DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- **Prepare one form for each individually monitored unit.**
- **Please type or print legibly.**
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

SCS Engineers

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Marta VanDussen Phone: 828-285-8951

E-mail: mvandussen@scsengineers.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
A-1 Sandrock C&D Landfill	2132 Bishop Road, Greensboro Guilford County	41-17	.0500	May 21 and 22, 2015

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring ☒ Detection Monitoring ☐ Assessment Monitoring ☐ Corrective Action

Type of data submitted: (Check all that apply)

☒ Groundwater monitoring data from monitoring wells
☐ Groundwater monitoring data from private water supply wells
☐ Leachate monitoring data
☒ Surface water monitoring data
☐ Methane gas monitoring data
☐ Corrective action data (specify) _____
☐ Other(specify) _____

Notification attached?

☐ No. No groundwater or surface water standards were exceeded.
☒ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
☐ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

David Garrett P.G. 919-418-4375

Facility Representative Name (Print) Title (Area Code) Telephone Number

Digitally signed by dgarrett@scsengineers.com
DN: cn=dgarrett@scsengineers.com
Date: 2015.08.20 15:42:44 -04'00'

Signature Date

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 983 GEOLOGIST DAVID GARRETT

322 Chapanoke Road, Suite 101, Raleigh, North Carolina 27603

Facility Representative Address

C-1837

NC PE Firm License Number (if applicable effective May 1, 2009)

Revised 6/2009

Environmental Consultants
and Contractors

SCS Engineers, P.C.
2520 Whitehall Park Drive
Suite 450
Charlotte, NC 28273-3557

704 504-3107
FAX 704 504-3174
www.scsengineers.com

SCS ENGINEERS, PC

August 20, 2015
File No. 02214704.00

Ms. Jackie Drummond, Hydrogeologist
North Carolina Department of Environment and Natural Resources
Division of Waste Management, Solid Waste Section
2090 US Highway 70
Swannanoa, North Carolina 28778

Subject: **A-1 Sandrock Construction and Demolition Debris Landfill, Guilford County**
Facility Permit Number 41-17
Water Quality Monitoring Report
May 2015 Semiannual Sampling Event

Dear Ms. Drummond:

On behalf of A-1 Sandrock, Inc., SCS Engineers, PC is submitting the attached Water Quality Monitoring Report documenting May 2015 Semiannual Sampling Event for A-1 Sandrock Construction and Demolition Debris Landfill (C&D Landfill), Facility Permit Number 41-17. The May 2015 monitoring event is the 1st of the required semiannual groundwater monitoring events for year 2015. In addition to the report, the signed Environmental Monitoring Reporting Form and the electronic data deliverable (EDD) are being submitted. This groundwater and surface water sampling event was performed on May 21 and 22, 2015. The report provides details pertaining to the sampling event including field activities, laboratory analysis, water quality findings and conclusions. Historical groundwater and surface water results are also included in the report.

In summary, the results of the surface water monitoring event indicate conditions consistent with historic field and analytical data. The results of the groundwater monitoring event do not indicate any groundwater impact associated with the landfill, and there is no indication of any risk to the public. The next water quality monitoring event at the A-1 Sandrock C&D Landfill is scheduled for November 2015.

If you have any questions or need additional information, please do not hesitate to contact David Garrett at 919-418-4375 (dgarrett@scsengineers.com).

Sincerely,

NORTH CAROLINA LICENSED SEAL 982 GEOLOGIST DAVID GARRETT

David Garrett, P.G., P.E.
Project Manager
SCS ENGINEERS, PC

Marta A. VanDussen
Project Professional
SCS ENGINEERS, PC

cc: Ronnie Petty – A-1 Sandrock, Inc.

Enclosures: Water Quality Monitoring Report May 2015 Semiannual Sampling Event
Environmental Monitoring Reporting Form
Electronic Data Deliverable (EDD)

SCS ENGINEERS

WATER QUALITY MONITORING REPORT
MAY 2015
SEMIANNUAL SAMPLING EVENT

A-1 SANDROCK CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL
FACILITY PERMIT NO. 41-17

Prepared for:

A-1 Sandrock, Inc.
2091 Bishop Road
Greensboro, North Carolina 27406
(336) 855-8195

Prepared by:

SCS ENGINEERS, PC
2520 Whitehall Park Drive, Suite 450
Charlotte, North Carolina 28273
(704) 504-3107
License Number C-1837

Date: August 20, 2015
File No.: 02214704.00 Task 3

Offices Nationwide
www.scsengineers.com

WATER QUALITY MONITORING REPORT
MAY 2015 SEMIANNUAL SAMPLING EVENT

A-1 SANDROCK CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL FACILITY PERMIT NO. 41-17

Presented To:

A-1 Sandrock, Inc.
2091 Bishop Road
Greensboro, North Carolina 27406
(336) 855-8195

Presented From:

SCS ENGINEERS, PC
2520 Whitehall Park Drive, Suite 450
Charlotte, North Carolina 28273
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Attachment 1 – MW-6 Well Construction Record
Attachment 2 – Pace Analytical Services, Inc. Report of Laboratory Analysis
Attachment 3 – Environmental Monitoring Reporting Form and Electronic Data Deliverable (EDD)

SCS Engineers, PC (SCS) is submitting this Water Quality Monitoring Report for the A-1 Sandrock Construction and Demolition Debris Landfill, located in Guilford County, North Carolina on behalf of the A-1 Sandrock, Inc. This report provides background information, description of field activities, data, summary and analysis of the laboratory analytical results from the groundwater and surface water monitoring sampling event performed in May 2015.

1 INTRODUCTION

A-1 Sandrock, Inc. operates the Construction and Demolition Debris Landfill (C&D Landfill) located at Bishop Road (State Road 1116), south of the city of Greensboro, Guilford County, North Carolina. The location of the landfill is shown on **Figure 1.** This C&D Landfill became operational in April 2009. The baseline monitoring was conducted in November 2006. Based on review of previously prepared documentation, groundwater monitoring has been performed at the permitted landfill since October 2009.

State and federal regulations applicable to landfills are enforced by the North Carolina Department of Environment and Natural Resources (NCDENR), Division of Waste Management (DWM), Solid Waste Section (SWS). The C&D Landfill is permitted by the DENR DWM under Permit No. 41-17, which requires semiannual monitoring of groundwater and surface water quality. This monitoring event is the first (1st) semiannual monitoring event for year 2015 as required by the Permit to Operate issued by the NCDENR DWM on December 6, 2013. This report provides an evaluation of surface water and groundwater quality for the C&D Landfill.

Currently, the monitoring program network at the landfill consists of five (5) groundwater monitoring wells and four (4) on-site surface water sampling locations.

There is one (1) up gradient, natural background well designated as MW-1, and four (4) down gradient compliance wells being designated as MW-2, MW-3, MW-4, and MW-5. On April 2, 2015 additional monitoring well designated as MW-6 was installed and it was sampled during May 2015 monitoring event. The monitoring well MW-6 construction record is presented in **Attachment 1**.

The surface water sample locations are SW-1, SW-2, SW-3, and SW-4. SW-1 is located at the northwest boundary of the site where Hickory Creek enters the facility. SW-2 is located along an unnamed tributary to Hickory Creek where it enters the east side of the landfill. SW-3 is located along an unnamed tributary to Hickory Creek where it enters the south side of the landfill. And SW-4 is located downstream where Hickory Creek exits the southwest corner of the landfill. The locations of the monitoring wells and surface water points are showed on **Figure 1**.

2 FIELD ACTIVITIES

On May 21 and 22, 2015, Pace Analytical Services, Inc. (Pace) personnel collected groundwater samples from six (6) groundwater monitoring wells and two (2) surface water sampling locations (SW-1 and SW-2) at the C&D Landfill. Two other surface water locations (SW-3 and SW-4) were not sampled due to dry conditions encountered at these locations. One duplicate sample, designated as DUP 1(MW-3), was also collected during this monitoring event. Collected samples were analyzed for constituents listed in Appendix I of the 40 Code of Federal Regulations (CFR) Part 258, mercury, tetrahydrofuran, alkalinity, chloride, sulfate, and total dissolved solids (TDS).

Monitoring well MW-6 was a newly installed well (completed on April 2, 2015) and was included for sampling during this monitoring event.

The groundwater and surface water samples were collected and handled in accordance with the sampling protocols included in the Water Quality Monitoring Plan prepared for the site, as well as the SWS Guidelines for Groundwater, Soil, and Surface Water Sampling.

Groundwater was purged and samples were collected from the monitoring wells using bailing sampling procedures. Total well depth, condition of the casing, and the groundwater recharge rate were used to determine the purging and sample collection method employed at each monitoring well. Prior to groundwater sampling, each monitoring well was purged of a minimum of three well volumes of water. During purging, measurements were taken in the field of conductivity, dissolved oxygen, pH, temperature, water levels, and turbidity. Measured field parameters and additional observations pertaining to the C&D Landfill sampling locations are provided in **Attachment 2**. All groundwater samples were placed into laboratory-supplied sample bottles by a technician wearing a new pair of nitrile gloves.

Surface water samples were collected into sample containers by direct submersion in the creek and/or tributary. One round of surface water field parameters consisting of conductivity, dissolved oxygen (DO), oxygen reduction potential (ORP), pH, temperature, and turbidity, was measured and recorded at each sampling location prior to collecting the sample. Surface water samples were placed into laboratory-supplied sample containers by a technician wearing a new pair of nitrile gloves. All reusable sampling equipment was properly decontaminated between sampling locations. Disposable sampling equipment and material was discarded after each use.

Following collection, each groundwater and surface water sample was immediately placed on ice in a sample cooler for shipment to Pace, a North Carolina certified laboratory located in Charlotte, North Carolina. Proper chain-of-custody documentation practices were followed during collection and transportation of each sample; the documentation is included in **Attachment 2** of this report. Chain-of-custody provides details of the laboratory analyses requested and performed on the samples. The laboratory analytical report is provided in the **Attachment 2** also.

3 GROUNDWATER LEVELS AND FLOW

Groundwater levels were gauged in the monitoring wells on May 21 and 22, 2015. Depths to groundwater were measured using an electronic water level meter that was thoroughly decontaminated between wells. Depth-to-water measurements were taken after the wells were opened for a sufficient period of time to allow water levels to equilibrate with atmospheric pressure. Water level data and groundwater elevation data are summarized on **Table 1**. The depth to groundwater across the site measured relative to the top of the polyvinyl chloride (PVC) casing ranged from 5.49 feet (MW-3) to 28.61 feet (MW-1), consistent with site surface topography.

Based on the water level data collected during this monitoring event, a Groundwater Surface Contour Map was prepared and is presented as **Figure 1**. The pattern of the water-table contours indicates that the horizontal component of shallow groundwater flow at the site generally varies from north to west, which is consistent with the site surface topography and drainage features. The hydraulic gradient of the water table, based on data from **Figure 1**, varies from approximately 0.028 to 0.066 at the site. The groundwater flow velocity calculated based on modified Darcy equation on **Table 1** varies from 0.93 to 2.14 feet per year.

The groundwater flow direction is primarily towards the western property boundary, with radial flow to the north and south, toward the unnamed tributaries.

The calculated groundwater flow velocity and estimated values for hydraulic conductivity and porosity are included in **Table 1**. Please note that for all the monitoring wells, the estimated value for hydraulic conductivity comes from individual well aquifer tests (David Garrett, 2002) and effective porosity in the shallow aquifer is published empirical value from Groundwater and Wells (Driscoll, 1986).

4 WATER QUALITY FINDINGS

Concentrations of detected constituents in groundwater samples were compared to analyte-specific Solid Waste Section Limits (SWSLs) established by the SWS and the NCDENR rule 15A NCAC 02L .0202 Groundwater Quality Standards (2L). Concentrations of detected constituents in surface water samples were compared to analyte-specific SWSLs and the 15A NCAC 2B.0211 surface water quality standards (2B) established for class C waters. If the reported concentration is less than the SWSL, the analytical result is qualified as estimated per DENR requirement, and is flagged with a "J" qualifier.

Table 2 presents summary of detected constituents only, in groundwater. **Table 3** presents summary of detected constituents only, in surface water. In both tables, constituent analytical results that exceed their associated SWSL, 2L or 2B compliance limit, where applicable, are shaded. **Table 4** presents summary of historically detected constituents only, in the groundwater and/ or surface water samples collected at the C&D Landfill.

A hard copy of the laboratory report from Pace Analytical Services, Inc. with a copy of the chain-of-custody form is included in **Attachment 2**. All laboratory analytical results and field parameter data for groundwater and surface water are included in an electronic data deliverable (EDD) format file specified by the SWS (available in electronic form only, see **Attachment 3**). Also **Attachment 3** includes Environmental Monitoring Reporting (EMR) Form required to be submitted by the SWS.

4.1 GROUNDWATER ANALYTICAL RESULTS

The summary of constituents detected in the groundwater during the May 2015 semiannual water quality monitoring event is provided in the sections below.

4.1.1 VOLATILE ORGANIC COMPOUNDS (VOCS)

VOCs were not detected in the groundwater samples collected from all six monitoring wells.

4.1.2 METALS

Nine metals, barium, chromium, cobalt, copper, iron, lead, manganese, vanadium, and zinc, were detected at or above the applicable SWSLs in one or more of the monitoring wells during this monitoring event.

Chromium, cobalt, iron, manganese, and vanadium were detected above their respective 2L compliance limits in one or more of the monitoring wells. Iron was reported above its 2L standard in the groundwater samples collected from all monitoring wells. No other metals were reported above their compliance limits. All these metals are suspect to be background constituents. All reported detections are summarized on **Table 2**.

4.1.3 INORGANIC PARAMETERS

At least one of inorganic parameters that were analyzed [alkalinity, chloride, sulfate, and total dissolved solids (TDS)] was detected in the groundwater samples collected from the monitoring wells. The detections are summarized in **Table 2**. SWSLs are not established for the analyzed inorganics with the exception of sulfate. The detected concentrations of sulfate were below its SWSL. Chloride, sulfate, and TDS have established 2L standards. All detected concentrations of these compounds were below their applicable groundwater standards.

