September 11, 2015

Ms. Jeannette DeBartolomeo
Oil Control Program
Maryland Department of the Environment
1800 Washington Blvd, Suite 620
Baltimore, Maryland 21230

RE: **Site Investigation Report**
MDE Case #2006-0442-HA
High's Store #130
4101 Norrisville Road, Madonna, Harford County, Maryland
Facility ID No. 2057

Dear Ms. DeBartolomeo,

Groundwater & Environmental Services, Inc. (GES), on behalf of High's of Baltimore, LLC. (High's), respectfully submits this *Site Investigation Report* for the recent monitoring well installations at 4101 Norrisville Rd., Madonna, Maryland (Site). This summary report is being provided per the Maryland Department of the Environment Oil Control Program (MDE-OCP) request from the *Site Investigation Work Plan Approval Letter* dated May 28, 2015.

The monitoring wells, designated MW-4, MW-4D, MW-5, MW-5D, MW-6, and MW-6D, were installed on the Site from June 29, 2015 through July 15, 2015. The six (6) monitoring wells, completed as a series of shallow and deep overburden zone cluster sets, were installed to support High's effort to evaluate the onsite water table flow regime and delineate the extent of potential petroleum hydrocarbons, particularly methyl tert butyl ether (MTBE). Currently, GES on behalf of High's, is reevaluating the conceptual model regarding historic MTBE releases at the Site as well as those releases related to former MDE OCP case #2009-0539-HA assigned to the Department of Natural Resources (DNR) Madonna Ranger Station, 3919 Madonna Road, Jarrettsville, MD. A Local Area Map, which presents the High's station in relation to the surrounding potable wells in the study area, is attached as **Figure 1**. A Site Map, noting the position of the new wells in relation to the existing monitoring wells and other structures at the High's property, is presented as **Figure 2**.

Well Installation

On June 24, 2015, a MISS Utility public utility mark out (ticket #15395431) was requested in preparation of the scheduled drilling activities. On June 29, 2015, drilling activities commenced when Allied Well Drilling (Allied), a Maryland-licensed drilling company, performed precautionary "soft digs" for the first 5 feet (ft.) below grade surface (bgs) (i.e. hand clearing with shovels) for all six monitoring well locations. The hand cleared holes were back filled on June 29, 2015 until drilling occurred for each location. Drilling began June 30, 2015 with an off-road capable hollow-stem auger (HSA) drill rig positioned over the pre-cleared MW-4D hole with 8.5-inch outer diameter augers. At each well pair location, the deep-screened wells (designated with a "D") were installed first in order to determine the water table depth and an appropriate screen interval for the corresponding shallow-screened wells.

At each deep well location, soil was screened twice during the first 5 ft. of hand clearing and then, at regular 5-foot intervals in the split spoon samples. During screening and characterization activities, peak volatile organic compound (VOC) readings were obtained with a calibrated photoionization detector

(PID). Once drilling initiated, two-foot split spoon samples were collected in the deep wells at five-foot intervals beginning at 5 ft bgs until the water table was reached and continued at ten-foot (10 ft) intervals until spoon refusal. Upon spoon refusal, drilling continued in the deep wells until bedrock was encountered. Upon HSA refusal, bedrock was confirmed and logged via completion of a 2-inch (width) by 5-foot (length) rock core sample. Pictures of the core samples are presented in **Appendix A** – Photo Log.

Within the overburden boreholes, PID values ranged from 0.0 to 6.5 parts per million (ppm) from the spoon samples collected from the three (3) deep wells. The overall lithology within the spoon samples was described as a silt saprolite with thin intervals of remnant quartzite. Depth to bedrock was confirmed through rock core collection at 96 ft bgs at MW-4D, 85 ft bgs at MW-5D and 75 ft bgs at MW-6D. The rock core lithology for MW-4D and MW-5D were identified as part of the local Lower Pelitic Schist of the Wissahickon Formation and included resistant quartzite layers, as well as more decomposed and fractured schist. MW-6D's core sample lithology was identified as the Baltimore Gabbro or as the part of the ultramafic rocks belt that trends in the Piedmont province. This core exhibited a highly weathered mafic mineral composition with comparable weathering and fracturing but was significantly more oxidized along fracture faces. Boring and Well Completion Logs, which summarize well construction, in addition to encountered lithology and PID screening levels collected from each installed wells, are attached as **Appendix B**. Copies of the Well Completion Reports for all recently installed monitoring wells, as finalized with the Harford County Health Department, will be forwarded under separate cover. A total of 7.46 tons of soil were created during the well installation process for this investigation. The drill cuttings were removed from the Site via roll-off container on July 16, 2015. The waste disposal manifests for these cuttings are attached as **Appendix C.**

Each of the deep wells were completed with 10 ft of 2-inch 0.020-slot PVC screen from top of bedrock and cased with 2-inch PVC to the surface. The shallow wells were built to 30 to 32 ft bgs with 20 ft of 2-inch 0.020-slot PVC screen and 10 ft of 2-inch PVC casing. Sand packs were placed from the well's depth to 2 ft above the top-of-screen with a 2 foot bentonite plug and grouted to 1 foot bgs. All six wells were finished within flush-mount manholes within approximately 1.5 ft by 1.5 ft concrete pads.

On July 15, 2015, monitoring wells MW-4, MW-4D, MW-5, MW-5D, MW-6, and MW-6D were developed by Allied. Approximately 45 gallons were surged and pumped from MW-4 and MW-6 (each) with 20 gallons developed from MW-5. Approximately 60 gallons were purged from MW-4D, MW-5D, and MW-6D. The groundwater disposal manifest is attached as **Appendix C**.

Well Survey

On July 30, 2015 total water volume in each well (MW-4, 4D, 5, 5D, 6, and 6D) was calculated and depths to water were recorded for correct purge and grab sampling methods conducted that day. Each well's top of casing were surveyed in reference to the three monitoring wells existing at the Site (MW-1, 2, and 3).

Groundwater Elevation Summary

On August 20, 2015, a follow-up round of gauging was completed at the Site and included monitoring wells MW-1, MW-2, MW-3, MW-4, MW-4D, MW-5, MW-5D, MW-6 and MW-6D. The groundwater elevation data collected this day (in addition to the analytical groundwater results collected on July 30, 2015) are presented in **Figure 3** Groundwater Monitoring Map.

Upon review of **Figure 3**, the following observations are noted:

- Groundwater elevations for August 20, 2015 vary less than 0.36 ft (0.5%) between corresponding shallow and deep wells within a particular cluster indicating a thick saturated overburden aquifer system that is well connected "top to bottom."
- Groundwater from the August 20, 2015 gauging event demonstrates a flow path toward the northwest with a relatively even gradient of 0.02 ft / ft.
- No obvious "groundwater mounding" patterns are evident in the area surrounding the eastern stormwater infiltration structure that accepts runoff from Madonna Road.

GES further evaluated the occurrence of groundwater mounding by computing vertical groundwater gradients among all new well clusters (using August 20, 2015 gauging data). The gradients were generated using the USEPA Vertical Gradient Calculator. The vertical gradient calculations are attached as **Appendix D** and are summarized below.

Well Cluster	Magnitude of Vertical Gradient (Screen mid-point value)	Flow Direction
MW-4 to MW-4D	0.00288	UP
MW-5 to MW-5D	0.00542	UP
MW-6 to MW-6D	0.007592	UP

Upon review of the vertical gradients results, it is noted that an upward (or deep to shallow zone) vertical gradient condition existed among all well clusters on August 20, 2015. Review of precipitation data collected from private weather stations in the area (www.weatherunderground.com) note that approximately 0.6 inches of rain had fallen in the area within a 36 hour period prior to gauging on August 20, 2015. However, no mounding conditions, which might be associated to percolating rainwater recharge (and a corresponding downward gradient), were noted for any of the clusters, including MW-4 / MW-4D which is adjacent to the stormwater infiltration structure.

Soil Sampling

One soil sample per deep well borehole was collected during the investigation and can be summarized as follows:

- MW-4D was collected on June 30, 2015 at an interval of 25.6 - 27 ft below fbg. (The peak PID value for the borehole of 0.6 ppm occurred at 4 - 4.5 ft bgs.)
- MW-5D was collected on July 6, 2015 at 10 - 12 ft bgs. (The peak PID value for the borehole of 0.4 ppm occurred at 2 - 2.5 ft bgs.)
- MW-6D was collected on July 10, 2015 at 40.5 - 42 ft bgs with a peak PID value of 6.5 ppm occurring at 40.7 fbg.

The soil samples were submitted for analysis of VOCs with fuel oxygenates and naphthalene via EPA Method 8260, total petroleum hydrocarbon – gasoline range organics (TPH-GRO) via EPA Method 8015B, and total petroleum hydrocarbon – diesel range organics (TPH-DRO) via EPA Method 8015B.

The following table summarizes the analytical results for constituents of concern obtained from the soil samples collected during this investigation. Please refer to **Table 1** for a complete summary of the soil analytical results.

Well Boring	Sample Interval (ft bgs)	BTEX (µg/kg)	MTBE (µg/kg)	TAME (µg/kg)	TBA (µg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)
MW-4D	25.6 - 27	ND<0.9	ND<0.5	ND<0.9	ND<18	ND<0.2	ND<4.6
MW-5D	10 - 12	ND<1.0	ND<0.6	ND<1.0	ND<24	ND<0.3	ND<4.5
MW-6D	40.5 - 42	ND<0.9	200	3 J	170	ND<0.2	ND<5.0

BTEX = Total benzene, toluene, ethylbenzene and xylene
TAME = Tert-amyl methyl ether
TBA = Tert-butyl alcohol
ND = Non-detect
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
J = Qualifier: detection is between method detection and reporting limits, therefore the value is estimated

Upon review of the soil analytical results collected during the installations of the deep well series, the following observations are noted:

- The sample interval for MW-6D at 40.5 to 42.0 ft bgs demonstrates the presence of oxygenates including MTBE, which is consistent with dissolved oxygenates present in the groundwater sample collected for this borehole on July 30, 2015 (see next section).

The soil analytical report and associated Chain of Custody, as received from the contracted lab, is attached as **Appendix E.**

Groundwater Sampling

Groundwater samples were collected on July 30, 2015 from MW-4, 4D, 5, 5D, 6, and 6D, via a purge and grab sampling method. This sampling occurred two weeks after development per MDE monitoring well installation requirements. The groundwater samples were submitted for VOCs with fuel oxygenates and naphthalene via EPA Method 8260, TPH-GRO via EPA Method 8015B, and TPH-DRO via EPA Method 8015B.

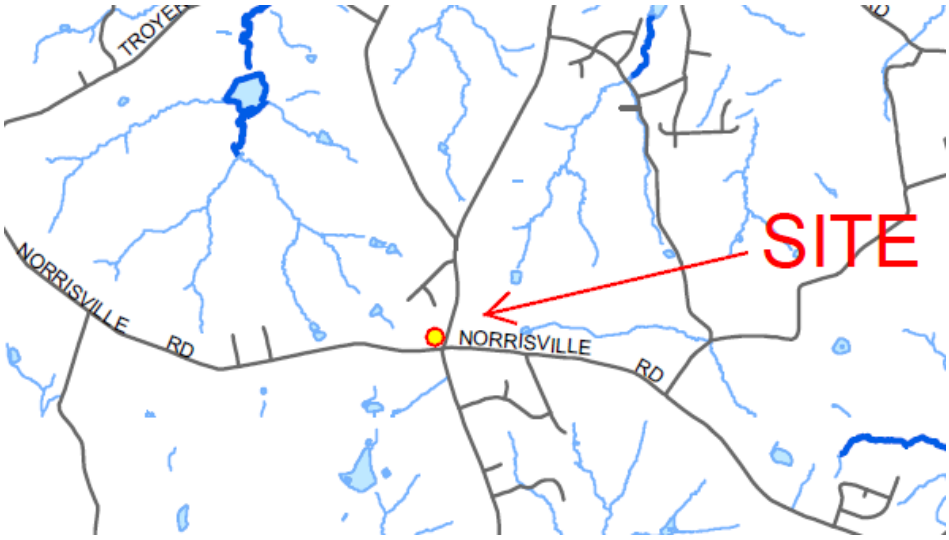
The following table summarizes the analytical results for constituents of concern obtained from the groundwater samples collected during this investigation. Please refer to **Table 2** for a complete summary of the historic groundwater analytical results.

Well ID	BTEX (µg/L)	MTBE (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)
MW-4	ND<0.4	ND<0.1	ND<20	ND<45
MW-4D	0.6 J	2.9	ND<20	49 J
MW-5	ND<0.4	ND<0.1	ND<20	ND<45
MW-5D	ND<0.4	0.7	ND<20	ND<45
MW-6	ND<0.4	19	38	ND<45
MW-6D	ND<0.4	5.4	ND<20	ND<45

ND = Non-detect
µg/L = micrograms per liter
J = Qualifier: detection is between method detection and reporting limits, therefore the value is estimated

Upon review of the July 30, 2015 groundwater analytical results, the following observations are noted:

- Concentrations of MTBE, the identified constituent of concern for this investigation, occur in highest concentration at the MW-6 and 6-D cluster at 19 µg/L and 5.4 µg/L, respectively. Detections at this western monitoring well cluster location support GES's current conceptual model that localized flow emanating from the High's property is directed to a typographic drainage feature that trends to the northwest. An excerpt from the Harford County Hydrology / Drainage Area Map (June 2008) denotes the localized drainage patterns for the Site and adjacent community of Charbonnet.



- The concentration of MTBE at the new downgradient wells is relatively low (detectable concentrations ranging from 0.7 to 19 ug/L) in proximity of the presumed onsite tankfield source area. Thus, MTBE, as a source, appears relatively depleted in the extensive saturated overburden aquifer underlying the Site. (For comparison, historic peak MTBE occurred in 2005 at MW-1 at a concentration of 1,600 ug/L.)
- In addition to the MTBE detections noted for MW-6/MW-6D, were the detections of several other oxygenates including tert-butyl-alcohol (TBA), di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE) and tert-amyl methyl ether (TAME). TBA is a primary metabolite of MTBE. The other detected oxygenates were blended with MTBE in historic gasoline formulations. Thus, the oxygenate signature observed in MW-6D may be related to the primary historic path of MTBE as it may have migrated away from the Site. Detections of TBA, DIPE, ETBE and TAME were not detected in groundwater samples from the MW-5/5D and MW-4/4D clusters.
- The MW-5/5D cluster is positioned central to the High's backlot and exhibits the least amount of detectable VOCs in comparison to the other recently installed downgradient clusters. This may indicate the eastern extent of High's historic overburden oxygenate plume, evidenced by the low MTBE detections and the lack of other oxygenates.

- The eastern shallow overburden monitoring well MW-4 was non-detected for all analyzed constituents. The deep overburden well MW-4D exhibited trace benzene (0.2 J ug/L), toluene (0.3 J ug/L), ethylbenzene (0.1 J ug/L), MTBE (2.9 ug/L) and TPH-DRO (49 J ug/L). The low level detections at MW-4D may be related to the stormwater runoff collected from the adjacent stormwater infiltration structure that is feed from Madonna Road drainage.

The groundwater analytical report for the June 30, 2015 sampling event and associated Chain of Custody, as received from the contracted lab, is attached as **Appendix E.**

Conclusions

As described in *Site Investigation Work Plan* dated February 24, 2015 GES, on behalf of High's, endeavored to install six (6) monitoring wells completed as a series of shallow and deep overburden zone cluster sets in the furthest downgradient area of the Site. The installation of these monitoring wells was expected to allow GES to further evaluate the onsite water table flow regime and delineate the extent of petroleum hydrocarbons, including MTBE.

GES feels that valuable data provided from these recent monitoring wells installations identifies patterns of groundwater movement and petroleum constituent signature that are consistent with GES's current conceptual model for the Site. Further data evaluation will be required during future monitoring periods to investigate High's contribution to impacts reaching downgradient homes in the Charbonnet community in comparison to historic petroleum hydrocarbon releases related the DNR Madonna Ranger Station located at 3919 Madonna Road.

We appreciate the continued guidance of the MDE-OCP on this project. If you have any questions or would like additional information, please contact the undersigned at 800-220-3606, extension 3705 or 3726, respectively, or Herb Meade at 410-261-5450.

Sincerely,
Groundwater & Environmental Services, Inc.

Prepared By:

Lindsay Keenay
Associate Geologist

Reviewed By:

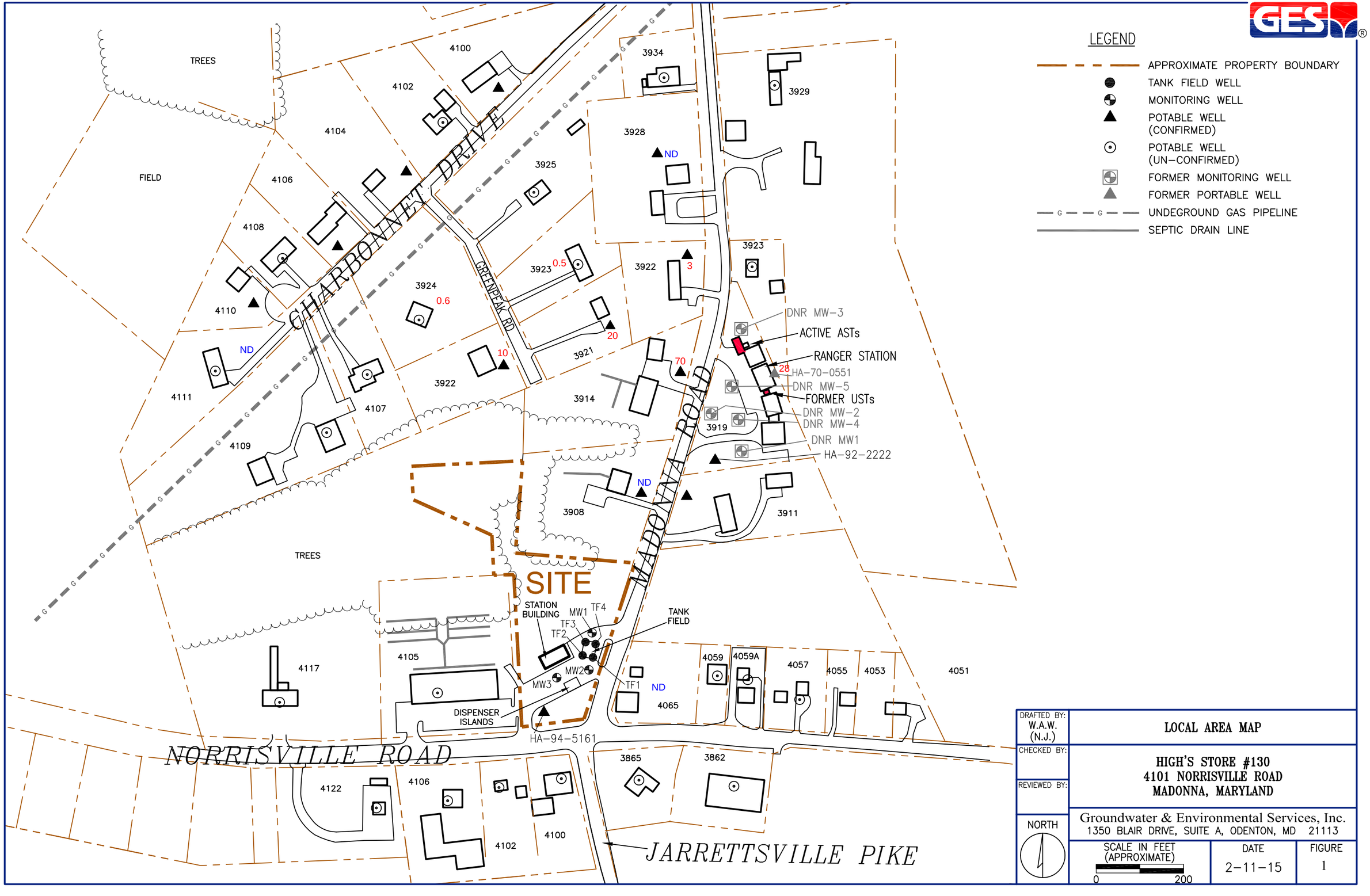
Pete Reichardt
Project Hydrogeologist

Attachments:

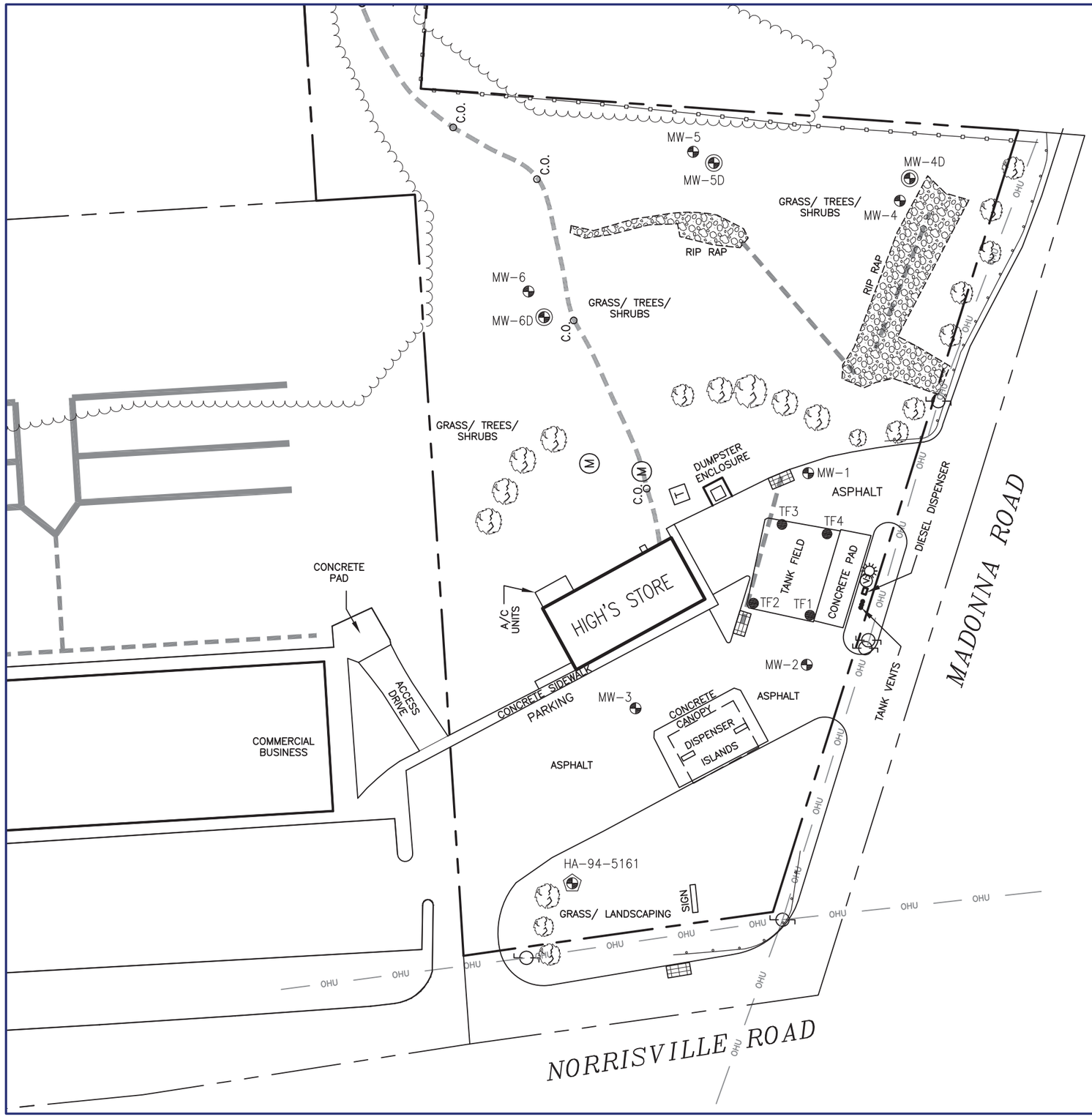
Figure 1 – Local Area Map
Figure 2 – Site Map
Figure 3 – Groundwater Monitoring Map
Table 1 – Soil Analytical Data Summary
Table 2 – Historic Groundwater Analytical Data Summary
Appendix A – Photo Log
Appendix B – Boring and Well Completion Logs
Appendix C – Waste Disposal Manifests
Appendix D – Vertical Gradient Calculations
Appendix E – Groundwater and Soil Analytical Reports and Chain of Custody Documentation

c: Jeannette DeBartolomeo – MDE (3 additional copies with labelled CDs)
Herb Meade – High's of Baltimore (electronic copy)
John Resline – Harford County Health Department
File – GES, MD (PSID# 550412)
Todd Passmore - Apex

