SPIKE/MATRIX SPIKE DUPLICATES (MS/MSD):

MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD data may be used in conjunction with other QC criteria for additional qualification of data. Qualifications were applied to the samples and analytes as shown below.

Not applicable.

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination.



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Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Depending on the amount of contamination present in the QA blanks, the analytes are qualified as non-detects, "U". Qualifications were applied to the samples and analytes as shown below.

A) Method blank contamination:

The following volatile samples have analyte concentrations reported less than the CRQL. The associated method blank concentration is less than the CRQL. Detected compounds are qualified U. Non detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

1, 2, 3-Trichlorobenzene B0AA0

1, 4-Dichlorobenzene B0AA2, B0AA3, B0AA9, B0AB0, B0AB3, B0AB5, B0AB6

1, 2, 4-Trichlorobenzene B0AA0

B) Field or rinse blank contamination:

No additional qualification due to field blank contamination.

C) Trip blank contamination for VOA aqueous samples:

No additional qualification due to trip blank contamination.

D) Storage Blank associated with VOA samples only:

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated storage blank common contaminant concentration is less than 2x the CRQL. Detected compounds are qualified U. Non-detected compounds are not qualified. Reported sample concentrations have been elevated to the CRQL.

Methylene chloride B0AA0, B0AA1, B0AA2, B0AA3, B0AA4, B0AA5, B0AA6, B0AA7, B0AA9, B0AB0, B0AB1, B0AB3, B0AB4, B0AB4DL, B0AB5, B0AB6, B0AB7

E) Tentatively Identified Compounds:

Tentatively Identified Compounds (TICs) for VOA organic fraction are not validated.

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene. If the mass calibration is in error, all associated data will be classified as unusable "R". Qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.



6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be ≥ 0.05 , and ≥ 0.01 for the twenty-two analytes with poor response and ≥ 0.005 for 1,4-Dioxane in both the initial and continuing calibrations. A value < 0.05 , or < 0.01 for the poor performers and < 0.005 for 1, 4-Dioxane indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R". Qualifications were applied to the samples and analytes as shown below.

The following volatile samples are associated with an initial/continuing calibration with average relative response factors (mean RRFs) outside criteria. Detected compounds are qualified J. Non-detected compounds are qualified R.

1, 4-Dioxane

B0AA0, B0AA1, B0AA2, B0AA3, B0AA4, B0AA5, B0AA6, B0AA7, B0AA8, B0AA9, B0AB0, B0AB1, B0AB2, B0AB3, B0AB4, B0AB4DL, B0AB5, B0AB6, B0AB7, B0AD3, B0AD4, B0AE0, B0AE1, VBLKW1, VBLKW2, VHBLKW1

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be $< 20\%$ for Target compounds, $< 40\%$ for the poor performers, and $< 50\%$ for 1, 4-Dioxane. %D must be $< 25\%$, $< 40\%$ for the poor performers, and $< 50\%$ for 1, 4-Dioxane. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J". Non-detects are flagged "UJ" for %D value outside criteria only. If %RSD and %D grossly exceed QC criteria ($> 90\%$), non-detects data may be qualified "R". Qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

7. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must be in the range of 50% - 200 % of the associated continuing calibration internal standard area. The retention time of the internal standards must not vary more than 30 seconds from the associated continuing calibration standard. If the area count is greater than 200%, all positive results quantitated using that IS are qualified as estimated "J-", and non-detects are not qualified. If the area count is less than 50% of the associated standard,



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all positive results for compounds quantitated with that IS are qualified as estimated "J+" and all non-detects are qualified "R".

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction. Qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

8. FIELD DUPLICATES:

The following field duplicate samples have relative percent difference (RPD) greater than 50%.

cis- 1, 2-Dichloroethene B0AB6, B0AB7

9. COMPOUND IDENTIFICATION:

Target compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within a window of 0.06 RRT units of the standard compound and have ion spectra which have a ratio of the primary and secondary m/z intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications. Qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

10. CONTRACT PROBLEMS NON-COMPLIANCE:

None.

11. FIELD DOCUMENTATION:

No problems were identified.

12. OTHER PROBLEMS:

None.

13. Samples may be re-analyzed for dilution, re-extraction and for other QC reasons. In such cases, the best result values are used. See summary report and EDD for applicable sample and analytes.

Sample Summary Report

Case No: 44806	Contract: EPW11037	SDG No: B0AA0	Lab Code: DATAC
Sample Number: B0AA0	Method: VOA_Low_Med	Matrix: Water	MA Number: DEFAULT
Sample Location: FARM BORINGS	pH: 1.0	Sample Date: 10/20/2014	Sample Time: 09:24:00
% Moisture :	% Solids :		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	0.64	J	ug/L	0.6390024854212	J	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.5122862382074	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	1.8	J	ug/L	1.842793944555	J	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	1.7	J	ug/L	1.687792829485	J	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	0.2170364865333	JB	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	0.273759881489	JB	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA C
Sample Number:	B0AA1	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/20/2014	Sample Time:	09:40:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	4.2	J	ug/L	4.191355639758	J	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.4720479079913	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	0.59	J	ug/L	0.5883304794477	J	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA
Sample Number:	B0AA2	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/20/2014	Sample Time:	10:00:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.5183277326608	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	1.7	J	ug/L	1.705024101055	J	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	1.8	J	ug/L	1.841761874219	J	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	0.489941828381	JB	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA C
Sample Number:	B0AA3	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/20/2014	Sample Time:	10:42:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	8.1	J	ug/L	8.081180029697	J	1.0	Yes	S3VEM
Carbon disulfide	Target	0.52	J	ug/L	0.5229093170487	J	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.6957767512859	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	0.29	J	ug/L	0.2895028013517	J	1.0	Yes	S3VEM
2-Butanone	Target	4.5	J	ug/L	4.49233649239	J	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	0.59	J	ug/L	0.5940917670169	J	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	1.8	J	ug/L	1.759743647228	J	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	0.24	J	ug/L	0.2358540754871	J	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	0.59	J	ug/L	0.5927708061745	J	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	1.4	J	ug/L	1.393429722546	J	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	0.24	J	ug/L	0.2393780123881	J	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	0.4390431571418	JB	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Total Alkanes	TIC	5.9	J	ug/L	5.8513	J	1.0	Yes	NV

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA C
Sample Number:	B0AA4	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/20/2014	Sample Time:	11:40:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	0.56	J	ug/L	0.5592527701598	J	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.4638702418894	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA C
Sample Number:	B0AA5	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/20/2014	Sample Time:	11:50:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoro methane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluorom ethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.2298057500593	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	0.21	J	ug/L	0.2065465067395	J	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromet hane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexa ne	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	0.31	J	ug/L	0.3120792914076	J	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA
Sample Number:	B0AA6	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/20/2014	Sample Time:	12:11:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	3.9	J	ug/L	3.875783032088	J	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.3806144872409	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	0.98	J	ug/L	0.979937616354	J	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	0.23	J	ug/L	0.2261789263127	J	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	0.55	J	ug/L	0.5505131861965	J	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA C
Sample Number:	B0AA7	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/20/2014	Sample Time:	13:55:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoro methane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluorom ethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	5.6	J	ug/L	5.608399634821	J	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.4472619807677	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	1.1	J	ug/L	1.136328114269	J	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	3.7	J	ug/L	3.739265117141	J	1.0	Yes	S3VEM
Bromochloromet hane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	0.42	J	ug/L	0.4193984554761	J	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	0.94	J	ug/L	0.9407570376207	J	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexa ne	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	0.43	J	ug/L	0.427849598479	J	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	0.30	J	ug/L	0.2981286438604	J	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Nonanal	TIC	6.5	JN	ug/L	6.5053	JN	1.0	Yes	NV
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA C
Sample Number:	B0AA8	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/20/2014	Sample Time:	14:40:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	0.34	J	ug/L	0.3416198402393	J	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	65		ug/L	65.08887139084		1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	33		ug/L	33.09644022802		1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA
Sample Number:	B0AA9	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/20/2014	Sample Time:	14:49:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	21		ug/L	20.89373305705		1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.3711789472808	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	0.99	J	ug/L	0.9910085291651	J	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	0.73	J	ug/L	0.7279692856597	J	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	0.42	J	ug/L	0.4213056627205	J	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	140		ug/L	135.7755944378		1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	0.35	J	ug/L	0.3472160815114	J	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	0.91	J	ug/L	0.9135485153173	J	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	50		ug/L	50.26815880769		1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	0.77	J	ug/L	0.7673850552553	J	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	0.3237727310855	JB	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA
Sample Number:	B0AB0	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/20/2014	Sample Time:	15:10:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	9.8		ug/L	9.796464078463		1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	4.4	J	ug/L	4.400408279343	J	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.3723876320328	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	0.82	J	ug/L	0.8231518133252	J	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	0.57	J	ug/L	0.5699329039791	J	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	0.43	J	ug/L	0.4303472066157	J	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	130		ug/L	130.0145055917		1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	0.38	J	ug/L	0.3783829563216	J	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	0.98	J	ug/L	0.9791114824311	J	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	47		ug/L	46.56714339259		1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	0.51	J	ug/L	0.511900844938	J	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	0.72	J	ug/L	0.7212380338057	J	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	0.23	J	ug/L	0.232231460589	J	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	0.2892436701548	JB	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Nonanal	TIC	5.7	JN	ug/L	5.6801	JN	1.0	Yes	NV

Case No: 44806	Contract: EPW11037	SDG No: B0AA0	Lab Code: DATA
Sample Number: B0AB1	Method: VOA_Low_Med	Matrix: Water	MA Number: DEFAULT
Sample Location: FARM BORINGS	pH: 1.0	Sample Date: 10/21/2014	Sample Time: 09:30:00
% Moisture :	% Solids :		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.5660077619677	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA0
Sample Number:	B0AB2	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/21/2014	Sample Time:	09:46:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA
Sample Number:	B0AB3	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/21/2014	Sample Time:	10:10:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	6.5	J	ug/L	6.548429506314	J	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.4284448580636	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	2.0	J	ug/L	2.031835645975	J	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	3.5	J	ug/L	3.467720520621	J	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	0.30	J	ug/L	0.2963575742775	J	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	1.1	J	ug/L	1.112688371304	J	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	1.2	J	ug/L	1.204173564497	J	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	1.6	J	ug/L	1.607619892113	J	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	0.3863804277725	JB	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No: 44806	Contract: EPW11037	SDG No: B0AA0	Lab Code: DATAC
Sample Number: B0AB4	Method: VOA_Low_Med	Matrix: Water	MA Number: DEFAULT
Sample Location: FARM BORINGS	pH: 1.0	Sample Date: 10/21/2014	Sample Time: 11:05:00
% Moisture :	% Solids :		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Chloromethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Vinyl chloride	Target	6.0	J	ug/L	5.979037734117	J	2.0	Yes	S3VEM
Bromomethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Chloroethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Trichlorofluoromethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,1-Dichloroethene	Target	2.9	J	ug/L	2.862221604155	J	2.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Acetone	Target	20	U	ug/L	20	U	2.0	Yes	S3VEM
Carbon disulfide	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Methyl acetate	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Methylene chloride	Target	10	U	ug/L	1.252065408647	JB	2.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	1.6	J	ug/L	1.569702435974	J	2.0	Yes	S3VEM
Methyl tert-butyl ether	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,1-Dichloroethane	Target	3.3	J	ug/L	3.34426966728	J	2.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	440		ug/L	440.3019087713	E	2.0	No	S3VEM
2-Butanone	Target	20	U	ug/L	20	U	2.0	Yes	S3VEM
Bromochloromethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Chloroform	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	14		ug/L	13.79485701973		2.0	Yes	S3VEM
Cyclohexane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Carbon tetrachloride	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Benzene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,2-Dichloroethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,4-Dioxane	Target	200	R	ug/L	200	U	2.0	Yes	S3VEM
Trichloroethene	Target	970		ug/L	967.2624644447	E	2.0	No	S3VEM
Methylcyclohexane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,2-Dichloropropane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	20	U	ug/L	20	U	2.0	Yes	S3VEM
Toluene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Tetrachloroethene	Target	2.8	J	ug/L	2.83090635428	J	2.0	Yes	S3VEM
2-Hexanone	Target	20	U	ug/L	20	U	2.0	Yes	S3VEM
Dibromochloromethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,2-Dibromoethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Chlorobenzene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Ethylbenzene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
o-Xylene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
m,p-Xylene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Styrene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Bromoform	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
Isopropylbenzene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	10	U	ug/L	10	U	2.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA
Sample Number:	B0AB4DL	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/21/2014	Sample Time:	11:05:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Chloromethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Vinyl chloride	Target	7.0	J	ug/L	7.021576551049	JD	10.0	No	S3VEM
Bromomethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Chloroethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Trichlorofluoroethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,1-Dichloroethene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Acetone	Target	100	U	ug/L	100	U	10.0	No	S3VEM
Carbon disulfide	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Methyl acetate	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Methylene chloride	Target	50	U	ug/L	6.835111927406	JDB	10.0	No	S3VEM
trans-1,2-Dichloroethene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Methyl tert-butyl ether	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,1-Dichloroethane	Target	3.7	J	ug/L	3.661434883611	JD	10.0	No	S3VEM
cis-1,2-Dichloroethene	Target	410		ug/L	411.8901527527	D	10.0	Yes	S3VEM
2-Butanone	Target	100	U	ug/L	100	U	10.0	No	S3VEM
Bromochloromethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Chloroform	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,1,1-Trichloroethane	Target	13	J	ug/L	13.0158326107	JD	10.0	No	S3VEM
Cyclohexane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Carbon tetrachloride	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Benzene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,2-Dichloroethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,4-Dioxane	Target	1000	R	ug/L	1000	U	10.0	No	S3VEM
Trichloroethene	Target	940		ug/L	944.6791712669	D	10.0	Yes	S3VEM
Methylcyclohexane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,2-Dichloropropane	Target	50	U	ug/L	50	U	10.0	No	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
cis-1,3-Dichloropropene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
4-Methyl-2-Pentanone	Target	100	U	ug/L	100	U	10.0	No	S3VEM
Toluene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
trans-1,3-Dichloropropene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,1,2-Trichloroethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Tetrachloroethene	Target	2.7	J	ug/L	2.73101135679	JD	10.0	No	S3VEM
2-Hexanone	Target	100	U	ug/L	100	U	10.0	No	S3VEM
Dibromochloromethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,2-Dibromoethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Chlorobenzene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Ethylbenzene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
o-Xylene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
m,p-Xylene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Styrene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Bromoform	Target	50	U	ug/L	50	U	10.0	No	S3VEM
Isopropylbenzene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,1,2,2-Tetrachloroethane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,3-Dichlorobenzene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,4-Dichlorobenzene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,2-Dichlorobenzene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,2-Dibromo-3-chloropropane	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,2,4-Trichlorobenzene	Target	50	U	ug/L	50	U	10.0	No	S3VEM
1,2,3-Trichlorobenzene	Target	50	U	ug/L	50	U	10.0	No	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA0
Sample Number:	B0AB5	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/21/2014	Sample Time:	11:30:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	120		ug/L	121.454009801		1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.5930989170115	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	1.5	J	ug/L	1.508028947967	J	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	1.4	J	ug/L	1.354832290202	J	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	87		ug/L	87.09101970958		1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	0.88	J	ug/L	0.8843366663894	J	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	1.4	J	ug/L	1.367306499739	J	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	1.1	J	ug/L	1.081106627071	J	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	0.3524685571316	JB	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA C
Sample Number:	B0AB6	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/21/2014	Sample Time:	12:05:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoro methane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	2.1	J	ug/L	2.096450464277	J	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluorom ethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	3.2	J	ug/L	3.161243218457	J	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.2533672910579	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	30		ug/L	29.59802317725		1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromet hane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	13		ug/L	12.97473343778		1.0	Yes	S3VEM
Methylcyclohexa ne	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	0.24	J	ug/L	0.2447429870784	J	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	0.68	J	ug/L	0.676674526038	J	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	0.2059679694735	JB	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA
Sample Number:	B0AB7	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/21/2014	Sample Time:	12:05:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	3.8	J	ug/L	3.75555639053	J	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	6.0	J	ug/L	6.006597664898	J	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	0.2583271653936	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	0.27	J	ug/L	0.2747187212552	J	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	57		ug/L	57.17618658759		1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	0.24	J	ug/L	0.2352169731124	J	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	21		ug/L	21.46649123461		1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	0.46	J	ug/L	0.4628230733349	J	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	0.60	J	ug/L	0.5977379922867	J	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No: 44806	Contract: EPW11037	SDG No: B0AA0	Lab Code: DATAC
Sample Number: B0AD3	Method: VOA_Low_Med	Matrix: Water	MA Number: DEFAULT
Sample Location: FARM BORINGS	pH: 1.0	Sample Date: 10/20/2014	Sample Time: 14:30:00
% Moisture :	% Solids :		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	0.22	J	ug/L	0.224566830523	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA
Sample Number:	B0AD4	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/21/2014	Sample Time:	11:15:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoro methane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluorom ethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	0.62	J	ug/L	0.6166751646865	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromet hane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexa ne	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No: 44806	Contract: EPW11037	SDG No: B0AA0	Lab Code: DATAC
Sample Number: B0AE0	Method: VOA_Low_Med	Matrix: Water	MA Number: DEFAULT
Sample Location: FARM BORINGS	pH: 1.0	Sample Date: 10/20/2014	Sample Time: 08:30:00
% Moisture :	% Solids :		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoro methane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluorom ethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromet hane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexa ne	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA
Sample Number:	B0AE1	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	FARM BORINGS	pH:	1.0	Sample Date:	10/21/2014	Sample Time:	09:00:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	UJ	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	0.56	J	ug/L	0.562680716344 2	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA
Sample Number:	VBLKW1	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	419332	pH:		Sample Date:	10/28/2014	Sample Time:	10:32:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	0.59	J	ug/L	0.592280319538	J	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	0.20	J	ug/L	0.200443237405	J	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	0.28	J	ug/L	0.2841055496852	J	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	0.26	J	ug/L	0.2615530936152	J	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	0.75	J	ug/L	0.7452423616435	J	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	1.2	J	ug/L	1.23728356009	J	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA
Sample Number:	VBLKW2	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	419333	pH:		Sample Date:	10/29/2014	Sample Time:	10:46:00
% Moisture :		% Solids :					