4.1.4 FIELD PARAMETERS

The pH readings measured in all monitoring wells ranged between 6.04 (MW-2) Standard Units (SU) to 6.71 SU (MW-6) and with the exception of pH measured in monitoring well MW-6, were outside the 2L standard pH range of 6.5 to 8.5 SU specified in the 15A NCAC 02L .0202[c] (**Table 2**).

Turbidity values at the time of sampling the monitoring wells ranged from 0.08 (MW-6) to 254.8 (MW-4) nephelometric turbidity units (NTUs). Specific conductivity values ranged between 165 (MW-3) and 434.9 (MW-5) microsiemens per centimeter (µS/cm). Dissolved oxygen values ranged between 0.13 mg/L (MW-2) and 295.9 mg/L (MW-6).

4.2 SURFACE WATER ANALYTICAL RESULTS

The summary of constituents detected in the surface water during the May 2015 semiannual water quality monitoring event is provided in the sections below.

4.2.1 VOCS

VOCs were not detected in the surface water samples collected at SW-1 and SW-2 sampling locations. SW-3 and SW-4 locations were not sampled due to dry conditions at these locations.

4.2.2 METALS

Iron and manganese were detected at concentrations above their applicable SWSL in both surface water sample locations (SW-1 and SW-2). Iron was reported in excess of 2B surface water quality standard at SW-2. None of the other detected metals were present at concentrations exceeding 2B standards (**Table 3**).

4.2.3 INORGANIC PARAMETERS

Alkalinity, chloride, sulfate, and TDS were found in both surface water samples. The detections are summarized in **Table 3**. SWSLs are not established for the analyzed inorganics with the exception of sulfate. The detected concentrations of sulfate were below its SWSL. Only chloride has established 2B standard and chloride concentrations detected in surface water were below its standard.

4.2.4 FIELD PARAMETERS

The pH readings measured in sampled surface water locations ranged between 7.57 SU (SW-2) to 7.95 SU (SW-1) and were within the 2B surface water quality standard pH range of 6.0 to 9.0 SU specified in the 15A NCAC 2B (**Table 3**).

Specific conductivity values ranged between 323.7 (SW-2) and 500.6 (SW-1) µS/cm. Dissolved oxygen values ranged between 7.53 mg/L (SW-1) and 9.83 mg/L (SW-2).

5 SUMMARY

The results of the May 2015 groundwater and surface water quality monitoring event performed at the A-1 Sandrock C&D landfill indicate that the overall water quality is stable and the reported data were comparable to the results reported during previous semiannual sampling events. The results are summarized in more detail in the sections below.

5.1 VOCS DETECTION SUMMARY

During the May 2015 monitoring event VOCs were not detected in the monitoring wells and surface water samples.

Historically, two VOCs (acetone and toluene) were detected. Acetone was detected once (November 2010), and toluene was detected twice (October 2009 and April 2010). Both constituents have not been found either in the groundwater or surface water since May 2011. The historical analytical data for previously detected VOCs are presented in **Table 4**.

5.2 METALS DETECTION SUMMARY

Chromium, cobalt, iron, manganese, and vanadium were reported in the groundwater samples collected from one or more monitoring wells at concentrations in excess of the respective 2L standard during this monitoring event.

Chromium was detected in well MW-4 in excess of its 2L compliance limit. This is the third instance where chromium was reported at concentration above its compliance limit in this well. The last time chromium was detected above 2L standard in MW-4 was reported during October 2009 monitoring event.

Cobalt was detected in excess of the 2L compliance limit in wells MW-2, MW-5, and MW-6. There were four instances in the past where cobalt was reported at concentrations exceeding 2L limit in well MW-2. Cobalt has been consistently present in well MW-5 above its 2L limit and the detected concentration was lower comparing to the one reported during April 2014 monitoring event. This was the first detection of cobalt at concentration above 2L compliance limit for well MW-6, as it was the first monitoring event during which this well was sampled.

Iron was reported above its 2L compliance limit in the groundwater samples collected from all monitoring wells. This was the third detection of iron at concentration above 2L compliance limit for well MW-1. Iron was reported in wells MW-2, MW-3, and MW-4 at concentrations above 2L compliance limit during the last five monitoring events. For well MW-5 this was the sixth occurrence for iron to be detected at the concentration in excess of its regulatory limit. This was the first occurrence of iron reported above its 2L limit for well MW-6, and its concentration was the highest.

Manganese was reported in excess of the 2L compliance limit in wells MW-2, MW-3, MW-4, MW-5, and MW-6. There were three instances in the past where manganese was reported at concentrations exceeding 2L limit in well MW-2. In wells MW-3, MW-4, and MW-5

manganese has been consistently present at concentrations in excess of 2L limit. The concentrations appeared higher comparing to the June 2013 monitoring event results.

Vanadium was reported in excess of the 2L compliance limit in wells MW-1, MW-3, MW-4, and MW-6. Vanadium has been consistently present in the groundwater sampled from these wells above its regulatory limit.

None of the detected metals in the surface water were present at concentrations in excess of the 2B surface water quality standards.

Metal concentrations in groundwater are often dependent on the turbidity or suspended particulates (from the aquifer formation) retrieved with the groundwater sample and also metals natural occurring in the in-situ soil. The turbidity is a function of the sampling method, well construction, well development, depth to groundwater, and grain size/consolidation of the water-bearing zone. Since unfiltered samples are acidified in the field at the time of sample collection, metals contained within the particulates are dissolved into the water sample. Thus, the presence of turbidity in groundwater samples often results in elevated (false positive) analytical concentrations for metals. Therefore, the presence of elevated metal concentrations does not necessarily indicate a groundwater impact.

Additionally, certain metals are considered natural occurring within the in-situ soils and not caused by a release from a landfill. It is known that the landfill is located in a historic mining district, where mineralization by concentrated metals has occurred. Further monitoring will pay attention to any reported constituents.

The historical analytical data for metals detected in the past are presented in **Table 4.**

5.3 INORGANIC AND FIELD PARAMETERS

Alkalinity, chloride, sulfate, and total dissolved solids were reported in all groundwater and surface water samples collected during May 2015 monitoring event. The reported concentrations of all inorganics appear consistent with historically reported data for these parameters.

The results of the field-measured groundwater quality parameters indicate that the values measured in the collected samples were generally consistent comparing to the already existing data set. Turbidity was the highest and elevated in the monitoring well MW-4. The pH readings measured in majority of monitoring wells were outside the 2L standard pH range specified in the 15A NCAC 02L .0202[c] and continue indicate acidic groundwater.

The field parameters measured in the surface water samples were consistent with the values reported in the past.

5.4 CONCLUSIONS

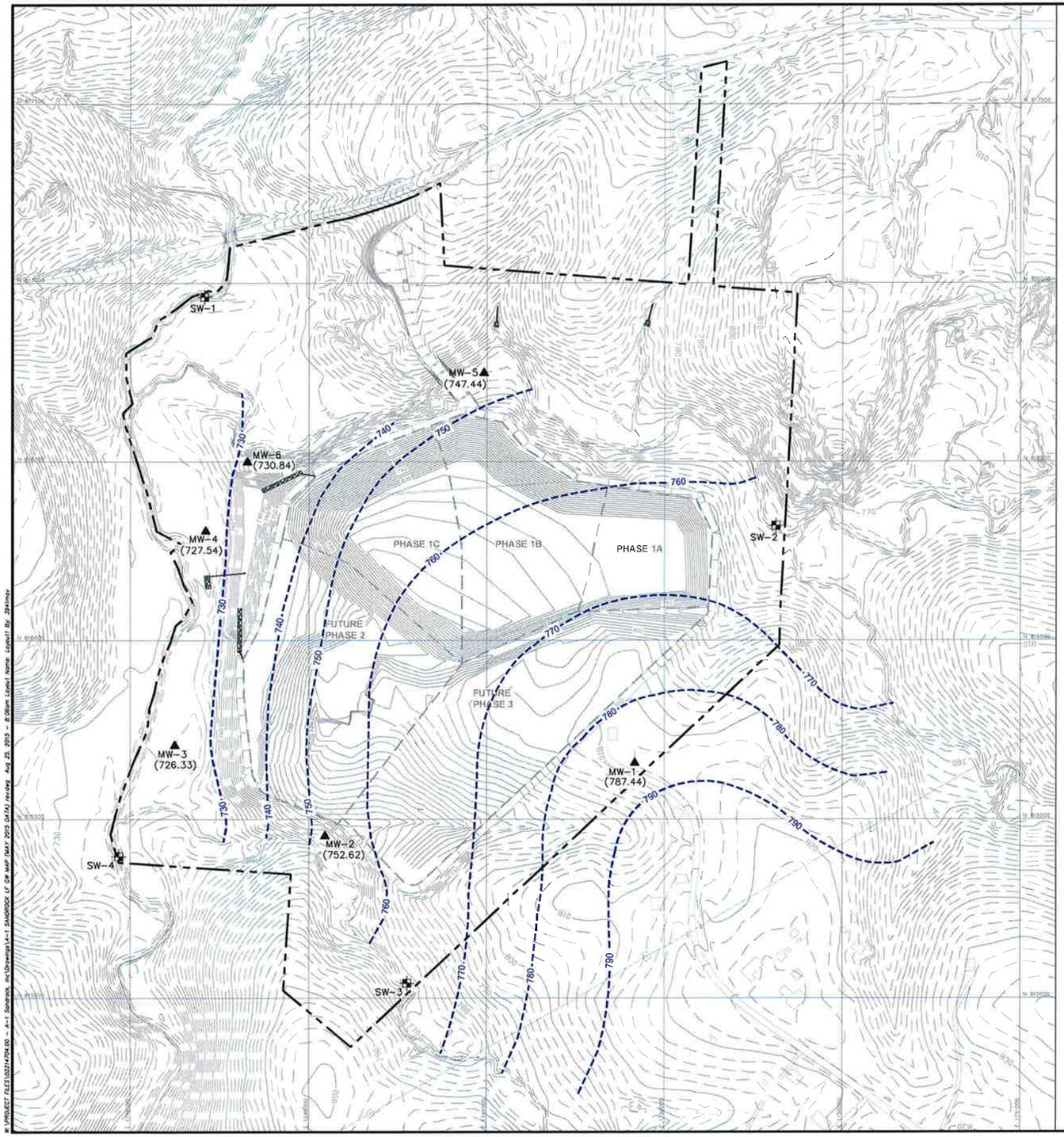
The results of the groundwater monitoring event indicate consistent presence of metals in the groundwater. There is no indication that the landfill is causing, or contributing to any

degradation of groundwater quality. Furthermore, no down gradient groundwater users are present or anticipated, therefore there is no indication of any risk to the public at this time.

The results of the surface water monitoring event indicate conditions consistent with historic field and analytical data reported, and do not demonstrate an impact on surface water quality due to landfill activities.

At this time, no changes or other recommendations for the monitoring program are warranted. The next water quality monitoring event at the A-1 Sandrock C&D Landfill is scheduled for November 2015.

FIGURES



Digitally signed by dgarrett@scsengineers.com
DN: cn=dgarrett@scsengineers.com
Reason: submittal
Date: 2015.08.27 13:03:45 -04'00'

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SCALE IN FEET

LEGEND:

- 2 FOOT ELEVATION CONTOUR
- 10 FOOT ELEVATION CONTOUR
- FACILITY BOUNDARY
- CELL BOUNDARY
- STREAM/WATER IMPOUNDMENT
- POWERLINE
- 780 – GROUNDWATER ELEVATION CONTOUR
- MW-1 (787.44) – GROUNDWATER MONITORING LOCATION AND GROUNDWATER ELEVATION
- SW-1 – SURFACE WATER MONITORING LOCATION

NOTES:

1. GROUNDWATER POTENTIOMETRIC CONTOURS TAKEN FROM PERMITTING STUDIES, MODIFIED WITH CURRENT DATA FOR MONITORING WELLS MEASURED ON MAY 21 & 22, 2015.
2. MONITORING WELL MW-06 WAS INSTALLED ON APRIL 2, 2015.
3. GUILFORD COUNTY TAX MAP FOR SUMTER TOWNSHIP: ACL-3-185-755S-7, D.B. 4459, PG. 780.
4. TOPOGRAPHY WITHIN PROPERTY BOUNDARY FROM AERIAL PHOTOGRAPHY DATED 3/27/01, BY SPATIAL DATA. TOPOGRAPHY OUTSIDE PROPERTY BOUNDARY FROM AERIAL PHOTOGRAPHY DATED 1995, BY GUILFORD COUNTY GIS DEPARTMENT.
5. BOUNDARY INFORMATION FROM BOUNDARY MAP PREPARED BY L. DENNIS LEE, P.A., DATED NOVEMBER 14, 2002.
6. BASE GRADES SHOWN HERE ARE AS PERMITTED IN FEBRUARY 2004 BY NCDENR DIVISION OF WASTE MANAGEMENT (PERMIT #41-17). AS-BUILT SURVEY FOR PHASE 1A COMPLETED IN DECEMBER 2006 BY DENNIS LEE, RLS.

NORTH CAROLINA LICENSED PROFESSIONAL ENGINEER DAVID GARRETT

NC CORP. LICENSE NO. C-1837

NO.	REVISION	DATE

SHEET TITLE
MAY 2015
GROUNDWATER SURFACE CONTOUR MAP

PROJECT TITLE
A-1 SANDROCK C&D LANDFILL (41-17)
WATER QUALITY REPORT

CLIENT
A-1 SANDROCK, INC.
2091 BISHOP ROAD
GREENSBORO, NC 27406
(336) 856-6195

SCS ENGINEERS, PC
2520 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273
PHONE: (704) 504-3107 FAX: (704) 504-3174

FIELD NO: 02314704.00
GSN BY: GDG
DWN BY: TAB
CHK BY: DMC
CALB/VIR BY: MV
APP BY: GDG

DATE: AUGUST 2015
SCALE: AS SHOWN
DRAWING NO. 1 of 1

TABLES

Table 1
Groundwater Level and Flow Data
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill, Permit #41-17
May 2015

Well ID	GS Elevation	TOC Elevation	Depth To Water	Water Level Elevation	Total Well Depth
	(feet)				
MW-1	813.40	816.05	28.61	787.44	46.65
MW-2	759.90	761.92	9.3	752.62	32.72
MW-3	729.80	731.82	5.49	726.33	33.71
MW-4	731.10	733.17	5.63	727.54	26.1
MW-5	761.10	762.88	15.44	747.44	31.14
MW-6	753.10	755.89	25.05	730.84	47.45

Well ID	Water Level Elevation	Reference Elevation	Vertical Change	Horizontal Change	K*		n	I	v
	(feet)				(cm/sec)	(ft/year)		(ft/ft)	(ft/year)
MW-1	787.44	780	7.44	150	6.32E-06	6.54	0.20	0.050	1.62
MW-2	752.62	750	2.62	40	6.32E-06	6.54	0.20	0.066	2.14
MW-3	726.33	730	3.67	100	6.32E-06	6.54	0.20	0.037	1.20
MW-4	727.54	730	2.46	60	6.32E-06	6.54	0.20	0.041	1.34
MW-5	747.44	750	2.56	90	6.32E-06	6.54	0.20	0.028	0.93

NOTES:

Depth To Water was measured on May 21 and 22, 2015 for monitoring wells MW-1. MW-2, MW-3, MW-4, MW-5, and MW-6.