FIGURES



M:\Graphics\0400-Crofton\Misc\Carroll Fuels\Carroll Fuels Madonna\Carroll Fuels Madonna LAM.dwg, 2/25/2015 8:44:50 AM, WWesterfund

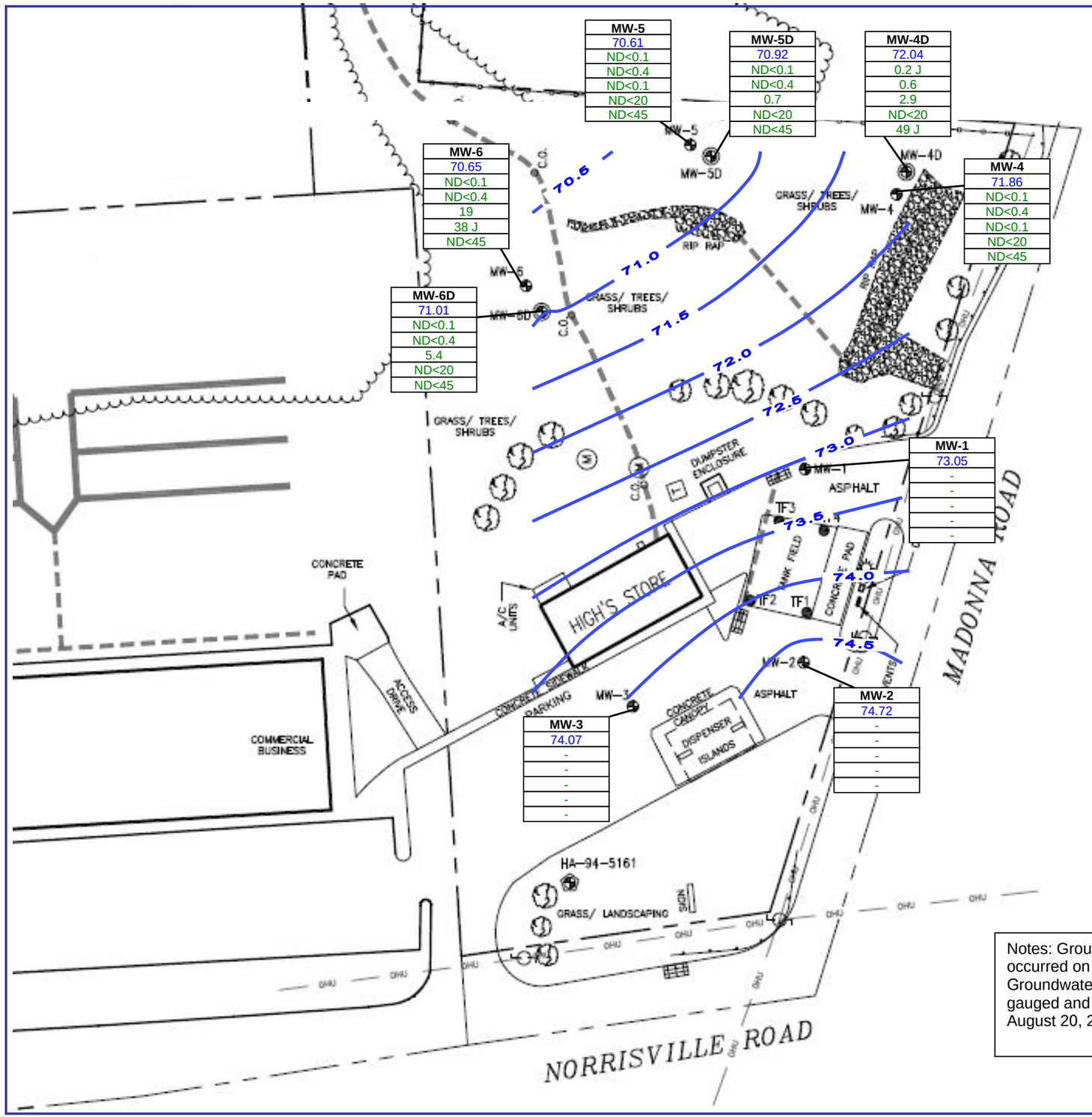


LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- GUARDRAIL
- WOOD FENCE
- TREE LINE
- CATCH BASIN
- UTILITY POLE
- SANITARY SEWER UTILITY MANHOLE
- C.O. SANITARY SEWER CLEANOUT
- PAD MOUNTED TRANSFORMER
- AREA LIGHT
- VACUUM STATION
- MONITORING WELL
- DEEP MONITORING WELL
- TANK FIELD WELL
- POTABLE WATER SUPPLY WELL (CONFIRMED)
- OHU OVERHEAD UTILITY LINES
- WASTE WATER LINE TO DRAIN AREA
- SEPTIC DRAIN LINE

DRAFTED BY: W.A.W. (N.J.)	SITE MAP
CHECKED BY: D.R.	HIGH'S STORE #130 4101 NORRISVILLE ROAD MADONNA, MARYLAND
REVIEWED BY: P.R.	Groundwater & Environmental Services, Inc. 1350 BLAIR DRIVE, SUITE A, ODENTON, MD 21113
NORTH	SCALE IN FEET: 0 APPROXIMATE 50 / DATE: 8-20-15 / FIGURE: 2

M:\Graphics\0400-Crofton\Misc\Carroll Fuels\Carroll Fuels Madonna\Carroll Fuels Madonna SM.dwg, 8/20/2015 9:40:38 AM, wwesterfund



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- GUARDRAIL
- WOOD FENCE
- TREE LINE
- CATCH BASIN
- UTILITY POLE
- SANITARY SEWER UTILITY MANHOLE
- C.O. SANITARY SEWER CLEANOUT
- PAD MOUNTED TRANSFORMER
- AREA LIGHT
- VACUUM STATION
- MONITORING WELL
- DEEP MONITORING WELL
- TANK FIELD WELL
- POTABLE WATER SUPPLY WELL (CONFIRMED)
- OHU OVERHEAD UTILITY LINES
- WASTE WATER LINE TO DRAIN AREA
- SEPTIC DRAIN LINE

Sample ID	WELL IDENTIFICATION
GW Elevation	GROUNDWATER ELEVATION (Feet)
Benzene	BENZENE CONCENTRATION (µg/L)
Total BTEX	Total BTEX (µg/L)
MTBE	MTBE CONCENTRATION (µg/L)
TPH-GRO	TPH-GRO CONCENTRATIONS (µg/L)
TPH-DRO	TPH-DRO CONCENTRATIONS (µg/L)

µg/L	MICROGRAMS PER LITER
BTEX	BENZENE, TOLUENE, ETHYLBENZENE, XYLENES
MTBE	METHYL TERT-BUTYL ETHER
TPH	TOTAL PHASE HYDROCARBONS
GRO	GASOLINE RANGE ORGANICS
ND< (#)	WHERE AN ANALYTE IS NOT DETECTED, THE REPORTING LIMIT IS GIVEN

- GROUNDWATER CONTOUR INTERVAL (feet)
- INFERRED CONTOUR INTERVAL (feet)

Notes: Groundwater sampling occurred on July 30, 2015. Groundwater levels were gauged and recorded on August 20, 2015.

DRAFTED BY: LK

CHECKED BY: PR

REVIEWED BY: GR

NORTH

GROUNDWATER MONITORING MAP
JULY 30, 2015 & AUGUST 20, 2015

HIGH'S STORE #130
4101 NORRISVILLE ROAD
MADONNA, MARYLAND

Groundwater & Environmental Services, Inc.
1350 BLAIR DRIVE, SUITE A, ODENTON, MD 21113

SCALE IN FEET
0 APPROXIMATE 50

DATE
08-25-2015

FIGURE
3

TABLES

Table 1

SOIL ANALYTICAL DATA SUMMARY

High's Store #130
4101 Norrisville Road
Madonna, MD

Monitoring Well	Date	Sample Depth (ft)	Benzene (µg/kg)	Toluene (µg/kg)	Ethylbenzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Naphthalene (µg/kg)	Diisopropyl ether (µg/kg)	Ethyl tert-butyl ether (µg/kg)	Tert-amyl methyl ether (µg/kg)	Tert-Butyl Alcohol (µg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)
MDE Non-Residential Clean-up Standard for Soil (June 2008)*			**52,000**	**8,200,000**	**10,000,000**	**20,000,000**	**720,000**	**2,000**	**NA**	**NA**	**NA**	**NA**	**620**	**620**
MW-4D	6/30/2015	25.6 - 27	ND<0.5	ND<0.9	ND<0.9	ND<0.9	ND<0.5	ND<0.9	ND<0.9	ND<0.9	ND<0.9	ND<18	ND<4.6	ND<0.2
MW-5D	7/6/2015	10 - 12	ND<0.6	ND<1	ND<1	ND<1	ND<0.6	ND<1	ND<1	ND<1	ND<1	ND<24	ND<4.5	ND<0.3
MW-6D	7/10/2015	40.5 - 42	ND<0.5	ND<1	ND<1	ND<1	200	ND<1	ND<1	ND<1	3 J	170	ND<5.0	ND<0.2

<# = Less than the method detection limit of #
ft = Feet
µg/kg = Micrograms per kilogram
mg/kg = Milligrams per kilogram
MTBE = Methyl tertiary butyl ether
NA = Not
J = minimally detected above reporting
TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics
TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

Table 2

HISTORICAL MONITORING WELL ANALYTICAL DATA SUMMARY

High's Store #130
4101 Norrisville Road
Madonna, MD

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	GW Elevation (ft)	Depth to Bottom (Measured Depth) (ft)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	Diisopropyl ether (µg/L)	Ethyl tert-butyl ether (µg/L)	Tert-amyl alcohol (µg/L)	Tert-Amyl Ethyl Ether (µg/L)	Tert-amyl methyl ether (µg/L)	Tert-Butyl Alcohol (µg/L)	Tetrachloroethene (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)
GW Clean-up Standards*						**5.00**	**1,000**	**700**	**10,000**	**NA**	**20**	**0.65**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**5**	**47**	**47**
MW-1	07/13/2005	-	18.71	-	-	ND	2	ND	ND	2	1300	-	-	-	-	-	-	-	-	ND<1000	ND<1000
	12/28/2005	-	21.73	-	-	ND	15	ND	ND	15	1600	-	-	-	-	-	-	-	-	1500	ND
	06/15/2006	-	20.66	-	-	ND	ND	ND	ND	ND	1200	-	-	-	-	-	-	-	-	900	ND
	01/17/2007	-	21.02	-	-	ND	ND	ND	ND	ND	140	-	-	-	-	-	-	-	-	ND	ND
	07/31/2007	-	20.78	-	-	ND	ND	ND	ND	ND	190	-	-	-	-	-	-	-	-	ND	350
	01/23/2008	-	24.44	-	-	ND	ND	ND	ND	ND	76	-	-	-	-	-	-	-	-	ND	ND
	07/24/2008	-	21.68	-	-	ND	ND	ND	ND	ND	210	-	-	-	-	-	-	-	-	300	ND
	01/30/2009	-	25.01	-	33.66	ND	ND	ND	ND	ND	73	-	-	-	-	-	-	-	-	ND	260
	07/20/2009	-	23.51	-	33.66	ND	ND	ND	ND	ND	120	-	-	-	-	-	-	-	-	ND	ND
	03/01/2010	-	18.80	-	-	ND	ND	ND	ND	ND	130	-	-	-	-	-	-	-	-	ND	ND
	07/31/2010	-	19.91	-	33.66	ND	ND	ND	ND	ND	87	-	-	-	-	-	-	-	-	230	ND
	01/31/2011	-	23.41	-	33.66	6	ND	ND	ND	6	47	-	-	-	-	-	-	-	-	ND	260
	07/26/2011	-	19.79	-	33.66	38	ND	ND	ND	38	25	-	-	-	-	-	-	-	-	580	ND
	01/30/2012	-	18.96	-	33.50	27	ND	ND	ND	27	26	-	-	-	-	-	-	-	-	200	250
	07/05/2012	96.13	21.76	74.37	33.61	20.10	ND<2	ND<2	ND<4	20.10	17.60	ND<2	12.30	ND<2	200	ND<2	ND<2	530	ND<2	ND<100	ND<300
	02/18/2013	96.13	23.18	72.95	33.53	8.41	ND<1.00	ND<1.00	ND<2.00	8.41	20.90	ND<1.00	12.10	ND<1.00	ND<5.00	ND<1.00	ND<1.00	402	ND<1.00	ND<100	ND<152
	08/20/2013	96.13	22.15	73.98	34.25	2.24	ND<1.00	ND<1.00	ND<2.00	2.24	9.94	ND<1.00	8.26	ND<1.00	ND<5.00	ND<1.00	ND<1.00	372	ND<1.00	ND<100	ND<300
	03/04/2014	96.13	21.73	74.40	35.70	ND<1.00	ND<1.00	ND<1.00	ND<2.00	ND<5.00	11.2	ND<1.00	12.40	1.18	67.6	ND<1.00	ND<1.00	153	ND<1.00	ND<100	ND<150
	08/22/2014	96.13	19.36	76.77	35.10	ND<1.00	ND<1.00	ND<1.00	ND<2.00	ND<5.00	8.08	ND<1.00	7.13	ND<1.00	37.1	ND<1.00	ND<1.00	73	ND<1.00	ND<100	ND<152
	05/26/2015	96.13	22.22	73.91	35.10	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.4	ND<0.1	ND<0.1	ND<0.1	ND<0.1	-	-	ND<0.1	ND<4.0	ND<1.00	ND<20	ND<45
	08/20/2015	96.13	23.08	73.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	07/13/2005	-	19.64	-	-	ND	1.00	ND	ND	1	9	-	-	-	-	-	-	-	-	ND<1000	ND<1000
	12/28/2005	-	22.85	-	-	9	16	6	26	57	15	-	-	-	-	-	-	-	-	300	ND
	06/15/2006	-	21.65	-	-	ND	ND	ND	ND	ND	26	-	-	-	-	-	-	-	-	ND	300
	01/17/2007	-	22.03	-	-	ND	ND	ND	ND	ND	42	-	-	-	-	-	-	-	-	ND	ND
	07/31/2007	-	21.84	-	-	ND	ND	ND	ND	ND	4	-	-	-	-	-	-	-	-	ND	380
	01/23/2008	-	25.50	-	-	ND	ND	ND	ND	ND	2	-	-	-	-	-	-	-	-	ND	ND
	07/24/2008	-	22.42	-	-	ND	ND	ND	ND	ND	3	-	-	-	-	-	-	-	-	ND	ND
	01/30/2009	-	25.96	-	30.76	ND	ND	ND	ND	ND	4	-	-	-	-	-	-	-	-	ND	ND
	07/20/2009	-	24.35	-	30.76	ND	ND	ND	ND	ND	5	-	-	-	-	-	-	-	-	ND	ND
	03/01/2010	-	19.97	-	-	ND	ND	ND	ND	ND	4	-	-	-	-	-	-	-	-	ND	ND
	07/31/2010	-	20.35	-	30.76	ND	ND	ND	ND	ND	3	-	-	-	-	-	-	-	-	ND	ND
	01/31/2011	-	24.14	-	30.76	ND	ND	ND	ND	ND	6	-	-	-	-	-	-	-	-	ND	ND

Table 2

HISTORICAL MONITORING WELL ANALYTICAL DATA SUMMARY

High's Store #130
4101 Norrisville Road
Madonna, MD

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	GW Elevation (ft)	Depth to Bottom (Measured Depth) (ft)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	Diisopropyl ether (µg/L)	Ethyl tert-butyl ether (µg/L)	Tert-amyl alcohol (µg/L)	Tert-Amyl Ethyl Ether (µg/L)	Tert-amyl methyl ether (µg/L)	Tert-Butyl Alcohol (µg/L)	Tetrachloroethene (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)
GW Clean-up Standards*						**5.00**	**1,000**	**700**	**10,000**	**NA**	**20**	**0.65**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**5**	**47**	**47**
MW-2	07/26/2011	-	20.50	-	30.76	ND	ND	ND	ND	ND	4	-	-	-	-	-	-	-	-	ND	ND
(cont.)	01/30/2012	-	19.96	-	31.20	ND	ND	ND	ND	ND	5	-	-	-	-	-	-	-	-	ND	ND
	07/05/2012	98.39	22.56	75.83	31.22	ND<2	ND<2	ND<2	ND<4	ND<10	5.18	ND<2	ND<2	ND<2	ND<10	ND<2	ND<2	ND<10	ND<2	ND<100	ND<158
	02/18/2013	98.39	24.52	73.87	31.25	ND<1.00	ND<1.00	ND<1.00	ND<2.00	ND<5.00	5.85	ND<1.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<100	ND<152
	08/20/2013	98.39	23.01	75.38	31.11	ND<1.00	ND<1.00	ND<1.00	ND<2.00	ND<5.00	3.64	ND<1.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<100	ND<300
	03/04/2014	98.39	23.15	75.24	31.11	ND<1.00	ND<1.00	ND<1.00	ND<2.0	ND<5.0	5.28	ND<1.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<100	ND<150
	08/22/2014	98.39	19.90	78.49	31.37	ND<1.00	ND<1.00	ND<1.00	ND<2.0	ND<5.0	4.36	ND<1.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<100	ND<153
	05/26/2015	98.39	23.02	75.37	31.37	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.4	ND<0.1	ND<0.1	ND<0.1	ND<0.1	-	-	ND<0.1	ND<4.0	ND<1.00	ND<20	ND<45
	08/20/2015	98.39	23.67	74.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	07/13/2005	-	19.79	-	-	ND	1	ND	ND	1	180	-	-	-	-	-	-	-	-	600	ND<1000
	12/28/2005	-	22.91	-	-	6	12	4	21	43	280	-	-	-	-	-	-	-	-	ND	720
	06/15/2006	-	21.70	-	-	ND	ND	ND	ND	ND	330	-	-	-	-	-	-	-	-	ND	ND
	01/17/2007	-	22.16	-	-	ND	ND	ND	ND	ND	140	-	-	-	-	-	-	-	-	ND	ND
	07/31/2007	-	21.98	-	-	ND	ND	ND	ND	ND	190	-	-	-	-	-	-	-	-	ND	ND
	01/23/2008	-	25.46	-	-	ND	ND	ND	ND	ND	69	-	-	-	-	-	-	-	-	ND	ND
	07/24/2008	-	22.49	-	-	ND	ND	ND	ND	ND	12	-	-	-	-	-	-	-	-	ND	ND
	01/30/2009	-	25.84	-	36.03	ND	ND	ND	ND	ND	3	-	-	-	-	-	-	-	-	ND	ND
	07/20/2009	-	24.30	-	36.03	ND	7.00	ND	ND	7	4	-	-	-	-	-	-	-	-	ND	260
	03/01/2010	-	20.03	-	-	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	-	ND	1100
	07/31/2010	-	20.41	-	36.03	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	-	ND	240
	01/31/2011	-	23.90	-	36.03	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	-	ND	450
	07/26/2011	-	20.58	-	36.03	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	-	ND	ND
	01/30/2012	-	20.04	-	31.00	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	-	ND	230
	07/05/2012	97.79	22.60	75.19	30.95	ND<2	ND<2	ND<2	ND<4	ND<10	3.16	ND<2	ND<2	ND<2	ND<10	ND<2	ND<2	ND<10	ND<2	ND<100	261
	02/18/2013	97.79	24.45	73.34	31.40	ND<1.00	ND<1.00	ND<1.00	ND<2.00	ND<5.00	4.66	ND<1.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<100	835
	08/20/2013	97.79	23.03	74.76	35.70	ND<1.00	ND<1.00	ND<1.00	ND<2.00	ND<5.00	2.32	ND<1.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<100	ND<600
	03/04/2014	97.79	23.21	74.58	34.25	ND<1.00	ND<1.00	ND<1.00	ND<2.00	ND<5.00	3.80	ND<1.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<100	ND<153
	08/22/2014	97.79	19.98	77.81	34.93	ND<1.00	ND<1.00	ND<1.00	ND<2.00	ND<5.00	2.07	ND<1.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<1.00	ND<5.00	ND<1.00	ND<100	ND<152
	05/26/2015	97.79	23.07	74.72	34.93	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.4	ND<0.1	ND<0.1	ND<0.1	ND<0.1	-	-	ND<0.1	ND<4.0	ND<1.00	ND<20	ND<45
	08/20/2015	97.79	23.72	74.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2