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	0.64	J	ug/L	0.640005686844 3	J	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	0.22	J	ug/L	0.224953015508	J	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	0.22	J	ug/L	0.2155684853777	J	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	0.58	J	ug/L	0.5809898775364	J	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	0.96	J	ug/L	0.9571096250988	J	1.0	Yes	S3VEM

Case No:	44806	Contract:	EPW11037	SDG No:	B0AA0	Lab Code:	DATA
Sample Number:	VHBLKW1	Method:	VOA_Low_Med	Matrix:	Water	MA Number:	DEFAULT
Sample Location:	419334	pH:		Sample Date:	10/29/2014	Sample Time:	15:46:00
% Moisture :				% Solids :			

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Vinyl chloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromomethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Trichlorofluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Acetone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Carbon disulfide	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl acetate	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylene chloride	Target	0.47	J	ug/L	0.4650384048218	JB	1.0	Yes	S3VEM
trans-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methyl tert-butyl ether	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,2-Dichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Butanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Bromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chloroform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,1-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Cyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Carbon tetrachloride	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Benzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dioxane	Target	100	R	ug/L	100	U	1.0	Yes	S3VEM
Trichloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Methylcyclohexane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Bromodichloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
cis-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
4-Methyl-2-Pentanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Toluene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
trans-1,3-Dichloropropene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2-Trichloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Tetrachloroethene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
2-Hexanone	Target	10	U	ug/L	10	U	1.0	Yes	S3VEM
Dibromochloromethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromoethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Chlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Ethylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
o-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
m,p-Xylene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Styrene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Bromoform	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
Isopropylbenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,1,2,2-Tetrachloroethane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,3-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,4-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2-Dibromo-3-chloropropane	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,4-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM
1,2,3-Trichlorobenzene	Target	5.0	U	ug/L	5	U	1.0	Yes	S3VEM

ATTACHMENT EE



FIELD GC ANALYSIS

GC Operator: Springer, David
 Date: 10-20-14
 Site: Buena Vista Twp
 GC ID: Voyager #2

Settings:
 Flow: 10 psi Oventemp: 60°C Column: B Analysis Time: 6.00 Backflush: 450
 Standard parameters: 40 PPB DCE TCE PCE

Sample Depth	Sample #	Contaminant	Concentration (PPB)	Notes /Comments
	GW9A	ND		
25-28'	GW9B	ND		
37-40'	GW9C	ND		Some Small early unknowns
<hr style="border: 2px solid black;"/>				
15'-18'	GW6A	CIS DCE TCE	918.0 2.106	
25-28'	GW6B	CIS-DCE	240.0	5X dilution Values are Corrected
25-28'	GW6B	CIS-DCE	193.0	Full strength dud run
	GW6C	3.251 DCE TCE	3.251 PPM! 960 PPB	quite a few early unknowns



FIELD GC ANALYSIS

GC Operator: Springer, Dave
Date: 10-20-14
Site: Buena Vista Twp
GC ID: Voyager # 2

Settings:

Flow: 10 Oventemp: 60 Column: B Analysis Time: 500 Backflush: 400

Standard parameters: 40 PPB DCE TCE PCE

Sample Depth	Sample #	Contaminant	Concentration (PPB)	Notes /Comments
13'-16'	GW 7A	ND		
25'-28'	GW 7B	ND		
	GW 7C	ND		
	GW 7d	ND		
<hr/>				
15'-18'	GW 8A	ND		
25'-28'	GW 8B	ND		
37'-40'	GW 8C	ND		
43	GW 8d	ND targets		Multiple early unknown peaks
<hr/>				
13-17'	GW 10 A	DCE TCE	192.0 110.0	
25'-28'	GW 10 B	DCE TCE	274.0 126.0	
34-37	GW 10 C	DCE TCE	829.0 326.0	

Partly cloudy, cool 35°F to start rising to 60°F late

ATTACHMENT FF

WELL PERMIT INFORMATION

Site Name: Buena Vista Township DPW Yard

Location: Buena Vista Township (Atlantic County)

Proposed depth of samples: 80 ft

Boring No.	State Plane Coordinates		Facility name and address of well location (include county)	Owner first and last name and address as listed for Block & Lot on e-tax maps (include County if in State)	Block & Lot
	Easting (X)	Northing (Y)			
GW1	373068.445	240460.275	Buena Vista DPW Yard; 430 Union Road	Buena Vista Township; BUENA VISTA TOWNSHIP 890 HARDING HIGHWAY BUENA NJ 08310	7101 lot 25
GW2	373258306	240255.491	Buena Vista DPW Yard; 430 Union Road	Buena Vista Township; BUENA VISTA TOWNSHIP 890 HARDING HIGHWAY BUENA NJ 08310	7101 lot 25
GW3	373.394.582	240786.412	Buena Vista DPW Yard; 430 Union Road	Buena Vista Township; BUENA VISTA TOWNSHIP 890 HARDING HIGHWAY BUENA NJ 08310	7101 lot 25
GW4	373595.574	240619.551	Buena Vista DPW Yard; 430 Union Road	Buena Vista Township; BUENA VISTA TOWNSHIP 890 HARDING HIGHWAY BUENA NJ 08310	7101 lot 25
GW5	373531.105	239546.332	C&M Greenhouse 470 Union Road	Carol Panco 470 UNION ROAD VINELAND NJ 08360	7101 lot 29
GW6	373019.146	239826.962	C&M Greenhouse 470 Union Road	Carol Panco 470 UNION ROAD VINELAND NJ 08360	7101 lot 29

GW7	372757.477	240126.533	C&M Greenhouse 444 Union Road	Alimenti, Raymond TRST & Panco, Carol P O BOX 324 RICHLAND NJ 08350	7101 lot 27 (listed under as an additional lot under lot 28 on etaxmaps)
GW8	372586.824	240304.791	Oak Road	Theresa and Kevin Seelman 119 ASPEN AVENUE RICHLAND NJ 08350	7101 lot 24
GW9	372586.824	240702.981	Oak Road	Theresa and Kevin Seelman 119 ASPEN AVENUE RICHLAND NJ 08350	7101 lot 24

ATTACHMENT GG

New Jersey Department of Environmental Protection
External Chain of Custody and Sample Analysis Request Form
(With Shipping Container)

10F2

Laboratory Information

Name of Laboratory: TestAmerica Individual Preparing Sample Bottles and Shipping Container(s)
 Address: 30 Community Dr Suite 11 SA Name: Joel Atkinson
South Burlington, VT 05407-05403 Title: Sample Custodian
 Time/Date Sample Shipping Container Sealed: 1045 2/10/15 Laboratory Affixed Seal No. 5487

NJDEP Information

Division: SRP-PFR Bureau: EMSA Phone: (609) 530-4393 Job Number: BUENA VISTA TWP DPW YARD

Requested Analysis

NJDEP Field Sample Number	Sampling Time Start/Stop	Sampling Date	Parameter	Method	Preserv.	Container		Matrix
						Volume	Quantity	
TB1	0730	18 Feb 2015	PERCHLORATE			250ml	1	Aq-TB
FBI	1515	"				50ml	1	Aq-FB
GW5A	1030	"				50ml	1	Aq
GW5B	1115	"				50ml	1	Aq
GW5C	1240	"				50ml	1	Aq
GW5D	1430	"				50ml	1	Aq
GW5E	0830	19 Feb 2015				40ml	1	Aq
GW4A	1105	"				50ml	1	Aq
GW4B	1125	"				50ml	1	Aq
GW4C	1200	"				50ml	1	Aq
GW4CMS	1200	"				30ml	1	Aq-MS
GW4CMS)	1200	"				30ml	1	Aq MS(D)
GW4D	1305	"				40ml	1	Aq
GW4E	1400	"				50ml	1	Aq
FB2	1425	"				50ml	1	Aq-FB
GW3A	0900	23 Feb 2015				40ml	1	Aq

Preservative Added: (Check One) Laboratory Field Unpreserved

Contract Number: _____ Task Number: _____ Report Format: _____

External Chain of Custody

Relinquished	Received	Time/Date	Reason for Change of External Custody
XXXXXXXXXXXXXXXXXXXX			Break Seal/Sample
<u>Amie Duhon</u>			
<u>2/27</u>			
Individual Resealing Shipping Container: Name: _____ Title: _____			
Time/Date Sample Shipping Container Resealed: _____		NJDEP Affixed Seal Number: _____	
Time/Date Sample Shipping Container Opened: _____			
Time/Date Internal Chain of Custody Initiated on NJDEP Form 077 (Internal Chain of Custody): _____			

Distribution: White - Original (Sent With Report)
Pink - NJDEP Field Sampling Personnel

Yellow - Sample Custodian Upon Receipt of Shipping Container from Field
Gold - Sample Custodian for Sample Preparation/Shipment

New Jersey Department of Environmental Protection
External Chain of Custody and Sample Analysis Request Form
(With Shipping Container)

Laboratory Information

Name of Laboratory: TestAmerica Individual Preparing Sample Bottles and Shipping Container(s)
Address: 30 Community Drive Suite 11 SA Name: Joel Atherton
South Burlington, VT 05499 05403 Title: Sample Custodian
Time/Date Sample Shipping Container Sealed: 1045 2/11/15 Laboratory Affixed Seal No. 5487

NJDEP Information

Division: SRP-PFR Bureau: EMSA Phone: (609) 530 4393 Job Number: BUENA VISTA TWP DPW YARD

Requested Analysis

NJDEP Field Sample Number	Sampling Time Start/Stop	Sampling Date	Parameter	Method	Preserv.	Container		Matrix
						Volume	Quantity	
<u>GW3B</u>	<u>0940</u>	<u>23 Feb 2015</u>	<u>Perchlorate</u>			<u>40ml</u>	<u>1</u>	<u>Aq</u>
<u>GW3B-Dup</u>	<u>0940</u>	<u>"</u>		<u>50ml</u>	<u>1</u>	<u>Aq-Duplicate</u>		
<u>GW3C</u>	<u>1040</u>	<u>"</u>		<u>40ml</u>	<u>1</u>	<u>Aq</u>		
<u>GW3D</u>	<u>1140</u>	<u>"</u>		<u>40ml</u>	<u>1</u>	<u>Aq</u>		
<u>GW2A</u>	<u>1350</u>	<u>"</u>		<u>35ml</u>	<u>1</u>	<u>Aq</u>		
<u>GW2B</u>	<u>1415</u>	<u>"</u>		<u>40ml</u>	<u>1</u>	<u>Aq</u>		
<u>GW2B-MS</u>	<u>1415</u>	<u>"</u>		<u>50ml</u>	<u>1</u>	<u>Aq-MS</u>		
<u>GW2B-MSD</u>	<u>1415</u>	<u>"</u>		<u>50ml</u>	<u>1</u>	<u>Aq-MSD</u>		
<u>GW2C</u>	<u>1450</u>	<u>"</u>		<u>40ml</u>	<u>1</u>	<u>Aq</u>		
<u>FB3</u>	<u>1505</u>	<u>"</u>		<u>40ml</u>	<u>1</u>	<u>Aq-FB</u>		
<u>GW2D</u>	<u>0815</u>	<u>24 Feb 2015</u>		<u>40ml</u>	<u>1</u>	<u>Aq</u>		
<u>GW2E</u>	<u>0930</u>	<u>"</u>		<u>50ml</u>	<u>1</u>	<u>Aq</u>		
<u>GW2E-Dup</u>	<u>0930</u>	<u>"</u>		<u>50ml</u>	<u>1</u>	<u>Aq-Duplicate</u>		
<u>FB4</u>	<u>1320</u>	<u>"</u>		<u>40ml</u>	<u>1</u>	<u>Aq-FB</u>		

Preservative Added: (Check One) Laboratory Field Unpreserved

Contract Number: _____ Task Number: _____ Report Format: _____

External Chain of Custody

Relinquished	Received	Time/Date	Reason for Change of External Custody
<u>XXXXXXXXXXXXXXXXXXXX</u>			<u>Break Seal/Sample</u>
<u>Marie Dubler</u>			
<u>2/27</u>			
Individual Resealing Shipping Container: Name: _____ Title: _____			
Time/Date Sample Shipping Container Resealed: _____		NJDEP Affixed Seal Number: _____	
Time/Date Sample Shipping Container Opened: _____			
Time/Date Internal Chain of Custody Initiated on NJDEP Form 077 (Internal Chain of Custody): _____			

Distribution: White - Original (Sent With Report)
Pink - NJDEP Field Sampling Personnel

Yellow - Sample Custodian Upon Receipt of Shipping Container from Field
Gold - Sample Custodian for Sample Preparation/Shipment

ATTACHMENT HH

1 of 2

ANALYTICAL REPORT

Job Number: 200-26883-1

SDG Number: A830410P (200-26883)

Job Description: A830410P (200-26883)

Contract Number: A74214

For:

New Jersey Dept of Environmental Pro
SRP - Contract & Fund Management

401 East State Street, 6th Floor

Mail Code 401-06J, PO BOX 420

Trenton, NJ 08625-0420

Attention: Ms. Kathleen Grimes



Approved for release.
Kirk F Young
Senior Project Manager
3/12/2015 2:45 PM

Kirk F Young, Senior Project Manager
30 Community Drive, South Burlington, VT, 05403
(802)660-1990
kirk.young@testamericainc.com
03/12/2015

cc: Annie Dunham

The test results in this report relate only to sample(s) as received by the laboratory. These test results were derived under a quality system that adheres to the requirements of NELAC. Pursuant to NELAC, this report may not be produced in full without written approval from the laboratory

TestAmerica Laboratories, Inc.