Monitoring well MW-06 is a newly installed well on April 2, 2015.

GS - ground surface.

TOC - top of casing.

Depth To Water in feet from TOC.

Monitoring wells were surveyed by Allied Associates, P.A., April 7, 2009.

GS and TOC elevation in NGVD29.

K - hydraulic conductivity.

cm/sec = centimeters per second.

ft = feet.

n - effective porosity.

I - hydraulic gradient. Values obtained by dividing water level elevation difference by horizontal distance between closest two contour lines to each well locatic

v - flow rate; GW flow rate calculated based on the modified Darcy equation: v = (K*I)/n.

*- The geometric mean of K from individual well aquifer tests was used to calculate the hydraulic conductivity (tests conducted by David Garrett, P.G., P.E. as part of the Site Suitability Report).

The effective porosity used in velocity calculations is published empirical value from Driscoll, 1986.

Table 2
Summary of Groundwater Quality Data - Detected Constituents Only
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill, Permit # 41-17
May 2015

Parameter		MDL	MRL	Compliance Limit		Monitoring Well ID and Analytical Results						
				SWSL	2L Standard	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	DUP1(MW-3)
Metals (µg/L)	Barium	2.5	5	100	700	40.3 J	94.7 J	61.9 J	**175**	61.4 J	**262**	73.5 J
	Chromium	2.5	5	10	10	2.5 U	2.5 U	9.4 J	**27.8**	2.5 U	9.0 J	8.7 J
	Cobalt	2.5	5	10	1	2.5 U	**5.8 J**	2.5 U	2.5 U	**9.2 J**	**10.2**	2.5 U
	Copper	2.5	5	10	1,000	2.5 U	**326**	2.5 U	**24.1**	5.1 J	**10.4**	2.5 U
	Iron	25	50	300	300	**896**	**1,070**	**2,420**	**10,300**	**691**	**23,800**	**3,400**
	Lead	2.5	5	10	15	2.5 U	**10.2**	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
	Manganese	2.5	5	50	50	19.9 J	**2,010**	**73.5**	**232**	**1,560**	**558**	**74.4**
	Nickel	2.5	5.0	50	100	2.5 U	2.5 U	7.1 J	17.1 J	2.5 U	10.9 J	6.6 J
	Vanadium	2.5	5.0	25	0.3	10.1 J	2.5 U	**7.6 J**	**37.2**	2.5 U	**37.8**	**9.5 J**
	Zinc	5.0	10.0	10	1,000	5 U	**178**	**10.1**	**15.2**	5 U	**72.8**	5 U
Inorganics (mg/L)	Alkalinity	1.0	5.0	NE	NE	68.20	76.50	57.60	67.20	124.00	57.70	58.40
	Chloride	0.50	1.0	NE	250	4.50	6.82	3.75	4.89	11.10	11.80	4.81
	Sulfate	1.0	2.0	250	250	36.20 J	25.60 J	9.91 J	38.00 J	68.60 J	15.20 J	9.91 J
	Total Dissolved Solids	25.0	25.0	NE	500	193.00	159.00	111.00	183.00	283.00	288.00	120.00
Field Parameters	Dissolved Oxygen (DO; mg/L)	NA	NA	NE	NE	4.12	0.13	3.25	0.72	0.16	295.9	NA
	Oxygen Reduction Potential (ORP; mV)	NA	NA	NE	NE	251.6	184.7	302	255.0	22	-243.5	NA
	pH (S.U.)	NA	NA	NE	6.5 - 8.5	6.51	**6.04**	**6.07**	**6.24**	**6.15**	6.71	NA
	Specific Conductivity (µS/cm)	NA	NA	NE	NE	252.0	260.3	165.0	255.7	434.9	229.9	NA
	Turbidity (NTU)	NA	NA	NE	NE	29.91	8.61	32.0	254.8	7.58	0.08	NA

NOTES:

Table 2 lists all detected compounds in the groundwater. Please refer to Pace Analytical Services, Inc. laboratory analysis report for further details.

MDL = Method Detection Limit.

MRL = Method Reporting Limit.

Compliance Limit = SWSL or 2L Standard.

SWSL = Solid Waste Section Limit (June 13, 2011).

2L Standard = NCAC Title 15A Subchapter 2L Classifications and Water Quality Standards Applicable to the GWs of North Carolina (April 1, 2013).

J indicates the detected result is below the SWSL.

U indicates the compound was analyzed for, but not detected.

µg/L = micrograms per liter.

NE = Not Established. NA = Not Applicable or Not Analyzed.

Bold font indicates analyte detection above SWSL.

Shaded field denotes result that was at or above the 2L Standard.

mg/L = milligrams per liter.

mV = millivolts.

S.U. = Standard Units.

µS/cm = micro Siemens per centimeter.

NTU = Nephelometric Turbidity Units.

Table 3
Summary of Surface Water Quality Data - Detected Constituents Only
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill, Permit # 41-17
May 2015

Parameter		MDL	MRL	Compliance Limit		Sample Location ID and Analytical Results			
				SWSL	2B Standard	SW-1	SW-2	SW-3	SW-4
Metals (µg/L)	Barium	2.5	5.0	100	200,000	70.7 J	75.7 J	NS	NS
	Iron	25	50	300	1,000	**826**	**1,520**	NS	NS
	Manganese	2.5	5	50	NE	**233**	**249**	NS	NS
Inorganics (mg/L)	Alkalinity	1.0	5.0	NE	NE	159.00	116.00	NS	NS
	Chloride	0.50	1.0	NE	230	37.10	12.90	NS	NS
	Sulfate	1.0	2.0	250	NE	20.70 J	13.60 J	NS	NS
	Total Dissolved Solids	25.0	25.0	NE	NE	313.00	234.00	NS	NS
Field Parameters	Dissolved Oxygen (DO; mg/L)	NA	NA	NE	NE	7.53	9.83	NS	NS
	Oxygen Reduction Potential (ORP; mV)	NA	NA	NE	NE	260.5	184.8	NS	NS
	pH (S.U.)	NA	NA	NE	6.0 - 9.0	7.95	7.57	NS	NS
	Specific Conductivity (µS/cm)	NA	NA	NE	NE	500.6	323.7	NS	NS

NOTES:

Table 3 lists all detected compounds in the surface water. Please refer to Pace Analytical Services, Inc. laboratory analysis report for further details.

MDL = Method Detection Limit.

MRL = Method Reporting Limit.

Compliance Limit = SWSL or 2L Standard.

SWSL = Solid Waste Section Limit (June 13, 2011).

2B Standard = Standards, criteria, or toxic concentrations either adopted per 15A NCAC 2B or National Criteria per EPA (Current as of 5/15/2013).

(AL) = Action Level Standard (See 2B .0211 for additional information).

J indicates the detected result is below the SWSL.

µg/L = micrograms per liter. mg/L = milligram per liter.

NE = Not Established. NA = Not Applicable or Not Analyzed. NM = Not Measured.

Bold font indicates analyte detection above SWSL.

Shaded field denotes result that was at or above the 2B Standard.

mV = millivolts.

S.U. = Standard Units.

µS/cm = microsiemens per centimeter.

NTU = Nephelometric Turbidity Units.

Table 4

Historical Groundwater and Surface Water Quality Data
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill

Parameter : Antimony CAS No. 7440-36-0

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	6	1	640	NA	ND	ND	ND	ND	ND		ND	ND	ND	ND
Oct-2009				2.95	ND	ND	ND	ND	ND		ND	ND	ND	ND
Apr-2010				2.95	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2010				2.95	ND	ND	ND	ND	ND		ND	ND	ND	ND
May-2011				0.220	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2011				0.220	ND	ND	ND	ND	ND		ND	ND	ND	ND
May-2012				0.220	**0.567 J**	**1.12 J**	**0.287 J**	ND	ND		**0.224 J**	ND	ND	**0.573 J**
Nov-2012				0.220	ND	**0.328 J**	ND	ND	ND		ND	ND	ND	ND
Jun-2013				0.220	ND	**0.484 J**	ND	ND	ND		ND	ND	ND	ND
Apr-2014				5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0		**63.1**	ND<5.0	ND<5.0	ND<5.0
Nov-2014				3.8	ND<3.8	ND<3.8	ND<3.8	ND<3.8	ND<3.8		ND<3.8	ND<3.8	ND<3.8	ND<3.8
May-2015				3.8	ND<3.8	ND<3.8	ND<3.8	ND<3.8	ND<3.8	ND<3.8	ND<3.8	ND<3.8	NS	NS

Parameter : Arsenic CAS No. 7440-38-2

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	10	10	10	NA	ND	ND	ND	ND	ND		ND	ND	ND	ND
Oct-2009				4.91	ND	ND	ND	ND	ND		ND	ND	ND	ND
Apr-2010				4.91	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2010				4.91	**7.75 J**	ND	ND	ND	ND		ND	ND	ND	ND
May-2011				2.80	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2011				2.80	ND	ND	ND	ND	ND		ND	ND	ND	ND
May-2012				2.80	ND	**3.49 J**	**3.78 J**	**3.24 J**	**3.17 J**		ND	**4.23 J**	**5.20 J**	**3.98 J**
Nov-2012				2.80	ND	ND	ND	ND	ND		**2.98 J**	ND	ND	ND
Jun-2013				5.40	ND	ND	ND	ND	ND		ND	ND	ND	ND
Apr-2014				5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0		ND<5.0	ND<5.0	ND<5.0	ND<5.0
Nov-2014				2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5		ND<2.5	ND<2.5	ND<2.5	ND<2.5
May-2015				2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	NS	NS

Parameter : Barium CAS No. 7440-39-3

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	100	700	200,000	NA	**390**	**449**	**860**	**768**	**534**		**82 J**	**47 J**	ND	**70 J**
Oct-2009				2.06	**22.9 BJ**	**50.8 BJ**	**334 B**	**163 B**	**42.4 BJ**		**57.7 BJ**	**81.7 BJ**	**61.7 BJ**	**62.6 BJ**
Apr-2010				2.06	**26.9 BJ**	**42.8 BJ**	**75.2 BJ**	**63.8 BJ**	**37.6 BJ**		**59.8 BJ**	**61.6 BJ**	**38.5 BJ**	**70.9 BJ**
Nov-2010				2.06	**64.7 J**	**59.5 J**	**46.4 J**	**49.5 J**	**52.9 J**		**88.2 J**	**110**	**80.9 J**	**96.3 J**
May-2011				1.0	**20.2 J**	**45.3 J**	**106**	**53.8 J**	**51.9 J**		**79.8 J**	**83.7 J**	**52.0 J**	**75.4 J**
Nov-2011				1.0	**42.8 J**	**43.6 J**	**95.5 J**	**101**	**58.5 J**		**66.1 J**	**69.3 J**	**59.6 J**	**76.2 J**
May-2012				1.0	**31.8 J**	**47.2 J**	**118**	**109**	**52..9 J**		**60.7 J**	**76.8 J**	**31.9 J**	**61.7 J**
Nov-2012				1.0	**31.5 J**	**68.2 J**	**68.7 J**	**105**	**69.8 J**		**83.8 J**	**69.1 J**	**138**	**76.8 J**
Jun-2013				1.0	**27.5 J**	**58.1 J**	**75.3 J**	**94.5 J**	**63.3 J**		**70.6 J**	**61.3 J**	**53.4 J**	**63.6 J**
Apr-2014				5.0	**52.5 J**	**48.6 J**	**37.9 J**	**94.0 J**	**51.8 J**		ND<5.0	**52.1 J**	**34.6 J**	**35.5 J**
Nov-2014				2.5	**38.4 J**	**51.9 J**	**39.4 J**	**108**	**91.8 J**		**65.8 J**	**65.1 J**	**80.7 J**	**63.4 J**
May-2015				2.5	**40.3 J**	**94.7 J**	**61.9 J**	**175**	**61.4 J**	**262**	**70.7 J**	**75.7 J**	NS	NS

Table 4

Historical Groundwater and Surface Water Quality Data
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill

Parameter : Beryllium CAS No. 7440-41-7

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	1	4	6.5	NA	ND	ND	ND	ND	ND		ND	ND	ND	ND
Oct-2009				0.442	ND	ND	ND	ND	ND		ND	ND	ND	ND
Apr-2010				0.088	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2010				0.442	ND	ND	ND	ND	ND		ND	ND	ND	ND
May-2011				0.100	ND	**0.103 J**	ND	ND	ND		ND	ND	ND	ND
Nov-2011				0.100	ND	ND	ND	ND	ND		ND	ND	ND	ND
May-2012				0.100	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2012				0.100	ND	ND	ND	ND	ND		ND	ND	ND	ND
Jun-2013				0.100	ND	ND	ND	ND	ND		ND	ND	ND	ND
Apr-2014				1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0		ND<1.0	ND<1.0	ND<1.0	ND<1.0
Nov-2014				0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50	ND<0.50	ND<0.50	ND<0.50
May-2015				0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NS	NS