HISTORICAL MONITORING WELL ANALYTICAL DATA SUMMARY

High's Store #130
4101 Norrisville Road
Madonna, MD

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	GW Elevation (ft)	Depth to Bottom (Measured Depth) (ft)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	Diisopropyl ether (µg/L)	Ethyl tert-butyl ether (µg/L)	Tert-amyl alcohol (µg/L)	Tert-Amyl Ethyl Ether (µg/L)	Tert-amyl methyl ether (µg/L)	Tert-Butyl Alcohol (µg/L)	Tetrachloroethene (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)
GW Clean-up Standards*						**5.00**	**1,000**	**700**	**10,000**	**NA**	**20**	**0.65**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**5**	**47**	**47**
TF-1	01/30/2009	-	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/20/2009	-	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/31/2010	-	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/31/2011	-	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/26/2011	-	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/30/2012	-	12.06	-	12.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/05/2012	-	DRY	-	12.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/18/2013	-	DRY	-	12.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/20/2013	-	DRY	-	12.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	03/04/2014	-	DRY	-	12.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/22/2014	-	DRY	-	12.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/26/2015	-	DRY	-	12.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TF-2	01/30/2009	-	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/20/2009	-	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/31/2010	-	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/31/2011	-	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/26/2011	-	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/30/2012	-	DRY	-	11.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/05/2012	-	DRY	-	12.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/18/2013	-	DRY	-	12.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/20/2013	-	DRY	-	12.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	03/04/2014	-	11.95	-	12.06	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
	08/22/2014	-	12.01	-	12.04	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
	05/26/2015	-	DRY	-	12.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TF-3	01/30/2012	-	12.24	-	12.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/05/2012	-	DRY	-	13.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/18/2013	-	DRY	-	12.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/20/2013	-	DRY	-	12.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	03/04/2014	-	12.75	-	12.79	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
	08/22/2014	-	12.72	-	12.85	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
	05/26/2015	-	DRY	-	12.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2

HISTORICAL MONITORING WELL ANALYTICAL DATA SUMMARY

High's Store #130
4101 Norrisville Road
Madonna, MD

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	GW Elevation (ft)	Depth to Bottom (Measured Depth) (ft)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	Diisopropyl ether (µg/L)	Ethyl tert-butyl ether (µg/L)	Tert-amyl alcohol (µg/L)	Tert-Amyl Ethyl Ether (µg/L)	Tert-amyl methyl ether (µg/L)	Tert-Butyl Alcohol (µg/L)	Tetrachloroethene (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)
GW Clean-up Standards*						**5.00**	**1,000**	**700**	**10,000**	**NA**	**20**	**0.65**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**5**	**47**	**47**
TF-4	01/30/2012	-	12.43	-	12.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/05/2012	-	DRY	-	12.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/18/2013	-	12.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/20/2013	-	12.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	03/04/2014	-	13.03	-	13.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/22/2014	-	13.12	-	13.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/26/2015	-	12.87	-	13.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	07/30/2015	91.56	19.25	72.31	32.11	ND<0.1	ND<0.1	ND<0.1	ND<0.1		ND<0.1	ND<0.1	ND<0.1	ND<0.1			ND<0.1	ND<4		ND<20	ND<45
	08/20/2015	91.56	19.70	71.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4D	07/30/2015	91.2	18.77	72.43	89.60	0.2 J	0.3 J	0.1 J	ND<0.1		2.9	ND<0.1	ND<0.1	ND<0.1			ND<0.1	ND<4		ND<20	49 J
	08/20/2015	91.2	19.16	72.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	07/30/2015	85.69	14.55	71.14	29.68	ND<0.1	ND<0.1	ND<0.1	ND<0.1		ND<0.1	ND<0.1	ND<0.1	ND<0.1			ND<0.1	ND<4		ND<20	ND<45
	08/20/2015	85.69	15.08	70.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5D	07/30/2015	85.95	14.90	71.05	84.45	ND<0.1	ND<0.1	ND<0.1	ND<0.1		0.7	ND<0.1	ND<0.1	ND<0.1			ND<0.1	ND<4		ND<20	ND<45
	08/20/2015	85.95	15.03	70.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	07/30/2015	84.99	13.84	71.15	29.45	ND<0.1	ND<0.1	ND<0.1	ND<0.1		19	ND<0.1	5.6	0.5			0.2 J	ND<4		38 J	ND<45
	08/20/2015	84.99	14.34	70.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6D	07/30/2015	85.4	14.19	71.21	75.30	ND<0.1	ND<0.1	ND<0.1	ND<0.1		5.4	ND<0.1	ND<0.1	ND<0.1			0.2 J	ND<4		ND<20	ND<45
	08/20/2015	85.4	14.39	71.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* GW Cleanup Standards are the Maryland Department of the Environment (MDE) Groundwater Clean-up Standards for Type I and II Aquifers, except for TPH-GRO and TPH-DRO, which are Residential Clean-up Standards for Groundwater.

Please note that the top of casing for the DNR monitoring wells is not tied into the same elevations as the High's monitoring wells.

ND<# = Non-detect less than the method detection limit of #
µg/L = Micrograms/Liter
MTBE = Methyl Tertiary Butyl Ether
TPH-DRO = Total petroleum hydrocarbons - diesel range organics
TPH-GRO = Total petroleum hydrocarbons - gasoline range organics
BTEX = Benzene, toluene, ethylbenzene, xylenes
- = No data available

APPENDIX A

Photo Log

Appendix A

PHOTO LOG

High's Store #130
4101 Norrisville Road
Madonna, MD

PHOTO 1: Monitoring Well cluster MW-4 and MW-4D – facing SW
July 6, 2015

PHOTO 2: Monitoring Well cluster MW-5D in progress – facing W
July 6, 2015

Appendix A

PHOTO LOG

High's Store #130
4101 Norrisville Road
Madonna, MD

PHOTO 3: Structured saprolite – MW-6D - July 10, 2015

PHOTO 4: Rock Cores – MW-4D (top), 5D (middle) and 6D (bottom)
July 16, 2015

APPENDIX B

Boring and Well Completion Logs

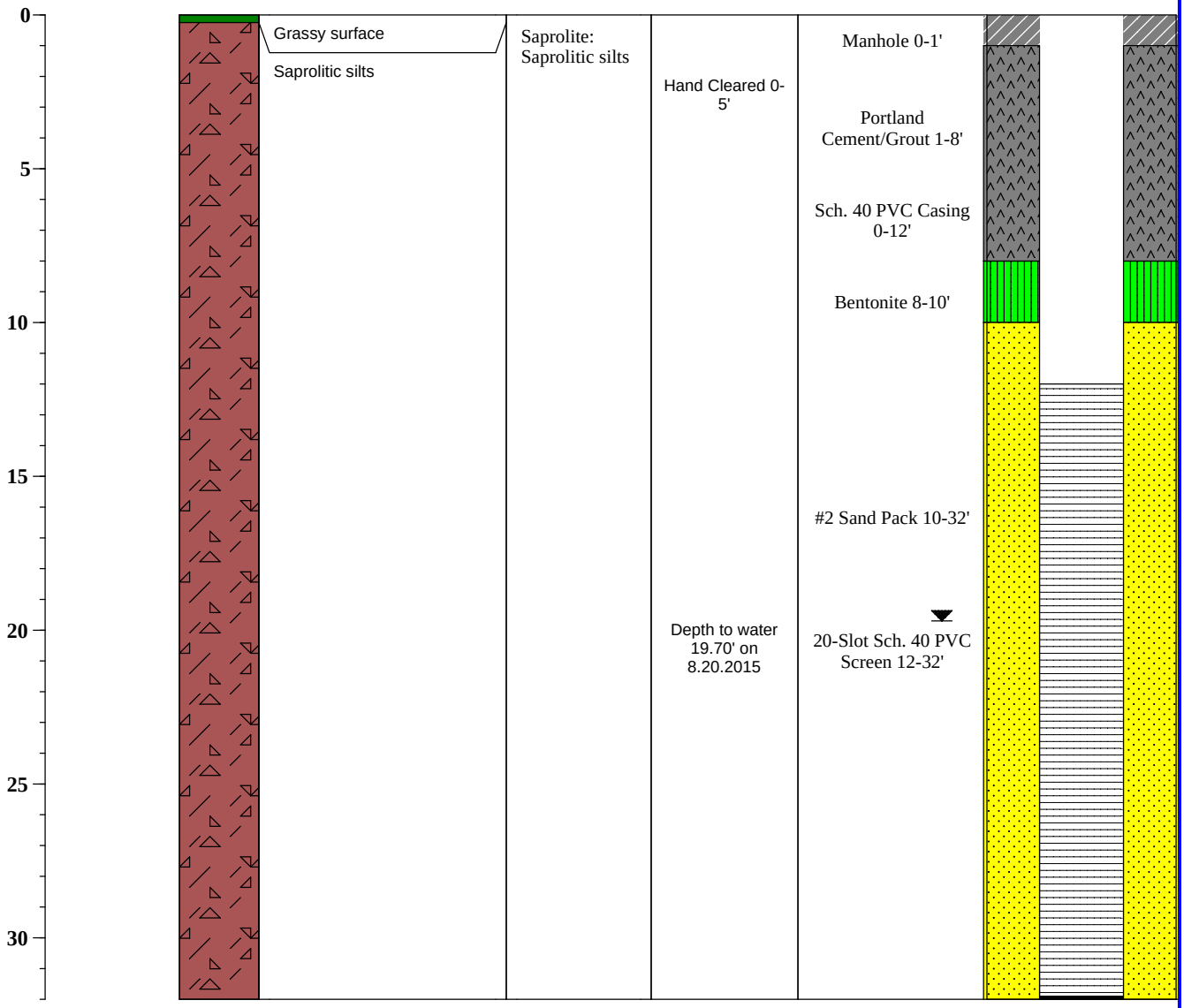
BORING AND WELL COMPLETION LOG ID NO. MW-4

Groundwater & Environmental Services, Inc.

PROJECT: **High's #130**	WATER DEPTH: **19.70 ft.**	TOTAL DEPTH:	**32 ft.**
ADDRESS: **4101 Norrisville Rd., Madonna, MD**		CASING EL.:	**91.56 ft.**
	BOREHOLE DIA.: **8.5 in.**	WELL DIA.:	**2 in.**

Logged By:	**Lindsay Keeney**	Drilling Method:	**CME 550**
Dates Drilled:	**7/2/2015**	Sampling Method:	**Split-spoon**
Drilling Company:	**Allied Environmental Services**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**HA-15-0087**	Field Screening:	**MiniRae**

Depth (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details
0	Grassy surface	Saprolite: Saprolitic silts	Hand Cleared 0-5'	Manhole 0-1'
	Saprolitic silts			Portland Cement/Grout 1-8'
5				Sch. 40 PVC Casing 0-12'
				Bentonite 8-10'
10				
15				#2 Sand Pack 10-32'
20			Depth to water 19.70' on 8.20.2015	20-Slot Sch. 40 PVC Screen 12-32'
25				
30				



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Well ID: MW-4

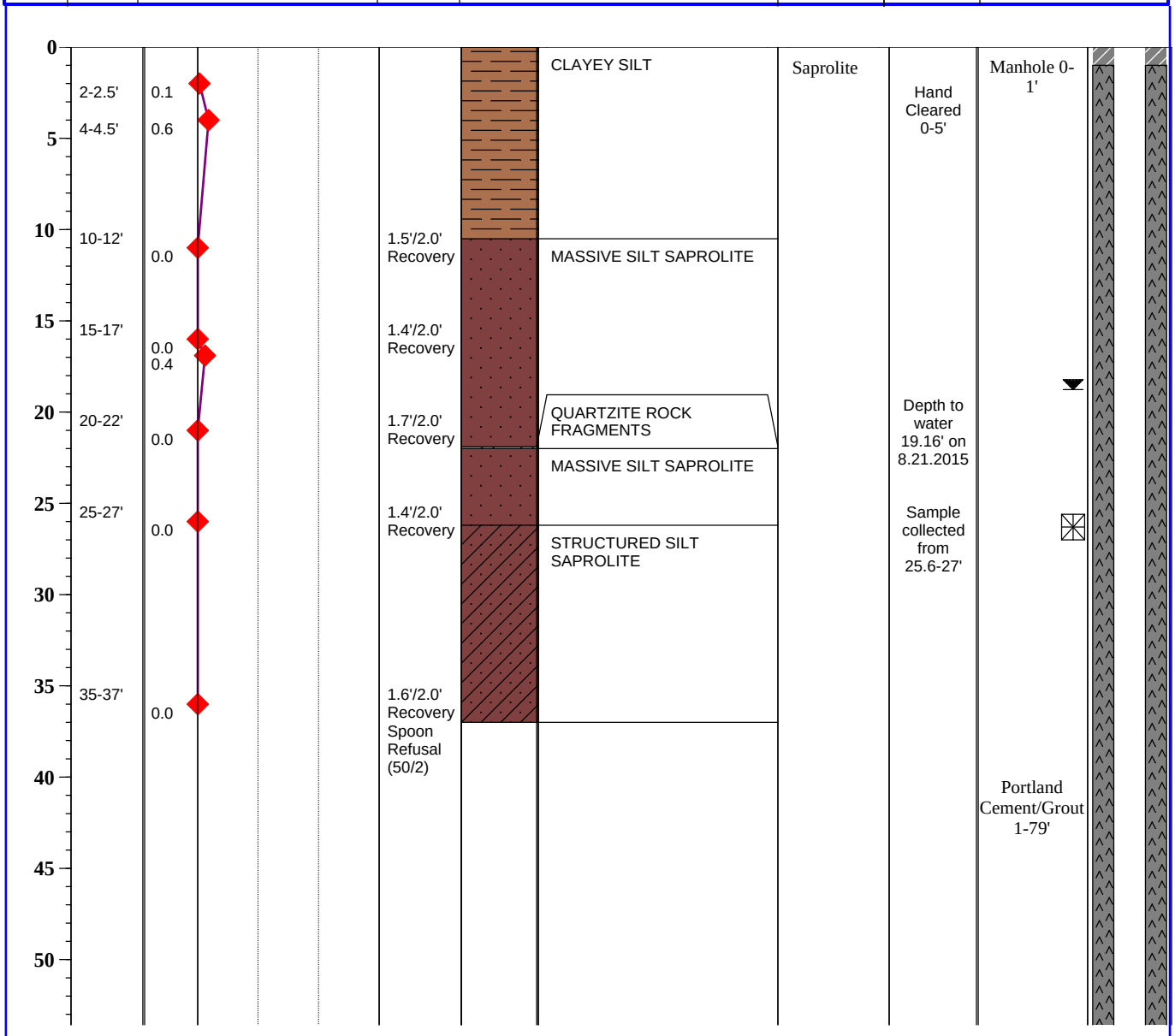
Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

BORING AND WELL COMPLETION LOG ID NO. MW-4D

Groundwater & Environmental Services, Inc.

PROJECT:	**High's #130**	WATER DEPTH:	**19.16 ft.**	TOTAL DEPTH:	**93 ft.**
ADDRESS:	**4101 Norrisville Rd., Madonna, MD 0402814**	BOREHOLE DIA.:	**8.5 in.**	CASING EL.:	**91.20 ft.**
				WELL DIA.:	**2 in.**

Logged By:	**Lindsay Keeney**	Drilling Method:	**CME 550**
Dates Drilled:	**6/29 - 7/1/2015**	Sampling Method:	**2 ft. split spoons**
Drilling Company:	**Allied Environmental Services**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**HA-15-0086**	Field Screening:	**PID, 10.6 eV Lamp**



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

BORING AND WELL COMPLETION LOG ID NO.MW-4D

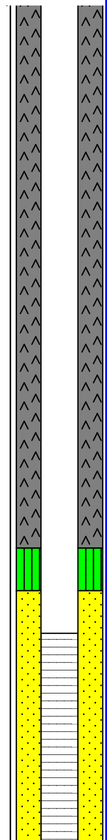
PROJECT: **High's #130** WATER DEPTH: **19.16 ft.** TOTAL DEPTH: **93 ft.**

ADDRESS: **4101 Norrisville Rd., Madonna, MD** CASING EL.: **91.20 ft.**

0402814 BOREHOLE DIA.: **8.5 in.** WELL DIA.: **2 in.**

Logged By:	**Lindsay Keeney**	Drilling Method:	**CME 550**
Dates Drilled:	**6/29 - 7/1/2015**	Sampling Method:	**2 ft. split spoons**
Drilling Company:	**Allied Environmental Services**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**HA-15-0086**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0–10	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details
55							Sch. 40 PVC Casing 0-83'
60							
65							
70							
75							
80							Bentonite 79-81'
85							20-Slot Sch. 40 PVC Screen 83-93'
90							#2 Sand Pack 81-93'
95	96-101'		3.83'/5.0' Recovery	QUARTZITE, strong, minimal fractures, no oxidation present, RQD - poor	Wissahickon Formation (undivided)		
100				SCHIST, highly foliated and oxidized fractures, RQD - poor			
105							



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level ⏷

Sample Location ⊠

" = inches

' = feet

ppm = parts per million

eV = electron volt

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

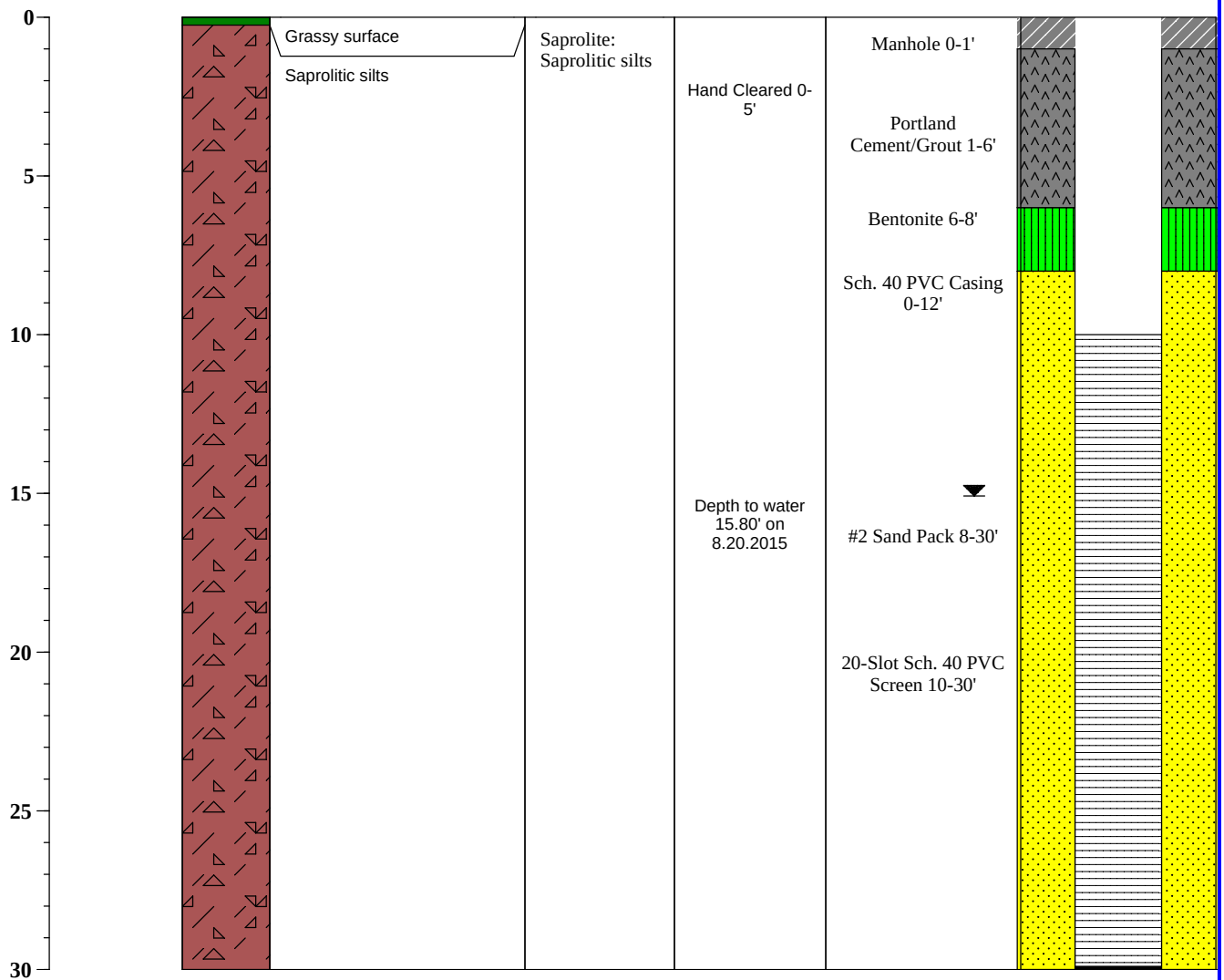
BORING AND WELL COMPLETION LOG ID NO. MW-5

Groundwater & Environmental Services, Inc.

PROJECT: **High's #130**	WATER DEPTH: **15.08**	TOTAL DEPTH: **30 ft.**	
ADDRESS: **4101 Norrisville Rd., Madonna, MD**		CASING EL.: **85.69 ft.**	
	BOREHOLE DIA.: **8.5 in.**	WELL DIA.: **2 in.**	

Logged By:	**Lindsay Keeney**	Drilling Method:	**CME 550**
Dates Drilled:	**7/9/15**	Sampling Method:	**Split-spoon**
Drilling Company:	**Allied Environmental Services**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**HA-15-0085**	Field Screening:	**MiniRae**

Depth (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

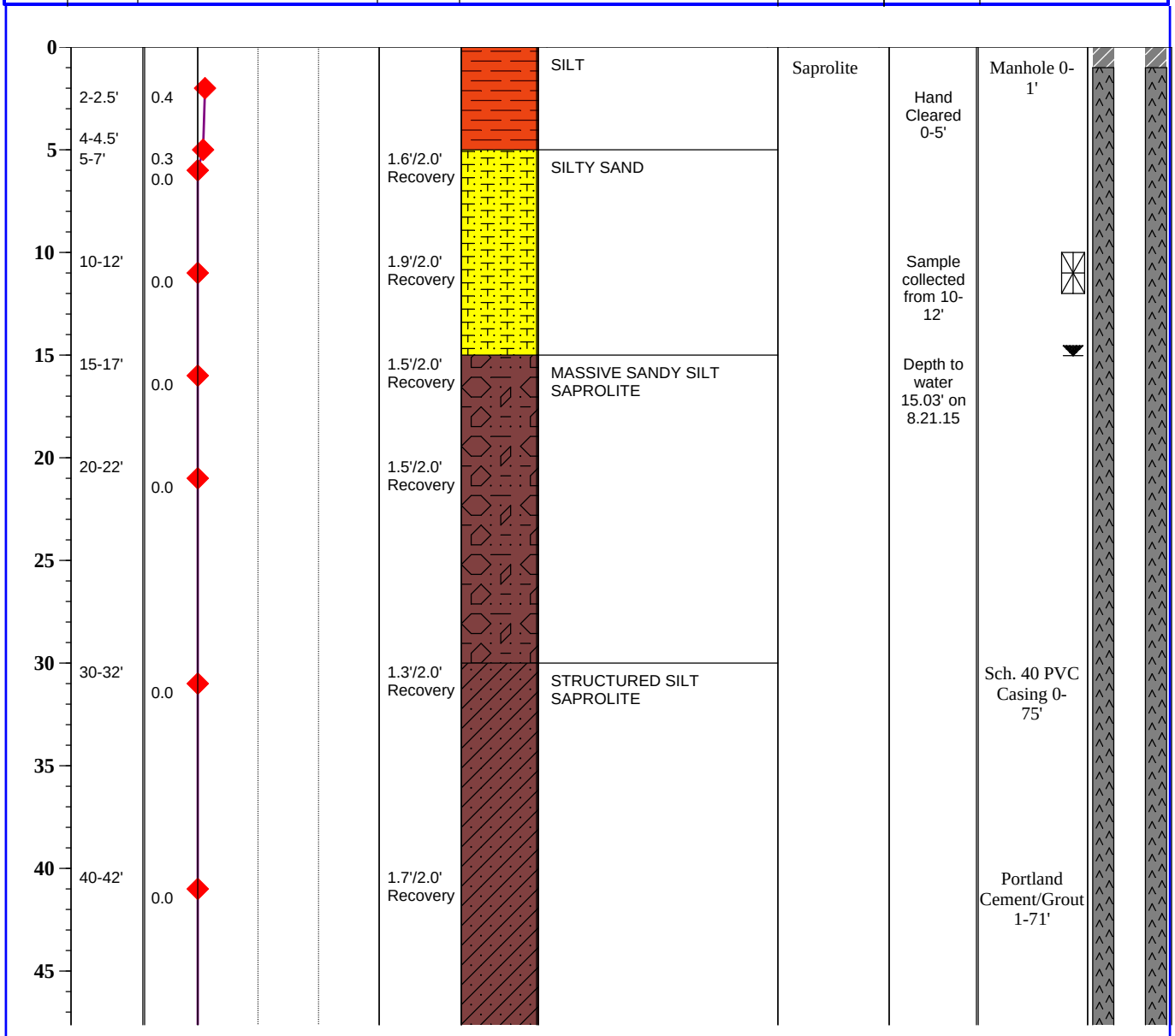
Well ID: MW-5

BORING AND WELL COMPLETION LOG ID NO. MW-5D

Groundwater & Environmental Services, Inc.