TestAmerica Burlington 30 Community Drive, Suite 11, South Burlington, VT 05403

Tel (802) 660-1990 Fax (802) 660-1919 www.testamericainc.com



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New Jersey Department of Environmental Protection
External Chain of Custody and Sample Analysis Request Form
(With Shipping Container)

Laboratory Information

Name of Laboratory: TestAmerica Individual Preparing Sample Bottles and Shipping Container(s)
 Address: 30 Community Drive Suite 11 SA Name: Joel Atherton
South Burlington, VT 05452-05403 Title: Sample Custodian
 Time/Date Sample Shipping Container Sealed: 1045 2/10/15 Laboratory Affixed Seal No. 5487

NJDEP Information

Division: SRP-PFR Bureau: EMSA Phone: (609) 530 4373 Job Number: Buena Vista Twp DPW YARD

NJDEP Field Sample Number	Sampling Time Start/Stop	Sampling Date	Requested Analysis			Container		Matrix
			Parameter	Method	Preserv.	Volume	Quantity	
GW3B	0940	23 Feb 2015	↓			40 ml	1	Ag
GW3B-Dup	0940	"		50 ml	1	Ag-Duplicate		
GW3C	1040	"		40 ml	1	Ag		
GW3D	1140	"		40 ml	1	Ag		
GW2A	1350	"		35 ml	1	Ag		
GW2B	1415	"		40 ml	1	Ag		
GW2B-MS	1415	"		50 ml	1	Ag-MS		
GW2B-MSD	1415	"		50 ml	1	Ag-MSD		
GW2C	1450	"		40 ml	1	Ag		
FB3	1505	"		40 ml	1	Ag-FB		
GW2D	0815	24 Feb 2015		40 ml	1	Ag		
GW2E	0930	"		50 ml	1	Ag		
GW2E-Dup	0930	"		50 ml	1	Ag-Duplicate		
FB4	1320	"		40 ml	1	Ag-FB		

Preservative Added: (Check One) Laboratory Field Unpreserved

Contract Number: _____ Task Number: _____ Report Format: _____

External Chain of Custody

Relinquished	Received	Time/Date	Reason for Change of External Custody
XXXXXXXXXXXXXXXXXXXX			Break Seal/Sample
<u>Marie Dubler</u>			
<u>2/27</u>	<u>[Signature]</u>	<u>2/28/15 0900</u>	<u>Rec'd at Lab</u>

Individual Resealing Shipping Container: Name: _____ Title: _____
 Time/Date Sample Shipping Container Resealed: _____ NJDEP Affixed Seal Number: _____
 Time/Date Sample Shipping Container Opened: 2/28/15 0900
 Time/Date Internal Chain of Custody Initiated on NJDEP Form 077 (Internal Chain of Custody): 2/26/15 1055

Distribution: White - Original (Sent With Report)
 Pink - NJDEP Field Sampling Personnel
 Yellow - Sample Custodian Upon Receipt of Shipping Container from Field
 Gold - Sample Custodian for Sample Preparation/Shipment

Shipping and Receiving Documents

Login Sample Receipt Checklist

Client: New Jersey Dept of Environmental Pro

Job Number: 200-26883-1
SDG Number: A830410P (200-26883)

Login Number: 26883
List Number: 1
Creator: Young, Joseph W

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6 mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

**ANALYTICAL DATA PACKAGE NONCOMPLIANCE SUMMARY FOR THE NEW
JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON NEW JERSEY 08625**

Agency/Division: SRP	Bureau/Office: BEMSA
Project No: A830410P (200-26883)	Contract No: A74214
Laboratory Name: TestAmerica Laboratories	Laboratory Location: South Burlington, Vermont
SDG or Batch No: A830410P (200-26883)	NJDEP Certification #: VT972
Date of First Sample Receipt: 02/28/2015	Date of Last Sample Receipt: 02/28/2015

The condition of the samples and the issues identified at the time of sample log-in are detailed in the Shipping Documentation section of this submittal. The sample volumes were logged into the laboratory for analysis and maintained in refrigerated storage at 4 degrees centigrade.

Method 331.0 (Revision 1.0)

The analysis, as it was performed, is an internal standard form of analysis using LC/MS/MS. The laboratory used 35Cl-18O4 as the internal standard in the performance of the work. The ion characteristic of 35Cl-18O3 (m/z 88.7) served as the basis for establishing internal standard response. Two ions were used in assessing the response for perchlorate. Those were characteristic of 35Cl-O3 (m/z 82.7) and 37Cl-O3 (m/z 84.7). Peak area was used as the basis for quantification.

Instrument calibration was established with five calibration points, having concentrations that ranged between 0.20 ug/L and 10.0 ug/L. A quality control sample/initial calibration verification (QCS/ICV) acquisition was performed using an independent standard at a concentration of 2.0 ug/L. The derived recovery of the target analyte met the +/- 20 percent criterion in that analysis. Calibration check acquisitions were performed at the frequency prescribed by the method, varying the analyte concentration. There was an acceptable performance of the target analyte in each of those acquisitions.

A laboratory fortified synthetic sample matrix (LFSSM) analysis was performed at a concentration of 1.0 ug/L, and the recovery of the target analyte in that analysis met the +/- 20 percent criterion. A calibration check at a concentration of 0.20 ug/L was performed as a reporting limit check sample (RLCS) acquisition in initiating each analytical sequence. The derived recovery of the target analyte in each of those analyses met the +/- 50 percent criterion. A laboratory fortified reagent blank/laboratory control sample (LFRB) acquisition was performed at a concentration of 5.0 ug/L in initiating the analytical sequence in which the samples were analyzed. The derived recovery of the target analyte in that analysis met the +/- 20 percent criterion. Laboratory fortified sample matrix/matrix spike (LFSM1) and laboratory fortified sample matrix duplicate/matrix spike duplicate (LFSM2) analyses were performed on sample GW2B. Those analyses were performed without a dilution, consistent with the analysis of the parent sample. There was an acceptable recovery of the perchlorate spike in each analysis, and there was an acceptable correlation of the results in the interanalysis comparison.

Each of the analyses associated with the sample set exhibited an acceptable internal standard performance. The laboratory reagent blank/method blank (LRB) and field reagent blank/trip blank (FRB) that were analyzed in association with the samples were free of analyte contamination. The analysis of the laboratory synthetic sample matrix blank (LSSMB) that was analyzed in the analytical sequence was free of analyte contamination.

The analytical results from the Method 331.0 analysis have been reported at the established reporting limit with

Definitions/Glossary

Client: New Jersey Dept of Environmental Pro
Project/Site: A830410P (200-26883)

TestAmerica Job ID: 200-26883-1
SDG: A830410P (200-26883)

Qualifiers

LCMS

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
PER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Instrument ID: LC3062 Analysis Batch Number: 85042
 Lab Sample ID: 200-26883-4 Client Sample ID: FB4
 Date Analyzed: 03/03/15 23:02 Lab File ID: P030315B331_16.d GC Column: IC-Pak AnionH/ ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	9.16	Peak not found by the data system	vuonoc	03/04/15 14:36

Cam On 3/5/15
Messa ~~Kred~~ 3/5/15

Method Detection Limit (MDL) Study Report

TEST METHOD:	EPA 331.0	Prep Date:	06/05/14	Student t:	3.143									
PREP METHOD:	EPA 331.0	Initial Amount:	10 mL											
CLEANUP METHOD(s):	NA	Final Amount:	10 mL											
MATRIX:	Water	Batch:	73119											
ANALYTE	Column Type:	IC Pak Anion HR			Instrument ID:	3062		Mean mg/L	Average %R	STD DEV	DL mg/L	Spike/DL Ratio		
	Date Analyzed:	06/05/14	06/05/14	06/05/14	06/05/14	06/05/14	06/05/14							
	Rep ID:	REP 1	REP 2	REP 3	REP 4	REP 5	REP 6						REP 7	
	CAS #	Spike mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						mg/L	
Perchlorate	14797-73-0	0.05	0.0566247	0.053139	0.053662	0.0499904	0.0637551	0.0626945	0.0605824	0.0572	114%	0.00526	0.01653	3.0

Limit of Quantitation (LOQ) Verification Report

TEST METHOD: EPA 331.0		Prep Date: 06/05/14		Instrument: 3062						
PREP METHOD: EPA 331.0		Initial Amount: 10 mL		Column ID:						
CLEANUP METHOD(s): NA		Final Amount: 10 mL		IC Pak Anion HR						
MATRIX: Water		LOQ #: LOQ1		Date Analyzed: 06/05/14						
				Evaluation Limits						
ANALYTE		CAS #	LOQ mg/L	Spike mg/L	Spike / LOQ Ratio	Lower Limit	Upper Limit	Pass Y/N	Result mg/L	%R
Perchlorate		14797-73-0	0.2	0.2	1.0	50%	150%	Y	0.215098799	108%

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
SDG No.: A830410P (200-26883)
Matrix: Water Level: Low Lab File ID: P030315B331_05.d
Lab ID: LCS 200-85042/5 Client ID: _____

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perchlorate	5.00	4.849	97	80-120	

Column to be used to flag recovery and RPD values

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Matrix: Water Level: Low Lab File ID: P030315B331_13.d
 Lab ID: 200-26883-1 MSD Client ID: GW2B MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Perchlorate	2.00	4.177	101	2	20	80-120	

Column to be used to flag recovery and RPD values

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Lab File ID: P030315B331_04.d Lab Sample ID: MB 200-85042/4
 Matrix: Water Date Extracted: _____
 Instrument ID: LC3062 Date Analyzed: 03/03/2015 19:58
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	ICB 200-85042/1	P030315B331 01.d	03/03/2015 19:12
	LCS 200-85042/5	P030315B331 05.d	03/03/2015 20:13
GW2B	200-26883-1	P030315B331 11.d	03/03/2015 21:45
GW2B MS	200-26883-1 MS	P030315B331 12.d	03/03/2015 22:00
GW2B MSD	200-26883-1 MSD	P030315B331 13.d	03/03/2015 22:16
GW2D	200-26883-2	P030315B331 14.d	03/03/2015 22:31
GW2E	200-26883-3	P030315B331 15.d	03/03/2015 22:46
FB4	200-26883-4	P030315B331 16.d	03/03/2015 23:02
GW2E-DUP	200-26883-5	P030315B331 17.d	03/03/2015 23:17

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Sample No.: CCVIS 200-84071/2 Date Analyzed: 02/02/2015 11:11
 Instrument ID: LC3062 GC Column: IC-Pak AnionH/R ID: 4.6(mm)
 Lab File ID (Standard): P020215A331_02.d Heated Purge: (Y/N) N
 Calibration ID: 29574

	18OP		AREA #	RT #	AREA #	RT #	AREA #	RT #
	AREA #	RT #						
12/24 HOUR STD	112317	8.64						
UPPER LIMIT	146012	9.14						
LOWER LIMIT	78622	8.14						
LAB SAMPLE ID	CLIENT SAMPLE ID							
CCVL 200-84071/3			116833	8.60				
LSSMB 200-84071/4			120189	8.07*				
INF 200-84071/10			99942	8.14*				
CCV 200-84071/11			90197	8.78				

18OP = 18-O Perchlorate

Area Limit = 70%-130% of internal standard area
 RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Client Sample ID: GW2B Lab Sample ID: 200-26883-1
 Matrix: Water Lab File ID: P030315B331_11.d
 Analysis Method: 331.0 Date Collected: 02/23/2015 14:15
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5(mL) Date Analyzed: 03/03/2015 21:45
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100(uL) GC Column: IC-Pak AnionH/R ID: 4.6(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85042 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	2.16		0.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Client Sample ID: GW2E Lab Sample ID: 200-26883-3
 Matrix: Water Lab File ID: P030315B331_15.d
 Analysis Method: 331.0 Date Collected: 02/24/2015 09:30
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 22:46
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85042 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	2.51		0.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Client Sample ID: GW2E-DUP Lab Sample ID: 200-26883-5
 Matrix: Water Lab File ID: P030315B331_17.d
 Analysis Method: 331.0 Date Collected: 02/24/2015 09:30
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5(mL) Date Analyzed: 03/03/2015 23:17
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100(uL) GC Column: IC-Pak AnionH/R ID: 4.6(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85042 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	2.46		0.20

LCMS INITIAL CALIBRATION DATA
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Burlington Job No.: 200-26883-1 Analy Batch No.: 83380
 SDG No.: A830410P (200-26883)
 Instrument ID: LC3062 GC Column: IC-Pak Anion ID: 4.6(mm) Heated Purge: (Y/N) N
 Calibration Start Date: 01/14/2015 11:55 Calibration End Date: 01/14/2015 13:11 Calibration ID: 29574

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-83380/2	P011415SCAL_02.d
Level 2	IC 200-83380/3	P011415SCAL_03.d
Level 3	ICISAV 200-83380/4	P011415SCAL_04.d
Level 4	IC 200-83380/5	P011415SCAL_05.d
Level 5	IC 200-83380/6	P011415SCAL_06.d
Level 6	IC 200-83380/7	P011415SCAL_07.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Perchlorate	18OP	Lin1	35781 1062425	73809	140790	265193	588293	0.200 10.0	0.500	1.00	2.00	5.00

Curve Type Legend:

Lin1 = Linear 1/conc ISTD

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Lab Sample ID: CCVIS 200-84071/2 Calibration Date: 02/02/2015 11:11
 Instrument ID: LC3062 Calib Start Date: 01/14/2015 11:55
 GC Column: IC-Pak AnionH/R ID: 4.60 (mm) Calib End Date: 01/14/2015 13:11
 Lab File ID: P020215A331_02.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.030		2.01	2.00	0.5	20.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Lab Sample ID: CCV 200-84071/11 Calibration Date: 02/02/2015 13:29
 Instrument ID: LC3062 Calib Start Date: 01/14/2015 11:55
 GC Column: IC-Pak AnionH/R ID: 4.60 (mm) Calib End Date: 01/14/2015 13:11
 Lab File ID: P020215A331_11.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.053		10.3	10.0	3.1	20.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Lab Sample ID: CCVL 200-85042/3 Calibration Date: 03/03/2015 19:43
 Instrument ID: LC3062 Calib Start Date: 01/14/2015 11:55
 GC Column: IC-Pak AnionH/R ID: 4.60 (mm) Calib End Date: 01/14/2015 13:11
 Lab File ID: P030315B331_03.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		0.9599		0.179	0.200	-10.6	50.0