Parameter : Chromium CAS No. 7440-47-3

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	10	10	50	NA	ND	ND	**29**	**11**	**11**		ND	ND	ND	ND
Oct-2009				1.46	ND	ND	**28.7 B**	**24.5 B**	ND		**3.33 B**	ND	ND	ND
Apr-2010				1.46	**3.58 J**	**2.81 J**	**6.43 J**	**4.24 J**	**2.38 J**		**5.55 J**	**3.47 J**	**3.47 J**	**4.46 J**
Nov-2010				1.46	**7.88 J**	**5.92 J**	**7.88 J**	**7.36 J**	**5.71 J**		**5.71 J**	**6.53 J**	**6.43 J**	**7.05 J**
May-2011				1.0	**1.55 J**	ND	**9.76 J**	**1.75 J**	**4.22 J**		ND	ND	ND	ND
Nov-2011				1.0	**6.48 J**	**1.43 J**	**8.87 J**	**7.84 J**	**1.40 J**		**1.37 J**	**1.10 J**	**1.35 J**	**1.52 J**
May-2012				1.0	**1.32 J**	**2.28 J**	**10.5**	**6.98 J**	ND		ND	ND	**1.19 J**	ND
Nov-2012				1.0	**1.43 J**	**2.01 J**	**10.9**	**4.30 J**	**4.89 J**		**4.39 J**	ND	**3.64 J**	ND
Jun-2013				1.40	**2.29 J**	ND	**6.39 J**	**6.83 J**	ND		ND	ND	ND	ND
Apr-2014				5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0		ND<5.0	ND<5.0	ND<5.0	ND<5.0
Nov-2014				2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5		ND<2.5	ND<2.5	ND<2.5	ND<2.5
May-2015				2.5	ND<2.5	ND<2.5	**9.4 J**	**27.8**	ND<2.5	**9.0 J**	ND<2.5	ND<2.5	NS	NS

Parameter : Cobalt CAS No. 7440-48-4

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	10	1	4	NA	**9 J**	**9 J**	**30.0**	**11**	**14**		ND	ND	ND	ND
Oct-2009				1.72	ND	ND	**20.0**	**9.53 J**	**1.96 J**		ND	ND	**4.84 J**	ND
Apr-2010				1.72	ND	ND	**3.08 J**	**4.97 J**	**2.13 J**		ND	ND	ND	ND
Nov-2010				1.72	ND	ND	ND	ND	ND		ND	ND	**2.30 J**	ND
May-2011				1.10	ND	ND	**5.10 J**	**5.49 J**	**2.08 J**		ND	**1.20 J**	**2.17 J**	ND
Nov-2011				1.10	**2.10 J**	ND	**3.41 J**	**3.76 J**	ND		ND	**1.13 J**	ND	ND
May-2012				1.10	ND	**2.33 J**	**5.16 J**	**7.22 J**	**3.25 J**		ND	**1.17 J**	**2.65 J**	ND
Nov-2012				1.10	ND	**1.38 J**	**2.14 J**	**2.02 J**	**2.77 J**		ND	ND	**26.7**	**1.17 J**
Jun-2013				1.10	ND	**1.19 J**	**3.12 J**	**2.31 J**	**6.13 J**		ND	ND	**9.42 J**	ND
Apr-2014				5.0	ND<5.0	ND<5.0	ND<5.0	**8.5 J**	**60.3**		ND<5.0	ND<5.0	ND<5.0	ND<5.0
Nov-2014				2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5		ND<2.5	ND<2.5	ND<2.5	ND<2.5
May-2015				2.5	ND<2.5	**5.8 J**	ND<2.5	ND<2.5	**9.2 J**	**10.2**	ND<2.5	ND<2.5	NS	NS

Table 4

Historical Groundwater and Surface Water Quality Data
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill

Parameter : Copper CAS No. 7440-50-8

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	10	1,000	7	NA	**36**	**45**	**60**	**67**	**55**		ND	ND	**42 J**	ND
Oct-2009				1.29	**3.02 BJ**	**8.77 BJ**	**27.8 B**	**35.0 B**	**8.49 BJ**		**7.56 BJ**	**2.69 BJ**	**11.2 B**	**3.21 BJ**
Apr-2010				1.29	**1.71 J**	**2.39 J**	**6.71 J**	**5.07 J**	**6.21 J**		**5.69 J**	**7.82 J**	**53.1**	**5.67 J**
Nov-2010				1.29	**13.7**	**6.64 J**	**5.98 J**	**7.09 J**	**7.07 J**		**7.26 J**	**7.90 J**	**12.0**	**6.32 J**
May-2011				1.60	ND	ND	**4.70 J**	**1.79 J**	**10.9**		ND	**1.94 J**	**23.0**	ND
Nov-2011				1.60	**7.29 BJ**	**4.06 BJ**	**5.51 BJ**	**11.2 B**	**4.97 BJ**		**3.08 BJ**	**5.34 BJ**	**19.2 B**	**3.65 BJ**
May-2012				1.60	ND	**2.91 J**	**4.85 J**	**9.56 J**	**2.80 J**		ND	**1.86 J**	**105**	**1.97 J**
Nov-2012				1.60	ND	ND	**6.39 J**	**4.02 J**	**5.03 J**		ND	ND	**33.8**	ND
Jun-2013				1.60	ND	ND	ND	**6.24 J**	**3.96 J**		ND	**1.71 J**	**51.1**	ND
Apr-2014				5.0	**6.7 J**	ND<5.0	ND<5.0	ND<5.0	**9.8 J**		ND<5.0	ND<5.0	**41.9**	**41.6**
Nov-2014				2.5	**7.1 J**	ND< 2.5	ND< 2.5	ND< 2.5	**5.3 J**		ND< 2.5	ND< 2.5	ND< 2.5	ND<2.5
May-2015				2.5	ND< 2.5	**326**	ND< 2.5	**24.1**	**5.1 J**	**10.4**	ND< 2.5	ND< 2.5	NS	NS

Parameter : Lead CAS No. 7439-92-1

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	10	15	25	NA	**11**	ND	ND	60	ND		ND	ND	ND	ND
Oct-2009				6.79	ND	ND	**10.4**	ND	ND		ND	ND	ND	ND
Apr-2010				6.79	ND	ND	ND	**6.82 J**	ND		**7.08 J**	ND	ND	ND
Nov-2010				6.79	ND	**10.1 B**	**7.96 B**	**8.01 B**	ND		**7.46 B**	**7.71 B**	**8.08 B**	ND
May-2011				1.90	ND	ND	**2.94 J**	ND	ND		ND	ND	ND	ND
Nov-2011				1.90	ND	ND	ND	ND	ND		ND	ND	ND	ND
May-2012				1.90	**2.43 J**	ND	ND	**2.24 J**	ND		ND	ND	**2.30 J**	ND
Nov-2012				1.90	ND	ND	ND	ND	ND		ND	ND	**3.75 J**	ND
Jun-2013				2.10	ND	ND	ND	ND	ND		ND	ND	ND	ND
Apr-2014				5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0		ND<5.0	ND<5.0	ND<5.0	ND<5.0
Nov-2014				2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5		ND<2.5	ND<2.5	ND<2.5	ND<2.5
May-2015				2.5	ND<2.5	**10.2**	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	NS	NS

Parameter : Nickel CAS No. 7440-02-0

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	50	100	88	NA	**10 J**	ND	**67**	**15 J**	**14 J**		ND	ND	ND	ND
Oct-2009				2.36	ND	ND	**31.0 J**	**20.5 J**	**3.02 J**		**4.92 J**	ND	ND	ND
Apr-2010				2.36	ND	ND	**10.6 J**	**6.29 J**	**3.11 J**		**2.60 J**	**2.98 J**	**3.91 J**	**5.68 J**
Nov-2010				2.36	**7.28 J**	**2.59 J**	**6.82 J**	**3.80 J**	**5.01 J**		**3.89 J**	**4.19 J**	**3.88 J**	**3.77 J**
May-2011				1.80	ND	ND	**9.74 J**	**3.86 J**	**2.92 J**		ND	ND	ND	ND
Nov-2011				1.80	**2.84 J**	ND	**8.41 J**	**9.74 J**	**4.41 J**		ND	ND	ND	ND
May-2012				1.80	ND	ND	**8.54 J**	**9.60 J**	**3.23 J**		ND	ND	ND	ND
Nov-2012				1.80	ND	ND	**7.45 J**	**8.64 J**	**7.47 J**		**2.39 J**	ND	**4.59 J**	ND
Jun-2013				1.80	ND	ND	**3.62 J**	**6.24 J**	**5.67 J**		ND	ND	ND	ND
Apr-2014				5.0	ND<5.0	ND<5.0	ND<5.0	**8.4 J**	ND<5.0		ND<5.0	ND<5.0	ND<5.0	ND<5.0
Nov-2014				2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	**13.2 J**		ND<2.5	ND<2.5	ND<2.5	ND<2.5
May-2015				2.5	ND<2.5	ND<2.5	**7.1 J**	**17.1 J**	ND<2.5	**10.9 J**	ND<2.5	ND<2.5	NS	NS

Table 4

Historical Groundwater and Surface Water Quality Data
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill

Parameter : Selenium CAS No. 7782-49-2

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	10	20	5	NA	ND	ND	ND	ND	ND		ND	ND	ND	ND
Oct-2009				2.78	ND	ND	**6.34 J**	ND	ND		ND	ND	ND	ND
Apr-2010				2.78	**2.90 J**	**2.89 J**	ND	ND	ND		**4.67 J**	ND	ND	ND
Nov-2010				2.78	ND	ND	ND	ND	ND		ND	**3.97 J**	ND	ND
May-2011				2.70	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2011				2.70	ND	ND	ND	ND	ND		ND	ND	ND	ND
May-2012				4.50	ND	ND	ND	ND	ND		ND	ND	**7.92 J**	ND
Nov-2012				4.50	ND	ND	ND	ND	ND		ND	ND	ND	ND
Jun-2013				5.0	ND	ND	ND	ND	ND		ND	ND	ND	ND
Apr-2014				10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0		ND<10.0	ND<10.0	ND<10.0	ND<10.0
Nov-2014				5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0		ND<5.0	ND<5.0	ND<5.0	ND<5.0
May-2015				5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	NS	NS

Parameter : Silver CAS No. 7440-22-4

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	10	20	0.06	NA	**12 J**	ND	ND	ND	ND		ND	ND	ND	ND
Oct-2009				0.656	**1.24 BJ**	**3.43 BJ**	ND	**0.88 BJ**	**1.09 BJ**		**0.67 BJ**	ND	ND	ND
Apr-2010				0.656	ND	**1.04 J**	ND	ND	ND		ND	ND	ND	ND
Nov-2010				0.656	**7.14 J**	**7.32 J**	**6.32 J**	**6.57 J**	**6.99 J**		**6.72 J**	**6.96 J**	**6.84 J**	**7.14 J**
May-2011				1.90	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2011				1.90	**3.81 J**	ND	ND	ND	ND		ND	ND	ND	ND
May-2012				1.90	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2012				1.90	ND	ND	ND	ND	ND		ND	ND	ND	ND
Jun-2013				1.90	**1.90 J**	**2.09 J**	ND	ND	ND		ND	ND	ND	**1.91 J**
Apr-2014				5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0		ND<5.0	ND<5.0	ND<5.0	ND<5.0
Nov-2014				2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5		ND<2.5	ND<2.5	ND<2.5	ND<2.5
May-2015				2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	NS	NS

Parameter : Vanadium CAS No. 7440-62-2

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	25	0.3	NE	NA	**200**	**200**	**135**	**106**	**145**		ND	ND	ND	ND
Oct-2009				0.586	**12.3 J**	**8.3 J**	**61.5**	**34.8**	**11.2 J**		**9.74 J**	**4.43 J**	**3.27 J**	ND
Apr-2010				0.059	**9.79 BJ**	ND	**2.44 BJ**	ND	ND		ND	ND	**0.379 BJ**	ND
Nov-2010				0.586	ND	ND	ND	ND	ND		ND	ND	ND	ND
May-2011				1.40	**9.29 J**	**2.23 J**	**17.3 J**	**2.07 J**	**9.21 J**		ND	ND	**2.71 J**	ND
Nov-2011				1.40	**14.9 J**	**2.55 J**	**13.3 J**	**10.5 J**	ND		ND	ND	ND	ND
May-2012				1.40	**9.03 J**	**5.35 J**	**19.4 J**	**12.6 J**	**2.01 J**		ND	ND	**3.03 J**	ND
Nov-2012				1.40	**8.78 J**	**5.25 J**	**9.30 J**	**8.88 J**	**2.92 J**		ND	ND	**12.1 J**	ND
Jun-2013				1.40	**9.81 J**	**2.45 J**	**11.4 J**	**10.3 J**	**1.57 J**		**2.66 J**	ND	**1.85 J**	**1.45 J**
Apr-2014				5.0	ND<5.0	ND<5.0	ND<5.0	**8.5 J**	**11.3 J**		ND<5.0	ND<5.0	ND<5.0	ND<5.0
Nov-2014				2.5	**9.8 J**	ND<2.5	ND<2.5	**7.3 J**	ND<2.5		ND<2.5	ND<2.5	ND<2.5	ND<2.5
May-2015				2.5	**10.1 J**	ND<2.5	**7.6 J**	**37.2**	ND<2.5	**37.8**	ND<2.5	ND<2.5	NS	NS

Table 4
Historical Groundwater and Surface Water Quality Data
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill

Parameter : Zinc CAS No. 7440-66-6

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	10	1,000	50	NA	**202**	**236**	**219**	**354**	**501**		ND	ND	ND	ND
Oct-2009				1.29	**2.0 J**	**4.41 J**	**65.7**	**18.2**	**2.68 J**		**17.2**	**1.40 J**	**4.66 J**	**2.20 J**
Apr-2010				1.29	ND	ND	**9.32 J**	**2.41 J**	**1.91 J**		**3.96 J**	**6.98 J**	**5.59 J**	**8.19 J**
Nov-2010				1.29	**18.8 B**	**7.99 JB**	**7.30 JB**	**9.02 JB**	**6.58 JB**		**6.85 JB**	**8.55 JB**	**10.2 B**	**10.3 B**
May-2011				3.80	ND	**6.68 J**	**21.3**	**13.5**	**6.38 J**		ND	**3.97 J**	**3.95 J**	**4.18 J**
Nov-2011				3.80	**10.2**	ND	**16.4**	**17.2**	ND		**4.47 J**	**4.76 J**	**4.40 J**	**4.91 J**
May-2012				3.80	ND	**9.70 J**	**23.7**	**8.69 J**	ND		ND	ND	**5.38 J**	**4.43 J**
Nov-2012				3.80	ND	ND	**15.1**	**3.83 J**	**5.79 J**		**5.53 J**	ND	**24.5**	ND
Jun-2013				3.80	**6.16 J**	**4.32 J**	**11.2**	**6.33 J**	**4.10 J**		**4.83 J**	**6.45 J**	ND	**5.35 J**
Apr-2014				10.0	**18.5**	ND<10.0	ND<10.0	ND<10.0	ND<10.0		ND<10.0	ND<10.0	ND<10.0	ND<10.0
Nov-2014				5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	**10.0**		**10.3**	ND<5.0	ND<5.0	ND<5.0
May-2015				5.0	ND<5.0	**178**	**10.1**	**15.2**	ND<5.0	**72.8**	ND<5.0	ND<5.0	NS	NS