PROJECT:	**High's #130**	WATER DEPTH:	**15.03 ft.**	TOTAL DEPTH:	**85 ft**
ADDRESS:	**4101 Norrisville Rd., Madonna, MD 0402814**	BOREHOLE DIA.:	**8.5 in.**	CASING EL.:	**85.95 ft.**
				WELL DIA.:	**2 in.**

Logged By:	**Lindsay Keeney**	Drilling Method:	**CME 550**
Dates Drilled:	**7/6 - 7/8/2015**	Sampling Method:	**2 ft. split spoons**
Drilling Company:	**Allied Environmental Services**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**HA-15-0084**	Field Screening:	**PID, 10.6 eV Lamp**



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

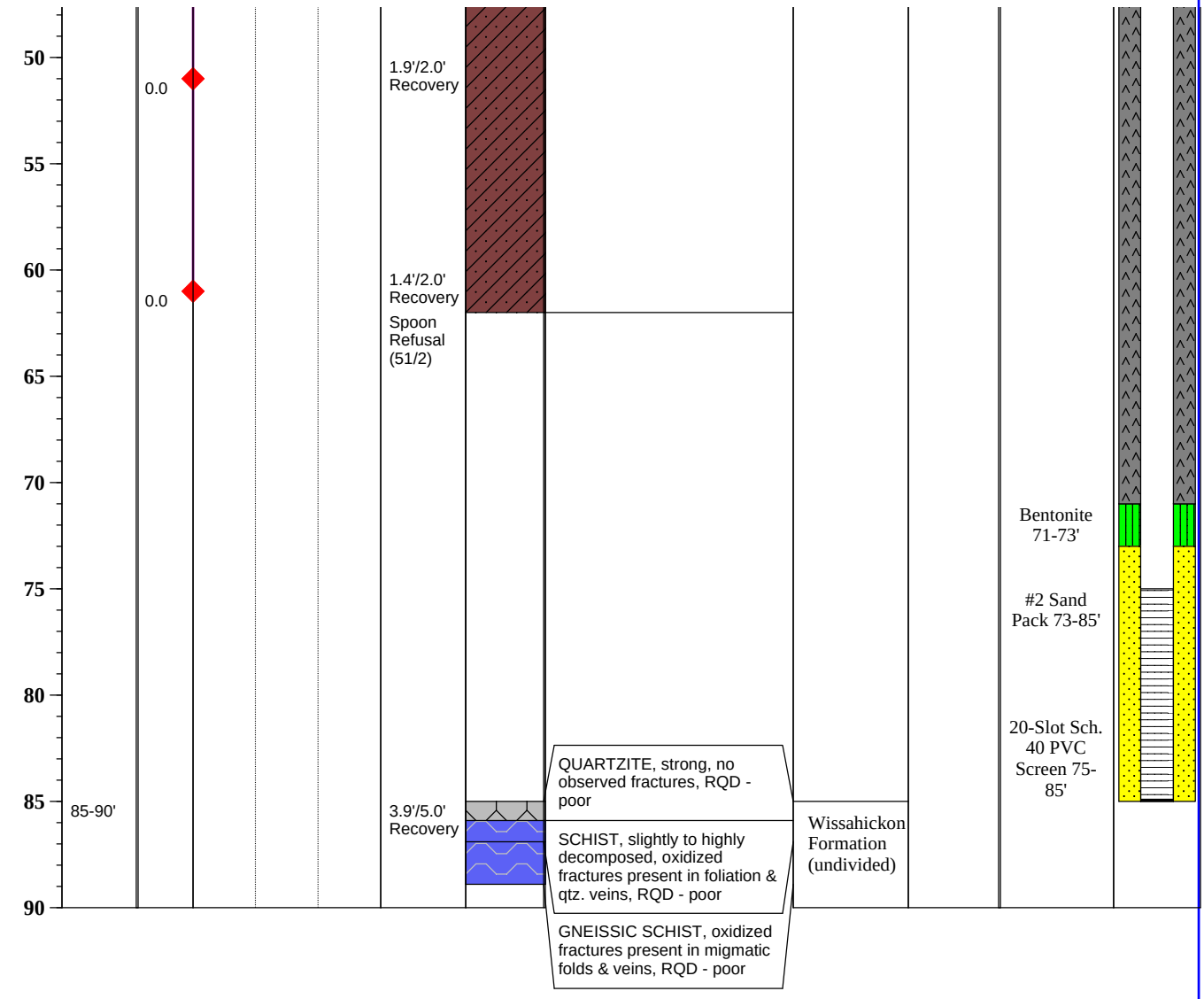
BORING AND WELL COMPLETION LOG ID NO. MW-5D

Groundwater & Environmental Services, Inc.

PROJECT:	**High's #130**	WATER DEPTH:	**15.03 ft.**	TOTAL DEPTH:	**85 ft**
ADDRESS:	**4101 Norrisville Rd., Madonna, MD 0402814**	BOREHOLE DIA.:	**8.5 in.**	CASING EL.:	**85.95 ft.**
				WELL DIA.:	**2 in.**

Logged By:	**Lindsay Keeney**	Drilling Method:	**CME 550**
Dates Drilled:	**7/6 - 7/8/2015**	Sampling Method:	**2 ft. split spoons**
Drilling Company:	**Allied Environmental Services**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**HA-15-0084**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0–10	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

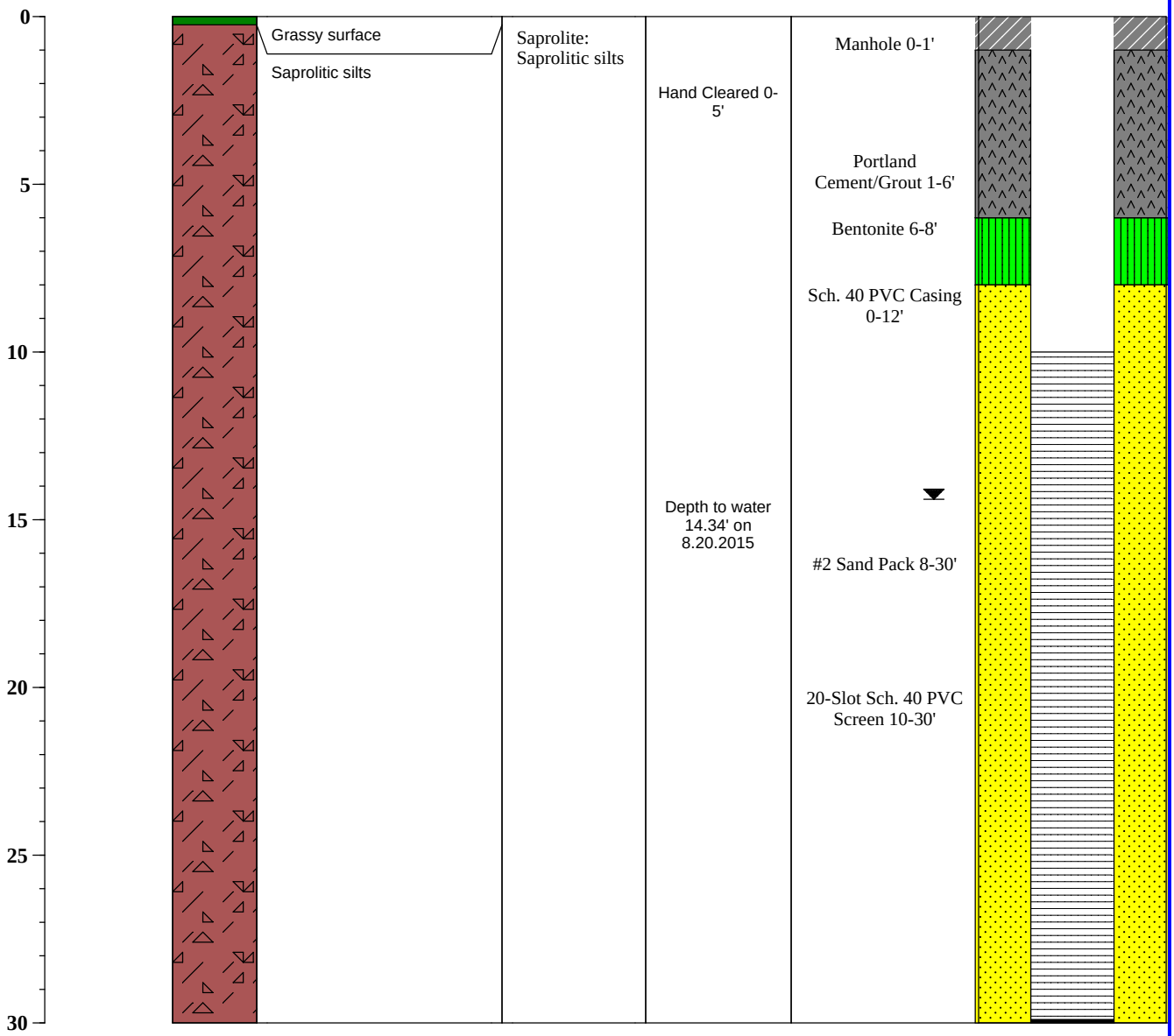
BORING AND WELL COMPLETION LOG ID NO. MW-6

Groundwater & Environmental Services, Inc.

PROJECT: **Hgh's #130**	WATER DEPTH: **1434**	TOTAL DEPTH:	**30 ft.**
ADDRESS: **4101 Norrisville Rd., Madonna, MD**		CASING EL.:	**84.99 ft.**
	BOREHOLE DIA.: **8.5 in.**	WELL DIA.:	**2 in.**

Logged By:	**Lindsay Keeney**	Drilling Method:	**CME 550**
Dates Drilled:	**7/14/15**	Sampling Method:	**Split-spoon**
Drilling Company:	**Allied Environmental Services**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**HA-15-0082**	Field Screening:	**MiniRae**

Depth (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

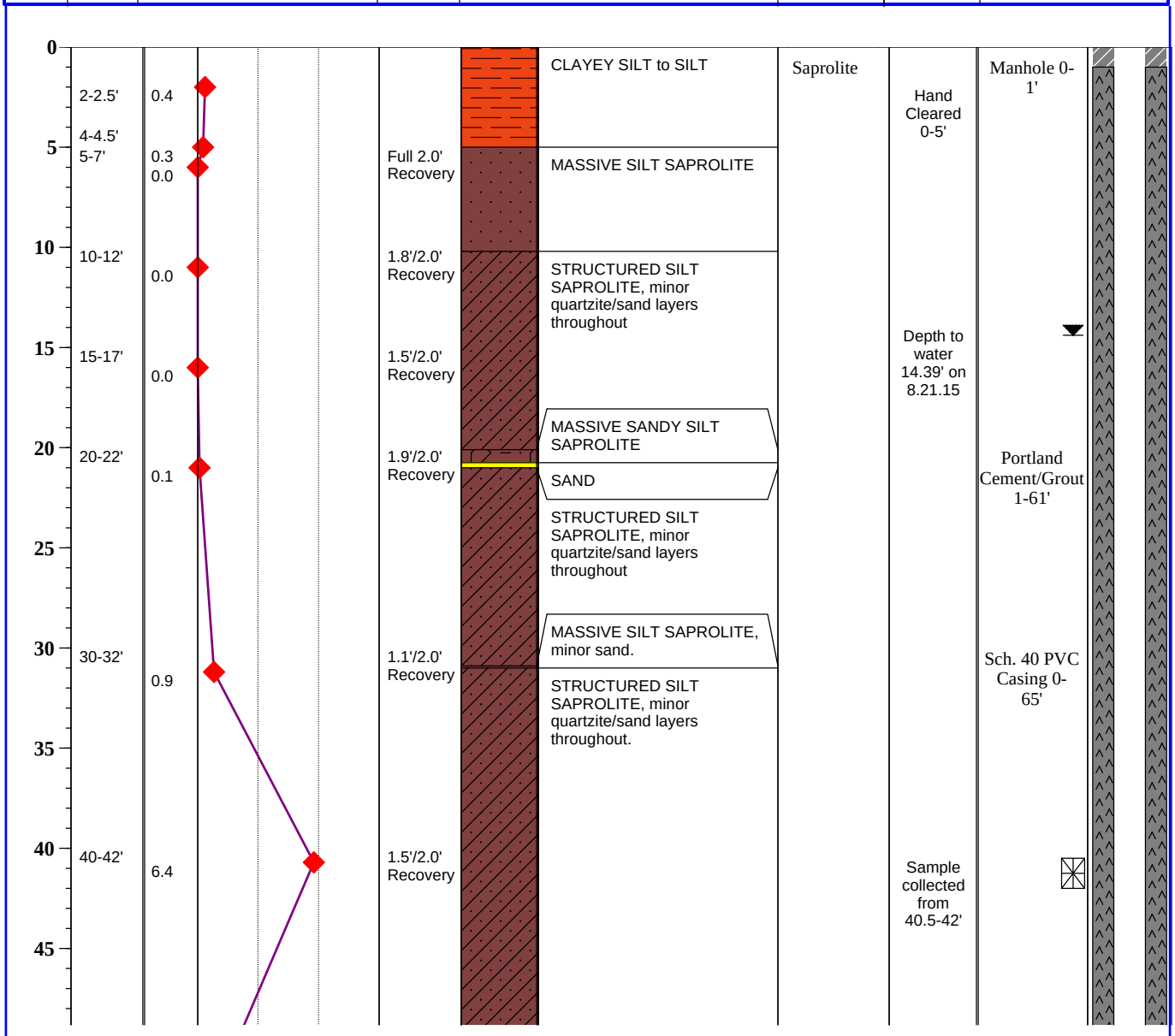
Well ID: MW-6

BORING AND WELL COMPLETION LOG ID NO. MW-6D

Groundwater & Environmental Services, Inc.

PROJECT:	**High's #130**	WATER DEPTH:	**14.39 ft.**	TOTAL DEPTH:	**75 ft.**
ADDRESS:	**4101 Norrisville Rd., Madonna, MD 0402814**	BOREHOLE DIA.:	**8.5 in.**	CASING EL.:	**85.40 ft.**
				WELL DIA.:	**2 in.**

Logged By:	**Lindsay Keeney**	Drilling Method:	**CME 550**
Dates Drilled:	**7/10 - 7/13/2015**	Sampling Method:	**2 ft. split spoons**
Drilling Company:	**Allied Environmental Services**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**HA-15-0082**	Field Screening:	**PID, 10.6 eV Lamp**



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

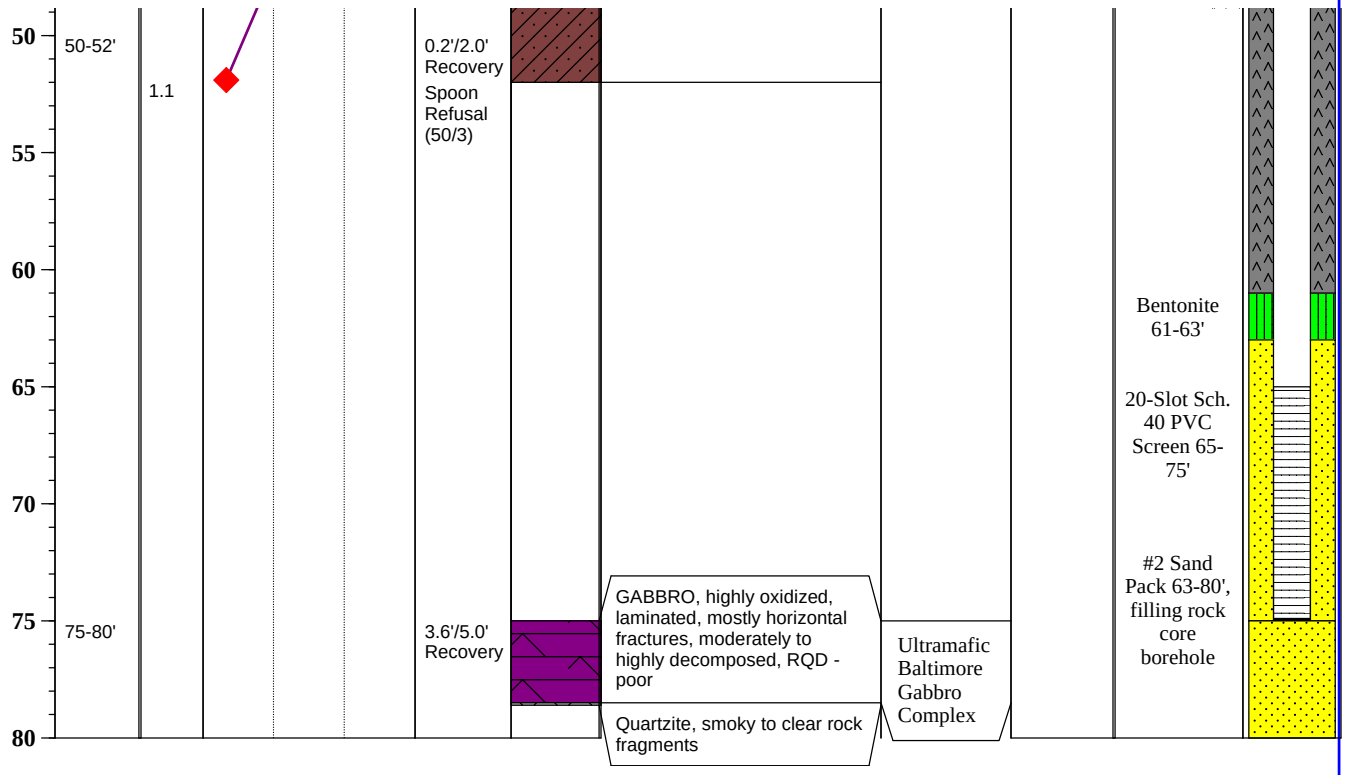
BORING AND WELL COMPLETION LOG ID NO. MW-6D

Groundwater & Environmental Services, Inc.

PROJECT: **High's #130**	WATER DEPTH: **14.39 ft.**	TOTAL DEPTH: **75 ft.**
ADDRESS: **4101 Norrisville Rd., Madonna, MD 0402814**		CASING EL.: **85.40 ft.**
	BOREHOLE DIA.: **8.5 in.**	WELL DIA.: **2 in.**

Logged By:	**Lindsay Keeney**	Drilling Method:	**CME 550**
Dates Drilled:	**7/10 - 7/13/2015**	Sampling Method:	**2 ft. split spoons**
Drilling Company:	**Allied Environmental Services**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**HA-15-0082**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0–10	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

APPENDIX C

Waste Disposal Manifests

CLEANEARTH

Manifest # 1093622

GLOBAL JOB NUMBER: _____ **FACILITY APPROVAL NUMBER:** 1531 0088

Please Check One:

☐ Clean Earth of Carteret
24 Middlesex Avenue
Carteret, NJ 07008
Ph: 732-541-8909

☐ Clean Earth of Maryland
1469 Oak Ridge Place
Hagerstown, MD 21740
Ph: 301-791-6220

☐ Clean Earth of New Castle
94 Pyles Lane
New Castle, DE 19720
Ph: 302-427-6633

☒ Clean Earth of Greater Washington
6250 Dower House Road
Upper Marlboro, MD 20772
Ph: 301-599-0939

☐ Clean Earth of Philadelphia
3201 S. 61st Street
Philadelphia, PA 19153
Ph: 215-724-5520

☐ Clean Earth of North Jersey
115 Jacobus Avenue
Kearny, NJ 07032
Ph: 973-344-4004

☐ Clean Earth of Southeast Pennsylvania
7 Steel Road East
Morrisville, PA 19067
Ph: 215-428-1700

☐ Other _____

Non-Hazardous Material Manifest

(Type or Print Clearly)

GENERATOR'S NAME & SITE ADDRESS: High's of Baltimore, LLC Store #130, 4101 Norrisville Rd. White Hall, MD	GROSS WEIGHT: ☐Tons ☐Yards
	TARE WEIGHT: ☐Tons ☐Yards
GENERATOR'S PHONE: 410-261-5450	NET WEIGHT: ☐Tons ☐Yards 7.46

DESCRIPTION OF MATERIAL/SAMPLE ID AND LOCATION

Soil cuttings from installation of Mon. Wells MW-4, 4S, 5, 5S 6, 6S

GENERATOR'S CERTIFICATION – Incomplete and/or unsigned manifests will cause the load to be delayed and/or rejected.

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, is not a DOT hazardous substance as defined by 49 CFR Part 172 or any applicable state law, has been fully and accurately described above, classified, packaged and is in proper condition for transportation according to all applicable state and federal regulations.