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Client Sample ID: _____ Lab Sample ID: MB 200-85042/4
 Matrix: Water Lab File ID: P030315B331_04.d
 Analysis Method: 331.0 Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 19:58
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85042 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	0.20	U	0.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Client Sample ID: _____ Lab Sample ID: ICB 200-85042/1
 Matrix: Water Lab File ID: P030315B331_01.d
 Analysis Method: 331.0 Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 19:12
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85042 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	0.20	U	0.20	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Client Sample ID: _____ Lab Sample ID: LCS 200-85042/5
 Matrix: Water Lab File ID: P030315B331_05.d
 Analysis Method: 331.0 Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 20:13
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85042 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	4.849		0.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Client Sample ID: GW2B MS Lab Sample ID: 200-26883-1 MS
 Matrix: Water Lab File ID: P030315B331_12.d
 Analysis Method: 331.0 Date Collected: 02/23/2015 14:15
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 22:00
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85042 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	4.095		0.20	

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Instrument ID: LC3062 Start Date: 01/14/2015 11:41
 Analysis Batch Number: 83380 End Date: 01/14/2015 13:26

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ICB 200-83380/1		01/14/2015 11:41	1		IC-Pak AnionH/R 4.6 (mm)
IC 200-83380/2		01/14/2015 11:55	1	P011415CAL_02.d	IC-Pak AnionH/R 4.6 (mm)
IC 200-83380/3		01/14/2015 12:10	1	P011415CAL_03.d	IC-Pak AnionH/R 4.6 (mm)
ICISAV 200-83380/4		01/14/2015 12:25	1	P011415CAL_04.d	IC-Pak AnionH/R 4.6 (mm)
IC 200-83380/5		01/14/2015 12:41	1	P011415CAL_05.d	IC-Pak AnionH/R 4.6 (mm)
IC 200-83380/6		01/14/2015 12:56	1	P011415CAL_06.d	IC-Pak AnionH/R 4.6 (mm)
IC 200-83380/7		01/14/2015 13:11	1	P011415CAL_07.d	IC-Pak AnionH/R 4.6 (mm)
ICV 200-83380/8		01/14/2015 13:26	1	P011415CAL_08.d	IC-Pak AnionH/R 4.6 (mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Burlington Job No.: 200-26883-1
 SDG No.: A830410P (200-26883)
 Instrument ID: LC3062 Start Date: 03/03/2015 19:12
 Analysis Batch Number: 85042 End Date: 03/03/2015 23:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ICB 200-85042/1		03/03/2015 19:12	1	P030315B331_01. d	IC-Pak AnionH/R 4.6(mm)
CCVIS 200-85042/2		03/03/2015 19:28	1	P030315B331_02. d	IC-Pak AnionH/R 4.6(mm)
CCVL 200-85042/3		03/03/2015 19:43	1	P030315B331_03. d	IC-Pak AnionH/R 4.6(mm)
MB 200-85042/4		03/03/2015 19:58	1	P030315B331_04. d	IC-Pak AnionH/R 4.6(mm)
LCS 200-85042/5		03/03/2015 20:13	1	P030315B331_05. d	IC-Pak AnionH/R 4.6(mm)
ZZZZZ		03/03/2015 20:29	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		03/03/2015 20:44	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		03/03/2015 20:59	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		03/03/2015 21:15	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		03/03/2015 21:30	1		IC-Pak AnionH/R 4.6(mm)
200-26883-1	GW2B	03/03/2015 21:45	1	P030315B331_11. d	IC-Pak AnionH/R 4.6(mm)
200-26883-1 MS	GW2B MS	03/03/2015 22:00	1	P030315B331_12. d	IC-Pak AnionH/R 4.6(mm)
200-26883-1 MSD	GW2B MSD	03/03/2015 22:16	1	P030315B331_13. d	IC-Pak AnionH/R 4.6(mm)
200-26883-2	GW2D	03/03/2015 22:31	1	P030315B331_14. d	IC-Pak AnionH/R 4.6(mm)
200-26883-3	GW2E	03/03/2015 22:46	1	P030315B331_15. d	IC-Pak AnionH/R 4.6(mm)
200-26883-4	FB4	03/03/2015 23:02	1	P030315B331_16. d	IC-Pak AnionH/R 4.6(mm)
200-26883-5	GW2E-DUP	03/03/2015 23:17	1	P030315B331_17. d	IC-Pak AnionH/R 4.6(mm)
CCV 200-85042/18		03/03/2015 23:32	1	P030315B331_18. d	IC-Pak AnionH/R 4.6(mm)

2 of 2

ANALYTICAL REPORT

Job Number: 200-26880-1

SDG Number: A830410P (200-26880)

Job Description: A830410P (200-26880)

Contract Number: A74214

For:

New Jersey Dept of Environmental Pro

SRP - Contract & Fund Management

401 East State Street, 6th Floor

Mail Code 401-06J, PO BOX 420

Trenton, NJ 08625-0420

Attention: Ms. Kathleen Grimes



Approved for release.
Kirk F Young
Senior Project Manager
3/12/2015 2:38 PM

Kirk F Young, Senior Project Manager
30 Community Drive, South Burlington, VT, 05403
(802)660-1990
kirk.young@testamericainc.com
03/12/2015

cc: Annie Dunham

The test results in this report relate only to sample(s) as received by the laboratory. These test results were derived under a quality system that adheres to the requirements of NELAC. Pursuant to NELAC, this report may not be produced in full without written approval from the laboratory

TestAmerica Laboratories, Inc.

TestAmerica Burlington 30 Community Drive, Suite 11, South Burlington, VT 05403

Tel (802) 660-1990 Fax (802) 660-1919 www.testamericainc.com



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DEP-095
3/04

New Jersey Department of Environmental Protection
External Chain of Custody and Sample Analysis Request Form
(With Shipping Container)

Laboratory Information

Name of Laboratory: TestAmerica Individual Preparing Sample Bottles and Shipping Container(s)
 Address: 30 Community Dr Suite 11 SA Name: Joel Ardiden
South Burlington, VT 05403 Title: Sample Custodian
 Time/Date Sample Shipping Container Sealed: 1045 2/10/15 Laboratory Affixed Seal No. 5487

NJDEP Information

Division: SRP-PFR Bureau: EMSA Phone: (609) 530-4393 Job Number: BUENA VISTA INV DPW 1401

NJDEP Field Sample Number	Sampling Time Start/Stop	Sampling Date	Requested Analysis			Container		Matrix
			Parameter	Method	Preserv.	Volume	Quantity	
TB1	0730	18 Feb 2015	PERCHLORATE			250ml	1	Aq-TB
FBI	1515	"				50ml	1	Aq-FB
GW5A	1030	"				50ml	1	Aq
GW5B	1115	"				50ml	1	Aq
GW5C	1240	"				50ml	1	Aq
GW5D	1430	"				50ml	1	Aq
GW5E	0830	19 Feb 2015				40ml	1	Aq
GW4A	1105	"				50ml	1	Aq
GW4B	1125	"				50ml	1	Aq
GW4C	1200	"				50ml	1	Aq
GW4CMS	1200	"				30ml	1	Aq-MS
GW4CMS	1200	"				30ml	1	Aq-MSD
GW4D	1305	"				40ml	1	Aq
GW4E	1400	"				50ml	1	Aq
FB2	1425	"				50ml	1	Aq-FB
GW3A	0900	23 Feb 2015				40ml	1	Aq

Preservative Added: (Check One) Laboratory Field Unpreserved

Contract Number: _____ Task Number: _____ Report Format: _____

External Chain of Custody

Relinquished	Received	Time/Date	Reason for Change of External Custody
XXXXXXXXXXXXXXXXXXXX			Break Seal/Sample
<u>Joel Ardiden</u>			
<u>2/27</u>			
	<u>Joel Ardiden</u>	<u>2/28/15 0900</u>	<u>Recd at Lab</u>

Individual Resealing Shipping Container: Name: _____ Title: _____
 Time/Date Sample Shipping Container Resealed: _____ NJDEP Affixed Seal Number: _____
 Time/Date Sample Shipping Container Opened: 2/28/15 0900
 Time/Date Internal Chain of Custody Initiated on NJDEP Form 077 (Internal Chain of Custody): 2/28/15 1055

Distribution: White - Original (Sent With Report)
Pink - NJDEP Field Sampling Personnel

Yellow - Sample Custodian Upon Receipt of Shipping Container from Field
Gold - Sample Custodian for Sample Preparation/Shipment

Instructions: Use 1 for each 20 samples of aliquot.

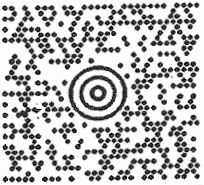

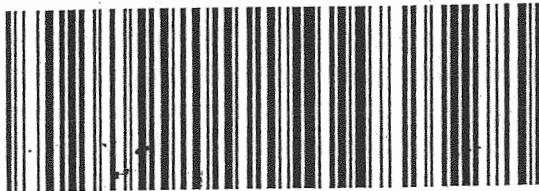



1 OF 1

Laboratory Person Breaking Field Seal on Sample Shuttle & Accepting Responsibility for Sample			
Laboratory:	TestAmerica	Location:	So. Burlington, VT 05403
Name:	JOSEPH YOUNG	Title:	Sample Custodian <i>[Signature]</i>
Field Sample Seal No:	N/A	Date Broken:	2/28/2015
Case No:	BUENA VISTA TWP DPW YARD	Analytical Parameter/Fraction:	PERCHLORATE
		Military Time Seal Broken:	900

Sample No.	Aliquot/Extract No.	Sample No.	Aliquot/Extract No.
200-26880-1		200-26880-11	
200-26880-2		200-26880-12	
200-26880-3		200-26880-13	
200-26880-4		200-26880-14	
200-26880-5		200-26880-15	
200-26880-6		200-26880-16	
200-26880-7		200-26880-17	
200-26880-8		200-26880-18	
200-26880-9		200-26880-19	
200-26880-10		200-26880-20	

Date	Time	Received By		Purpose of Change of Custody
3/3/15	0945	<i>[Signature]</i> SIGNATURE COURTNEY VUONO PRINTED NAME	<i>[Signature]</i> SIGNATURE COURTNEY VUONO PRINTED NAME	LCMS Analysis
3/3/15	1500	<i>[Signature]</i> SIGNATURE COURTNEY VUONO PRINTED NAME	<i>[Signature]</i> SIGNATURE COURTNEY VUONO PRINTED NAME	Storage
3/4/15	1000	<i>[Signature]</i> SIGNATURE COURTNEY VUONO PRINTED NAME	<i>[Signature]</i> SIGNATURE COURTNEY VUONO PRINTED NAME	LCMS Analysis (5,7,9,10,11,12,14 only)
3/4/15	1400	<i>[Signature]</i> SIGNATURE COURTNEY VUONO PRINTED NAME	<i>[Signature]</i> SIGNATURE COURTNEY VUONO PRINTED NAME	Storage
3/5/15	1015	<i>[Signature]</i> SIGNATURE COURTNEY VUONO PRINTED NAME	<i>[Signature]</i> SIGNATURE COURTNEY VUONO PRINTED NAME	LCMS Analysis (12 only)
3/5/15	1400	<i>[Signature]</i> SIGNATURE COURTNEY VUONO PRINTED NAME	<i>[Signature]</i> SIGNATURE COURTNEY VUONO PRINTED NAME	Storage
		SIGNATURE	SIGNATURE	
		PRINTED NAME	PRINTED NAME	
		SIGNATURE	SIGNATURE	
		PRINTED NAME	PRINTED NAME	
		SIGNATURE	SIGNATURE	
		PRINTED NAME	PRINTED NAME	

<https://www.tips.com/uis/create?ActionOriginPair=default> PrintWindowPage&key=lab... 2/27/2015

FRANK SORCE 609-530-2457 NJDEP 380 SCOTCH ROAD WEST TRENTON NJ 08628		43 LBS	1 OF 1
SHIP TO: R.J. LAVIGNE 802-923-1058 TEST AMERICA SUITE 11 30 COMMUNITY DRIVE SOUTH BURLINGTON VT 05403-6834			
	VT 054 0-02 		
UPS NEXT DAY AIR		1 S	
TRACKING #: 1Z F08 9W6 44 9566 4053			
			
BILLING: P/P			
		UIS 17.1.04. WNTIE100 60.0A 01/2015	

FOLD HERE

Lavigne, Rayburn

From: Kathleen Grimes [Kathleen.Grimes@dep.nj.gov]
Sent: Monday, March 02, 2015 12:44 PM
To: Lavigne, Rayburn
Subject: RE: Site A830410P - Job 200-26880-1
RJ:

Yes it is OK to have 21 samples in this SDG.

Kathy

Kathleen M. Grimes, Research Scientist I
Site Remediation Program
Financial Services Element
401 East State Street – 6th Floor
Mail Code 401-06I
PO Box 420
Trenton, New Jersey 08625-0420
Phone: (609) 633-2355 Fax: (609) 292-4401
kathleen.grimes@dep.nj.gov



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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From: Lavigne, Rayburn [mailto:Rayburn.Lavigne@testamericainc.com]
Sent: Monday, March 02, 2015 12:38 PM
To: Kathleen Grimes
Subject: Site A830410P - Job 200-26880-1

Good Afternoon Kathleen,

As discussed, our sample management inadvertently logged in a perchlorate field duplicate sample as a laboratory duplicate. I have correct this in our LIMS system; however, now there are twenty-one samples in job 200-26880-1 (that includes one trip blank and three field duplicates). Is it okay with you if we have more than 20 samples in this job?

Thanks in advance for your consideration,

R.J. Lavigne

Project Manager

802.923.1024

**ANALYTICAL DATA PACKAGE NONCOMPLIANCE SUMMARY FOR THE NEW
JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON NEW JERSEY 08625**

Agency/Division: SRP	Bureau/Office: BEMSA
Project No: A830410P (200-26880)	Contract No: A74214
Laboratory Name: TestAmerica Laboratories	Laboratory Location: South Burlington, Vermont
SDG or Batch No: A830410P (200-26880)	NJDEP Certification #: VT972
Date of First Sample Receipt: 02/28/2015	Date of Last Sample Receipt: 02/28/2015

The condition of the samples and the issues identified at the time of sample log-in are detailed in the Shipping Documentation section of this submittal. The sample volumes were logged into the laboratory for analysis and maintained in refrigerated storage at 4 degrees centigrade.

Method 331.0 (Revision 1.0)

The analysis, as it was performed, is an internal standard form of analysis using LC/MS/MS. The laboratory used 35Cl-18O4 as the internal standard in the performance of the work. The ion characteristic of 35Cl-18O3 (m/z 88.7) served as the basis for establishing internal standard response. Two ions were used in assessing the response for perchlorate. Those were characteristic of 35Cl-O3 (m/z 82.7) and 37Cl-O3 (m/z 84.7). Peak area was used as the basis for quantification.