Parameter : Iron CAS No. 7439-89-6

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	300	300	1,000	NA	ND	ND	ND	ND	ND		ND	ND	ND	ND
Oct-2009				20.0	**158 BJ**	**2,360 B**	**35,200 B**	**17,700 B**	**1,250 B**		**2,530**	**1,040**	**2,050**	**553**
Apr-2010				20.0	**71.2 J**	**94.0 J**	**2,890**	**6,860**	**162 J**		ND	ND	ND	ND
Nov-2010				20.0	**81.6 J**	ND	**48.6 JB**	**2,160**	**245 J**		ND	ND	ND	ND
May-2011				22.0	**145 J**	**394**	**8,960**	**3,050**	**2,290**		NA	NA	NA	NA
Nov-2011				22.0	**2,790**	**821**	**6,660**	**4,410**	**332**		ND	ND	ND	ND
May-2012				22.0	**123 J**	**2,090**	**9,690**	**6,190**	**550**		ND	ND	ND	ND
Nov-2012				22.0	**43.1 J**	**1,690**	**3,810**	**2,590**	**428**		ND	ND	ND	ND
Jun-2013				22.0	**630**	**474**	**4,720**	**3,260**	**184 J**		ND	ND	ND	ND
Apr-2014				NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
Nov-2014				NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
May-2015				25.0	**896**	**1,070**	**2,420**	**10,300**	**691**	**23,800**	**826**	**1,520**	NS	NS

Parameter : Manganese CAS No. 7439-96-5

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	50	50	NE	NA	ND	ND	ND	ND	ND		ND	ND	ND	ND
Oct-2009				0.64	**13.6 J**	**63.4**	**481**	**767**	**418**		**97.4**	**284**	**422**	**447**
Apr-2010				0.64	**7.45 J**	**13.8 J**	**187**	**992**	**146**		ND	ND	ND	ND
Nov-2010				0.64	**118**	**8.31 JB**	**4.37 JB**	**32.5 J**	**73.9**		ND	ND	ND	ND
May-2011				1.10	**6.53 J**	**12.5 J**	**181**	**879**	**240**		NA	NA	NA	NA
Nov-2011				1.10	**84.0**	**23.9 J**	**125**	**360**	**202**		ND	ND	ND	ND
May-2012				1.10	**5.67 J**	**49.9 J**	**125**	**765**	**403**		ND	ND	ND	ND
Nov-2012				1.10	**2.75 J**	**76.8**	**59.2**	**280**	**691**		ND	ND	ND	ND
Jun-2013				1.10	**15.3 J**	**131**	**58.6**	**184**	**776**		ND	ND	ND	ND
Apr-2014				NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
Nov-2014				NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
May-2015				2.5	**19.9 J**	**2,010**	**73.5**	**232**	**1,560**	**558**	**233**	**249**	NS	NS

Table 4

Historical Groundwater and Surface Water Quality Data
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill

Parameter : Acetone CAS No. 67-64-1

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	100	6,000	2,000	NA	ND	ND	ND	ND	ND		ND	ND	ND	ND
Oct-2009				2.18	ND	ND	ND	ND	ND		**2.98 J**	ND	ND	**2.57 J**
Apr-2010				2.18	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2010				2.18	**2.40 J**	ND	ND	ND	ND		**2.26 J**	ND	ND	**3.17 J**
May-2011				1.2	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2011				1.2	ND	ND	ND	ND	ND		ND	ND	ND	ND
May-2012				1.2	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2012				1.2	ND	ND	ND	ND	ND		ND	ND	ND	ND
Jun-2013				1.2	ND	ND	ND	ND	ND		ND	ND	ND	ND
Apr-2014				10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0		ND<10.0	ND<10.0	ND<10.0	ND<10.0
Nov-2014				10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0		ND<10.0	ND<10.0	ND<10.0	ND<10.0
May-2015				10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0	NS	NS

Parameter: Toluene CAS No. 108-88-3

Sample	Compliance Limit (µg/L)			MDL	Analytical Results (µg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	1	600	11	NA	ND	ND	ND	ND	ND		ND	ND	ND	ND
Oct-2009				0.0760	ND	ND	ND	ND	**0.830 J**		ND	ND	ND	ND
Apr-2010				0.0760	ND	ND	ND	ND	**0.340 J**		ND	ND	ND	ND
Nov-2010				0.0760	ND	ND	ND	ND	ND		ND	ND	ND	ND
May-2011				0.85	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2011				0.85	ND	ND	ND	ND	ND		ND	ND	ND	ND
May-2012				0.14	ND	ND	ND	ND	ND		ND	ND	ND	ND
Nov-2012				0.14	ND	ND	ND	ND	ND		ND	ND	ND	ND
Jun-2013				0.14	ND	ND	ND	ND	ND		ND	ND	ND	ND
Apr-2014				0.26	ND<0.26	ND<0.26	ND<0.26	ND<0.26	ND<0.26		ND<0.26	ND<0.26	ND<0.26	ND<0.26
Nov-2014				0.26	ND<0.26	ND<0.26	ND<0.26	ND<0.26	ND<0.26		ND<0.26	ND<0.26	ND<0.26	ND<0.26
May-2015				0.26	ND<0.26	ND<0.26	ND<0.26	ND<0.26	ND<0.26	ND<0.26	ND<0.26	ND<0.26	NS	NS

Table 4

Historical Groundwater and Surface Water Quality Data
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill

Parameter : Chloride CAS No. 16887-00-6

Sample	Compliance Limit (mg/L)			MDL	Analytical Results (mg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	NE	250	230	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
Oct-2009				0.0107	**4.05**	**3.24**	**2.61**	**2.94**	**7.00**		**22.0**	**12.2**	**6.27**	**18.6**
Apr-2010				NA	**4.9**	**3.6**	**3.1**	**4.1**	**3.9**		**19.0**	**8.6**	**4.70**	**18.3**
Nov-2010				0.0107	**5.27**	**3.23**	**2.74**	**3.38**	**5.96**		**22.5**	**12.5**	**6.45**	**20.3**
May-2011				0.047	**4.90 B**	**4.50 B**	**4.10 B**	**4.30 B**	**7.20 B**		NA	NA	NA	NA
Nov-2011				0.047	**4.70 B**	**4.20 B**	**3.60 B**	**3.80 B**	**8.80**		NA	NA	NA	NA
May-2012				0.43	**4.50 B**	**4.30 B**	**3.60 B**	**4.20 B**	**6.90**		NA	NA	NA	NA
Nov-2012				0.43	**4.60 B**	**5.00**	**3.80 B**	**4.20 B**	**11.0**		NA	NA	NA	NA
Jun-2013				2.2	**4.70 J**	**5.10**	**3.80 J**	**4.30 J**	**8.30**		NA	NA	NA	NA
Apr-2014				1.0	**4.4**	**5.7**	**4.1**	**5**	**11.9**		**29.1**	**8**	**5**	**4.8**
Nov-2014				0.50	**4.9**	**5.1**	**4.8**	**5.2**	**16.5**		**29.7**	**10.8**	**12.1**	**27.2**
May-2015				0.50	**4.50**	**6.82**	**3.75**	**4.89**	**11.10**	**11.80**	**37.10**	**12.90**	NS	NS

Parameter : Nitrogen, Nitrate CAS No. SW303

Sample	Compliance Limit (mg/L)			MDL	Analytical Results (mg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Apr-2014	10	250	10	0.020	**0.84 J**	**0.028 J**	**0.15 J**	ND<0.020	ND<0.020		**0.27 J**	**0.13 J**	ND<0.020	ND<0.020
Nov-2014				0.010	**0.60 J**	**0.052 J**	**0.17 J**	**0.21 J**	**0.028 J**		**0.077 J**	**0.034 J**	ND< 0.010	**0.048 J**
May-2015				NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS

Parameter : Sulfate CAS No. 14808-79-8

Sample	Compliance Limit (mg/L)			MDL	Analytical Results (mg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	250	250	NE	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
Oct-2009				0.10	**26.7 J**	**10.5 J**	**7.43 J**	**8.35 J**	**16.1 J**		**9.20 J**	**11.8 J**	**8.67 J**	**10.2 J**
Apr-2010				NA	**33.5 J**	**12.1 J**	**6.3 J**	**12.2 J**	**39.1 J**		**28.6 J**	**14.2 J**	**11.0 J**	**26.6 J**
Nov-2010				NA	**13.1 J**	**9.8 J**	**6.0 J**	**7.4 J**	**28.5 J**		**14.1 J**	**19.3 J**	**20.3 J**	**16.3 J**
May-2011				0.020	**25.0 J**	**11.0 J**	**8.70 J**	**11.0 J**	**42.0 J**		NA	NA	NA	NA
Nov-2011				0.020	**26.0 J**	**11.0 J**	**8.70 J**	**9.40 J**	**48.0 J**		NA	NA	NA	NA
May-2012				0.040	**28.0 J**	**11.0 J**	**9.20 J**	**14.0 J**	**51.0 J**		NA	NA	NA	NA
Nov-2012				0.040	**28.0 J**	**12.0 J**	**9.50 J**	**17.0 J**	**43.0 J**		NA	NA	NA	NA
Jun-2013				0.040	**26.0 J**	**12.0 J**	**8.90 J**	**19.0 J**	**63.0 J**		NA	NA	NA	NA
Apr-2014				NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
Nov-2014				NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
May-2015				1.0	**36.20 J**	**25.60 J**	**9.91 J**	**38.00 J**	**68.60 J**	**15.20 J**	**20.70 J**	**13.60 J**	NS	NS

Table 4

Historical Groundwater and Surface Water Quality Data
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill

Parameter : Total Dissolved Solids CAS No. ECL-0156 (SW311)

Sample	Compliance Limit (mg/L)			MDL	Analytical Results (mg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	NE	500	NE	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
Oct-2009				10.0	**84.0**	**75.0**	**84.0**	**77.0**	**132**		**166**	**241**	**92.0**	**181**
Apr-2010				NA	**176.0**	**109.0**	**128.0**	**101.0**	**129.0**		**295**	**131**	**95.0**	**409**
Nov-2010				NA	**19**	**23**	**20**	**22**	**169**		**230**	**256**	**141**	**231**
May-2011				10.0	**170**	**110**	**130**	**110**	**210**		NA	NA	NA	NA
Nov-2011				10.0	**150**	**92**	**130**	**140**	**180**		NA	NA	NA	NA
May-2012				10.0	**190**	**140**	**160**	**140**	**160**		NA	NA	NA	NA
Nov-2012				10.0	**170**	**130**	**140**	**170**	**250**		NA	NA	NA	NA
Jun-2013				10.0	**160**	**120**	**130**	**160**	**240**		NA	NA	NA	NA
Apr-2014				NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
Nov-2014				NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
May-2015				25.0	**193.00**	**159.00**	**111.00**	**183.00**	**283.00**	**288.00**	**313.00**	**234.00**	NS	NS

Parameter : Total Alkalinity CAS No. 471-34-1

Sample	Compliance Limit (mg/L)			MDL	Analytical Results (mg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	NE	NE	NE	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
Oct-2009				1.0	**71.4**	**47.9**	**52.8**	**46.9**	**84.1**		**89.9**	**182**	**53.8**	**117**
Apr-2010				NA	**80.0**	**64.0**	**60.5**	**97.5**	**35.5**		**18.7**	**60.5**	**33.0**	**172**
Nov-2010				NA	**10.0 B**	**53.0**	**59.0**	**42.8**	**77.0**		**145**	**155**	**64.5**	**150**
May-2011				12.0	**68.0**	**51.0**	**56.0**	**39.0**	**61.0**		NA	NA	NA	NA
Nov-2011				12.0	**70.0**	**49.0**	**52.0**	**60.0**	**77.0**		NA	NA	NA	NA
May-2012				12.0	**72.0**	**53.0**	**53.0**	**48.0**	**71.0**		NA	NA	NA	NA
Nov-2012				12.0	**69.0**	**53.0**	**54.0**	**75.0**	**120**		NA	NA	NA	NA
Jun-2013				14.0	**81.0**	**56.0 J**	**58.0**	**73.0**	**100**		NA	NA	NA	NA
Apr-2014				NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
Nov-2014				NA	NA	NA	NA	NA	NA		NA	NA	NA	NA
May-2015				1.0	**68.20**	**76.50**	**57.60**	**67.20**	**124.00**	**57.70**	**159.00**	**116.00**	NS	NS

Parameter : Total Organic Carbon CAS No. 7440-44-0

Sample	Compliance Limit (mg/L)			MDL	Analytical Results (mg/L)									
Date	SWSL	2L Standard	2B Standard		*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Apr-2014	NE	NE	NE	1.0	**11.6**	**33.8**	**4.9**	**4.4**	**13.6**		**8.1**	**7.8**	**5.2**	**3.8**
Nov-2014				0.50	**12.0**	**1.3**	**2.8**	**1.7**	**10.1**		**6.9**	**10.8**	**4.4**	**6.4**
May-2015				NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS

Table 4
Historical Groundwater and Surface Water Quality Data
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill

Parameter : pH (field)