Name: Peter Raich on behalf of High's of Baltimore, LLC. Title: GES - Proj. Hydrogeologist

Signature: _____ Date and Time: 7/15/15 @ 12:45 PM

TRANSPORTER

Company: HEPACO Phone Number: 443-438-2710

Address: 7112 Commerical Ave Truck # and License Plate: 20-0096 / 59-776P

Driver: Daren Grant SW Haulers Permit #: _____

(Type or Print Clearly) (applicable state permit #)

I hereby certify that the above named material was picked up at the site listed above.

Driver Signature: Daren Grant Date and Time: 7.16.15

DESTINATION

I hereby certify that the above named material was delivered without incident to the facility noted above.

Driver Signature: Daren Grant Date and Time: 7-16-15

I hereby certify that the above named material has been accepted at the above referenced facility.

Authorized Signature: _____ Date and Time: 7-16

GENERATOR

Designated Facility: Reco Biotechnology
710 Hospital Street
WO 247477 Richmond, VA 23219
(804) 644-2800

MANIFEST NO. 1

RECO JOB NO. 33507

Generator: Carroll Independent Fuel Co. Contact: Lindsay Keeney

Site Address: 4101 Norrisville Rd Emergency Phone: 240-626-7334
Madonna, MD (White Hall MD)
site - service station

I declare that the material released to Reco Biotechnology is fully and accurately described and classified, is not a hazardous waste and in all respects in proper condition for transport by highway in accordance with all applicable federal, state and local regulations.

No. of Packages - Type	HM	Description of articles, special marks and exceptions	Hazard Class	I.D. Number	Packaging Group	Labels Required	Gallons Subject to Correction
~~2~~ DM 6 ar		Non-regulated Material (IDW - groundwater from monitoring wells)	NA	NA	NA	NA	

*DM=Drum; TT=Tank Trucks; RC=Rail Car

Generator / Agent Authorized Signature: Amy Kraft Date: 7-28-15

Transporter

Company: First Call Env Truck# _____

Address: Ashland, VA Phone: _____

Driver (Printed Name): Keith McPherson Signature: Keith McPherson

Discrepancies: (6) DRUMS Date: 7-28-15

Received by: Reco Biotechnology

Printed Name: DHunt Signature: DHunt

Date: 7-28-15

APPENDIX D

Vertical Gradient Calculations

Vertical Gradient Calculations

Input Parameters

	Surface Elevation	Depth to Well Screen	Screen Length	Depth to Water
Shallow Well	91.56	12	20	19.7
Deep Well	91.2	83	10	19.16

Results

	Magnitude	Flow Direction	
Screen mid-point value	0.002880	up	
Range of Estimates	0.002444 to 0.003	up; up	More information...

Flow directions can be determined. Shallow well is a water table well.

Gradient Estimate Between Piezometers (screen lengths equal to zero)

Piezoemeters	0.002522	up

MW-4 and MW-4D vertical gradient magnitude and flow direction (EPA calculator).

Input Parameters

	Surface Elevation	Depth to Well Screen	Screen Length	Depth to Water
Shallow Well	85.69	10	20	15.08
Deep Well	85.95	75	10	15.03

Results

	Magnitude	Flow Direction	
Screen mid-point value	0.005420	up	
Range of Estimates	0.004450 to 0.006	up; up	More information...

Flow directions can be determined. Shallow well is a water table well.

Gradient Estimate Between Piezometers (screen lengths equal to zero)

Piezoemeters	0.004788	up

MW-5 and MW-5D vertical gradient magnitude and flow direction (EPA calculator).

Vertical Gradient Calculations

Input Parameters

	Surface Elevation	Depth to Well Screen	Screen Length	Depth to Water
Shallow Well	84.99	10	20	14.34
Deep Well	85.40	65	10	14.39

Results

	Magnitude	Flow Direction	
Screen mid-point value	0.007592	up	
Range of Estimates	0.005975 to 0.010	up; up	More information...

Flow directions can be determined. Shallow well is a water table well.

Gradient Estimate Between Piezometers (screen lengths equal to zero)

Piezoemeters	0.006595	up

MW-6 and MW-6D vertical gradient magnitude and flow direction (EPA calculator).

EPA's vertical gradient calculator can be found at this site:
http://www.epa.gov/athens/learn2model/part-two/onsite/vgradient.html

APPENDIX E

Laboratory Analytical Reports with Chain of Custody Documentation
(Included with Attached Data CD)

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

July 13, 2015

Project: Carroll Madonna

Submittal Date: 07/02/2015
Group Number: 1574153
PO Number: 0402814-02-201
Release Number: MADONNA
State of Sample Origin: MD

Client Sample Description	Lancaster Labs (LL) #
MW-4D 25.6-27' Grab Sediment	7953659

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution
ELECTRONIC COPY TO	GES Inc.	Attn: Andrea Taylorson-Collins

Respectfully Submitted,

Kaitlin N. Plasterer

Kaitlin N. Plasterer
Specialist

(717) 556-7323

Sample Description: MW-4D 25.6-27' Grab Sediment
Caroll Madonna

LL Sample # SW 7953659
LL Group # 1574153
Account # 08390

Project Name: Carroll Madonna

Collected: 06/30/2015 11:00 by LK

Submitted: 07/02/2015 16:14
Reported: 07/13/2015 12:38

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD4D

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/kg**	**ug/kg**	
10237	Acrylonitrile	107-13-1	N.D.	4	0.79
10237	t-Amyl methyl ether	994-05-8	N.D.	0.9	0.79
10237	Benzene	71-43-2	N.D.	0.5	0.79
10237	Bromobenzene	108-86-1	N.D.	0.9	0.79
10237	Bromochloromethane	74-97-5	N.D.	0.9	0.79
10237	Bromodichloromethane	75-27-4	N.D.	0.9	0.79
10237	Bromoform	75-25-2	N.D.	0.9	0.79
10237	Bromomethane	74-83-9	N.D.	2	0.79
10237	t-Butyl alcohol	75-65-0	N.D.	18	0.79
10237	n-Butylbenzene	104-51-8	N.D.	0.9	0.79
10237	sec-Butylbenzene	135-98-8	N.D.	0.9	0.79
10237	tert-Butylbenzene	98-06-6	N.D.	0.9	0.79
10237	Carbon Disulfide	75-15-0	N.D.	0.9	0.79
10237	Chlorobenzene	108-90-7	N.D.	0.9	0.79
10237	Chloroethane	75-00-3	N.D.	2	0.79
10237	Chloroform	67-66-3	N.D.	0.9	0.79
10237	Chloromethane	74-87-3	N.D.	2	0.79
10237	2-Chlorotoluene	95-49-8	N.D.	0.9	0.79
10237	4-Chlorotoluene	106-43-4	N.D.	0.9	0.79
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	2	0.79
10237	Dibromochloromethane	124-48-1	N.D.	0.9	0.79
10237	1,2-Dibromoethane	106-93-4	N.D.	0.9	0.79
10237	Dibromomethane	74-95-3	N.D.	0.9	0.79
10237	trans-1,4-Dichloro-2-butene	110-57-6	N.D.	9	0.79
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.9	0.79
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.9	0.79
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.9	0.79
10237	Dichlorodifluoromethane	75-71-8	N.D.	2	0.79
10237	1,1-Dichloroethane	75-34-3	N.D.	0.9	0.79
10237	1,2-Dichloroethane	107-06-2	N.D.	0.9	0.79
10237	1,1-Dichloroethene	75-35-4	N.D.	0.9	0.79
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.9	0.79
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.9	0.79
10237	1,2-Dichloropropane	78-87-5	N.D.	0.9	0.79
10237	1,3-Dichloropropane	142-28-9	N.D.	0.9	0.79
10237	2,2-Dichloropropane	594-20-7	N.D.	0.9	0.79
10237	1,1-Dichloropropene	563-58-6	N.D.	0.9	0.79
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.9	0.79
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.9	0.79
10237	Ethyl t-butyl ether	637-92-3	N.D.	0.9	0.79
10237	Ethylbenzene	100-41-4	N.D.	0.9	0.79
10237	Hexachlorobutadiene	87-68-3	N.D.	2	0.79
10237	di-Isopropyl ether	108-20-3	N.D.	0.9	0.79
10237	Isopropylbenzene	98-82-8	N.D.	0.9	0.79
10237	p-Isopropyltoluene	99-87-6	N.D.	0.9	0.79
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	0.79
10237	Methylene Chloride	75-09-2	N.D.	2	0.79
10237	Naphthalene	91-20-3	N.D.	0.9	0.79
10237	n-Propylbenzene	103-65-1	N.D.	0.9	0.79
10237	Styrene	100-42-5	N.D.	0.9	0.79
10237	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.9	0.79

Sample Description: MW-4D 25.6-27' Grab Sediment
Caroll Madonna

LL Sample # SW 7953659
LL Group # 1574153
Account # 08390

Project Name: Carroll Madonna

Collected: 06/30/2015 11:00 by LK

Submitted: 07/02/2015 16:14
Reported: 07/13/2015 12:38

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD4D

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/kg**	**ug/kg**	
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.9	0.79
10237	Tetrachloroethene	127-18-4	N.D.	0.9	0.79
10237	Toluene	108-88-3	N.D.	0.9	0.79
10237	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.9	0.79
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.9	0.79
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.9	0.79
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.9	0.79
10237	Trichloroethene	79-01-6	N.D.	0.9	0.79
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.79
10237	1,2,3-Trichloropropane	96-18-4	N.D.	0.9	0.79
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.9	0.79
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.9	0.79
10237	Vinyl Chloride	75-01-4	N.D.	0.9	0.79
10237	Xylene (Total)	1330-20-7	N.D.	0.9	0.79
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01637	TPH-GRO soil C6-C10	n.a.	N.D.	0.2	20.33
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	
10941	TPH-DRO soil C10-C28 microwave	n.a.	N.D.	4.6	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	14.4	0.50	1

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

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X151891AA	07/08/2015 16:15	Angela D Sneeringer	0.79
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201518338165	06/30/2015 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201518338165	06/30/2015 11:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201518338165	06/30/2015 11:00	Client Supplied	1
01637	TPH-GRO soil C6-C10	SW-846 8015B modified	1	15187A16A	07/07/2015 19:36	Marie D Beamenderfer	20.33

Sample Description: MW-4D 25.6-27' Grab Sediment
Caroll Madonna

LL Sample # SW 7953659
LL Group # 1574153
Account # 08390

Project Name: Carroll Madonna

Collected: 06/30/2015 11:00 by LK

Submitted: 07/02/2015 16:14
Reported: 07/13/2015 12:38

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD4D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201518338165	06/30/2015 11:00	Client Supplied	n.a.
10941	TPH-DRO soil C10-C28 microwave	SW-846 8015B	1	151890009A	07/10/2015 12:25	Christine E Dolman	1
10942	Microwave Extraction-DRO soils	SW-846 3546	1	151890009A	07/08/2015 18:50	Sally L Appleyard	1
00111	Moisture	SM 2540 G-1997	1	15190820002B	07/09/2015 15:43	Susan A Engle	1

Quality Control Summary

Client Name: GES, Inc. Group Number: 1574153
Reported: 07/13/2015 12:38

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: X151891AA	Sample number(s): 7953659							
Acrylonitrile	N.D.	4.	ug/kg	74	72	58-120	3	30
t-Amyl methyl ether	N.D.	1.	ug/kg	81	81	70-120	1	30
Benzene	N.D.	0.5	ug/kg	98	97	80-120	1	30
Bromobenzene	N.D.	1.	ug/kg	95	95	78-120	0	30
Bromochloromethane	N.D.	1.	ug/kg	95	93	80-120	2	30
Bromodichloromethane	N.D.	1.	ug/kg	90	89	75-120	1	30
Bromoform	N.D.	1.	ug/kg	75	71	64-120	5	30
Bromomethane	N.D.	2.	ug/kg	87	87	41-144	1	30
t-Butyl alcohol	N.D.	20.	ug/kg	98	98	76-120	0	30
n-Butylbenzene	N.D.	1.	ug/kg	101	102	72-120	1	30
sec-Butylbenzene	N.D.	1.	ug/kg	102	100	69-120	2	30
tert-Butylbenzene	N.D.	1.	ug/kg	97	94	75-120	3	30
Carbon Disulfide	N.D.	1.	ug/kg	91	89	52-126	2	30
Chlorobenzene	N.D.	1.	ug/kg	101	100	80-120	1	30
Chloroethane	N.D.	2.	ug/kg	83	88	38-142	6	30
Chloroform	N.D.	1.	ug/kg	96	97	80-120	1	30
Chloromethane	N.D.	2.	ug/kg	75	76	56-120	1	30
2-Chlorotoluene	N.D.	1.	ug/kg	102	100	78-120	2	30
4-Chlorotoluene	N.D.	1.	ug/kg	102	99	79-120	2	30
1,2-Dibromo-3-chloropropane	N.D.	2.	ug/kg	68	65	59-122	5	30
Dibromochloromethane	N.D.	1.	ug/kg	90	86	77-120	4	30
1,2-Dibromoethane	N.D.	1.	ug/kg	91	88	80-120	3	30
Dibromomethane	N.D.	1.	ug/kg	90	89	80-120	1	30
trans-1,4-Dichloro-2-butene	N.D.	10.	ug/kg	93	88	71-135	5	30
1,2-Dichlorobenzene	N.D.	1.	ug/kg	96	95	80-120	1	30
1,3-Dichlorobenzene	N.D.	1.	ug/kg	98	97	80-120	2	30
1,4-Dichlorobenzene	N.D.	1.	ug/kg	99	99	80-120	1	30
Dichlorodifluoromethane	N.D.	2.	ug/kg	84	83	26-137	1	30
1,1-Dichloroethane	N.D.	1.	ug/kg	94	93	77-120	0	30
1,2-Dichloroethane	N.D.	1.	ug/kg	93	94	77-130	0	30
1,1-Dichloroethene	N.D.	1.	ug/kg	98	97	73-129	1	30
cis-1,2-Dichloroethene	N.D.	1.	ug/kg	99	97	80-120	2	30
trans-1,2-Dichloroethene	N.D.	1.	ug/kg	99	98	79-122	1	30
1,2-Dichloropropane	N.D.	1.	ug/kg	95	96	76-120	1	30
1,3-Dichloropropane	N.D.	1.	ug/kg	94	91	80-120	2	30
2,2-Dichloropropane	N.D.	1.	ug/kg	95	95	72-123	0	30
1,1-Dichloropropene	N.D.	1.	ug/kg	95	95	80-120	1	30
cis-1,3-Dichloropropene	N.D.	1.	ug/kg	91	90	74-120	1	30
trans-1,3-Dichloropropene	N.D.	1.	ug/kg	94	92	76-120	3	30
Ethyl t-butyl ether	N.D.	1.	ug/kg	80	80	69-120	0	30
Ethylbenzene	N.D.	1.	ug/kg	101	99	80-120	2	30
Hexachlorobutadiene	N.D.	2.	ug/kg	80	79	36-127	1	30
di-Isopropyl ether	N.D.	1.	ug/kg	89	89	71-120	0	30

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

Quality Control Summary

Client Name: GES, Inc. Group Number: 1574153
Reported: 07/13/2015 12:38

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Isopropylbenzene	N.D.	1.	ug/kg	97	97	76-120	0	30
p-Isopropyltoluene	N.D.	1.	ug/kg	98	96	69-120	2	30
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/kg	80	79	72-120	1	30
Methylene Chloride	N.D.	2.	ug/kg	96	96	80-124	0	30
Naphthalene	N.D.	1.	ug/kg	76	74	64-120	3	30
n-Propylbenzene	N.D.	1.	ug/kg	104	102	77-120	2	30
Styrene	N.D.	1.	ug/kg	99	97	76-120	2	30
1,1,1,2-Tetrachloroethane	N.D.	1.	ug/kg	94	94	80-120	0	30
1,1,2,2-Tetrachloroethane	N.D.	1.	ug/kg	90	87	72-120	4	30
Tetrachloroethene	N.D.	1.	ug/kg	93	90	78-120	3	30
Toluene	N.D.	1.	ug/kg	102	101	80-120	1	30
1,2,3-Trichlorobenzene	N.D.	1.	ug/kg	79	78	52-120	2	30
1,2,4-Trichlorobenzene	N.D.	1.	ug/kg	82	80	68-120	2	30
1,1,1-Trichloroethane	N.D.	1.	ug/kg	100	100	66-126	0	30
1,1,2-Trichloroethane	N.D.	1.	ug/kg	93	93	80-120	1	30
Trichloroethene	N.D.	1.	ug/kg	99	97	80-120	2	30
Trichlorofluoromethane	N.D.	2.	ug/kg	85	83	58-133	2	30
1,2,3-Trichloropropane	N.D.	1.	ug/kg	88	84	77-120	4	30
1,2,4-Trimethylbenzene	N.D.	1.	ug/kg	102	100	79-120	1	30
1,3,5-Trimethylbenzene	N.D.	1.	ug/kg	101	100	78-120	1	30
Vinyl Chloride	N.D.	1.	ug/kg	79	78	59-120	1	30
Xylene (Total)	N.D.	1.	ug/kg	100	99	80-120	1	30
Batch number: 15187A16A	Sample number(s): 7953659							
TPH-GRO soil C6-C10	N.D.	0.2	mg/kg	76	74	61-120	2	30
Batch number: 151890009A	Sample number(s): 7953659							
TPH-DRO soil C10-C28 microwave	N.D.	4.0	mg/kg	99		81-121		
Batch number: 15190820002B	Sample number(s): 7953659							
Moisture				100		99-101		

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: X151891AA	Sample number(s): 7953659 UNSPK: P955773								
Acrylonitrile	84		48-139						
t-Amyl methyl ether	81		50-132						
Benzene	99		55-143						
Bromobenzene	92		43-139						
Bromochloromethane	101		60-137						
Bromodichloromethane	91		53-136						
Bromoform	76		50-144						
Bromomethane	89		42-168						
t-Butyl alcohol	105		47-153						
n-Butylbenzene	92		30-146						
sec-Butylbenzene	95		33-157						
tert-Butylbenzene	92		41-152						
Carbon Disulfide	96		48-146						

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

Quality Control Summary

Client Name: GES, Inc. Group Number: 1574153
Reported: 07/13/2015 12:38

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Chlorobenzene	99		49-135						
Chloroethane	90		39-152						
Chloroform	98		61-142						
Chloromethane	83		36-143						
2-Chlorotoluene	96		42-146						
4-Chlorotoluene	96		39-145						
1,2-Dibromo-3-chloropropane	78		34-165						
Dibromochloromethane	89		51-128						
1,2-Dibromoethane	95		54-129						
Dibromomethane	94		57-130						
trans-1,4-Dichloro-2-butene	102		31-144						
1,2-Dichlorobenzene	87		36-133						
1,3-Dichlorobenzene	91		34-134						
1,4-Dichlorobenzene	92		35-136						
Dichlorodifluoromethane	99		26-151						
1,1-Dichloroethane	95		63-142						
1,2-Dichloroethane	98		54-143						
1,1-Dichloroethene	107		61-149						
cis-1,2-Dichloroethene	100		67-135						
trans-1,2-Dichloroethene	104		64-144						
1,2-Dichloropropane	95		54-144						
1,3-Dichloropropane	94		51-140						
2,2-Dichloropropane	99		53-147						
1,1-Dichloropropene	100		54-145						
cis-1,3-Dichloropropene	90		45-137						
trans-1,3-Dichloropropene	94		51-134						
Ethyl t-butyl ether	78		58-124						
Ethylbenzene	98		44-141						
Hexachlorobutadiene	65		10-155						
di-Isopropyl ether	87		59-133						
Isopropylbenzene	94		38-144						
p-Isopropyltoluene	91		29-152						
Methyl Tertiary Butyl Ether	82		55-129						
Methylene Chloride	99		60-149						
Naphthalene	60		10-138						
n-Propylbenzene	99		39-157						
Styrene	92		35-134						
1,1,1,2-Tetrachloroethane	93		55-139						
1,1,2,2-Tetrachloroethane	96		29-182						
Tetrachloroethene	94		42-149						
Toluene	101		50-146						
1,2,3-Trichlorobenzene	62		10-140						
1,2,4-Trichlorobenzene	65		10-136						
1,1,1-Trichloroethane	105		52-146						
1,1,2-Trichloroethane	96		58-152						
Trichloroethene	101		53-144						
Trichlorofluoromethane	96		47-163						
1,2,3-Trichloropropane	98		36-180						
1,2,4-Trimethylbenzene	95		37-149						
1,3,5-Trimethylbenzene	95		38-150						
Vinyl Chloride	83		50-154						
Xylene (Total)	97		44-136						

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

Quality Control Summary

Client Name: GES, Inc. Group Number: 1574153
Reported: 07/13/2015 12:38

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 151890009A	Sample number(s): 7953659 UNSPK: P953914								
TPH-DRO soil C10-C28 microwave	90	105	35-129	15	20				
Batch number: 15190820002B	Sample number(s): 7953659 BKG: P952117								
Moisture						17.3	17.6	2	5

Surrogate Quality Control

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

Analysis Name: VOCs- Solid by 8260B
Batch number: X151891AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7953659	103	102	95	97
Blank	99	103	98	95
LCS	96	97	101	100
LCSD	96	97	101	99
MS	100	107	100	100
Limits:	50-141	54-135	52-141	50-131

Analysis Name: TPH-GRO soil C6-C10
Batch number: 15187A16A

	Trifluorotoluene-F
7953659	71
Blank	88
LCS	95
LCSD	92
Limits:	50-142

Analysis Name: TPH-DRO soil C10-C28 microwave
Batch number: 151890009A

	Orthoterphenyl
7953659	84
Blank	100
LCS	95
MS	89
MSD	89
Limits:	54-145

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

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 8390 Group # 1574153 Sample # 7953659

Client: Groundwater & Environmental Services, Inc. (GES)	
Project Name/#: Carroll Madonna	Site ID #: 0402814
Project Manager: Peter Reichardt	P.O. #: 0402814-02-201
Sampler: Lindsay Keeney	PWSID #:
Phone #: 800-220-3606	Quote #:
State where sample(s) were collected: 4101 Norrisville Rd, Jarrettsville MD	

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix: Soil	Sediment	Water: Ground	Surface	Potable	NPDES	Other:	Total # of Containers	Analyses Requested: Full Suite VOCs incl. Napthalene & OXys (8260)	THP-GRO	TPH-DRO
MW-4D 25.6-27'	6-30-15	1100	X		X							6	X	X	X

Preservation Codes: H = HCl; T = Thiosulfate; N = HNO_3; B = NaOH; S = H_2SO_4; P = H_3PO_4; O = Other