Instrument calibration was established with five calibration points, having concentrations that ranged between 0.20 ug/L and 10.0 ug/L. A quality control sample/initial calibration verification (QCS/ICV) acquisition was performed using an independent standard at a concentration of 2.0 ug/L. The derived recovery of the target analyte met the +/- 20 percent criterion in that analysis. Calibration check acquisitions were performed at the frequency prescribed by the method, varying the analyte concentration. There was an acceptable performance of the target analyte in each of those acquisitions.

A laboratory fortified synthetic sample matrix/interference check (LFSSM) analysis was performed at a concentration of 1.0 ug/L, and the recovery of the target analyte in that analysis met the +/- 20 percent criterion. A calibration check at a concentration of 0.20 ug/L was performed as a reporting limit check sample (RLCS) acquisition in initiating each analytical sequence. The derived recovery of the target analyte in each of those analyses met the +/- 50 percent criterion. A laboratory fortified reagent blank/laboratory control sample (LFRB) acquisition was performed in initiating each analytical sequence in which the samples were analyzed. The derived recovery of the target analyte in each analysis met the +/- 20 percent criterion. Laboratory fortified sample matrix/matrix spike (LFSM1) and laboratory fortified sample matrix duplicate/matrix spike duplicate (LFSM2) analyses were performed on sample GW4C. Those analyses were performed without a dilution, consistent with the analysis of the parent sample. There was an acceptable recovery of the perchlorate spike in each analysis, and there was an acceptable correlation of the results in the interanalysis comparison.

With the exception of that performed on sample GW4E, each of the analyses associated with the sample set exhibited an acceptable internal standard performance as measured against a +/- 30 percent tolerance. The analysis of sample GW4E did exhibit a low internal standard response. The laboratory reanalyzed the sample at a 2-fold dilution. Although more moderate in aspect, the follow-up analysis also exhibited a low internal standard response. Both sets of results for the analysis of sample GW4E are included in this submittal. Each laboratory reagent blank/method blank (LRB) and each field reagent blank/trip blank (FRB) that was analyzed

NJDEP FORM AIC (02/26/04)

Definitions/Glossary

Client: New Jersey Dept of Environmental Pro
Project/Site: A830410P (200-26880)

TestAmerica Job ID: 200-26880-1
SDG: A830410P (200-26880)

Qualifiers

LCMS

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Instrument ID: LC3062 Analysis Batch Number: 85040
 Lab Sample ID: 200-26880-2 Client Sample ID: FB1
 Date Analyzed: 03/03/15 14:22 Lab File ID: P030315A331_07.d GC Column: IC-Pak AnionH/ ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	8.82	Peak not found by the data system	vuonoc	03/04/15 12:02

Lab Sample ID: 200-26880-3 Client Sample ID: GW5A
 Date Analyzed: 03/03/15 14:37 Lab File ID: P030315A331_08.d GC Column: IC-Pak AnionH/ ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	8.84	Peak not found by the data system	vuonoc	03/04/15 12:03

Lab Sample ID: 200-26880-4 Client Sample ID: GW5B
 Date Analyzed: 03/03/15 14:52 Lab File ID: P030315A331_09.d GC Column: IC-Pak AnionH/ ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	8.95	Peak not found by the data system	vuonoc	03/04/15 12:04

Lab Sample ID: 200-26880-6 Client Sample ID: GW5D
 Date Analyzed: 03/03/15 15:23 Lab File ID: P030315A331_11.d GC Column: IC-Pak AnionH/ ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	9.02	Peak not found by the data system	vuonoc	03/04/15 12:06

Carroll 3/12/15
Yessu Almad 3/12/15

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Instrument ID: LC3062 Analysis Batch Number: 85042
 Lab Sample ID: 200-26880-18 Client Sample ID: GW2A
 Date Analyzed: 03/03/15 20:44 Lab File ID: P030315B331_07.d GC Column: IC-Pak AnionH/ ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	8.96	Peak not found by the data system	vuonoc	03/04/15 14:35

Lab Sample ID: 200-26880-20 Client Sample ID: FB3
 Date Analyzed: 03/03/15 21:15 Lab File ID: P030315B331_09.d GC Column: IC-Pak AnionH/ ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	9.12	Peak not found by the data system	vuonoc	03/04/15 14:35

Conor O'Connell 3/12/15
Hessu Hrd 3/12/15

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Instrument ID: LC3062 Analysis Batch Number: 85146
 Lab Sample ID: ICB 200-85146/1 Client Sample ID: _____
 Date Analyzed: 03/05/15 12:21 Lab File ID: P030515A331_01.d GC Column: IC-Pak AnionH/ ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	9.16	Peak not found by the data system	vuonoc	03/10/15 14:21

Comp On 3/12/15
Hessu Krd 3/12/15

Method Detection Limit (MDL) Study Report

TEST METHOD:		EPA 331.0		Prep Date:		06/05/14		Student t:		3.143						
PREP METHOD:		EPA 331.0		Initial Amount:		10 mL										
CLEANUP METHOD(s):		NA		Final Amount:		10 mL										
MATRIX:		Water		Batch:		73119										
ANALYTE	Column Type:		IC Pak Anion HR			Instrument ID:		3062				Mean mg/L	Average %R	STD DEV	DL mg/L	Spike/DL Ratio
	Date Analyzed:		06/05/14	06/05/14	06/05/14	06/05/14	06/05/14	06/05/14	06/05/14	06/05/14						
	Rep ID:		REP 1	REP 2	REP 3	REP 4	REP 5	REP 6	REP 7							
	CAS #	Spike mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Perchlorate	14797-73-0	0.05	0.0566247	0.053139	0.053662	0.0499904	0.0637551	0.0626945	0.0605824	0.0572	114%	0.00526	0.01653	3.0		

Limit of Quantitation (LOQ) Verification Report

TEST METHOD: EPA 331.0		Prep Date: 06/05/14		Instrument: 3062					
PREP METHOD: EPA 331.0		Initial Amount: 10 mL		Column ID: IC Pak Anion HR					
CLEANUP METHOD(s): NA		Final Amount: 10 mL		Date Analyzed: 06/05/14					
MATRIX: Water		LOQ #: LOQ1		Evaluation Limits					
				Lower Limit	Upper Limit				
ANALYTE	CAS #	LOQ mg/L	Spike mg/L	Spike / LOQ Ratio	Pass Y/N	Result mg/L	%R		
Perchlorate	14797-73-0	0.2	0.2	1.0	50%	150%	Y	0.215098799	108%

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
SDG No.: A830410P (200-26880)
Matrix: Water Level: Low Lab File ID: P030315A331_05.d
Lab ID: LCS 200-85040/5 Client ID: _____

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perchlorate	2.00	1.964	98	80-120	

Column to be used to flag recovery and RPD values

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Matrix: Water Level: Low Lab File ID: P030415A331_05.d
 Lab ID: LCS 200-85089/5 Client ID: _____

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perchlorate	0.200	0.182 J	91	80-120	

Column to be used to flag recovery and RPD values

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
SDG No.: A830410P (200-26880)
Matrix: Water Level: Low Lab File ID: P030415A331_10.d
Lab ID: 200-26880-10 MS Client ID: GW4C MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Perchlorate	0.200	0.75	0.914	80	80-120	

Column to be used to flag recovery and RPD values

FORM III
LCMS LC INTERFERENCE CHECK STANDARD RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
SDG No.: A830410P (200-26880)
Matrix: Water Level: Low Lab File ID: P020215A331_10.d
Lab ID: INF 200-84071/10 Client ID: _____

COMPOUND	SPIKE ADDED (ug/L)	INF CONCENTRATION (ug/L)	INF % REC	QC LIMITS REC	#
Perchlorate	1.00	1.018	102	80-120	

Column to be used to flag recovery and RPD values

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Lab File ID: P030315B331_04.d Lab Sample ID: MB 200-85042/4
 Matrix: Water Date Extracted: _____
 Instrument ID: LC3062 Date Analyzed: 03/03/2015 19:58
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	ICB 200-85042/1	P030315B331 01.d	03/03/2015 19:12
	LCS 200-85042/5	P030315B331 05.d	03/03/2015 20:13
GW3D	200-26880-17	P030315B331 06.d	03/03/2015 20:29
GW2A	200-26880-18	P030315B331 07.d	03/03/2015 20:44
GW2C	200-26880-19	P030315B331 08.d	03/03/2015 20:59
FB3	200-26880-20	P030315B331 09.d	03/03/2015 21:15
GW3B-DUP	200-26880-21	P030315B331 10.d	03/03/2015 21:30

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
SDG No.: A830410P (200-26880)
Lab File ID: P030515A331_04.d Lab Sample ID: MB 200-85146/4
Matrix: Water Date Extracted: _____
Instrument ID: LC3062 Date Analyzed: 03/05/2015 13:07
Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	ICB 200-85146/1	P030515A331 01.d	03/05/2015 12:21
	LCS 200-85146/5	P030515A331 05.d	03/05/2015 13:22
GW4E DL	200-26880-12 DL	P030515A331 06.d	03/05/2015 13:37

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Sample No.: CCVIS 200-84071/2 Date Analyzed: 02/02/2015 11:11
 Instrument ID: LC3062 GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 Lab File ID (Standard): P020215A331_02.d Heated Purge: (Y/N) N
 Calibration ID: 29574

	18OP		AREA #	RT #	AREA #	RT #	AREA #	RT #
	AREA #	RT #						
12/24 HOUR STD	112317	8.64						
UPPER LIMIT	146012	9.14						
LOWER LIMIT	78622	8.14						
LAB SAMPLE ID	CLIENT SAMPLE ID							
CCVL 200-84071/3	116833	8.60						
LSSMB 200-84071/4	120189	8.07*						
INF 200-84071/10	99942	8.14*						
CCV 200-84071/11	90197	8.78						

18OP = 18-O Perchlorate

Area Limit = 70%-130% of internal standard area
 RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Sample No.: CCVIS 200-85042/2 Date Analyzed: 03/03/2015 19:28
 Instrument ID: LC3062 GC Column: IC-Pak AnionH/R ID: 4.6(mm)
 Lab File ID (Standard): P030315B331_02.d Heated Purge: (Y/N) N
 Calibration ID: 29574

		18OP					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		109737	9.09				
UPPER LIMIT		142658	9.59				
LOWER LIMIT		76816	8.59				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCVL 200-85042/3		118606	9.12				
MB 200-85042/4		120456	9.12				
LCS 200-85042/5		98576	9.07				
200-26880-17	GW3D	95890	9.10				
200-26880-18	GW2A	85049	9.00				
200-26880-19	GW2C	96949	9.07				
200-26880-20	FB3	101750	9.13				
200-26880-21	GW3B-DUP	91823	9.05				
CCV 200-85042/18		82831	9.12				

18OP = 18-O Perchlorate

Area Limit = 70%-130% of internal standard area
 RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Sample No.: CCVIS 200-85146/2 Date Analyzed: 03/05/2015 12:36
 Instrument ID: LC3062 GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 Lab File ID (Standard): P030515A331_02.d Heated Purge: (Y/N) N
 Calibration ID: 29574

		18OP					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		110273	9.03				
UPPER LIMIT		143355	9.53				
LOWER LIMIT		77191	8.53				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCVL 200-85146/3		120484	9.26				
MB 200-85146/4		122071	9.31				
LCS 200-85146/5		112736	9.33				
200-26880-12 DL	GW4E DL	67467*	9.24				
CCV 200-85146/7		91434	9.37				

18OP = 18-O Perchlorate

Area Limit = 70%-130% of internal standard area
 RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: FBI Lab Sample ID: 200-26880-2
 Matrix: Water Lab File ID: P030315A331_07.d
 Analysis Method: 331.0 Date Collected: 02/18/2015 15:15
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 14:22
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85040 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	0.20	U	0.20	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
SDG No.: A830410P (200-26880)
Client Sample ID: GW5B Lab Sample ID: 200-26880-4
Matrix: Water Lab File ID: P030315A331_09.d
Analysis Method: 331.0 Date Collected: 02/18/2015 11:15
Extraction Method: _____ Date Extracted: _____
Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 14:52
Con. Extract Vol.: _____ Dilution Factor: 1
Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
% Moisture: _____ GPC Cleanup: (Y/N) N
Analysis Batch No.: 85040 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	0.20	U	0.20	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: GW5D Lab Sample ID: 200-26880-6
 Matrix: Water Lab File ID: P030315A331_11.d
 Analysis Method: 331.0 Date Collected: 02/18/2015 14:30
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5(mL) Date Analyzed: 03/03/2015 15:23
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100(uL) GC Column: IC-Pak AnionH/R ID: 4.6(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85040 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	0.20	U	0.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: GW4A Lab Sample ID: 200-26880-8
 Matrix: Water Lab File ID: P030315A331_13.d
 Analysis Method: 331.0 Date Collected: 02/19/2015 11:05
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 15:53
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85040 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	0.20	U	0.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: GW4C Lab Sample ID: 200-26880-10
 Matrix: Water Lab File ID: P030415A331_09.d
 Analysis Method: 331.0 Date Collected: 02/19/2015 12:00
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5(mL) Date Analyzed: 03/04/2015 14:24
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100(uL) GC Column: IC-Pak AnionH/R ID: 4.6(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85089 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	0.75		0.20	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
SDG No.: A830410P (200-26880)
Client Sample ID: GW4E Lab Sample ID: 200-26880-12
Matrix: Water Lab File ID: P030315A331_20.d
Analysis Method: 331.0 Date Collected: 02/19/2015 14:00
Extraction Method: _____ Date Extracted: _____
Sample wt/vol: 5(mL) Date Analyzed: 03/03/2015 17:40
Con. Extract Vol.: _____ Dilution Factor: 1
Injection Volume: 100(uL) GC Column: IC-Pak AnionH/R ID: 4.6(mm)
% Moisture: _____ GPC Cleanup: (Y/N) N
Analysis Batch No.: 85040 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	1.19		0.20	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-26880-1</u>
SDG No.: <u>A830410P (200-26880)</u>	
Client Sample ID: <u>FB2</u>	Lab Sample ID: <u>200-26880-13</u>
Matrix: <u>Water</u>	Lab File ID: <u>P030315A331_21.d</u>
Analysis Method: <u>331.0</u>	Date Collected: <u>02/19/2015 14:25</u>
Extraction Method: _____	Date Extracted: _____
Sample wt/vol: <u>5(mL)</u>	Date Analyzed: <u>03/03/2015 17:56</u>
Con. Extract Vol.: _____	Dilution Factor: <u>1</u>
Injection Volume: <u>100(uL)</u>	GC Column: <u>IC-Pak AnionH/R</u> ID: <u>4.6(mm)</u>
% Moisture: _____	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>85040</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	0.20	U	0.20	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: GW3B Lab Sample ID: 200-26880-15
 Matrix: Water Lab File ID: P030315A331_23.d
 Analysis Method: 331.0 Date Collected: 02/23/2015 09:40
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 18:26
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85040 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	0.44		0.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
SDG No.: A830410P (200-26880)
Client Sample ID: GW3D Lab Sample ID: 200-26880-17
Matrix: Water Lab File ID: P030315B331_06.d
Analysis Method: 331.0 Date Collected: 02/23/2015 11:40
Extraction Method: _____ Date Extracted: _____
Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 20:29
Con. Extract Vol.: _____ Dilution Factor: 1
Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
% Moisture: _____ GPC Cleanup: (Y/N) N
Analysis Batch No.: 85042 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	1.15		0.20	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: GW2C Lab Sample ID: 200-26880-19
 Matrix: Water Lab File ID: P030315B331_08.d
 Analysis Method: 331.0 Date Collected: 02/23/2015 14:50
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5(mL) Date Analyzed: 03/03/2015 20:59
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100(uL) GC Column: IC-Pak AnionH/R ID: 4.6(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85042 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	1.25		0.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: GW3B-DUP Lab Sample ID: 200-26880-21
 Matrix: Water Lab File ID: P030315B331_10.d
 Analysis Method: 331.0 Date Collected: 02/23/2015 09:40
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 21:30
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85042 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	0.41		0.20