Sample	Compliance Limit (S.U.)			Results (S.U. = Standard Units)									
Date	SWSL	2L Standard	2B Standard	*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	NE	6.5 - 8.5	6.0 - 9.0	6.42	6.20	6.28	6.01	6.27		7.14	6.82	6.96	6.96
Oct-2009				7.07	7.07	7.06	6.11	6.07		7.28	7.04	6.85	7.65
Apr-2010				6.55	6.01	6.04	5.70	5.93		7.70	6.92	6.61	7.70
May-2010				NA	NA	NA	NA	5.93		NA	NA	NA	NA
Nov-2010				5.73	6.01	5.97	5.75	6.00		7.52	6.71	6.35	7.10
May-2011				5.71	5.61	5.91	5.61	5.33		7.03	6.54	6.22	6.39
Nov-2011				6.50	6.16	6.08	6.39	5.99		7.85	7.27	6.62	6.93
May-2012				6.65	6.27	6.10	6.09	5.96		7.42	7.06	7.23	7.20
Nov-2012				7.09	6.33	6.25	6.21	6.25		7.06	6.95	6.18	6.22
Jun-2013				4.51	5.16	5.14	5.61	5.76		7.52	6.47	6.69	7.13
Apr-2014				5.75	5.21	5.16	5.48	5.08		7.55	6.48	6.64	7.09
Nov-2014				5.98	5.79	5.75	5.76	5.68		7.44	7.22	6.2	7.18
May-2015				6.51	6.04	6.07	6.24	6.15	6.71	7.95	7.57	NS	NS

Parameter : Specific Conductance (field)

Sample	Compliance Limit (µS/cm)			Results (µS/cm = microsiemens per centimeter)									
Date	SWSL	2L Standard	2B Standard	*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	NE	NE	NE	216	125	128	128	218		335	152	109	280
Oct-2009				260	140	130	150	260		300	430	200	360
Apr-2010				221	126.1	131	125.3	182.2		436	167	104	420
May-2010				NA	NA	NA	NA	179		NA	NA	NA	NA
Nov-2010				93.9	124.1	117.7	129.7	232		117.1	279	60.3	273.8
May-2011				234	145	145	133	251		428	311	152	370
Nov-2011				226.0	165.1	161.7	187.1	291		426	256	174	479
May-2012				251	168.1	168.6	176	304		292	299	130	277
Nov-2012				190	135	127	165	305		413	225	128	261
Jun-2013				237	177	159	201	381		347	240	174	323
Apr-2014				243	178	155	193	385		362	256	171	331
Nov-2014				241	177	162	281	494		359	264	111	456
May-2015				252.0	260.3	165.0	255.7	434.9	229.9	500.6	323.7	NS	NS

Parameter : Turbidity (field)

Sample	Compliance Limit (NTU)			Results (NTU = Nephelometric Turbidity Units)									
Date	SWSL	2L Standard	2B Standard	*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*SW-1*	*SW-2*	*SW-3*	*SW-4*
Nov-2006	NE	NE	50	> 1,000	> 1,000	> 1,000	> 1,000	725		22	15	38	32
Oct-2009				> 1,000	972	> 1,000	378	> 1,000		2.1	4.5	4.6	4.8
Apr-2010				7.91	36.98	772.8	> 1,000	40.83		18.63	33.63	23.06	26.99
May-2010				NA	NA	NA	NA	29.34		NA	NA	NA	NA
Nov-2010				0.98	148.5	1.13	71	23.7		1.64	1.97	2.79	1.38
May-2011				6.49	11.9	216	35.7	133		2.94	6.61	5.79	4.11
Nov-2011				10.2	51.7	152	83.1	10.9		6.92	6.16	26.8	122
May-2012				13.3	92.6	136	135	44.0		22.6	17.8	40.6	20.5
Nov-2012				3.42	50.5	139	61.3	10.9		7.81	4.27	33.7	18.6
Jun-2013				14.9	7.93	143	86.8	21.3		12.2	14.6	13.0	12.6
Apr-2014				29.8	11.2	19.5	42.7	< 1,000		25.4	19.8	11.2	14.5
Nov-2014				34.81	15.43	18.88	8.12	4.11		66.7	50.66	420.9	41.3
May-2015				29.91	8.61	32.0	254.8	7.58	0.08	NM	NM	NS	NS

Table 4

Historical Groundwater and Surface Water Quality Data
A-1 Sandrock, Inc. Construction and Demolition Debris (C&D) Landfill

Parameter : Groundwater Elevation

Sample	Compliance Limit			Elevation (feet)					
Date	SWSL	2L Standard	2B Standard	*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*
Nov-2006	Not Applicable			790.20	753.51	727.39	728.62	747.92	NA
Oct-2009				787.02	752.51	725.90	726.30	747.35	NA
Apr-2010				791.96	753.13	727.72	728.35	747.94	NA
Nov-2010				787.14	752.57	725.53	726.73	747.30	NA
May-2011				787.68	752.47	724.83	727.26	747.45	NA
Nov-2011				784.96	752.72	727.91	727.52	747.64	NA
May-2012				788.55	752.51	728.07	728.13	747.79	NA
Nov-2012				785.21	752.49	725.71	727.85	747.38	NA
Jun-2013				788.75	752.73	728.47	727.27	747.53	NA
Apr-2014				790.73	753.19	727.27	728.42	747.54	NA
Nov-2014				784.94	752.57	725.39	726.46	747.39	NA
May-2015				787.44	752.62	726.33	727.54	747.44	730.84

NOTES:

1. This table shows historically detected constituents only, in either groundwater or surface water samples.
   Historical data is taken from August 2013 Water Quality Monitoring Report prepared by Golder Associates.
2. MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6 indicate monitoring groundwater wells. MW-1 is the background monitoring location.
3. SW-1, SW-2, SW-3, and SW-4 indicate surface water sampling locations.
4. Compliance Limit = SWSL or 2L or 2B Standard.
5. SWSL = Solid Waste Section Limit (June 13, 2011).
6. µg/L = micrograms per liter. mg/L = milligrams per liter.
7. 2L Standard = NCAC Title 15A Subchapter 2L Classifications and Water Quality Standards Applicable to the GWs of North Carolina (April 1, 2013).
8. 2B Standard = Standards, criteria, or toxic concentrations either adopted per 15A NCAC 2B or National Criteria per EPA (Current as of 5/15/2013).
9. MDL = Method Detection Limit.
10. ND< = not detected above the detection limit.
11. J indicates the detected result is below the SWSL.
12. NA = Not Analyzed or Not Applicable. NE = Not Established. NM = Not Measured.
13. **Bold font** indicates analyte detection above MDL.
14. **Shaded field** denotes result that was at or above the Compliance Limit.
15. Blank cells indicate that there is no relevant information available

ATTACHMENT 1

MW-6 Well Construction Record

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Kelly Grant

Well Contractor Name

2730 A

NC Well Contractor Certification Number

American Environmental Drilling, Inc.

Company Name

2. Well Construction Permit #: _____

List all applicable well permits (i.e. County, State, Variance, Injection, etc.)

3. Well Use (check well use):

Water Supply Well:

☐Agricultural ☐Municipal/Public

☐Geothermal (Heating/Cooling Supply) ☐Residential Water Supply (single)

☐Industrial/Commercial ☐Residential Water Supply (shared)

☐Irrigation

Non-Water Supply Well:

☑Monitoring ☐Recovery

Injection Well:

☐Aquifer Recharge ☐Groundwater Remediation

☐Aquifer Storage and Recovery ☐Salinity Barrier

☐Aquifer Test ☐Stormwater Drainage

☐Experimental Technology ☐Subsidence Control

☐Geothermal (Closed Loop) ☐Tracer

☐Geothermal (Heating/Cooling Return) ☐Other (explain under #21 Remarks)

4. Date Well(s) Completed: 4-2-15 **Well ID#** _____

5a. Well Location:

A-1 SANDROCK

Facility/Owner Name

Facility ID# (if applicable)

2091 BISHOP RD GREENSBORO,NC

Physical Address, City, and Zip

GUILFORD

County

Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.990451 N -79.849010 W

6. Is (are) the well(s): ☑**Permanent** or ☐**Temporary**

7. Is this a repair to an existing well: ☐**Yes** or ☑**No**

If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: 1

*For multiple injection or non-water supply wells **ONLY** with the **same construction**, you can submit one form.*

9. Total well depth below land surface: 45 **(ft.)**

For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: 39 **(ft.)**

If water level is above casing, use "+"

11. Borehole diameter: 8 **(in.)**

12. Well construction method: AUGER

(i.e. auger, rotary, cable, direct push, etc.)

FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) _____ **Method of test:** _____

13b. Disinfection type: _____ **Amount:** _____

For Internal Use ONLY:

14. WATER ZONES

FROM	TO	DESCRIPTION
38 ft.	45 ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0 ft.	30 ft.	2 in.	SCH40	PVC

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
30 ft.	45 ft.	2 in.	.010	SCH40	PVC
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0 ft.	26 ft.	BENTONITE	POUR
26 ft.	28 ft.	BENTONITE	POUR
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
28 ft.	45 ft.	#3 SAND	POUR
ft.	ft.		

20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0 ft.	3 ft.	BROWN SANDY CLAY
3 ft.	12 ft.	TAN SANDY CLAY(HARD)
12 ft.	18 ft.	BROWN CLAY WITH QUARTZ
18 ft.	22 ft.	TAN CLAY
22 ft.	31 ft.	WHITE ORANGE QUARTZ ROCK
31 ft.	38 ft.	GRAY SANDY CLAY(HARD)
38 ft.	45 ft.	WET GRAY SANDY CLAY

21. REMARKS

22. Certification:

Signature of Certified Well Contractor

4-3-15

Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

SUBMITTAL INSTUCTIONS

24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. For Injection Wells ONLY: In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Injection Wells:
Also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

ATTACHMENT 2

Pace Analytical Services, Inc.

Report of Laboratory Analysis

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

June 12, 2015

David Garrett
SCS Engineers
322 Chapanoke Road
Suite 101
Raleigh, NC 27603

RE: Project: A1 SANDROCK
Pace Project No.: 92251279

Dear David Garrett:
Enclosed are the analytical results for sample(s) received by the laboratory between May 22, 2015 and May 26, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: A1 SANDROCK
Pace Project No.: 92251279

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: A1 SANDROCK
Pace Project No.: 92251279

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92251279001	**4117-MW5**	EPA 6010	JMW	17	PASI-A
		EPA 7470	SH1	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	WRC	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
		SM 4500-Cl-E	SER	1	PASI-A
92251279002	**4117-MW1**	EPA 6010	JMW	17	PASI-A
		EPA 7470	SH1	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	WRC	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
		SM 4500-Cl-E	SER	1	PASI-A
92251279003	**4117-MW2**	EPA 6010	JMW	17	PASI-A
		EPA 7470	SH1	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	WRC	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
		SM 4500-Cl-E	SER	1	PASI-A
92251279004	**4117-MW6**	EPA 6010	JMW	17	PASI-A
		EPA 7470	SH1	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	WRC	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
		SM 4500-Cl-E	SER	1	PASI-A
92251279005	**4117-MW4**	EPA 6010	JMW	17	PASI-A
		EPA 7470	SH1	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	WRC	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
		SM 4500-Cl-E	SER	1	PASI-A
92251279006	**4117-MW3**	EPA 6010	JMW	17	PASI-A
		EPA 7470	SH1	1	PASI-A

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: A1 SANDROCK
Pace Project No.: 92251279

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	GAW	51	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	WRC	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
		SM 4500-Cl-E	SER	1	PASI-A
92251279007	**4117-SW1**	EPA 6010	JMW	17	PASI-A
		EPA 7470	SH1	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	WRC	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
		SM 4500-Cl-E	SER	1	PASI-A
92251279008	**4117-SW2**	EPA 6010	JMW	17	PASI-A
		EPA 7470	SH1	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	WRC	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
		SM 4500-Cl-E	SER	1	PASI-A
92251279009	**4117-DUP 1(MW-3)**	EPA 6010	JMW	17	PASI-A
		EPA 7470	SH1	1	PASI-A
		EPA 8260	SNP	51	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	WRC	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
		SM 4500-Cl-E	SER	1	PASI-A

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW5 **Lab ID: 92251279001** Collected: 05/21/15 09:59 Received: 05/22/15 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MRM**			1		05/21/15 09:59		
Field pH	**6.15**	Std. Units	0.10	1		05/21/15 09:59		
Field Temperature	**15.6**	deg C	0.50	1		05/21/15 09:59		
Static Water Level	**15.44**	feet		1		05/21/15 09:59		
Field Specific Conductance	**434.9**	umhos/cm	1.0	1		05/21/15 09:59		
Oxygen, Dissolved	**0.16**	mg/L		1		05/21/15 09:59	7782-44-7	
Total Well Depth	**31.14**	feet		1		05/21/15 09:59		
REDOX	**22**	mV		1		05/21/15 09:59		
Turbidity	**7.58**	NTU	1.0	1		05/21/15 09:59		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:12	7440-36-0	
Arsenic	ND	ug/L	10.0	1	05/26/15 12:30	05/28/15 17:12	7440-38-2	
Barium	**61.4**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:12	7440-39-3	
Beryllium	ND	ug/L	1.0	1	05/26/15 12:30	05/28/15 17:12	7440-41-7	
Cadmium	ND	ug/L	1.0	1	05/26/15 12:30	05/28/15 17:12	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:12	7440-47-3	
Cobalt	**9.2**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:12	7440-48-4	
Copper	**5.1**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:12	7440-50-8	
Iron	**691**	ug/L	50.0	1	05/26/15 12:30	05/28/15 17:12	7439-89-6	
Lead	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:12	7439-92-1	
Manganese	**1560**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:12	7439-96-5	
Nickel	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:12	7440-02-0	
Selenium	ND	ug/L	10.0	1	05/26/15 12:30	05/28/15 17:12	7782-49-2	
Silver	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:12	7440-22-4	
Thallium	ND	ug/L	5.4	1	05/26/15 12:30	05/28/15 17:12	7440-28-0	
Vanadium	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:12	7440-62-2	
Zinc	ND	ug/L	10.0	1	05/26/15 12:30	05/28/15 17:12	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	05/27/15 13:35	05/28/15 12:06	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		05/29/15 07:37	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/29/15 07:37	107-13-1	
Benzene	ND	ug/L	1.0	1		05/29/15 07:37	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/29/15 07:37	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/15 07:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/15 07:37	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/15 07:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/15 07:37	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/29/15 07:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/15 07:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/15 07:37	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/29/15 07:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/29/15 07:37	67-66-3	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW5 **Lab ID: 92251279001** Collected: 05/21/15 09:59 Received: 05/22/15 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Chloromethane	ND	ug/L	1.0	1		05/29/15 07:37	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		05/29/15 07:37	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/15 07:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/15 07:37	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/15 07:37	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 07:37	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 07:37	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/29/15 07:37	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/29/15 07:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/15 07:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/29/15 07:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 07:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 07:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/15 07:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 07:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 07:37	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/29/15 07:37	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/29/15 07:37	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/29/15 07:37	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/29/15 07:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/15 07:37	108-10-1	
Styrene	ND	ug/L	1.0	1		05/29/15 07:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 07:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 07:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/15 07:37	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		05/29/15 07:37	109-99-9	
Toluene	ND	ug/L	1.0	1		05/29/15 07:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/29/15 07:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/15 07:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/15 07:37	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/15 07:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/15 07:37	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/15 07:37	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/15 07:37	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/29/15 07:37	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		05/29/15 07:37	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-130	1		05/29/15 07:37	17060-07-0	
Toluene-d8 (S)	92	%	70-130	1		05/29/15 07:37	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**124000**	ug/L	5000	1		06/01/15 13:53		M1
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**283000**	ug/L	25000	1		05/28/15 10:11		