For Lab Use Only: SF #: ____ SCR #: ____

Remarks: EDD file name: Carroll Madonna-lab report #.21993.EQEDD.zip

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐

(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

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

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone: 800-220-3606 x3717

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: EQEDD

Relinquished by:	Date	Time	Received by:	Date	Time
	7-1-15	1730	Denise Woodring	7-2-15	0800
Denise Woodring	7-2-15	1215		7-2-15	1215
	7-2-15	1614			
				7/2/15	1614

Relinquished by Commercial Carrier: UPS ____ FedEx ____ Other ____

Temperature upon receipt 1.0 °C 7/2/15

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 83761

Group Number(s): 1574153

Client: GES

Carroll Madonna

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	07/02/2015 16:14
Number of Packages:	1	Number of Projects:	3
State/Province of Origin:	MD		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	No
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jordan Woods (6698) at 17:02 on 07/02/2015

Samples Chilled Details: Carroll Madonna

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	0.2	DT	Wet	Y	Bagged	N

Sample ID Discrepancy Details: Carroll Madonna

Sample ID on COC	Sample ID on Label	Comments
MW-4D 25.6-27'	MW-4 25-26.4'	Only on jar

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

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

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

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

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

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

July 21, 2015

Project: Carroll Madonna

Submittal Date: 07/09/2015
Group Number: 1575608
PO Number: 0402814-02-201
Release Number: MADONNA
State of Sample Origin: MD

Client Sample Description	Lancaster Labs (LL) #
MW-5D 10'-12' Grab Soil	7960740

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES	Attn: Greg Reichart
ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution
ELECTRONIC COPY TO	GES Inc.	Attn: Andrea Taylorson-Collins

Respectfully Submitted,

Kaitlin N. Plasterer
Specialist

(717) 556-7323

Sample Description: MW-5D 10'-12' Grab Soil
4101 Norrisville Rd - Jarrettsville, MD
Carroll Madonna

LL Sample # SW 7960740
LL Group # 1575608
Account # 08390

Project Name: Carroll Madonna

Collected: 07/06/2015 10:55 by PR

Submitted: 07/09/2015 17:25
Reported: 07/21/2015 20:30

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD5D

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/kg**	**ug/kg**	
10237	Acrylonitrile	107-13-1	N.D.	5	1.07
10237	t-Amyl methyl ether	994-05-8	N.D.	1	1.07
10237	Benzene	71-43-2	N.D.	0.6	1.07
10237	Bromobenzene	108-86-1	N.D.	1	1.07
10237	Bromochloromethane	74-97-5	N.D.	1	1.07
10237	Bromodichloromethane	75-27-4	N.D.	1	1.07
10237	Bromoform	75-25-2	N.D.	1	1.07
10237	Bromomethane	74-83-9	N.D.	2	1.07
10237	t-Butyl alcohol	75-65-0	N.D.	24	1.07
10237	n-Butylbenzene	104-51-8	N.D.	1	1.07
10237	sec-Butylbenzene	135-98-8	N.D.	1	1.07
10237	tert-Butylbenzene	98-06-6	N.D.	1	1.07
10237	Carbon Disulfide	75-15-0	N.D.	1	1.07
10237	Chlorobenzene	108-90-7	N.D.	1	1.07
10237	Chloroethane	75-00-3	N.D.	2	1.07
10237	Chloroform	67-66-3	N.D.	1	1.07
10237	Chloromethane	74-87-3	N.D.	2	1.07
10237	2-Chlorotoluene	95-49-8	N.D.	1	1.07
10237	4-Chlorotoluene	106-43-4	N.D.	1	1.07
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	2	1.07
10237	Dibromochloromethane	124-48-1	N.D.	1	1.07
10237	1,2-Dibromoethane	106-93-4	N.D.	1	1.07
10237	Dibromomethane	74-95-3	N.D.	1	1.07
10237	trans-1,4-Dichloro-2-butene	110-57-6	N.D.	12	1.07
10237	1,2-Dichlorobenzene	95-50-1	N.D.	1	1.07
10237	1,3-Dichlorobenzene	541-73-1	N.D.	1	1.07
10237	1,4-Dichlorobenzene	106-46-7	N.D.	1	1.07
10237	Dichlorodifluoromethane	75-71-8	N.D.	2	1.07
10237	1,1-Dichloroethane	75-34-3	N.D.	1	1.07
10237	1,2-Dichloroethane	107-06-2	N.D.	1	1.07
10237	1,1-Dichloroethene	75-35-4	N.D.	1	1.07
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	1	1.07
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	1	1.07
10237	1,2-Dichloropropane	78-87-5	N.D.	1	1.07
10237	1,3-Dichloropropane	142-28-9	N.D.	1	1.07
10237	2,2-Dichloropropane	594-20-7	N.D.	1	1.07
10237	1,1-Dichloropropene	563-58-6	N.D.	1	1.07
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	1.07
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	1.07
10237	Ethyl t-butyl ether	637-92-3	N.D.	1	1.07
10237	Ethylbenzene	100-41-4	N.D.	1	1.07
10237	Hexachlorobutadiene	87-68-3	N.D.	2	1.07
10237	di-Isopropyl ether	108-20-3	N.D.	1	1.07
10237	Isopropylbenzene	98-82-8	N.D.	1	1.07
10237	p-Isopropyltoluene	99-87-6	N.D.	1	1.07
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.6	1.07
10237	Methylene Chloride	75-09-2	N.D.	2	1.07
10237	Naphthalene	91-20-3	N.D.	1	1.07
10237	n-Propylbenzene	103-65-1	N.D.	1	1.07
10237	Styrene	100-42-5	N.D.	1	1.07

Sample Description: MW-5D 10'-12' Grab Soil
4101 Norrisville Rd - Jarrettsville, MD
Carroll Madonna

LL Sample # SW 7960740
LL Group # 1575608
Account # 08390

Project Name: Carroll Madonna

Collected: 07/06/2015 10:55 by PR

Submitted: 07/09/2015 17:25
Reported: 07/21/2015 20:30

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD5D

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/kg**	**ug/kg**	
10237	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	1	1.07
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	1.07
10237	Tetrachloroethene	127-18-4	N.D.	1	1.07
10237	Toluene	108-88-3	N.D.	1	1.07
10237	1,2,3-Trichlorobenzene	87-61-6	N.D.	1	1.07
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	1	1.07
10237	1,1,1-Trichloroethane	71-55-6	N.D.	1	1.07
10237	1,1,2-Trichloroethane	79-00-5	N.D.	1	1.07
10237	Trichloroethene	79-01-6	N.D.	1	1.07
10237	Trichlorofluoromethane	75-69-4	N.D.	2	1.07
10237	1,2,3-Trichloropropane	96-18-4	N.D.	1	1.07
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	1.07
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	1.07
10237	Vinyl Chloride	75-01-4	N.D.	1	1.07
10237	Xylene (Total)	1330-20-7	N.D.	1	1.07
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01637	TPH-GRO soil C6-C10	n.a.	N.D.	0.3	27.9
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	
10941	TPH-DRO soil C10-C28 microwave	n.a.	N.D.	4.5	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	11.4	0.50	1

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

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X152001AA	07/19/2015 13:05	Angela D Sneeringer	1.07
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201519038209	07/06/2015 10:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201519038209	07/06/2015 10:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201519038209	07/06/2015 10:55	Client Supplied	1

Sample Description: MW-5D 10'-12' Grab Soil
4101 Norrisville Rd - Jarrettsville, MD
Carroll Madonna

LL Sample # SW 7960740
LL Group # 1575608
Account # 08390

Project Name: Carroll Madonna

Collected: 07/06/2015 10:55 by PR

Submitted: 07/09/2015 17:25
Reported: 07/21/2015 20:30

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD5D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01637	TPH-GRO soil C6-C10	SW-846 8015B modified	1	15194A31A	07/13/2015 20:49	Marie D Beamenderfer	27.9
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201519038209	07/06/2015 10:55	Client Supplied	n.a.
10941	TPH-DRO soil C10-C28 microwave	SW-846 8015B	1	151940011A	07/14/2015 13:54	Christine E Dolman	1
10942	Microwave Extraction-DRO soils	SW-846 3546	1	151940011A	07/13/2015 19:00	David V Hershey Jr	1
00111	Moisture	SM 2540 G-1997	1	15195820004A	07/14/2015 21:26	Scott W Freisher	1

Quality Control Summary

Client Name: GES, Inc. Group Number: 1575608
Reported: 07/21/2015 20:30

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: X152001AA	Sample number(s): 7960740							
Acrylonitrile	N.D.	4.	ug/kg	86	83	58-120	4	30
t-Amyl methyl ether	N.D.	1.	ug/kg	88	89	70-120	1	30
Benzene	N.D.	0.5	ug/kg	98	95	80-120	3	30
Bromobenzene	N.D.	1.	ug/kg	93	91	78-120	3	30
Bromochloromethane	N.D.	1.	ug/kg	107	103	80-120	4	30
Bromodichloromethane	N.D.	1.	ug/kg	93	89	75-120	4	30
Bromoform	N.D.	1.	ug/kg	87	82	64-120	6	30
Bromomethane	N.D.	2.	ug/kg	94	94	41-144	0	30
t-Butyl alcohol	N.D.	20.	ug/kg	84	82	76-120	2	30
n-Butylbenzene	N.D.	1.	ug/kg	98	96	72-120	2	30
sec-Butylbenzene	N.D.	1.	ug/kg	101	99	69-120	2	30
tert-Butylbenzene	N.D.	1.	ug/kg	99	97	75-120	1	30
Carbon Disulfide	N.D.	1.	ug/kg	99	96	52-126	4	30
Chlorobenzene	N.D.	1.	ug/kg	97	94	80-120	3	30
Chloroethane	N.D.	2.	ug/kg	103	98	38-142	5	30
Chloroform	N.D.	1.	ug/kg	101	97	80-120	4	30
Chloromethane	N.D.	2.	ug/kg	89	87	56-120	3	30
2-Chlorotoluene	N.D.	1.	ug/kg	96	94	78-120	2	30
4-Chlorotoluene	N.D.	1.	ug/kg	94	92	79-120	2	30
1,2-Dibromo-3-chloropropane	N.D.	2.	ug/kg	79	74	59-122	7	30
Dibromochloromethane	N.D.	1.	ug/kg	90	87	77-120	3	30
1,2-Dibromoethane	N.D.	1.	ug/kg	94	91	80-120	4	30
Dibromomethane	N.D.	1.	ug/kg	96	94	80-120	3	30
trans-1,4-Dichloro-2-butene	N.D.	10.	ug/kg	85	81	71-135	5	30
1,2-Dichlorobenzene	N.D.	1.	ug/kg	94	92	80-120	2	30
1,3-Dichlorobenzene	N.D.	1.	ug/kg	96	93	80-120	3	30
1,4-Dichlorobenzene	N.D.	1.	ug/kg	96	93	80-120	3	30
Dichlorodifluoromethane	N.D.	2.	ug/kg	98	93	26-137	5	30
1,1-Dichloroethane	N.D.	1.	ug/kg	94	92	77-120	2	30
1,2-Dichloroethane	N.D.	1.	ug/kg	99	95	77-130	4	30
1,1-Dichloroethene	N.D.	1.	ug/kg	105	102	73-129	3	30
cis-1,2-Dichloroethene	N.D.	1.	ug/kg	102	98	80-120	4	30
trans-1,2-Dichloroethene	N.D.	1.	ug/kg	107	103	79-122	4	30
1,2-Dichloropropane	N.D.	1.	ug/kg	93	93	76-120	1	30
1,3-Dichloropropane	N.D.	1.	ug/kg	88	87	80-120	1	30
2,2-Dichloropropane	N.D.	1.	ug/kg	98	95	72-123	3	30
1,1-Dichloropropene	N.D.	1.	ug/kg	95	90	80-120	5	30
cis-1,3-Dichloropropene	N.D.	1.	ug/kg	88	86	74-120	2	30
trans-1,3-Dichloropropene	N.D.	1.	ug/kg	89	87	76-120	2	30
Ethyl t-butyl ether	N.D.	1.	ug/kg	86	88	69-120	2	30
Ethylbenzene	N.D.	1.	ug/kg	97	95	80-120	2	30
Hexachlorobutadiene	N.D.	2.	ug/kg	96	93	36-127	2	30
di-Isopropyl ether	N.D.	1.	ug/kg	88	90	71-120	1	30

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

Quality Control Summary

Client Name: GES, Inc. Group Number: 1575608
Reported: 07/21/2015 20:30

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Isopropylbenzene	N.D.	1.	ug/kg	102	99	76-120	3	30
p-Isopropyltoluene	N.D.	1.	ug/kg	99	98	69-120	1	30
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/kg	94	93	72-120	1	30
Methylene Chloride	N.D.	2.	ug/kg	99	98	80-124	1	30
Naphthalene	N.D.	1.	ug/kg	88	84	64-120	5	30
n-Propylbenzene	N.D.	1.	ug/kg	97	96	77-120	2	30
Styrene	N.D.	1.	ug/kg	95	92	76-120	4	30
1,1,1,2-Tetrachloroethane	N.D.	1.	ug/kg	94	92	80-120	2	30
1,1,2,2-Tetrachloroethane	N.D.	1.	ug/kg	83	81	72-120	2	30
Tetrachloroethene	N.D.	1.	ug/kg	107	102	78-120	5	30
Toluene	N.D.	1.	ug/kg	98	96	80-120	2	30
1,2,3-Trichlorobenzene	N.D.	1.	ug/kg	85	82	52-120	4	30
1,2,4-Trichlorobenzene	N.D.	1.	ug/kg	92	89	68-120	3	30
1,1,1-Trichloroethane	N.D.	1.	ug/kg	91	87	66-126	4	30
1,1,2-Trichloroethane	N.D.	1.	ug/kg	91	89	80-120	2	30
Trichloroethene	N.D.	1.	ug/kg	102	97	80-120	5	30
Trichlorofluoromethane	N.D.	2.	ug/kg	103	98	58-133	5	30
1,2,3-Trichloropropane	N.D.	1.	ug/kg	90	87	77-120	4	30
1,2,4-Trimethylbenzene	N.D.	1.	ug/kg	96	94	79-120	2	30
1,3,5-Trimethylbenzene	N.D.	1.	ug/kg	97	96	78-120	2	30
Vinyl Chloride	N.D.	1.	ug/kg	90	88	59-120	2	30
Xylene (Total)	N.D.	1.	ug/kg	97	95	80-120	2	30
Batch number: 15194A31A	Sample number(s): 7960740							
TPH-GRO soil C6-C10	N.D.	0.2	mg/kg	86	87	61-120	1	30
Batch number: 151940011A	Sample number(s): 7960740							
TPH-DRO soil C10-C28 microwave	N.D.	4.0	mg/kg	96		81-121		
Batch number: 15195820004A	Sample number(s): 7960740							
Moisture				100		99-101		

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 151940011A	Sample number(s): 7960740 UNSPK: 7960740 BKG: 7960740								
TPH-DRO soil C10-C28 microwave	92		35-129			N.D.	N.D.	0 (1)	20
Batch number: 15195820004A	Sample number(s): 7960740 BKG: P959474								
Moisture						15.1	14.9	1	5

Surrogate Quality Control

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

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

Quality Control Summary

Client Name: GES, Inc. Group Number: 1575608
Reported: 07/21/2015 20:30

Surrogate Quality Control

Analysis Name: VOCs- Solid by 8260B
Batch number: X152001AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7960740	102	102	97	95
Blank	103	102	97	93
LCS	101	100	99	97
LCSD	101	100	100	96
Limits:	50-141	54-135	52-141	50-131

Analysis Name: TPH-GRO soil C6-C10
Batch number: 15194A31A

	Trifluorotoluene-F
7960740	105
Blank	105
LCS	111
LCSD	112
Limits:	50-142

Analysis Name: TPH-DRO soil C10-C28 microwave
Batch number: 151940011A

	Orthoterphenyl
7960740	89
Blank	92
DUP	93
LCS	90
MS	87
Limits:	54-145

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

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 8340 Group # 1575608 Sample # 7960740

Client: Groundwater & Environmental Services, Inc. (GES)	
Project Name/#: Carroll Madonna	Site ID #: 0402814 02 PR
Project Manager: Gregory Reichart	P.O. #: 0402814-05-201
Sampler: P. Reichardt	PWSID #:
Phone #: 800-220-3606	Quote #:
State where sample(s) were collected: 4101 Norrisville Rd, Jarrettsville, MD	

Matrix: Sediment ☐, Soil ☐; Water: Ground ☐, Surface ☐, Potable ☐, NPDES ☐; Other:

Analyses Requested / Preservation Codes

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Water	Other	Total # of Containers	VOCs plus Oxygenates and naphthalene (8260)	TPH-GRO (8015B)	TPH-DRO (8015B)	Remarks
Preservation Codes									O	O	—	
MW-5D 10'-12'	7/6/15	10:55	X		X			6	X	X	X	EDD file name: Carroll Madonna-lab report #.21993.EQEDD.zip

For Lab Use Only
SF #:
SCR #:

Preservation Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 P = H_3PO_4
O = Other

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

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

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone: 800-220-3606 x3717

Relinquished by	Date	Time	Received by	Date	Time
[signature]	7/6/15	19:45	Denise Wooding	7-9-15	0930
Denise Wooding	7-9-15	1330	[signature]	7/9/15	13:30
[signature]	7/9/15	17:20			
			[signature]	7/9/15	1725

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐
Type III (Reduced non-CLP) ☐ CT RCP ☐
Type VI (Raw Data Only) ☐ TX TRRP-13 ☐
NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: EQEDD

Relinquished by Commercial Carrier:
UPS ____ FedEx ____ Other ____

Temperature upon receipt 1.3 °C

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 85379

Group Number(s): 1575608

Client: GES

Carroll Madonna

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	07/09/2015 17:25
Number of Packages:	1	Number of Projects:	3
State/Province of Origin:	MD		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jordan Woods (6698) at 17:41 on 07/09/2015

Samples Chilled Details: Carroll Madonna

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.3	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

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

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

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

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

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

July 22, 2015

Project: Carroll Madonna

Submittal Date: 07/13/2015
Group Number: 1576296
PO Number: 0402814-02-201
Release Number: CARROLL MADONNA
State of Sample Origin: MD

Client Sample Description	Lancaster Labs (LL) #
MW-6D 40.5'-42' Grab Sediment	7964272

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES Inc.	Attn: Pete Reichardt
ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution
ELECTRONIC COPY TO	GES Inc.	Attn: Andrea Taylorson-Collins

Respectfully Submitted,

Kaitlin N. Plasterer
Specialist

(717) 556-7323

Sample Description: MW-6D 40.5'-42' Grab Sediment
Carroll Madonna

LL Sample # SW 7964272
LL Group # 1576296
Account # 08390

Project Name: Carroll Madonna

Collected: 07/10/2015 12:15 by LK

Submitted: 07/13/2015 16:50
Reported: 07/22/2015 14:29

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

CRRLM

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/kg**		**ug/kg**	
10237	Acrylonitrile	107-13-1	N.D.		4	0.84
10237	t-Amyl methyl ether	994-05-8	3	J	1	0.84
10237	Benzene	71-43-2	N.D.		0.5	0.84
10237	Bromobenzene	108-86-1	N.D.		1	0.84
10237	Bromochloromethane	74-97-5	N.D.		1	0.84
10237	Bromodichloromethane	75-27-4	N.D.		1	0.84
10237	Bromoform	75-25-2	N.D.		1	0.84
10237	Bromomethane	74-83-9	N.D.		2	0.84
10237	t-Butyl alcohol	75-65-0	170		21	0.84
10237	n-Butylbenzene	104-51-8	N.D.		1	0.84
10237	sec-Butylbenzene	135-98-8	N.D.		1	0.84
10237	tert-Butylbenzene	98-06-6	N.D.		1	0.84
10237	Carbon Disulfide	75-15-0	N.D.		1	0.84
10237	Chlorobenzene	108-90-7	N.D.		1	0.84
10237	Chloroethane	75-00-3	N.D.		2	0.84
10237	Chloroform	67-66-3	N.D.		1	0.84
10237	Chloromethane	74-87-3	N.D.		2	0.84
10237	2-Chlorotoluene	95-49-8	N.D.		1	0.84
10237	4-Chlorotoluene	106-43-4	N.D.		1	0.84
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		2	0.84
10237	Dibromochloromethane	124-48-1	N.D.		1	0.84
10237	1,2-Dibromoethane	106-93-4	N.D.		1	0.84
10237	Dibromomethane	74-95-3	N.D.		1	0.84
10237	trans-1,4-Dichloro-2-butene	110-57-6	N.D.		11	0.84
10237	1,2-Dichlorobenzene	95-50-1	N.D.		1	0.84
10237	1,3-Dichlorobenzene	541-73-1	N.D.		1	0.84
10237	1,4-Dichlorobenzene	106-46-7	N.D.		1	0.84
10237	Dichlorodifluoromethane	75-71-8	N.D.		2	0.84
10237	1,1-Dichloroethane	75-34-3	N.D.		1	0.84
10237	1,2-Dichloroethane	107-06-2	N.D.		1	0.84
10237	1,1-Dichloroethene	75-35-4	N.D.		1	0.84
10237	cis-1,2-Dichloroethene	156-59-2	N.D.		1	0.84
10237	trans-1,2-Dichloroethene	156-60-5	N.D.		1	0.84
10237	1,2-Dichloropropane	78-87-5	N.D.		1	0.84
10237	1,3-Dichloropropane	142-28-9	N.D.		1	0.84
10237	2,2-Dichloropropane	594-20-7	N.D.		1	0.84
10237	1,1-Dichloropropene	563-58-6	N.D.		1	0.84
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.		1	0.84
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.		1	0.84
10237	Ethyl t-butyl ether	637-92-3	N.D.		1	0.84
10237	Ethylbenzene	100-41-4	N.D.		1	0.84
10237	Hexachlorobutadiene	87-68-3	N.D.		2	0.84
10237	di-Isopropyl ether	108-20-3	N.D.		1	0.84
10237	Isopropylbenzene	98-82-8	N.D.		1	0.84
10237	p-Isopropyltoluene	99-87-6	N.D.		1	0.84
10237	Methyl Tertiary Butyl Ether	1634-04-4	200		0.5	0.84
10237	Methylene Chloride	75-09-2	N.D.		2	0.84
10237	Naphthalene	91-20-3	N.D.		1	0.84
10237	n-Propylbenzene	103-65-1	N.D.		1	0.84
10237	Styrene	100-42-5	N.D.		1	0.84
10237	1,1,1,2-Tetrachloroethane	630-20-6	N.D.		1	0.84

Sample Description: MW-6D 40.5'-42' Grab Sediment
Carroll Madonna

LL Sample # SW 7964272
LL Group # 1576296
Account # 08390

Project Name: Carroll Madonna

Collected: 07/10/2015 12:15 by LK

Submitted: 07/13/2015 16:50
Reported: 07/22/2015 14:29

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

CRRLM

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/kg**	**ug/kg**	
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	0.84
10237	Tetrachloroethene	127-18-4	N.D.	1	0.84
10237	Toluene	108-88-3	N.D.	1	0.84
10237	1,2,3-Trichlorobenzene	87-61-6	N.D.	1	0.84
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	1	0.84
10237	1,1,1-Trichloroethane	71-55-6	N.D.	1	0.84
10237	1,1,2-Trichloroethane	79-00-5	N.D.	1	0.84
10237	Trichloroethene	79-01-6	N.D.	1	0.84
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.84
10237	1,2,3-Trichloropropane	96-18-4	N.D.	1	0.84
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	0.84
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	0.84
10237	Vinyl Chloride	75-01-4	N.D.	1	0.84
10237	Xylene (Total)	1330-20-7	N.D.	1	0.84
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01637	TPH-GRO soil C6-C10	n.a.	N.D.	0.2	20.63
GC Miscellaneous	**SW-846 8015B**		**mg/kg**	**mg/kg**	
10941	TPH-DRO soil C10-C28 microwave	n.a.	N.D.	5.0	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	20.4	0.50	1

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

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X152021AA	07/21/2015 07:20	Stephanie A Selis	0.84
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201519438236	07/10/2015 12:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201519438236	07/10/2015 12:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201519438236	07/10/2015 12:15	Client Supplied	1
01637	TPH-GRO soil C6-C10	SW-846 8015B modified	1	15197A31A	07/17/2015 20:59	Marie D Beamenderfer	20.63
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201519438236	07/10/2015 12:15	Client Supplied	n.a.