LCMS INITIAL CALIBRATION DATA
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Burlington Job No.: 200-26880-1 Analy Batch No.: 83380
 SDG No.: A830410P (200-26880)
 Instrument ID: LC3062 GC Column: IC-Pak Anion ID: 4.6(mm) Heated Purge: (Y/N) N
 Calibration Start Date: 01/14/2015 11:55 Calibration End Date: 01/14/2015 13:11 Calibration ID: 29574

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-83380/2	P011415CAL_02.d
Level 2	IC 200-83380/3	P011415CAL_03.d
Level 3	ICISAV 200-83380/4	P011415CAL_04.d
Level 4	IC 200-83380/5	P011415CAL_05.d
Level 5	IC 200-83380/6	P011415CAL_06.d
Level 6	IC 200-83380/7	P011415CAL_07.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Perchlorate	180P	Lin1	35781 1062425	73809	140790	265193	588293	0.200 10.0	0.500	1.00	2.00	5.00

Curve Type Legend:

Lin1 = Linear 1/conc ISTD

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Lab Sample ID: CCVIS 200-84071/2 Calibration Date: 02/02/2015 11:11
 Instrument ID: LC3062 Calib Start Date: 01/14/2015 11:55
 GC Column: IC-Pak AnionH/R ID: 4.60 (mm) Calib End Date: 01/14/2015 13:11
 Lab File ID: P020215A331_02.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.030		2.01	2.00	0.5	20.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Lab Sample ID: CCV 200-84071/11 Calibration Date: 02/02/2015 13:29
 Instrument ID: LC3062 Calib Start Date: 01/14/2015 11:55
 GC Column: IC-Pak AnionH/R ID: 4.60 (mm) Calib End Date: 01/14/2015 13:11
 Lab File ID: P020215A331_11.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.053		10.3	10.0	3.1	20.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Lab Sample ID: CCVL 200-85040/3 Calibration Date: 03/03/2015 13:20
 Instrument ID: LC3062 Calib Start Date: 01/14/2015 11:55
 GC Column: IC-Pak AnionH/R ID: 4.60 (mm) Calib End Date: 01/14/2015 13:11
 Lab File ID: P030315A331_03.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.000		0.187	0.200	-6.7	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
SDG No.: A830410P (200-26880)
Lab Sample ID: CCV 200-85040/25 Calibration Date: 03/03/2015 18:57
Instrument ID: LC3062 Calib Start Date: 01/14/2015 11:55
GC Column: IC-Pak AnionH/R ID: 4.60 (mm) Calib End Date: 01/14/2015 13:11
Lab File ID: P030315A331_25.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Linl		1.031		2.01	2.00	0.6	20.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Lab Sample ID: CCVL 200-85042/3 Calibration Date: 03/03/2015 19:43
 Instrument ID: LC3062 Calib Start Date: 01/14/2015 11:55
 GC Column: IC-Pak AnionH/R ID: 4.60 (mm) Calib End Date: 01/14/2015 13:11
 Lab File ID: P030315B331_03.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		0.9599		0.179	0.200	-10.6	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Lab Sample ID: CCVIS 200-85089/2 Calibration Date: 03/04/2015 12:38
 Instrument ID: LC3062 Calib Start Date: 01/14/2015 11:55
 GC Column: IC-Pak AmionH/R ID: 4.60(mm) Calib End Date: 01/14/2015 13:11
 Lab File ID: P030415A331_02.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.019		1.99	2.00	-0.6	20.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Lab Sample ID: CCV 200-85089/15 Calibration Date: 03/04/2015 15:56
 Instrument ID: LC3062 Calib Start Date: 01/14/2015 11:55
 GC Column: IC-Pak AnionH/R ID: 4.60 (mm) Calib End Date: 01/14/2015 13:11
 Lab File ID: P030415A331_15.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.068		10.5	10.0	4.5	20.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Lab Sample ID: CCVL 200-85146/3 Calibration Date: 03/05/2015 12:51
 Instrument ID: LC3062 Calib Start Date: 01/14/2015 11:55
 GC Column: IC-Pak AnionH/R ID: 4.60 (mm) Calib End Date: 01/14/2015 13:11
 Lab File ID: P030515A331_03.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.022		0.191	0.200	-4.5	50.0

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: _____ Lab Sample ID: MB 200-85040/4
 Matrix: Water Lab File ID: P030315A331_04.d
 Analysis Method: 331.0 Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 13:36
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85040 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	0.20	U	0.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: _____ Lab Sample ID: MB 200-85089/4
 Matrix: Water Lab File ID: P030415A331_04.d
 Analysis Method: 331.0 Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5(mL) Date Analyzed: 03/04/2015 13:08
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100(uL) GC Column: IC-Pak AnionH/R ID: 4.6(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85089 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	0.20	U	0.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: _____ Lab Sample ID: ICB 200-84071/1
 Matrix: Water Lab File ID: P020215A331_01.d
 Analysis Method: 331.0 Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 02/02/2015 10:56
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 84071 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	0.20	U	0.20	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: _____ Lab Sample ID: ICB 200-85042/1
 Matrix: Water Lab File ID: P030315B331_01.d
 Analysis Method: 331.0 Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 19:12
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85042 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	0.20	U	0.20	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: _____ Lab Sample ID: ICB 200-85146/1
 Matrix: Water Lab File ID: P030515A331_01.d
 Analysis Method: 331.0 Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5(mL) Date Analyzed: 03/05/2015 12:21
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85146 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	0.20	U	0.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: _____ Lab Sample ID: LCS 200-85040/5
 Matrix: Water Lab File ID: P030315A331_05.d
 Analysis Method: 331.0 Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/03/2015 13:51
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85040 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	1.964		0.20	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: _____ Lab Sample ID: LCS 200-85089/5
 Matrix: Water Lab File ID: P030415A331_05.d
 Analysis Method: 331.0 Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 03/04/2015 13:23
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85089 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL
14797-73-0	Perchlorate	0.182	J	0.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
SDG No.: A830410P (200-26880)
Client Sample ID: _____ Lab Sample ID: INF 200-84071/10
Matrix: Water Lab File ID: P020215A331_10.d
Analysis Method: 331.0 Date Collected: _____
Extraction Method: _____ Date Extracted: _____
Sample wt/vol: 5 (mL) Date Analyzed: 02/02/2015 13:13
Con. Extract Vol.: _____ Dilution Factor: 1
Injection Volume: 100 (uL) GC Column: IC-Pak AnionH/R ID: 4.6 (mm)
% Moisture: _____ GPC Cleanup: (Y/N) N
Analysis Batch No.: 84071 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	1.018		0.20	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Client Sample ID: GW4C MSD Lab Sample ID: 200-26880-10 MSD
 Matrix: Water Lab File ID: P030415A331_11.d
 Analysis Method: 331.0 Date Collected: 02/19/2015 12:00
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 5(mL) Date Analyzed: 03/04/2015 14:55
 Con. Extract Vol.: _____ Dilution Factor: 1
 Injection Volume: 100(uL) GC Column: IC-Pak AnionH/R ID: 4.6(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 85089 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
14797-73-0	Perchlorate	0.969		0.20	

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Instrument ID: LC3062 Start Date: 02/02/2015 10:56
 Analysis Batch Number: 84071 End Date: 02/02/2015 13:29

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ICB 200-84071/1		02/02/2015 10:56	1	P020215A331_01. d	IC-Pak AnionH/R 4.6(mm)
CCVIS 200-84071/2		02/02/2015 11:11	1	P020215A331_02. d	IC-Pak AnionH/R 4.6(mm)
CCVL 200-84071/3		02/02/2015 11:26	1	P020215A331_03. d	IC-Pak AnionH/R 4.6(mm)
LSSMB 200-84071/4		02/02/2015 11:42	1	P020215A331_04. d	IC-Pak AnionH/R 4.6(mm)
ZZZZZ		02/02/2015 11:57	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		02/02/2015 12:12	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		02/02/2015 12:28	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		02/02/2015 12:43	2		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		02/02/2015 12:58	1		IC-Pak AnionH/R 4.6(mm)
INF 200-84071/10		02/02/2015 13:13	1	P020215A331_10. d	IC-Pak AnionH/R 4.6(mm)
CCV 200-84071/11		02/02/2015 13:29	1	P020215A331_11. d	IC-Pak AnionH/R 4.6(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Burlington

Job No.: 200-26880-1

SDG No.: A830410P (200-26880)

Instrument ID: LC3062

Start Date: 03/03/2015 19:12

Analysis Batch Number: 85042

End Date: 03/03/2015 23:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ICB 200-85042/1		03/03/2015 19:12	1	P030315B331_01. d	IC-Pak AnionH/R 4.6(mm)
CCVIS 200-85042/2		03/03/2015 19:28	1	P030315B331_02. d	IC-Pak AnionH/R 4.6(mm)
CCVL 200-85042/3		03/03/2015 19:43	1	P030315B331_03. d	IC-Pak AnionH/R 4.6(mm)
MB 200-85042/4		03/03/2015 19:58	1	P030315B331_04. d	IC-Pak AnionH/R 4.6(mm)
LCS 200-85042/5		03/03/2015 20:13	1	P030315B331_05. d	IC-Pak AnionH/R 4.6(mm)
200-26880-17	GW3D	03/03/2015 20:29	1	P030315B331_06. d	IC-Pak AnionH/R 4.6(mm)
200-26880-18	GW2A	03/03/2015 20:44	1	P030315B331_07. d	IC-Pak AnionH/R 4.6(mm)
200-26880-19	GW2C	03/03/2015 20:59	1	P030315B331_08. d	IC-Pak AnionH/R 4.6(mm)
200-26880-20	FB3	03/03/2015 21:15	1	P030315B331_09. d	IC-Pak AnionH/R 4.6(mm)
200-26880-21	GW3B-DUP	03/03/2015 21:30	1	P030315B331_10. d	IC-Pak AnionH/R 4.6(mm)
ZZZZZ		03/03/2015 21:45	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		03/03/2015 22:00	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		03/03/2015 22:16	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		03/03/2015 22:31	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		03/03/2015 22:46	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		03/03/2015 23:02	1		IC-Pak AnionH/R 4.6(mm)
ZZZZZ		03/03/2015 23:17	1		IC-Pak AnionH/R 4.6(mm)
CCV 200-85042/18		03/03/2015 23:32	1	P030315B331_18. d	IC-Pak AnionH/R 4.6(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Burlington Job No.: 200-26880-1
 SDG No.: A830410P (200-26880)
 Instrument ID: LC3062 Start Date: 03/05/2015 12:21
 Analysis Batch Number: 85146 End Date: 03/05/2015 13:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ICB 200-85146/1		03/05/2015 12:21	1	P030515A331_01.d	IC-Pak AnionH/R 4.6 (mm)
CCVIS 200-85146/2		03/05/2015 12:36	1	P030515A331_02.d	IC-Pak AnionH/R 4.6 (mm)
CCVL 200-85146/3		03/05/2015 12:51	1	P030515A331_03.d	IC-Pak AnionH/R 4.6 (mm)
MB 200-85146/4		03/05/2015 13:07	1	P030515A331_04.d	IC-Pak AnionH/R 4.6 (mm)
LCS 200-85146/5		03/05/2015 13:22	1	P030515A331_05.d	IC-Pak AnionH/R 4.6 (mm)
200-26880-12 DL	GW4E DL	03/05/2015 13:37	2	P030515A331_06.d	IC-Pak AnionH/R 4.6 (mm)
CCV 200-85146/7		03/05/2015 13:52	1	P030515A331_07.d	IC-Pak AnionH/R 4.6 (mm)

ATTACHMENT II

Source Water Assessment Report

For

Alpine Village Mobile Home Park



Bradley M. Campbell, Commissioner
Department of Environmental Protection

Ernest Hahn, Assistant Commissioner
Land Use Management

Michele Mateo Putnam, Administrator
Water Supply Administration

Barker Hamill, Bureau Chief
Bureau of Safe Drinking Water
401 E. State Street
PO Box 426
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October 2004

SECTION V - INVENTORY OF TREATMENT PLANTS AND DRINKING WATER SOURCES

SECTION V - SYSTEM INVENTORY FOR: Alpine Village Mobile Home Park

Table 7 provides the Alpine Village Mobile Home Park’s treatment plant(s); source(s); the sources’ location(s); whether the source(s) are ground water, surface water, or a purchased supply; and the sources’ capacity(s). The first column contains the EPTDS ID and sources contributing to the same EPTDS are identified by the same number. An EPTDS is the entry point to the distribution system, and for most community water systems this location is after the water is treated at a treatment plant.

In the case of a ground water source, the well’s confinement status and well permit number are provided.

Table 7: Drinking Water Source and EPTDS Inventory

EPTDS ID	Source ID	Source Name	Water System Component *	Source Status *	Source *	Source Capacity (MGD)	Well Permit #	Confinement Status *
01	004	WELL LOT 61	T	P				
01	005	WELL 1 LOT 61	G	P	Kirkwood-Cohansey water-table aquifer system	0.0115	55-16010	U
01	006	WELL 2 LOT 61	G	P	Kirkwood-Cohansey water-table aquifer system	0.0504	55-16020	U
01	007	WELL #3 LOT 61 BUENA VISTA TWP	G	P	Kirkwood-Cohansey water-table aquifer system	0.0276	55-15602	U

***KEY**

Water System Component

G = Ground Water, P = Purchased Surface Water, S = Surface Water, T = Treatment Plant (EPTDS), U = Ground Water Under The Direct Influence of Surface Water, W = Purchased Ground Water. For a complete definition of each source of drinking water, please refer to the Glossary at the end of this report.

Confinement Status

C = Confined, U = Unconfined. For a definition of a confined and an unconfined aquifer please refer to the Glossary at the end of this report. K = Unknown, S = Semi-confined. For the purposes of SWAP both K and S were treated as unconfined wells.

Source Status

C = Recharge, E = Emergency, I= Interim, O = Other, P= Permanent, R= Reserve, S= Seasonal, U = Not in Use/Capped, V = Abandoned/Not Capped, W = Not in Use/Unspecified, X = Not in Use/Mechanical, Y = Not in Use/Contaminated. For a complete definition of each well status category, please refer to the Glossary at the end of this report.

Source

For ground water sources, the name of the aquifer is provided. For surface water sources, the name of the surface water body on which the intake is located is given.

The Alpine Village Mobile Home Park contains 1 EPTDS as illustrated in Table 7 (identified by a “T” in the water system component column). Often public water systems treat source water at the EPTDS to ensure the drinking water provided to the public meets Federal and

ATTACHMENT JJ

Alpine Village Mobile Home Park



Source Water Assessment Summary

A State Review of Potential Contamination Sources Near Your Drinking Water

The Department of Environmental Protection (DEP) has conducted an assessment of the water sources that supply each public water system in the state, including yours. The goal of this assessment was to measure each system's susceptibility to contamination, not actual (if any) contamination measured in a water supply system.