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW5 **Lab ID: 92251279001** Collected: 05/21/15 09:59 Received: 05/22/15 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**68600**	ug/L	8000	4		06/03/15 09:47	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	**11100**	ug/L	1000	1		06/04/15 08:17	16887-00-6	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW1 **Lab ID: 92251279002** Collected: 05/21/15 12:18 Received: 05/22/15 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MRM**			1		05/21/15 12:18		
Field pH	**6.51**	Std. Units	0.10	1		05/21/15 12:18		
Field Temperature	**15.7**	deg C	0.50	1		05/21/15 12:18		
Static Water Level	**28.61**	feet		1		05/21/15 12:18		
Field Specific Conductance	**252.0**	umhos/cm	1.0	1		05/21/15 12:18		
Oxygen, Dissolved	**4.12**	mg/L		1		05/21/15 12:18	7782-44-7	
Total Well Depth	**46.65**	feet		1		05/21/15 12:18		
REDOX	**251.6**	mV		1		05/21/15 12:18		
Turbidity	**29.91**	NTU	1.0	1		05/21/15 12:18		
Odor	**NONE**			1		05/21/15 12:18		
Appearance	**CLEAR**			1		05/21/15 12:18		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:15	7440-36-0	
Arsenic	ND	ug/L	10.0	1	05/26/15 12:30	05/28/15 17:15	7440-38-2	
Barium	**40.3**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:15	7440-39-3	
Beryllium	ND	ug/L	1.0	1	05/26/15 12:30	05/28/15 17:15	7440-41-7	
Cadmium	ND	ug/L	1.0	1	05/26/15 12:30	05/28/15 17:15	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:15	7440-47-3	
Cobalt	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:15	7440-48-4	
Copper	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:15	7440-50-8	
Iron	**896**	ug/L	50.0	1	05/26/15 12:30	05/28/15 17:15	7439-89-6	
Lead	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:15	7439-92-1	
Manganese	**19.9**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:15	7439-96-5	
Nickel	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:15	7440-02-0	
Selenium	ND	ug/L	10.0	1	05/26/15 12:30	05/28/15 17:15	7782-49-2	
Silver	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:15	7440-22-4	
Thallium	ND	ug/L	5.4	1	05/26/15 12:30	05/28/15 17:15	7440-28-0	
Vanadium	**10.1**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:15	7440-62-2	
Zinc	ND	ug/L	10.0	1	05/26/15 12:30	05/28/15 17:15	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	05/27/15 13:35	05/29/15 13:56	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		05/29/15 07:54	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/29/15 07:54	107-13-1	
Benzene	ND	ug/L	1.0	1		05/29/15 07:54	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/29/15 07:54	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/15 07:54	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/15 07:54	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/15 07:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/15 07:54	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/29/15 07:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/15 07:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/15 07:54	108-90-7	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW1 **Lab ID: 92251279002** Collected: 05/21/15 12:18 Received: 05/22/15 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Chloroethane	ND	ug/L	1.0	1		05/29/15 07:54	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/29/15 07:54	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/29/15 07:54	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		05/29/15 07:54	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/15 07:54	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/15 07:54	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/15 07:54	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 07:54	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 07:54	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/29/15 07:54	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/29/15 07:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/15 07:54	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/29/15 07:54	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 07:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 07:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/15 07:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 07:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 07:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/29/15 07:54	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/29/15 07:54	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/29/15 07:54	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/29/15 07:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/15 07:54	108-10-1	
Styrene	ND	ug/L	1.0	1		05/29/15 07:54	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 07:54	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 07:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/15 07:54	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		05/29/15 07:54	109-99-9	
Toluene	ND	ug/L	1.0	1		05/29/15 07:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/29/15 07:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/15 07:54	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/15 07:54	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/15 07:54	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/15 07:54	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/15 07:54	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/15 07:54	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/29/15 07:54	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		05/29/15 07:54	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-130	1		05/29/15 07:54	17060-07-0	
Toluene-d8 (S)	93	%	70-130	1		05/29/15 07:54	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**68200**	ug/L	5000	1		06/01/15 14:32		

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW1 **Lab ID: 92251279002** Collected: 05/21/15 12:18 Received: 05/22/15 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**193000**	ug/L	25000	1		05/28/15 10:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**36200**	ug/L	2000	1		06/02/15 23:08	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	**4500**	ug/L	1000	1		06/04/15 08:19	16887-00-6	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW2 **Lab ID: 92251279003** Collected: 05/21/15 13:54 Received: 05/22/15 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MRM**			1		05/21/15 13:54		
Field pH	**6.04**	Std. Units	0.10	1		05/21/15 13:54		
Field Temperature	**15.8**	deg C	0.50	1		05/21/15 13:54		
Static Water Level	**9.3**	feet		1		05/21/15 13:54		
Field Specific Conductance	**260.3**	umhos/cm	1.0	1		05/21/15 13:54		
Oxygen, Dissolved	**0.13**	mg/L		1		05/21/15 13:54	7782-44-7	
Total Well Depth	**32.72**	feet		1		05/21/15 13:54		
REDOX	**184.7**	mV		1		05/21/15 13:54		
Turbidity	**8.61**	NTU	1.0	1		05/21/15 13:54		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:27	7440-36-0	
Arsenic	ND	ug/L	10.0	1	05/26/15 12:30	05/28/15 17:27	7440-38-2	
Barium	**94.7**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:27	7440-39-3	
Beryllium	ND	ug/L	1.0	1	05/26/15 12:30	05/28/15 17:27	7440-41-7	
Cadmium	ND	ug/L	1.0	1	05/26/15 12:30	05/28/15 17:27	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:27	7440-47-3	
Cobalt	**5.8**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:27	7440-48-4	
Copper	**326**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:27	7440-50-8	
Iron	**1070**	ug/L	50.0	1	05/26/15 12:30	05/28/15 17:27	7439-89-6	
Lead	**10.2**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:27	7439-92-1	
Manganese	**2010**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:27	7439-96-5	
Nickel	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:27	7440-02-0	
Selenium	ND	ug/L	10.0	1	05/26/15 12:30	05/28/15 17:27	7782-49-2	
Silver	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:27	7440-22-4	
Thallium	ND	ug/L	5.4	1	05/26/15 12:30	05/28/15 17:27	7440-28-0	
Vanadium	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:27	7440-62-2	
Zinc	**178**	ug/L	10.0	1	05/26/15 12:30	05/28/15 17:27	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	05/27/15 13:35	05/29/15 13:59	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		05/29/15 08:11	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/29/15 08:11	107-13-1	
Benzene	ND	ug/L	1.0	1		05/29/15 08:11	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/29/15 08:11	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/15 08:11	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/15 08:11	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/15 08:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/15 08:11	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/29/15 08:11	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/15 08:11	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/15 08:11	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/29/15 08:11	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/29/15 08:11	67-66-3	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW2 **Lab ID: 92251279003** Collected: 05/21/15 13:54 Received: 05/22/15 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Chloromethane	ND	ug/L	1.0	1		05/29/15 08:11	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		05/29/15 08:11	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/15 08:11	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/15 08:11	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/15 08:11	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 08:11	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 08:11	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/29/15 08:11	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/29/15 08:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/15 08:11	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/29/15 08:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 08:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 08:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/15 08:11	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 08:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 08:11	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/29/15 08:11	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/29/15 08:11	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/29/15 08:11	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/29/15 08:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/15 08:11	108-10-1	
Styrene	ND	ug/L	1.0	1		05/29/15 08:11	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 08:11	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 08:11	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/15 08:11	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		05/29/15 08:11	109-99-9	
Toluene	ND	ug/L	1.0	1		05/29/15 08:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/29/15 08:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/15 08:11	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/15 08:11	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/15 08:11	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/15 08:11	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/15 08:11	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/15 08:11	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/29/15 08:11	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		05/29/15 08:11	460-00-4	
1,2-Dichloroethane-d4 (S)	86	%	70-130	1		05/29/15 08:11	17060-07-0	
Toluene-d8 (S)	93	%	70-130	1		05/29/15 08:11	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**76500**	ug/L	5000	1		06/01/15 14:44		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**159000**	ug/L	25000	1		05/28/15 10:13		

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW2 **Lab ID: 92251279003** Collected: 05/21/15 13:54 Received: 05/22/15 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**25600**	ug/L	2000	1		06/02/15 23:22	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	**6820**	ug/L	1000	1		06/04/15 08:20	16887-00-6	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW6 **Lab ID: 92251279004** Collected: 05/21/15 16:38 Received: 05/22/15 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MRM**			1		05/21/15 16:38		
Field pH	**6.71**	Std. Units	0.10	1		05/21/15 16:38		
Field Temperature	**18.9**	deg C	0.50	1		05/21/15 16:38		
Static Water Level	**25.05**	feet		1		05/21/15 16:38		
Field Specific Conductance	**229.9**	umhos/cm	1.0	1		05/21/15 16:38		
Oxygen, Dissolved	**295.9**	mg/L		1		05/21/15 16:38	7782-44-7	
Total Well Depth	**47.45**	feet		1		05/21/15 16:38		
REDOX	**-243.5**	mV		1		05/21/15 16:38		
Turbidity	**0.08**	NTU	1.0	1		05/21/15 16:38		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:31	7440-36-0	
Arsenic	ND	ug/L	10.0	1	05/26/15 12:30	05/28/15 17:31	7440-38-2	
Barium	**262**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:31	7440-39-3	
Beryllium	ND	ug/L	1.0	1	05/26/15 12:30	05/28/15 17:31	7440-41-7	
Cadmium	ND	ug/L	1.0	1	05/26/15 12:30	05/28/15 17:31	7440-43-9	
Chromium	**9.0**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:31	7440-47-3	
Cobalt	**10.2**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:31	7440-48-4	
Copper	**10.4**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:31	7440-50-8	
Iron	**23800**	ug/L	50.0	1	05/26/15 12:30	05/28/15 17:31	7439-89-6	
Lead	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:31	7439-92-1	
Manganese	**558**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:31	7439-96-5	
Nickel	**10.9**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:31	7440-02-0	
Selenium	ND	ug/L	10.0	1	05/26/15 12:30	05/28/15 17:31	7782-49-2	
Silver	ND	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:31	7440-22-4	
Thallium	ND	ug/L	5.4	1	05/26/15 12:30	05/28/15 17:31	7440-28-0	
Vanadium	**37.8**	ug/L	5.0	1	05/26/15 12:30	05/28/15 17:31	7440-62-2	
Zinc	**72.8**	ug/L	10.0	1	05/26/15 12:30	05/28/15 17:31	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	05/27/15 13:35	05/29/15 14:01	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		05/29/15 08:28	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/29/15 08:28	107-13-1	
Benzene	ND	ug/L	1.0	1		05/29/15 08:28	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/29/15 08:28	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/15 08:28	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/15 08:28	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/15 08:28	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/15 08:28	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/29/15 08:28	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/15 08:28	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/15 08:28	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/29/15 08:28	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/29/15 08:28	67-66-3	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW6 **Lab ID: 92251279004** Collected: 05/21/15 16:38 Received: 05/22/15 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Chloromethane	ND	ug/L	1.0	1		05/29/15 08:28	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		05/29/15 08:28	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/15 08:28	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/15 08:28	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/15 08:28	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 08:28	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 08:28	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/29/15 08:28	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/29/15 08:28	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/15 08:28	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/29/15 08:28	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 08:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 08:28	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/15 08:28	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 08:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 08:28	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/29/15 08:28	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/29/15 08:28	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/29/15 08:28	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/29/15 08:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/15 08:28	108-10-1	
Styrene	ND	ug/L	1.0	1		05/29/15 08:28	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 08:28	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 08:28	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/15 08:28	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		05/29/15 08:28	109-99-9	
Toluene	ND	ug/L	1.0	1		05/29/15 08:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/29/15 08:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/15 08:28	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/15 08:28	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/15 08:28	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/15 08:28	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/15 08:28	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/15 08:28	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/29/15 08:28	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		05/29/15 08:28	460-00-4	
1,2-Dichloroethane-d4 (S)	86	%	70-130	1		05/29/15 08:28	17060-07-0	
Toluene-d8 (S)	94	%	70-130	1		05/29/15 08:28	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**57700**	ug/L	5000	1		06/01/15 14:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**288000**	ug/L	25000	1		05/28/15 10:13		