Sample Description: MW-6D 40.5'-42' Grab Sediment
Carroll Madonna

LL Sample # SW 7964272
LL Group # 1576296
Account # 08390

Project Name: Carroll Madonna

Collected: 07/10/2015 12:15 by LK

Submitted: 07/13/2015 16:50
Reported: 07/22/2015 14:29

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

CRRLM

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10941	TPH-DRO soil C10-C28 microwave	SW-846 8015B	1	151960031A	07/21/2015 12:28	Christine E Dolman	1
10942	Microwave Extraction-DRO soils	SW-846 3546	1	151960031A	07/16/2015 09:00	Jessica M Velez	1
00111	Moisture	SM 2540 G-1997	1	15201820003A	07/20/2015 18:58	Scott W Freisher	1

Quality Control Summary

Client Name: GES, Inc. Group Number: 1576296
Reported: 07/22/2015 14:29

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: X152021AA	Sample number(s): 7964272							
Acrylonitrile	N.D.	4.	ug/kg	71	74	58-120	5	30
t-Amyl methyl ether	N.D.	1.	ug/kg	85	89	70-120	4	30
Benzene	N.D.	0.5	ug/kg	93	95	80-120	2	30
Bromobenzene	N.D.	1.	ug/kg	91	92	78-120	1	30
Bromochloromethane	N.D.	1.	ug/kg	111	111	80-120	0	30
Bromodichloromethane	N.D.	1.	ug/kg	97	97	75-120	0	30
Bromoform	N.D.	1.	ug/kg	91	91	64-120	0	30
Bromomethane	N.D.	2.	ug/kg	92	93	41-144	1	30
t-Butyl alcohol	N.D.	20.	ug/kg	83	84	76-120	2	30
n-Butylbenzene	N.D.	1.	ug/kg	93	96	72-120	3	30
sec-Butylbenzene	N.D.	1.	ug/kg	98	100	69-120	1	30
tert-Butylbenzene	N.D.	1.	ug/kg	102	99	75-120	2	30
Carbon Disulfide	N.D.	1.	ug/kg	96	98	52-126	2	30
Chlorobenzene	N.D.	1.	ug/kg	97	97	80-120	0	30
Chloroethane	N.D.	2.	ug/kg	90	108	38-142	18	30
Chloroform	N.D.	1.	ug/kg	104	104	80-120	0	30
Chloromethane	N.D.	2.	ug/kg	70	74	56-120	5	30
2-Chlorotoluene	N.D.	1.	ug/kg	93	93	78-120	1	30
4-Chlorotoluene	N.D.	1.	ug/kg	91	92	79-120	1	30
1,2-Dibromo-3-chloropropane	N.D.	2.	ug/kg	80	78	59-122	3	30
Dibromochloromethane	N.D.	1.	ug/kg	94	92	77-120	2	30
1,2-Dibromoethane	N.D.	1.	ug/kg	93	94	80-120	1	30
Dibromomethane	N.D.	1.	ug/kg	99	100	80-120	0	30
trans-1,4-Dichloro-2-butene	N.D.	10.	ug/kg	77	78	71-135	1	30
1,2-Dichlorobenzene	N.D.	1.	ug/kg	93	93	80-120	0	30
1,3-Dichlorobenzene	N.D.	1.	ug/kg	94	95	80-120	1	30
1,4-Dichlorobenzene	N.D.	1.	ug/kg	94	95	80-120	1	30
Dichlorodifluoromethane	N.D.	2.	ug/kg	80	81	26-137	1	30
1,1-Dichloroethane	N.D.	1.	ug/kg	88	91	77-120	3	30
1,2-Dichloroethane	N.D.	1.	ug/kg	106	104	77-130	2	30
1,1-Dichloroethene	N.D.	1.	ug/kg	101	102	73-129	1	30
cis-1,2-Dichloroethene	N.D.	1.	ug/kg	101	101	80-120	0	30
trans-1,2-Dichloroethene	N.D.	1.	ug/kg	105	106	79-122	1	30
1,2-Dichloropropane	N.D.	1.	ug/kg	85	88	76-120	4	30
1,3-Dichloropropane	N.D.	1.	ug/kg	84	84	80-120	0	30
2,2-Dichloropropane	N.D.	1.	ug/kg	93	93	72-123	0	30
1,1-Dichloropropene	N.D.	1.	ug/kg	92	94	80-120	3	30
cis-1,3-Dichloropropene	N.D.	1.	ug/kg	85	85	74-120	0	30
trans-1,3-Dichloropropene	N.D.	1.	ug/kg	85	85	76-120	0	30
Ethyl t-butyl ether	N.D.	1.	ug/kg	80	85	69-120	6	30
Ethylbenzene	N.D.	1.	ug/kg	96	97	80-120	1	30
Hexachlorobutadiene	N.D.	2.	ug/kg	100	102	36-127	2	30
di-Isopropyl ether	N.D.	1.	ug/kg	77	81	71-120	5	30

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

Quality Control Summary

Client Name: GES, Inc. Group Number: 1576296
Reported: 07/22/2015 14:29

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Isopropylbenzene	N.D.	1.	ug/kg	102	102	76-120	0	30
p-Isopropyltoluene	N.D.	1.	ug/kg	98	100	69-120	1	30
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/kg	93	96	72-120	3	30
Methylene Chloride	N.D.	2.	ug/kg	95	97	80-124	2	30
Naphthalene	N.D.	1.	ug/kg	87	90	64-120	3	30
n-Propylbenzene	N.D.	1.	ug/kg	92	93	77-120	1	30
Styrene	N.D.	1.	ug/kg	92	92	76-120	1	30
1,1,1,2-Tetrachloroethane	N.D.	1.	ug/kg	96	97	80-120	0	30
1,1,2,2-Tetrachloroethane	N.D.	1.	ug/kg	74	76	72-120	2	30
Tetrachloroethene	N.D.	1.	ug/kg	112	110	78-120	2	30
Toluene	N.D.	1.	ug/kg	94	94	80-120	1	30
1,2,3-Trichlorobenzene	N.D.	1.	ug/kg	85	86	52-120	1	30
1,2,4-Trichlorobenzene	N.D.	1.	ug/kg	92	95	68-120	3	30
1,1,1-Trichloroethane	N.D.	1.	ug/kg	103	102	66-126	1	30
1,1,2-Trichloroethane	N.D.	1.	ug/kg	88	88	80-120	0	30
Trichloroethene	N.D.	1.	ug/kg	104	103	80-120	1	30
Trichlorofluoromethane	N.D.	2.	ug/kg	102	100	58-133	2	30
1,2,3-Trichloropropane	N.D.	1.	ug/kg	88	89	77-120	1	30
1,2,4-Trimethylbenzene	N.D.	1.	ug/kg	92	94	79-120	2	30
1,3,5-Trimethylbenzene	N.D.	1.	ug/kg	95	95	78-120	1	30
Vinyl Chloride	N.D.	1.	ug/kg	75	81	59-120	8	30
Xylene (Total)	N.D.	1.	ug/kg	97	97	80-120	0	30
Batch number: 15197A31A	Sample number(s): 7964272							
TPH-GRO soil C6-C10	N.D.	0.2	mg/kg	84	84	61-120	0	30
Batch number: 151960031A	Sample number(s): 7964272							
TPH-DRO soil C10-C28 microwave	N.D.	4.0	mg/kg	100		81-121		
Batch number: 15201820003A	Sample number(s): 7964272							
Moisture				100		99-101		

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 151960031A	Sample number(s): 7964272 UNSPK: P966306								
TPH-DRO soil C10-C28 microwave	3830 (2)	5469 (2)	35-129	18	20				
Batch number: 15201820003A	Sample number(s): 7964272 BKG: P921490								
Moisture						16.3	16.7	2	5

Surrogate Quality Control

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

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

Quality Control Summary

Client Name: GES, Inc. Group Number: 1576296
Reported: 07/22/2015 14:29

Surrogate Quality Control

Analysis Name: VOCs- Solid by 8260B
Batch number: X152021AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7964272	108	106	93	95
Blank	111	105	94	92
LCS	107	102	96	98
LCSD	107	99	97	97
Limits:	50-141	54-135	52-141	50-131

Analysis Name: TPH-GRO soil C6-C10
Batch number: 15197A31A

	Trifluorotoluene-F
7964272	76
Blank	104
LCS	112
LCSD	111
Limits:	50-142

Analysis Name: TPH-DRO soil C10-C28 microwave
Batch number: 151960031A

	Orthoterphenyl
7964272	90
Blank	89
LCS	94
MS	301*
MSD	346*
Limits:	54-145

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

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 8390 Group # 1576296 Sample # 7964272

Client: Groundwater & Environmental Services, Inc. (GES)	
Project Name/#: Carroll Madonna	Site ID #: 0402814
Project Manager: Peter Reichardt	P.O. #: 0402814-02-201
Sampler: Lindsay Keeney	PWSID #:
Phone #: 800-220-3606	Quote #:
State where sample(s) were collected: 4101 Norrisville Rd, Jarrettsville MD	

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix: Soil	Matrix: Sediment	Matrix: Water (Ground)	Matrix: Water (Potable)	Matrix: Water (Surface)	Matrix: Water (NPDES)	Matrix: Other:	Total # of Containers	Analyses Requested / Preservation Codes: Full Suite VOCs incl. oxy 7 & naphthalene (8260)	TPH-GRO (8015)	TPH-DRO (8015)
MW-6D 40.5-42'	7-10-15	1215	X		X							6	X	X	X

For Lab Use Only

SF #: _____

SCR #: _____

Preservation Codes

H = HCl T = Thiosulfate

N = HNO_3 B = NaOH

S = H_2SO_4 P = H_3PO_4

O = Other

Remarks

EDD file name: Carroll Madonna-lab report #.21993.EQEDD.zip

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐

(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

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

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone: 800-220-3606 x3717

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: EQEDD

Relinquished by:	Date	Time	Received by:	Date	Time
	7-10-15	1700	Denise Woodring	7-13-15	0800
Denise Woodring	7-13-15	13:11		7/13/15	13:11
	7/13/15	16:50			

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.1 °C

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 86238

Group Number(s): 1576296

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	07/13/2015 16:50
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	MD		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Patrick Engle (3472) at 17:17 on 07/13/2015

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	0.1	DT	Wet	Y	Loose	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

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

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

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

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

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

August 12, 2015

Project: Carroll Madonna

Submittal Date: 07/31/2015
Group Number: 1581267
PO Number: 0402814-06-206
Release Number: MADONNA
State of Sample Origin: MD

Client Sample Description	Lancaster Labs (LL) #
MW-4 Grab Groundwater	7988444
MW-4D Grab Groundwater	7988445
MW-5 Grab Groundwater	7988446
MW-5D Grab Groundwater	7988447
MW-6 Grab Groundwater	7988448
MW-6D Grab Groundwater	7988449

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES Inc.	Attn: Pete Reichardt
ELECTRONIC COPY TO	GES	Attn: Greg Reichart
ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution

Respectfully Submitted,

Kaitlin N. Plasterer
Specialist

(717) 556-7323

Sample Description: MW-4 Grab Groundwater
4101 Norrisville Rd, Jarrettsville, MD
Carroll Madonna

LL Sample # WW 7988444
LL Group # 1581267
Account # 08390

Project Name: Carroll Madonna

Collected: 07/30/2015 12:15 by LK

Submitted: 07/31/2015 16:38
Reported: 08/12/2015 15:05

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD04

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Acrylonitrile	107-13-1	N.D.	1.0	1
02898	t-Amyl methyl ether	994-05-8	N.D.	0.1	1
02898	Benzene	71-43-2	N.D.	0.1	1
02898	Bromobenzene	108-86-1	N.D.	0.1	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	1
02898	Bromoform	75-25-2	N.D.	0.1	1
02898	Bromomethane	74-83-9	N.D.	0.1	1
02898	t-Butyl Alcohol	75-65-0	N.D.	4.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	1
02898	Carbon Disulfide	75-15-0	N.D.	0.4	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	1
02898	Chloroethane	75-00-3	N.D.	0.1	1
02898	Chloroform	67-66-3	N.D.	0.1	1
02898	Chloromethane	74-87-3	N.D.	0.2	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	1
02898	Dibromomethane	74-95-3	N.D.	0.1	1
02898	trans-1,4-Dichloro-2-butene	110-57-6	N.D.	1.0	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	1
02898	Ethyl t-butyl ether	637-92-3	N.D.	0.1	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	1
02898	di-Isopropyl Ether	108-20-3	N.D.	0.1	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	1
02898	Naphthalene	91-20-3	N.D.	0.1	1
02898	n-Propylbenzene	103-65-1	N.D.	0.1	1

Sample Description: MW-4 Grab Groundwater
4101 Norrisville Rd, Jarrettsville, MD
Carroll Madonna

LL Sample # WW 7988444
LL Group # 1581267
Account # 08390

Project Name: Carroll Madonna

Collected: 07/30/2015 12:15 by LK

Submitted: 07/31/2015 16:38
Reported: 08/12/2015 15:05

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD04

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Styrene	100-42-5	N.D.	0.1	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	1
02898	Toluene	108-88-3	N.D.	0.1	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	1
02898	Trichloroethene	79-01-6	N.D.	0.1	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01635	TPH-GRO water C6-C10	n.a.	N.D.	20	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	VOCs- 25ml Water by 8260B	SW-846 8260B 25mL purge	1	C152161AA	08/04/2015 16:31	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C152161AA	08/04/2015 16:31	Kerri E Legerlotz	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	15214A20A	08/03/2015 02:52	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15214A20A	08/03/2015 02:52	Marie D Beamenderfer	1
12858	TPH-DRO 8015B	SW-846 8015B	1	152220026A	08/12/2015 09:02	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152220026A	08/11/2015 09:30	Maria Davenport	1

Sample Description: MW-4D Grab Groundwater
4101 Norrisville Rd, Jarrettsville, MD
Carroll Madonna

LL Sample # WW 7988445
LL Group # 1581267
Account # 08390

Project Name: Carroll Madonna

Collected: 07/30/2015 12:25 by LK

Submitted: 07/31/2015 16:38
Reported: 08/12/2015 15:05

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

4DMAD

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**		**ug/l**	
02898	Acrylonitrile	107-13-1	N.D.		1.0	1
02898	t-Amyl methyl ether	994-05-8	N.D.		0.1	1
02898	Benzene	71-43-2	0.2	J	0.1	1
02898	Bromobenzene	108-86-1	N.D.		0.1	1
02898	Bromochloromethane	74-97-5	N.D.		0.1	1
02898	Bromodichloromethane	75-27-4	N.D.		0.1	1
02898	Bromoform	75-25-2	N.D.		0.1	1
02898	Bromomethane	74-83-9	N.D.		0.1	1
02898	t-Butyl Alcohol	75-65-0	N.D.		4.0	1
02898	n-Butylbenzene	104-51-8	N.D.		0.1	1
02898	sec-Butylbenzene	135-98-8	N.D.		0.1	1
02898	tert-Butylbenzene	98-06-6	N.D.		0.1	1
02898	Carbon Disulfide	75-15-0	N.D.		0.4	1
02898	Chlorobenzene	108-90-7	N.D.		0.1	1
02898	Chloroethane	75-00-3	N.D.		0.1	1
02898	Chloroform	67-66-3	N.D.		0.1	1
02898	Chloromethane	74-87-3	0.3	J	0.2	1
02898	2-Chlorotoluene	95-49-8	N.D.		0.1	1
02898	4-Chlorotoluene	106-43-4	N.D.		0.1	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		0.2	1
02898	Dibromochloromethane	124-48-1	N.D.		0.1	1
02898	1,2-Dibromoethane	106-93-4	N.D.		0.1	1
02898	Dibromomethane	74-95-3	N.D.		0.1	1
02898	trans-1,4-Dichloro-2-butene	110-57-6	N.D.		1.0	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.		0.1	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.		0.1	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.		0.1	1
02898	Dichlorodifluoromethane	75-71-8	N.D.		0.1	1
02898	1,1-Dichloroethane	75-34-3	N.D.		0.1	1
02898	1,2-Dichloroethane	107-06-2	N.D.		0.1	1
02898	1,1-Dichloroethene	75-35-4	N.D.		0.1	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.		0.1	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.		0.1	1
02898	1,2-Dichloropropane	78-87-5	N.D.		0.1	1
02898	1,3-Dichloropropane	142-28-9	N.D.		0.1	1
02898	2,2-Dichloropropane	594-20-7	N.D.		0.1	1
02898	1,1-Dichloropropene	563-58-6	N.D.		0.1	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.		0.1	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.1	1
02898	Ethyl t-butyl ether	637-92-3	N.D.		0.1	1
02898	Ethylbenzene	100-41-4	0.1	J	0.1	1
02898	Hexachlorobutadiene	87-68-3	N.D.		0.1	1
02898	di-Isopropyl Ether	108-20-3	N.D.		0.1	1
02898	Isopropylbenzene	98-82-8	N.D.		0.1	1
02898	p-Isopropyltoluene	99-87-6	N.D.		0.1	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	2.9		0.1	1
02898	Methylene Chloride	75-09-2	N.D.		0.2	1
02898	Naphthalene	91-20-3	N.D.		0.1	1
02898	n-Propylbenzene	103-65-1	N.D.		0.1	1

Sample Description: MW-4D Grab Groundwater
4101 Norrisville Rd, Jarrettsville, MD
Carroll Madonna

LL Sample # WW 7988445
LL Group # 1581267
Account # 08390

Project Name: Carroll Madonna

Collected: 07/30/2015 12:25 by LK

Submitted: 07/31/2015 16:38
Reported: 08/12/2015 15:05

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

4DMAD

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**		**ug/l**	
02898	Styrene	100-42-5	N.D.		0.1	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.		0.1	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		0.1	1
02898	Tetrachloroethene	127-18-4	N.D.		0.1	1
02898	Toluene	108-88-3	0.3	J	0.1	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.		0.1	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.		0.1	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.		0.1	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.		0.1	1
02898	Trichloroethene	79-01-6	N.D.		0.1	1
02898	Trichlorofluoromethane	75-69-4	N.D.		0.1	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.		0.3	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.1	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.1	1
02898	Vinyl Chloride	75-01-4	N.D.		0.1	1
02898	Xylene (Total)	1330-20-7	N.D.		0.1	1
GC Volatiles	**SW-846 8015B**		**ug/l**		**ug/l**	
01635	TPH-GRO water C6-C10	n.a.	N.D.		20	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**		**ug/l**	
12858	DRO C10-C28	n.a.	49	J	45	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	VOCs- 25ml Water by 8260B	SW-846 8260B 25mL purge	1	C152161AA	08/04/2015 14:35	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C152161AA	08/04/2015 14:35	Kerri E Legerlotz	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	15214A20A	08/03/2015 03:14	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15214A20A	08/03/2015 03:14	Marie D Beamenderfer	1
12858	TPH-DRO 8015B	SW-846 8015B	1	152220026A	08/12/2015 02:21	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152220026A	08/11/2015 09:30	Maria Davenport	1

Sample Description: MW-5 Grab Groundwater
4101 Norrisville Rd, Jarrettsville, MD
Carroll Madonna

LL Sample # WW 7988446
LL Group # 1581267
Account # 08390

Project Name: Carroll Madonna

Collected: 07/30/2015 13:00 by LK

Submitted: 07/31/2015 16:38
Reported: 08/12/2015 15:05

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Acrylonitrile	107-13-1	N.D.	1.0	1
02898	t-Amyl methyl ether	994-05-8	N.D.	0.1	1
02898	Benzene	71-43-2	N.D.	0.1	1
02898	Bromobenzene	108-86-1	N.D.	0.1	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	1
02898	Bromoform	75-25-2	N.D.	0.1	1
02898	Bromomethane	74-83-9	N.D.	0.1	1
02898	t-Butyl Alcohol	75-65-0	N.D.	4.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	1
02898	Carbon Disulfide	75-15-0	N.D.	0.4	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	1
02898	Chloroethane	75-00-3	N.D.	0.1	1
02898	Chloroform	67-66-3	N.D.	0.1	1
02898	Chloromethane	74-87-3	N.D.	0.2	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	1
02898	Dibromomethane	74-95-3	N.D.	0.1	1
02898	trans-1,4-Dichloro-2-butene	110-57-6	N.D.	1.0	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	1
02898	Ethyl t-butyl ether	637-92-3	N.D.	0.1	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	1
02898	di-Isopropyl Ether	108-20-3	N.D.	0.1	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	1
02898	Naphthalene	91-20-3	N.D.	0.1	1
02898	n-Propylbenzene	103-65-1	N.D.	0.1	1

Sample Description: MW-5 Grab Groundwater
4101 Norrisville Rd, Jarrettsville, MD
Carroll Madonna

LL Sample # WW 7988446
LL Group # 1581267
Account # 08390

Project Name: Carroll Madonna

Collected: 07/30/2015 13:00 by LK

Submitted: 07/31/2015 16:38
Reported: 08/12/2015 15:05

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Styrene	100-42-5	N.D.	0.1	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	1
02898	Toluene	108-88-3	N.D.	0.1	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	1
02898	Trichloroethene	79-01-6	N.D.	0.1	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01635	TPH-GRO water C6-C10	n.a.	N.D.	20	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	VOCs- 25ml Water by 8260B	SW-846 8260B 25mL purge	1	C152161AA	08/04/2015 14:58	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C152161AA	08/04/2015 14:58	Kerri E Legerlotz	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	15214A20A	08/03/2015 03:36	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15214A20A	08/03/2015 03:36	Marie D Beamenderfer	1
12858	TPH-DRO 8015B	SW-846 8015B	1	152220026A	08/12/2015 02:44	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152220026A	08/11/2015 09:30	Maria Davenport	1