The assessment of your water system, the *Alpine Village Mobile Home Park*, involved:

- Identifying the area (known as the source water assessment area) that supplies water to your public drinking water system;
- Inventorying any significant potential sources of contamination in the area; and
- Analyzing how susceptible the drinking water source is to the potential sources of contamination.

DEP evaluated the susceptibility of all public water systems to eight categories of contaminants. These contaminant categories are explained, along with a summary of the results for your water system, on page 3. Page 4 contains a map of your water system's source water assessment area.

A public water system's susceptibility rating (L for low, M for medium or H for high) is a combination of two factors. H, M, and L ratings are based on the potential for a contaminant to be at or above 50% of the Drinking Water Standard or MCL (H), between 10 and 50% of the standard (M) and less than 10% of the standard (L).

- How "sensitive" the water supply is to contamination. For example, a shallow well or surface water source, like a reservoir, would be more exposed to contamination from the surface or above ground than a very deep well.
- How frequently a contaminant is used or exists near the source. This is known as "intensity of use." For example, the types of activities (such as industry or agriculture) surrounding the source.

The susceptibility rating does not tell you if the water source is actually contaminated. The Consumer Confidence Report annually issued by your water utility contains important information on the results of your drinking water quality tests, as required by the federal Safe Drinking Water Act.

Where does drinking water come from?

There are two basic sources of drinking water: ground water and surface water.

Ground water is water found beneath the Earth's surface. Ground water comes from rain and snow seeping into rock and soil. Ground water is stored in underground areas called aquifers. Aquifers supply wells and springs. Wells in New Jersey range from about 15 feet to 2,000 feet deep.

Surface water is the water naturally open to the atmosphere, such as rivers, lakes, streams and reservoirs. Precipitation that does not infiltrate the ground or evaporate into the sky runs off into surface water bodies.

Ground water can seep into a stream, river or other surface water body, recharging surface water bodies. Likewise, under some circumstances, surface water can seep into an adjacent aquifer.

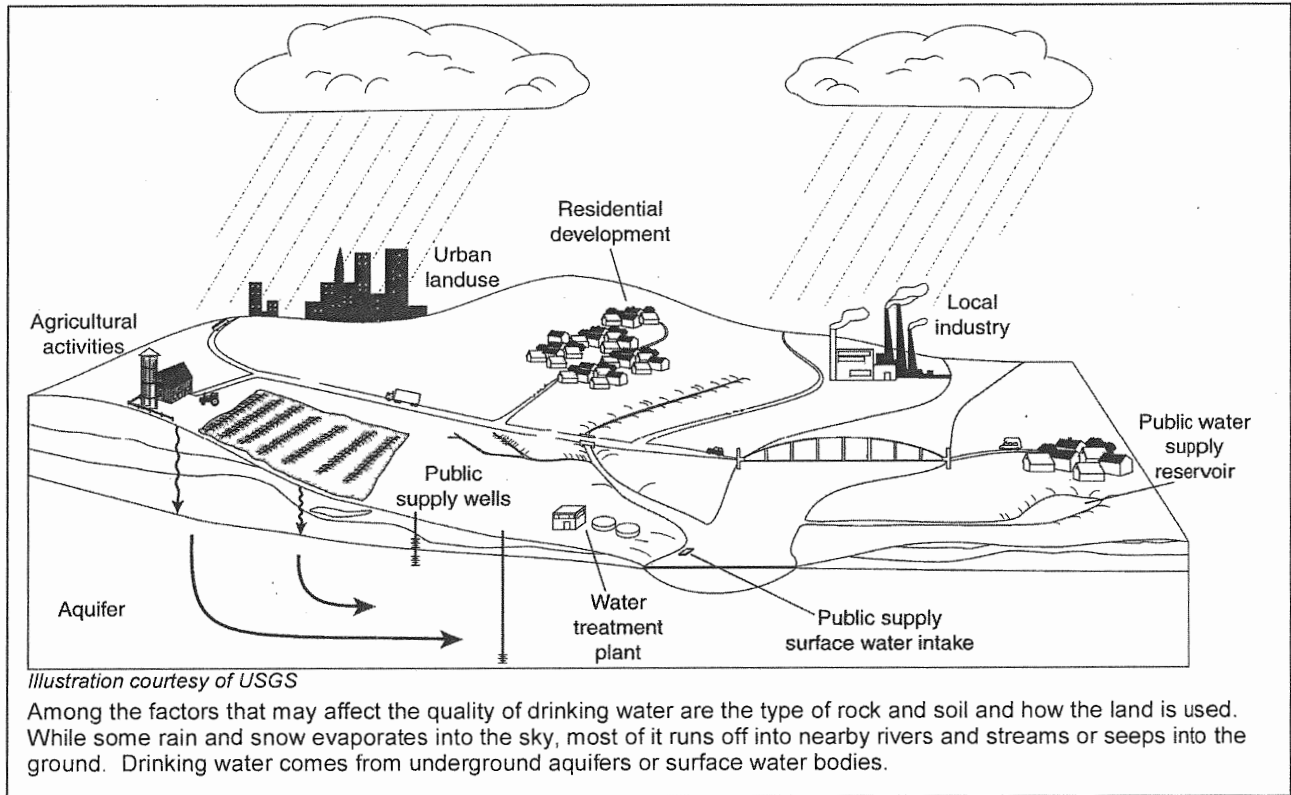
A water system obtains its water from 1) wells drilled into the ground that pump out ground water; 2) devices called surface water intakes placed on a river, stream, reservoir; or 3) both.

What factors may affect the quality of your drinking water source?

A variety of conditions and activities may affect the quality of drinking water source. These include geology (rock and soil types); depth of a well or location of a surface water intake; how the land surrounding the source is used (for industry, agriculture or development); the use of pesticides and fertilizers; and the presence of contaminated sites, leaking underground storage tanks, and landfills.

What steps are being taken now to ensure my drinking water quality?

The DEP has numerous programs in place to maintain and protect the quality of our State's water resources. For example, the Safe Drinking Water Program is designed to ensure that water delivered for human consumption meets DEP's stringent health-based drinking water standards. Additionally, DEP has permitting, waste management, and clean up programs in place to avoid and control potential contamination. Key DEP drinking water protection initiatives will be phased-in over time in Source Water Assessment areas to advance existing program protections.



What can you and others do to help?

Federal law requires each state to establish and implement a Source Water Assessment Program. While government at the state and local levels can do their part, there are actions that you and your neighbors in homes and businesses can take now to help protect our precious and shared natural resource.

Here's just a few ways you and others can help ensure clean and plentiful water for New Jersey – now and in the future. Join us today for a clean water future.

In your home or business:

- Dispose of waste properly. Some materials such as motor oil, paint, flea collars, and household cleaners have the potential to contaminate source water. Contact your local Department of Public Works for proper household hazardous waste disposal.
- Limit your use of fertilizer, pesticides, and herbicides.

Here are some actions that municipal and county officials/local and county planners can take and you can help encourage and support.

- Manage and work with owners of existing potential contaminant sources to minimize potential contamination.
- Establish regulations prohibiting or restricting certain activities or land uses within the source water assessment area. Take appropriate enforcement action when necessary.
- Update municipal master plans to ensure greater protection.
- Purchase lands or create conservation easements within the source water assessment area.

Alpine Village Mobile Home Park- PWSID # 0105002

Alpine Village Mobile Home Park is a public community water system consisting of 3 well(s), 0 wells under the influence of surface water, 0 surface water intake(s), 0 purchased ground water source(s), and 0 purchased surface water source(s).

This system's source water comes from the following aquifer(s) and/or surface water body(s) (if applicable): Kirkwood-Cohansey water-table aquifer system

This system purchases water from the following water system(s) (if applicable):

Susceptibility Ratings for Alpine Village Mobile Home Park Sources

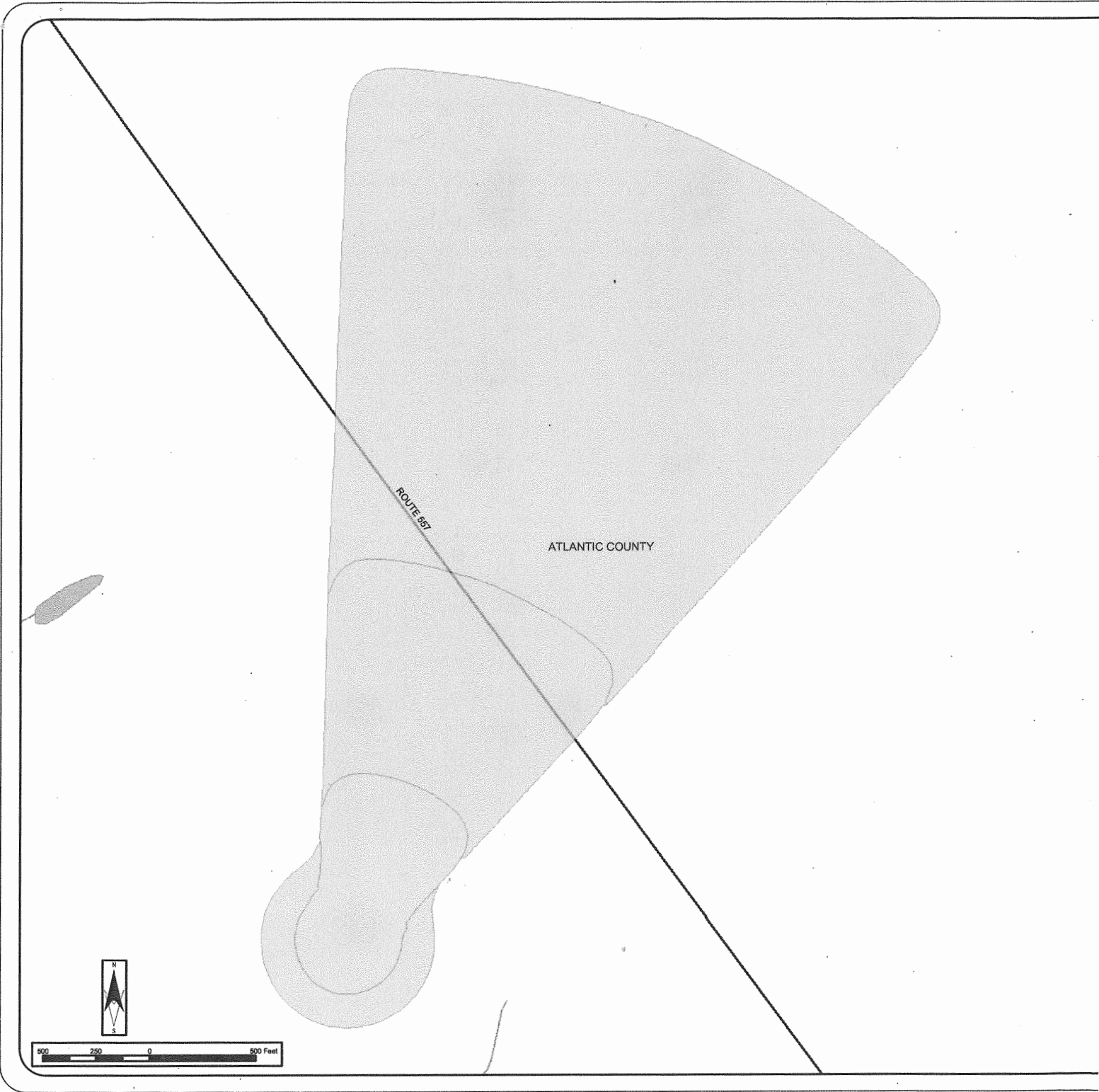
The table below illustrates the susceptibility ratings for the seven contaminant categories (and radon) for each source in the system. The table provides the number of wells and intakes that rated high (H), medium (M), or low (L) for each contaminant category. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report.

The seven contaminant categories are defined at the bottom of this page. DEP considered all surface water highly susceptible to pathogens, therefore all intakes received a high rating for the pathogen category. For the purpose of Source Water Assessment Program, radionuclides are more of a concern for ground water than surface water. As a result, surface water intakes' susceptibility to radionuclides was not determined and they all received a low rating.

If a system is rated highly susceptible for a contaminant category, it does not mean a customer is or will be consuming contaminated drinking water. The rating reflects the potential for contamination of source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels. As a result of the assessments, DEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

Sources	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radio-nuclides			Radon			Disinfection Byproduct Precursors			
	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	
Wells - 3		3		3				3				3		3			3			3			3		
GUDI - 0																									
Surface water intakes - 0																									

- **Pathogens:** Disease-causing organisms such as bacteria and viruses. Common sources are animal and human fecal wastes.
- **Nutrients:** Compounds, minerals and elements that aid growth, that are both naturally occurring and man-made. Examples include nitrogen and phosphorus.
- **Volatile Organic Compounds:** Man-made chemicals used as solvents, degreasers, and gasoline components. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.
- **Pesticides:** Man-made chemicals used to control pests, weeds and fungus. Common sources include land application and manufacturing centers of pesticides. Examples include herbicides such as atrazine, and insecticides such as chlordane.
- **Inorganics:** Mineral-based compounds that are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead, and nitrate.
- **Radionuclides:** Radioactive substances that are both naturally occurring and man-made. Examples include radium and uranium.
- **Radon:** Colorless, odorless, cancer-causing gas that occurs naturally in the environment. For more information go to <http://www.nj.gov/dep/rpp/radon/index.htm> or call (800) 648-0394.
- **Disinfection Byproduct Precursors:** A common source is naturally occurring organic matter in surface water. Disinfection byproducts are formed when the disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (for example leaves) present in surface water.



ATTACHMENT KK

Source Water Assessment Report

For

Buena Borough MUA



Bradley M. Campbell, Commissioner
Department of Environmental Protection

Ernest Hahn, Assistant Commissioner
Land Use Management

Michele Mateo Putnam, Administrator
Water Supply Administration

Barker Hamill, Bureau Chief
Bureau of Safe Drinking Water
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October 2004

SECTION V - INVENTORY OF TREATMENT PLANTS AND DRINKING WATER SOURCES

SECTION V - SYSTEM INVENTORY FOR: Buena Borough MUA

Table 7 provides the Buena Borough MUA’s treatment plant(s); source(s); the sources’ location(s); whether the source(s) are ground water, surface water, or a purchased supply; and the sources’ capacity(s). The first column contains the EPTDS ID and sources contributing to the same EPTDS are identified by the same number. An EPTDS is the entry point to the distribution system, and for most community water systems this location is after the water is treated at a treatment plant.

In the case of a ground water source, the well’s confinement status and well permit number are provided.

Table 7: Drinking Water Source and EPTDS Inventory

EPTDS ID	Source ID	Source Name	Water System Component *	Source Status *	Source *	Source Capacity (MGD)	Well Permit #	Confinement Status *
01	001	WELL 1 TP KENNEDY DRIVE	T	P				
01	002	WELL 1 KENNEDY DR	G	P	Piney Point aquifer	0.1811	35-03992	C
01	004	WELL 2/KENNEDY DRIVE	G	P	Piney Point aquifer	0.3678	35-04559	C
02	007	WELL NO 3 TP WHEAT ROAD	T	P				

***KEY**

Water System Component

G = Ground Water, P = Purchased Surface Water, S = Surface Water, T = Treatment Plant (EPTDS), U = Ground Water Under The Direct Influence of Surface Water, W = Purchased Ground Water. For a complete definition of each source of drinking water, please refer to the Glossary at the end of this report.