Sample Description: MW-5D Grab Groundwater
4101 Norrisville Rd, Jarrettsville, MD
Carroll Madonna

LL Sample # WW 7988447
LL Group # 1581267
Account # 08390

Project Name: Carroll Madonna

Collected: 07/30/2015 13:10 by LK

Submitted: 07/31/2015 16:38
Reported: 08/12/2015 15:05

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

5DMAD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Acrylonitrile	107-13-1	N.D.	1.0	1
02898	t-Amyl methyl ether	994-05-8	N.D.	0.1	1
02898	Benzene	71-43-2	N.D.	0.1	1
02898	Bromobenzene	108-86-1	N.D.	0.1	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	1
02898	Bromoform	75-25-2	N.D.	0.1	1
02898	Bromomethane	74-83-9	N.D.	0.1	1
02898	t-Butyl Alcohol	75-65-0	N.D.	4.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	1
02898	Carbon Disulfide	75-15-0	N.D.	0.4	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	1
02898	Chloroethane	75-00-3	N.D.	0.1	1
02898	Chloroform	67-66-3	N.D.	0.1	1
02898	Chloromethane	74-87-3	N.D.	0.2	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	1
02898	Dibromomethane	74-95-3	N.D.	0.1	1
02898	trans-1,4-Dichloro-2-butene	110-57-6	N.D.	1.0	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	1
02898	Ethyl t-butyl ether	637-92-3	N.D.	0.1	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	1
02898	di-Isopropyl Ether	108-20-3	N.D.	0.1	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	0.7	0.1	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	1
02898	Naphthalene	91-20-3	N.D.	0.1	1
02898	n-Propylbenzene	103-65-1	N.D.	0.1	1

Sample Description: MW-5D Grab Groundwater
4101 Norrisville Rd, Jarrettsville, MD
Carroll Madonna

LL Sample # WW 7988447
LL Group # 1581267
Account # 08390

Project Name: Carroll Madonna

Collected: 07/30/2015 13:10 by LK

Submitted: 07/31/2015 16:38
Reported: 08/12/2015 15:05

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

5DMAD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Styrene	100-42-5	N.D.	0.1	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	1
02898	Toluene	108-88-3	N.D.	0.1	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	1
02898	Trichloroethene	79-01-6	N.D.	0.1	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01635	TPH-GRO water C6-C10	n.a.	N.D.	20	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	VOCs- 25ml Water by 8260B	SW-846 8260B 25mL purge	1	C152161AA	08/04/2015 15:21	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C152161AA	08/04/2015 15:21	Kerri E Legerlotz	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	15214A20A	08/03/2015 03:58	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15214A20A	08/03/2015 03:58	Marie D Beamenderfer	1
12858	TPH-DRO 8015B	SW-846 8015B	1	152220026A	08/12/2015 03:08	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152220026A	08/11/2015 09:30	Maria Davenport	1

Sample Description: MW-6 Grab Groundwater
4101 Norrisville Rd, Jarrettsville, MD
Carroll Madonna

LL Sample # WW 7988448
LL Group # 1581267
Account # 08390

Project Name: Carroll Madonna

Collected: 07/30/2015 13:20 by LK

Submitted: 07/31/2015 16:38
Reported: 08/12/2015 15:05

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD06

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**		**ug/l**	
02898	Acrylonitrile	107-13-1	N.D.		1.0	1
02898	t-Amyl methyl ether	994-05-8	0.2	J	0.1	1
02898	Benzene	71-43-2	N.D.		0.1	1
02898	Bromobenzene	108-86-1	N.D.		0.1	1
02898	Bromochloromethane	74-97-5	N.D.		0.1	1
02898	Bromodichloromethane	75-27-4	N.D.		0.1	1
02898	Bromoform	75-25-2	N.D.		0.1	1
02898	Bromomethane	74-83-9	N.D.		0.1	1
02898	t-Butyl Alcohol	75-65-0	N.D.		4.0	1
02898	n-Butylbenzene	104-51-8	N.D.		0.1	1
02898	sec-Butylbenzene	135-98-8	N.D.		0.1	1
02898	tert-Butylbenzene	98-06-6	N.D.		0.1	1
02898	Carbon Disulfide	75-15-0	N.D.		0.4	1
02898	Chlorobenzene	108-90-7	N.D.		0.1	1
02898	Chloroethane	75-00-3	N.D.		0.1	1
02898	Chloroform	67-66-3	N.D.		0.1	1
02898	Chloromethane	74-87-3	N.D.		0.2	1
02898	2-Chlorotoluene	95-49-8	N.D.		0.1	1
02898	4-Chlorotoluene	106-43-4	N.D.		0.1	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		0.2	1
02898	Dibromochloromethane	124-48-1	N.D.		0.1	1
02898	1,2-Dibromoethane	106-93-4	N.D.		0.1	1
02898	Dibromomethane	74-95-3	N.D.		0.1	1
02898	trans-1,4-Dichloro-2-butene	110-57-6	N.D.		1.0	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.		0.1	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.		0.1	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.		0.1	1
02898	Dichlorodifluoromethane	75-71-8	N.D.		0.1	1
02898	1,1-Dichloroethane	75-34-3	N.D.		0.1	1
02898	1,2-Dichloroethane	107-06-2	N.D.		0.1	1
02898	1,1-Dichloroethene	75-35-4	N.D.		0.1	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.		0.1	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.		0.1	1
02898	1,2-Dichloropropane	78-87-5	N.D.		0.1	1
02898	1,3-Dichloropropane	142-28-9	N.D.		0.1	1
02898	2,2-Dichloropropane	594-20-7	N.D.		0.1	1
02898	1,1-Dichloropropene	563-58-6	N.D.		0.1	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.		0.1	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.1	1
02898	Ethyl t-butyl ether	637-92-3	0.5		0.1	1
02898	Ethylbenzene	100-41-4	N.D.		0.1	1
02898	Hexachlorobutadiene	87-68-3	N.D.		0.1	1
02898	di-Isopropyl Ether	108-20-3	5.6		0.1	1
02898	Isopropylbenzene	98-82-8	N.D.		0.1	1
02898	p-Isopropyltoluene	99-87-6	N.D.		0.1	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	19		0.1	1
02898	Methylene Chloride	75-09-2	N.D.		0.2	1
02898	Naphthalene	91-20-3	N.D.		0.1	1
02898	n-Propylbenzene	103-65-1	N.D.		0.1	1

Sample Description: MW-6 Grab Groundwater
4101 Norrisville Rd, Jarrettsville, MD
Carroll Madonna

LL Sample # WW 7988448
LL Group # 1581267
Account # 08390

Project Name: Carroll Madonna

Collected: 07/30/2015 13:20 by LK

Submitted: 07/31/2015 16:38
Reported: 08/12/2015 15:05

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD06

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**		**ug/l**	
02898	Styrene	100-42-5	N.D.		0.1	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.		0.1	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		0.1	1
02898	Tetrachloroethene	127-18-4	N.D.		0.1	1
02898	Toluene	108-88-3	N.D.		0.1	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.		0.1	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.		0.1	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.		0.1	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.		0.1	1
02898	Trichloroethene	79-01-6	N.D.		0.1	1
02898	Trichlorofluoromethane	75-69-4	N.D.		0.1	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.		0.3	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.1	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.1	1
02898	Vinyl Chloride	75-01-4	N.D.		0.1	1
02898	Xylene (Total)	1330-20-7	N.D.		0.1	1
GC Volatiles	**SW-846 8015B**		**ug/l**		**ug/l**	
01635	TPH-GRO water C6-C10	n.a.	38	J	20	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**		**ug/l**	
12858	DRO C10-C28	n.a.	N.D.		45	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	VOCs- 25ml Water by 8260B	SW-846 8260B 25mL purge	1	C152161AA	08/04/2015 15:45	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C152161AA	08/04/2015 15:45	Kerri E Legerlotz	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	15214A20A	08/03/2015 04:20	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15214A20A	08/03/2015 04:20	Marie D Beamenderfer	1
12858	TPH-DRO 8015B	SW-846 8015B	1	152220026A	08/12/2015 09:25	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152220026A	08/11/2015 09:30	Maria Davenport	1

Sample Description: MW-6D Grab Groundwater
4101 Norrisville Rd, Jarrettsville, MD
Carroll Madonna

LL Sample # WW 7988449
LL Group # 1581267
Account # 08390

Project Name: Carroll Madonna

Collected: 07/30/2015 13:30 by LK

Submitted: 07/31/2015 16:38
Reported: 08/12/2015 15:05

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD6D

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**		**ug/l**	
02898	Acrylonitrile	107-13-1	N.D.		1.0	1
02898	t-Amyl methyl ether	994-05-8	0.2	J	0.1	1
02898	Benzene	71-43-2	N.D.		0.1	1
02898	Bromobenzene	108-86-1	N.D.		0.1	1
02898	Bromochloromethane	74-97-5	N.D.		0.1	1
02898	Bromodichloromethane	75-27-4	N.D.		0.1	1
02898	Bromoform	75-25-2	N.D.		0.1	1
02898	Bromomethane	74-83-9	N.D.		0.1	1
02898	t-Butyl Alcohol	75-65-0	N.D.		4.0	1
02898	n-Butylbenzene	104-51-8	N.D.		0.1	1
02898	sec-Butylbenzene	135-98-8	N.D.		0.1	1
02898	tert-Butylbenzene	98-06-6	N.D.		0.1	1
02898	Carbon Disulfide	75-15-0	N.D.		0.4	1
02898	Chlorobenzene	108-90-7	N.D.		0.1	1
02898	Chloroethane	75-00-3	N.D.		0.1	1
02898	Chloroform	67-66-3	N.D.		0.1	1
02898	Chloromethane	74-87-3	N.D.		0.2	1
02898	2-Chlorotoluene	95-49-8	N.D.		0.1	1
02898	4-Chlorotoluene	106-43-4	N.D.		0.1	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		0.2	1
02898	Dibromochloromethane	124-48-1	N.D.		0.1	1
02898	1,2-Dibromoethane	106-93-4	N.D.		0.1	1
02898	Dibromomethane	74-95-3	N.D.		0.1	1
02898	trans-1,4-Dichloro-2-butene	110-57-6	N.D.		1.0	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.		0.1	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.		0.1	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.		0.1	1
02898	Dichlorodifluoromethane	75-71-8	N.D.		0.1	1
02898	1,1-Dichloroethane	75-34-3	N.D.		0.1	1
02898	1,2-Dichloroethane	107-06-2	N.D.		0.1	1
02898	1,1-Dichloroethene	75-35-4	N.D.		0.1	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.		0.1	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.		0.1	1
02898	1,2-Dichloropropane	78-87-5	N.D.		0.1	1
02898	1,3-Dichloropropane	142-28-9	N.D.		0.1	1
02898	2,2-Dichloropropane	594-20-7	N.D.		0.1	1
02898	1,1-Dichloropropene	563-58-6	N.D.		0.1	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.		0.1	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.1	1
02898	Ethyl t-butyl ether	637-92-3	N.D.		0.1	1
02898	Ethylbenzene	100-41-4	N.D.		0.1	1
02898	Hexachlorobutadiene	87-68-3	N.D.		0.1	1
02898	di-Isopropyl Ether	108-20-3	N.D.		0.1	1
02898	Isopropylbenzene	98-82-8	N.D.		0.1	1
02898	p-Isopropyltoluene	99-87-6	N.D.		0.1	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	5.4		0.1	1
02898	Methylene Chloride	75-09-2	N.D.		0.2	1
02898	Naphthalene	91-20-3	N.D.		0.1	1
02898	n-Propylbenzene	103-65-1	N.D.		0.1	1

Sample Description: MW-6D Grab Groundwater
4101 Norrisville Rd, Jarrettsville, MD
Carroll Madonna

LL Sample # WW 7988449
LL Group # 1581267
Account # 08390

Project Name: Carroll Madonna

Collected: 07/30/2015 13:30 by LK

Submitted: 07/31/2015 16:38
Reported: 08/12/2015 15:05

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MAD6D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Styrene	100-42-5	N.D.	0.1	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	1
02898	Toluene	108-88-3	N.D.	0.1	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	1
02898	Trichloroethene	79-01-6	N.D.	0.1	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01635	TPH-GRO water C6-C10	n.a.	N.D.	20	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	VOCs- 25ml Water by 8260B	SW-846 8260B 25mL purge	1	C152161AA	08/04/2015 16:08	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C152161AA	08/04/2015 16:08	Kerri E Legerlotz	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	15214A20A	08/03/2015 04:42	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15214A20A	08/03/2015 04:42	Marie D Beamenderfer	1
12858	TPH-DRO 8015B	SW-846 8015B	1	152220026A	08/12/2015 03:31	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152220026A	08/11/2015 09:30	Maria Davenport	1

Quality Control Summary

Client Name: GES, Inc. Group Number: 1581267
Reported: 08/12/2015 15:05

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: C152161AA	Sample number(s): 7988444-7988449							
Acrylonitrile	N.D.	1.0	ug/l	92	94	75-133	3	30
t-Amyl methyl ether	N.D.	0.1	ug/l	91	90	80-120	1	30
Benzene	N.D.	0.1	ug/l	92	89	80-120	4	30
Bromobenzene	N.D.	0.1	ug/l	91	89	80-120	2	30
Bromochloromethane	N.D.	0.1	ug/l	94	93	80-125	2	30
Bromodichloromethane	N.D.	0.1	ug/l	90	88	80-120	3	30
Bromoform	N.D.	0.1	ug/l	76	75	64-134	2	30
Bromomethane	N.D.	0.1	ug/l	93	92	62-126	1	30
t-Butyl Alcohol	N.D.	4.0	ug/l	86	94	77-130	9	30
n-Butylbenzene	N.D.	0.1	ug/l	93	88	80-120	5	30
sec-Butylbenzene	N.D.	0.1	ug/l	93	88	80-120	6	30
tert-Butylbenzene	N.D.	0.1	ug/l	93	89	80-120	4	30
Carbon Disulfide	N.D.	0.4	ug/l	86	81	70-128	6	30
Chlorobenzene	N.D.	0.1	ug/l	92	88	80-120	4	30
Chloroethane	N.D.	0.1	ug/l	92	90	68-120	3	30
Chloroform	N.D.	0.1	ug/l	93	90	80-120	3	30
Chloromethane	N.D.	0.2	ug/l	87	84	55-125	3	30
2-Chlorotoluene	N.D.	0.1	ug/l	92	88	80-120	4	30
4-Chlorotoluene	N.D.	0.1	ug/l	91	88	80-120	4	30
1,2-Dibromo-3-chloropropane	N.D.	0.2	ug/l	80	82	72-136	2	30
Dibromochloromethane	N.D.	0.1	ug/l	86	84	80-126	3	30
1,2-Dibromoethane	N.D.	0.1	ug/l	96	93	80-120	3	30
Dibromomethane	N.D.	0.1	ug/l	96	94	80-120	2	30
trans-1,4-Dichloro-2-butene	N.D.	1.0	ug/l	63	65	14-166	3	30
1,2-Dichlorobenzene	N.D.	0.1	ug/l	92	89	80-120	3	30
1,3-Dichlorobenzene	N.D.	0.1	ug/l	91	89	80-120	2	30
1,4-Dichlorobenzene	N.D.	0.1	ug/l	89	87	80-120	2	30
Dichlorodifluoromethane	N.D.	0.1	ug/l	85	81	35-142	5	30
1,1-Dichloroethane	N.D.	0.1	ug/l	90	86	80-120	4	30
1,2-Dichloroethane	N.D.	0.1	ug/l	92	89	80-125	3	30
1,1-Dichloroethene	N.D.	0.1	ug/l	91	86	80-120	6	30
cis-1,2-Dichloroethene	N.D.	0.1	ug/l	92	90	80-120	3	30
trans-1,2-Dichloroethene	N.D.	0.1	ug/l	94	91	80-120	4	30
1,2-Dichloropropane	N.D.	0.1	ug/l	94	90	80-120	4	30
1,3-Dichloropropane	N.D.	0.1	ug/l	92	90	80-120	2	30
2,2-Dichloropropane	N.D.	0.1	ug/l	92	87	75-122	5	30
1,1-Dichloropropene	N.D.	0.1	ug/l	90	85	80-120	6	30
cis-1,3-Dichloropropene	N.D.	0.1	ug/l	88	86	80-120	3	30
trans-1,3-Dichloropropene	N.D.	0.1	ug/l	90	87	77-126	3	30
Ethyl t-butyl ether	N.D.	0.1	ug/l	89	88	76-120	1	30
Ethylbenzene	N.D.	0.1	ug/l	92	88	80-120	5	30
Hexachlorobutadiene	N.D.	0.1	ug/l	90	85	74-123	6	30
di-Isopropyl Ether	N.D.	0.1	ug/l	91	90	75-120	2	30

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

Quality Control Summary

Client Name: GES, Inc. Group Number: 1581267
Reported: 08/12/2015 15:05

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Isopropylbenzene	N.D.	0.1	ug/l	93	89	80-120	4	30
p-Isopropyltoluene	N.D.	0.1	ug/l	93	88	80-120	5	30
Methyl Tertiary Butyl Ether	N.D.	0.1	ug/l	91	89	80-120	2	30
Methylene Chloride	N.D.	0.2	ug/l	89	87	80-120	2	30
Naphthalene	N.D.	0.1	ug/l	90	87	72-120	3	30
n-Propylbenzene	N.D.	0.1	ug/l	93	89	80-120	5	30
Styrene	N.D.	0.1	ug/l	91	88	80-120	4	30
1,1,1,2-Tetrachloroethane	N.D.	0.1	ug/l	92	88	80-120	5	30
1,1,2,2-Tetrachloroethane	N.D.	0.1	ug/l	92	91	80-120	1	30
Tetrachloroethene	N.D.	0.1	ug/l	94	88	80-120	6	30
Toluene	N.D.	0.1	ug/l	91	87	80-120	5	30
1,2,3-Trichlorobenzene	N.D.	0.1	ug/l	85	81	75-120	4	30
1,2,4-Trichlorobenzene	N.D.	0.1	ug/l	87	85	80-120	3	30
1,1,1-Trichloroethane	N.D.	0.1	ug/l	94	89	80-120	6	30
1,1,2-Trichloroethane	N.D.	0.1	ug/l	92	90	80-120	2	30
Trichloroethene	N.D.	0.1	ug/l	97	92	80-120	5	30
Trichlorofluoromethane	N.D.	0.1	ug/l	101	96	64-141	5	30
1,2,3-Trichloropropane	N.D.	0.3	ug/l	96	93	80-120	2	30
1,2,4-Trimethylbenzene	N.D.	0.1	ug/l	91	87	80-120	4	30
1,3,5-Trimethylbenzene	N.D.	0.1	ug/l	92	88	80-120	4	30
Vinyl Chloride	N.D.	0.1	ug/l	94	89	59-124	5	30
Xylene (Total)	N.D.	0.1	ug/l	91	87	80-120	5	30
Batch number: 15214A20A	Sample number(s): 7988444-7988449							
TPH-GRO water C6-C10	N.D.	20.	ug/l	101	98	80-129	3	30
Batch number: 152220026A	Sample number(s): 7988444-7988449							
DRO C10-C28	N.D.	45.	ug/l	75	80	69-115	7	20

Surrogate Quality Control

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

Analysis Name: VOCs- 25ml Water by 8260B
Batch number: C152161AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7988444	102	102	98	98
7988445	102	103	98	100
7988446	102	100	98	99
7988447	101	101	97	99
7988448	102	101	97	100
7988449	103	101	97	99
Blank	101	104	98	99
LCS	101	105	99	100
LCSD	102	100	99	99
Limits:	77-114	74-113	77-110	78-110

Analysis Name: TPH-GRO water C6-C10
Batch number: 15214A20A

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

Quality Control Summary

Client Name: GES, Inc. Group Number: 1581267
Reported: 08/12/2015 15:05

Surrogate Quality Control

	Trifluorotoluene-F
7988444	93
7988445	94
7988446	93
7988447	93
7988448	87
7988449	92
Blank	92
LCS	94
LCSD	98
Limits:	63-135

Analysis Name: TPH-DRO 8015B
Batch number: 152220026A

	Orthoterphenyl
7988444	85
7988445	96
7988446	85
7988447	102
7988448	83
7988449	73
Blank	96
LCS	82
LCSD	86
Limits:	42-160

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

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 8390 Group # 1581267 Sample # 7468444-419

Client: Groundwater & Environmental Services, Inc. (GES)	
Project Name/#: Carroll Madonna	Site ID #: 0402814
Project Manager: Peter Reichardt	P.O. #: 0402814-06-206
Sampler: Lindsay Keeney	PWSID #:
Phone #: 800-220-3606 ext. 3726	Quote #:
State where sample(s) were collected: 4101 Norrisville Rd, Jarrettsville, MD	

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix: Soil	Sediment	Water: Potable	Ground	NPDES	Surface	Other:	Total # of Containers	Analyses Requested: Full Suite VOCs plus Oxygenates including Naphthalene (8260B)	TPH-GRO (8015)	TPH-DRO (8015)
												Preservation Codes: H	H	H	
MW-4	7-30-15	1215	X				X					7	X	X	X
MW-4D		1225	X				X					7	X	X	X
MW-5		1300	X				X					7	X	X	X
MW-5D		1310	X				X					7	X	X	X
MW-6		1320	X				X					7	X	X	X
MW-6D	↓	1330	X				X					7	X	X	X

For Lab Use Only

SF #: _____

SCR #: _____

Preservation Codes

H = HCl T = Thiosulfate

N = HNO_3 B = NaOH

S = H_2SO_4 P = H_3PO_4

O = Other

Remarks

EDD file name: Carroll Madonna-lab report #.21993.EQEDD.zip

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐

(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

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

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone: 800-220-3606 x3717

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: EQEDD

Relinquished by:	Date	Time	Received by:	Date	Time
	7-30-15	1530	Denise Woodring	7-30-15	1540
Denise Woodring	7-31-15	10:16		7-31-15	10:16
	7-31-15	1638			
				7/31/15	1638

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.4 °C

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 92482

Group Number(s): 1581267

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	07/31/2015 16:38
Number of Packages:	1	Number of Projects:	2
State/Province of Origin:	MD		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jordan Woods (6698) at 17:36 on 07/31/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	0.4	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T : 717-656-2300
F : 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

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

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

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

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

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

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

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.