Confinement Status

C = Confined, U = Unconfined. For a definition of a confined and an unconfined aquifer please refer to the Glossary at the end of this report. K = Unknown, S = Semi-confined. For the purposes of SWAP both K and S were treated as unconfined wells.

Source Status

C = Recharge, E = Emergency, I= Interim, O = Other, P= Permanent, R= Reserve, S= Seasonal, U = Not in Use/Capped, V = Abandoned/Not Capped, W = Not in Use/Unspecified, X = Not in Use/Mechanical, Y = Not in Use/Contaminated. For a complete definition of each well status category, please refer to the Glossary at the end of this report.

Source

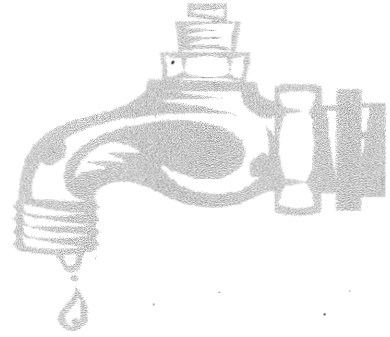
For ground water sources, the name of the aquifer is provided. For surface water sources, the name of the surface water body on which the intake is located is given.

The Buena Borough MUA contains 2 EPTDS as illustrated in Table 7 (identified by a “T” in the water system component column). Often public water systems treat source water at the EPTDS to ensure the drinking water provided to the public meets Federal and State Drinking Water Standards. Please refer to Appendix A- Attachment 5 for information on the public water system’s treatment process.

ATTACHMENT LL

Buena Borough MUA

Source Water Assessment Summary



A State Review of Potential Contamination Sources Near Your Drinking Water

The Department of Environmental Protection (DEP) has conducted an assessment of the water sources that supply each public water system in the state, including yours. The goal of this assessment was to measure each system's susceptibility to contamination, not actual (if any) contamination measured in a water supply system.

The assessment of your water system, the *Buena Borough MUA*, involved:

- Identifying the area (known as the source water assessment area) that supplies water to your public drinking water system;
- Inventorying any significant potential sources of contamination in the area; and
- Analyzing how susceptible the drinking water source is to the potential sources of contamination.

DEP evaluated the susceptibility of all public water systems to eight categories of contaminants. These contaminant categories are explained, along with a summary of the results for your water system, on page 3. Page 4 contains a map of your water system's source water assessment area.

A public water system's susceptibility rating (L for low, M for medium or H for high) is a combination of two factors. H, M, and L ratings are based on the potential for a contaminant to be at or above 50% of the Drinking Water Standard or MCL (H), between 10 and 50% of the standard (M) and less than 10% of the standard (L).

- How "sensitive" the water supply is to contamination. For example, a shallow well or surface water source, like a reservoir, would be more exposed to contamination from the surface or above ground than a very deep well.
- How frequently a contaminant is used or exists near the source. This is known as "intensity of use." For example, the types of activities (such as industry or agriculture) surrounding the source.

The susceptibility rating does not tell you if the water source is actually contaminated. The Consumer Confidence Report annually issued by your water utility contains important information on the results of your drinking water quality tests, as required by the federal Safe Drinking Water Act.

Where does drinking water come from?

There are two basic sources of drinking water: ground water and surface water.

Ground water is water found beneath the Earth's surface. Ground water comes from rain and snow seeping into rock and soil. Ground water is stored in underground areas called aquifers. Aquifers supply wells and springs. Wells in New Jersey range from about 15 feet to 2,000 feet deep.

Surface water is the water naturally open to the atmosphere, such as rivers, lakes, streams and reservoirs. Precipitation that does not infiltrate the ground or evaporate into the sky runs off into surface water bodies.

Ground water can seep into a stream, river or other surface water body, recharging surface water bodies. Likewise, under some circumstances, surface water can seep into an adjacent aquifer.

A water system obtains its water from 1) wells drilled into the ground that pump out ground water; 2) devices called surface water intakes placed on a river, stream, reservoir; or 3) both.

What factors may affect the quality of your drinking water source?

A variety of conditions and activities may affect the quality of drinking water source. These include geology (rock and soil types); depth of a well or location of a surface water intake; how the land surrounding the source is used (for industry, agriculture or development); the use of pesticides and fertilizers; and the presence of contaminated sites, leaking underground storage tanks, and landfills.

What steps are being taken now to ensure my drinking water quality?

The DEP has numerous programs in place to maintain and protect the quality of our State's water resources. For example, the Safe Drinking Water Program is designed to ensure that water delivered for human consumption meets DEP's stringent health-based drinking water standards. Additionally, DEP has permitting, waste management, and clean up programs in place to avoid and control potential contamination. Key DEP drinking water protection initiatives will be phased-in over time in Source Water Assessment areas to advance existing program protections.

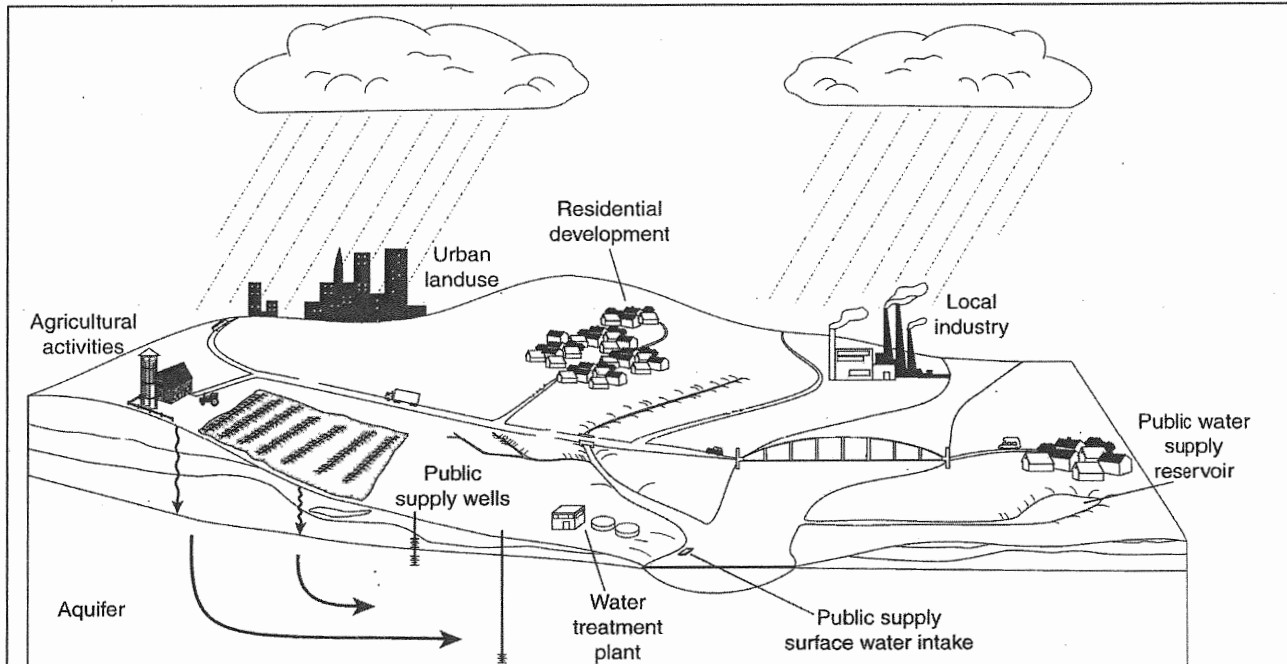


Illustration courtesy of USGS

Among the factors that may affect the quality of drinking water are the type of rock and soil and how the land is used. While some rain and snow evaporates into the sky, most of it runs off into nearby rivers and streams or seeps into the ground. Drinking water comes from underground aquifers or surface water bodies.

What can you and others do to help?

Federal law requires each state to establish and implement a Source Water Assessment Program. While government at the state and local levels can do their part, there are actions that you and your neighbors in homes and businesses can take now to help protect our precious and shared natural resource.

Here's just a few ways you and others can help ensure clean and plentiful water for New Jersey – now and in the future. Join us today for a clean water future.

In your home or business:

- Dispose of waste properly. Some materials such as motor oil, paint, flea collars, and household cleaners have the potential to contaminate source water. Contact your local Department of Public Works for proper household hazardous waste disposal.
- Limit your use of fertilizer, pesticides, and herbicides.

Here are some actions that municipal and county officials/local and county planners can take and you can help encourage and support.

- Manage and work with owners of existing potential contaminant sources to minimize potential contamination.
- Establish regulations prohibiting or restricting certain activities or land uses within the source water assessment area. Take appropriate enforcement action when necessary.
- Update municipal master plans to ensure greater protection.
- Purchase lands or create conservation easements within the source water assessment area.

Buena Borough MUA- PWSID # 0104003

Buena Borough MUA is a public community water system consisting of 2 well(s), 0 wells under the influence of surface water, 0 surface water intake(s), 0 purchased ground water source(s), and 0 purchased surface water source(s).

This system's source water comes from the following aquifer(s) and/or surface water body(s) (if applicable): Piney Point aquifer

This system purchases water from the following water system(s) (if applicable):

Susceptibility Ratings for Buena Borough MUA Sources

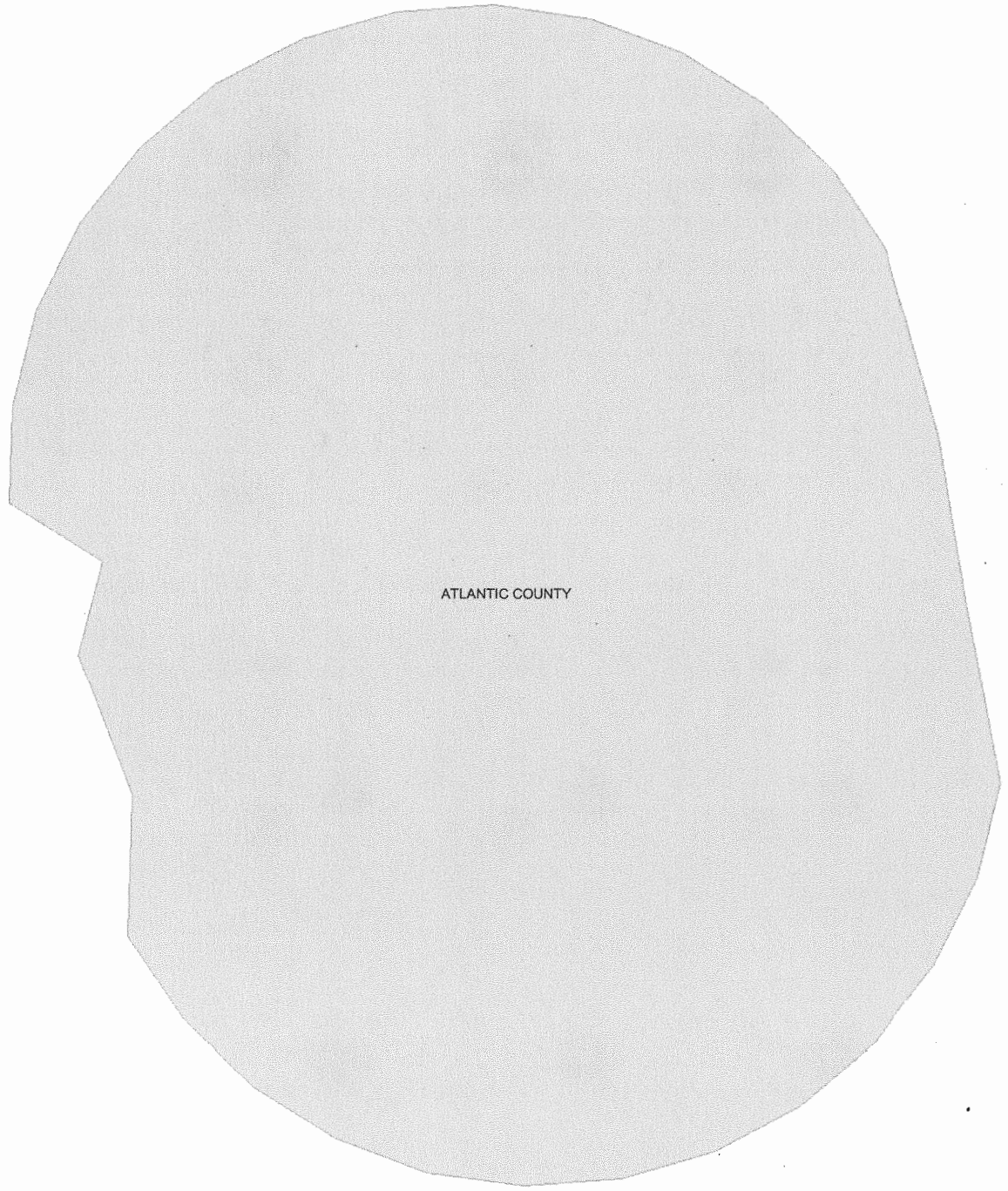
The table below illustrates the susceptibility ratings for the seven contaminant categories (and radon) for each source in the system. The table provides the number of wells and intakes that rated high (H), medium (M), or low (L) for each contaminant category. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report.

The seven contaminant categories are defined at the bottom of this page. DEP considered all surface water highly susceptible to pathogens, therefore all intakes received a high rating for the pathogen category. For the purpose of Source Water Assessment Program, radionuclides are more of a concern for ground water than surface water. As a result, surface water intakes' susceptibility to radionuclides was not determined and they all received a low rating.

If a system is rated highly susceptible for a contaminant category, it does not mean a customer is or will be consuming contaminated drinking water. The rating reflects the potential for contamination of source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels. As a result of the assessments, DEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

Sources	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radio-nuclides			Radon			Disinfection Byproduct Precursors		
	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Wells - 2			2			2			2			2			2			2			2	2		
GUDI - 0																								
Surface water intakes - 0																								

- **Pathogens:** Disease-causing organisms such as bacteria and viruses. Common sources are animal and human fecal wastes.
- **Nutrients:** Compounds, minerals and elements that aid growth, that are both naturally occurring and man-made. Examples include nitrogen and phosphorus.
- **Volatile Organic Compounds:** Man-made chemicals used as solvents, degreasers, and gasoline components. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.
- **Pesticides:** Man-made chemicals used to control pests, weeds and fungus. Common sources include land application and manufacturing centers of pesticides. Examples include herbicides such as atrazine, and insecticides such as chlordane.
- **Inorganics:** Mineral-based compounds that are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead, and nitrate.
- **Radionuclides:** Radioactive substances that are both naturally occurring and man-made. Examples include radium and uranium.
- **Radon:** Colorless, odorless, cancer-causing gas that occurs naturally in the environment. For more information go to <http://www.nj.gov/dep/rpp/radon/index.htm> or call (800) 648-0394.
- **Disinfection Byproduct Precursors:** A common source is naturally occurring organic matter in surface water. Disinfection byproducts are formed when the disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (for example leaves) present in surface water.



ATLANTIC COUNTY