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW6 **Lab ID: 92251279004** Collected: 05/21/15 16:38 Received: 05/22/15 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**15200**	ug/L	2000	1		06/02/15 23:35	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	**11800**	ug/L	1000	1		06/04/15 08:21	16887-00-6	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW4 **Lab ID: 92251279005** Collected: 05/22/15 13:20 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MRM**			1		05/22/15 13:20		
Field pH	**6.24**	Std. Units	0.10	1		05/22/15 13:20		
Field Temperature	**26.0**	deg C	0.50	1		05/22/15 13:20		
Static Water Level	**5.63**	feet		1		05/22/15 13:20		
Field Specific Conductance	**255.7**	umhos/cm	1.0	1		05/22/15 13:20		
Oxygen, Dissolved	**0.72**	mg/L		1		05/22/15 13:20	7782-44-7	
Total Well Depth	**26.10**	feet		1		05/22/15 13:20		
REDOX	**255.0**	mV		1		05/22/15 13:20		
Turbidity	**254.8**	NTU	1.0	1		05/22/15 13:20		
Odor	**NONE**			1		05/22/15 13:20		
Appearance	**CLOUDY**			1		05/22/15 13:20		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:21	7440-36-0	
Arsenic	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:21	7440-38-2	
Barium	**175**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:21	7440-39-3	
Beryllium	ND	ug/L	1.0	1	05/29/15 16:05	06/03/15 18:21	7440-41-7	
Cadmium	ND	ug/L	1.0	1	05/29/15 16:05	06/03/15 18:21	7440-43-9	
Chromium	**27.8**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:21	7440-47-3	
Cobalt	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:21	7440-48-4	
Copper	**24.1**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:21	7440-50-8	
Iron	**10300**	ug/L	50.0	1	05/29/15 16:05	06/03/15 18:21	7439-89-6	M1
Lead	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:21	7439-92-1	
Manganese	**232**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:21	7439-96-5	
Nickel	**17.1**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:21	7440-02-0	
Selenium	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:21	7782-49-2	
Silver	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:21	7440-22-4	
Thallium	ND	ug/L	5.4	1	05/29/15 16:05	06/03/15 18:21	7440-28-0	
Vanadium	**37.2**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:21	7440-62-2	
Zinc	**15.2**	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:21	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	05/27/15 13:35	05/29/15 14:11	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		05/29/15 08:45	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/29/15 08:45	107-13-1	
Benzene	ND	ug/L	1.0	1		05/29/15 08:45	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/29/15 08:45	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/15 08:45	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/15 08:45	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/15 08:45	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/15 08:45	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/29/15 08:45	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/15 08:45	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/15 08:45	108-90-7	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW4 **Lab ID: 92251279005** Collected: 05/22/15 13:20 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Chloroethane	ND	ug/L	1.0	1		05/29/15 08:45	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/29/15 08:45	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/29/15 08:45	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		05/29/15 08:45	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/15 08:45	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/15 08:45	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/15 08:45	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 08:45	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 08:45	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/29/15 08:45	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/29/15 08:45	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/15 08:45	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/29/15 08:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 08:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 08:45	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/15 08:45	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 08:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 08:45	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/29/15 08:45	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/29/15 08:45	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/29/15 08:45	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/29/15 08:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/15 08:45	108-10-1	
Styrene	ND	ug/L	1.0	1		05/29/15 08:45	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 08:45	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 08:45	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/15 08:45	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		05/29/15 08:45	109-99-9	
Toluene	ND	ug/L	1.0	1		05/29/15 08:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/29/15 08:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/15 08:45	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/15 08:45	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/15 08:45	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/15 08:45	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/15 08:45	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/15 08:45	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/29/15 08:45	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		05/29/15 08:45	460-00-4	
1,2-Dichloroethane-d4 (S)	85	%	70-130	1		05/29/15 08:45	17060-07-0	
Toluene-d8 (S)	92	%	70-130	1		05/29/15 08:45	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**67200**	ug/L	5000	1		06/01/15 15:05		

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW4 **Lab ID: 92251279005** Collected: 05/22/15 13:20 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**183000**	ug/L	25000	1		05/29/15 16:38		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**38000**	ug/L	4000	2		06/03/15 10:00	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	**4890**	ug/L	1000	1		06/04/15 08:21	16887-00-6	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW3 **Lab ID: 92251279006** Collected: 05/22/15 11:03 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MRM**			1		05/22/15 11:03		
Field pH	**6.07**	Std. Units	0.10	1		05/22/15 11:03		
Field Temperature	**20.5**	deg C	0.50	1		05/22/15 11:03		
Static Water Level	**5.49**	feet		1		05/22/15 11:03		
Field Specific Conductance	**165.0**	umhos/cm	1.0	1		05/22/15 11:03		
Oxygen, Dissolved	**3.25**	mg/L		1		05/22/15 11:03	7782-44-7	
Total Well Depth	**33.71**	feet		1		05/22/15 11:03		
REDOX	**302**	mV		1		05/22/15 11:03		
Turbidity	**32.0**	NTU	1.0	1		05/22/15 11:03		
Odor	**NONE**			1		05/22/15 11:03		
Appearance	**CLEAR**			1		05/22/15 11:03		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:30	7440-36-0	
Arsenic	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:30	7440-38-2	
Barium	**61.9**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:30	7440-39-3	
Beryllium	ND	ug/L	1.0	1	05/29/15 16:05	06/03/15 18:30	7440-41-7	
Cadmium	ND	ug/L	1.0	1	05/29/15 16:05	06/03/15 18:30	7440-43-9	
Chromium	**9.4**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:30	7440-47-3	
Cobalt	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:30	7440-48-4	
Copper	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:30	7440-50-8	
Iron	**2420**	ug/L	50.0	1	05/29/15 16:05	06/03/15 18:30	7439-89-6	
Lead	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:30	7439-92-1	
Manganese	**73.5**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:30	7439-96-5	
Nickel	**7.1**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:30	7440-02-0	
Selenium	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:30	7782-49-2	
Silver	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:30	7440-22-4	
Thallium	ND	ug/L	5.4	1	05/29/15 16:05	06/03/15 18:30	7440-28-0	
Vanadium	**7.6**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:30	7440-62-2	
Zinc	**10.1**	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:30	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	05/27/15 13:35	05/29/15 14:27	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		05/29/15 09:01	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/29/15 09:01	107-13-1	
Benzene	ND	ug/L	1.0	1		05/29/15 09:01	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/29/15 09:01	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/15 09:01	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/15 09:01	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/15 09:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/15 09:01	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/29/15 09:01	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/15 09:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/15 09:01	108-90-7	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW3 **Lab ID: 92251279006** Collected: 05/22/15 11:03 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Chloroethane	ND	ug/L	1.0	1		05/29/15 09:01	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/29/15 09:01	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/29/15 09:01	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		05/29/15 09:01	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/15 09:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/15 09:01	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/15 09:01	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 09:01	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 09:01	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/29/15 09:01	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/29/15 09:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/15 09:01	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/29/15 09:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 09:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 09:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/15 09:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 09:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 09:01	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/29/15 09:01	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/29/15 09:01	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/29/15 09:01	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/29/15 09:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/15 09:01	108-10-1	
Styrene	ND	ug/L	1.0	1		05/29/15 09:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 09:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 09:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/15 09:01	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		05/29/15 09:01	109-99-9	
Toluene	ND	ug/L	1.0	1		05/29/15 09:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/29/15 09:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/15 09:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/15 09:01	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/15 09:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/15 09:01	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/15 09:01	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/15 09:01	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/29/15 09:01	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		05/29/15 09:01	460-00-4	
1,2-Dichloroethane-d4 (S)	87	%	70-130	1		05/29/15 09:01	17060-07-0	
Toluene-d8 (S)	92	%	70-130	1		05/29/15 09:01	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**57600**	ug/L	5000	1		06/01/15 15:14		

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-MW3 **Lab ID: 92251279006** Collected: 05/22/15 11:03 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**111000**	ug/L	25000	1		05/29/15 16:38		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**9910**	ug/L	2000	1		06/03/15 00:57	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	**3750**	ug/L	1000	1		06/04/15 08:22	16887-00-6	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-SW1 **Lab ID: 92251279007** Collected: 05/22/15 14:10 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MRM**			1		05/22/15 14:10		
Field pH	**7.95**	Std. Units	0.10	1		05/22/15 14:10		
Field Temperature	**23.4**	deg C	0.50	1		05/22/15 14:10		
Field Specific Conductance	**500.6**	umhos/cm	1.0	1		05/22/15 14:10		
Oxygen, Dissolved	**7.53**	mg/L		1		05/22/15 14:10	7782-44-7	
REDOX	**260.5**	mV		1		05/22/15 14:10		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:33	7440-36-0	
Arsenic	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:33	7440-38-2	
Barium	**70.7**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:33	7440-39-3	
Beryllium	ND	ug/L	1.0	1	05/29/15 16:05	06/03/15 18:33	7440-41-7	
Cadmium	ND	ug/L	1.0	1	05/29/15 16:05	06/03/15 18:33	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:33	7440-47-3	
Cobalt	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:33	7440-48-4	
Copper	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:33	7440-50-8	
Iron	**826**	ug/L	50.0	1	05/29/15 16:05	06/03/15 18:33	7439-89-6	
Lead	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:33	7439-92-1	
Manganese	**233**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:33	7439-96-5	
Nickel	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:33	7440-02-0	
Selenium	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:33	7782-49-2	
Silver	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:33	7440-22-4	
Thallium	ND	ug/L	5.4	1	05/29/15 16:05	06/03/15 18:33	7440-28-0	
Vanadium	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:33	7440-62-2	
Zinc	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:33	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	05/27/15 13:35	05/29/15 14:30	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		05/29/15 09:18	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/29/15 09:18	107-13-1	
Benzene	ND	ug/L	1.0	1		05/29/15 09:18	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/29/15 09:18	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/15 09:18	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/15 09:18	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/15 09:18	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/15 09:18	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/29/15 09:18	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/15 09:18	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/15 09:18	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/29/15 09:18	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/29/15 09:18	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/29/15 09:18	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		05/29/15 09:18	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		05/29/15 09:18	124-48-1	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-SW1 **Lab ID: 92251279007** Collected: 05/22/15 14:10 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/15 09:18	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/15 09:18	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 09:18	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 09:18	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/29/15 09:18	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/29/15 09:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/15 09:18	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/29/15 09:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 09:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 09:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/15 09:18	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 09:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 09:18	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/29/15 09:18	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/29/15 09:18	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/29/15 09:18	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/29/15 09:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/15 09:18	108-10-1	
Styrene	ND	ug/L	1.0	1		05/29/15 09:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 09:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 09:18	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/15 09:18	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		05/29/15 09:18	109-99-9	
Toluene	ND	ug/L	1.0	1		05/29/15 09:18	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/29/15 09:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/15 09:18	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/15 09:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/15 09:18	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/15 09:18	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/15 09:18	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/29/15 09:18	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/29/15 09:18	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	93	%	70-130	1		05/29/15 09:18	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-130	1		05/29/15 09:18	17060-07-0	
Toluene-d8 (S)	91	%	70-130	1		05/29/15 09:18	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**159000**	ug/L	5000	1		06/01/15 15:26		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**313000**	ug/L	25000	1		05/29/15 16:39		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**20700**	ug/L	2000	1		06/03/15 01:10	14808-79-8	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-SW1 **Lab ID: 92251279007** Collected: 05/22/15 14:10 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	**37100**	ug/L	1000	1		06/04/15 08:25	16887-00-6	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-SW2 **Lab ID: 92251279008** Collected: 05/22/15 14:40 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MRM**			1		05/22/15 14:40		
Field pH	**7.57**	Std. Units	0.10	1		05/22/15 14:40		
Field Temperature	**17.2**	deg C	0.50	1		05/22/15 14:40		
Field Specific Conductance	**323.7**	umhos/cm	1.0	1		05/22/15 14:40		
Oxygen, Dissolved	**9.83**	mg/L		1		05/22/15 14:40	7782-44-7	
REDOX	**184.8**	mV		1		05/22/15 14:40		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:36	7440-36-0	
Arsenic	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:36	7440-38-2	
Barium	**75.7**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:36	7440-39-3	
Beryllium	ND	ug/L	1.0	1	05/29/15 16:05	06/03/15 18:36	7440-41-7	
Cadmium	ND	ug/L	1.0	1	05/29/15 16:05	06/03/15 18:36	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:36	7440-47-3	
Cobalt	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:36	7440-48-4	
Copper	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:36	7440-50-8	
Iron	**1520**	ug/L	50.0	1	05/29/15 16:05	06/03/15 18:36	7439-89-6	
Lead	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:36	7439-92-1	
Manganese	**249**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:36	7439-96-5	
Nickel	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:36	7440-02-0	
Selenium	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:36	7782-49-2	
Silver	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:36	7440-22-4	
Thallium	ND	ug/L	5.4	1	05/29/15 16:05	06/03/15 18:36	7440-28-0	
Vanadium	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:36	7440-62-2	
Zinc	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:36	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	05/27/15 13:35	05/29/15 14:32	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		05/29/15 09:52	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/29/15 09:52	107-13-1	
Benzene	ND	ug/L	1.0	1		05/29/15 09:52	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/29/15 09:52	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/29/15 09:52	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/29/15 09:52	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/29/15 09:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/29/15 09:52	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/29/15 09:52	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/29/15 09:52	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/29/15 09:52	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/29/15 09:52	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/29/15 09:52	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/29/15 09:52	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		05/29/15 09:52	96-12-8	M1
Dibromochloromethane	ND	ug/L	1.0	1		05/29/15 09:52	124-48-1	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-SW2 **Lab ID: 92251279008** Collected: 05/22/15 14:40 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/29/15 09:52	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/29/15 09:52	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 09:52	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/29/15 09:52	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/29/15 09:52	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/29/15 09:52	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/29/15 09:52	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/29/15 09:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 09:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/29/15 09:52	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/29/15 09:52	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 09:52	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/29/15 09:52	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/29/15 09:52	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/29/15 09:52	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/29/15 09:52	74-88-4	M1
Methylene Chloride	ND	ug/L	1.0	1		05/29/15 09:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/29/15 09:52	108-10-1	
Styrene	ND	ug/L	1.0	1		05/29/15 09:52	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 09:52	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/29/15 09:52	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/29/15 09:52	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		05/29/15 09:52	109-99-9	
Toluene	ND	ug/L	1.0	1		05/29/15 09:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/29/15 09:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/29/15 09:52	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/29/15 09:52	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/29/15 09:52	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/29/15 09:52	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/29/15 09:52	108-05-4	M1
Vinyl chloride	ND	ug/L	1.0	1		05/29/15 09:52	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/29/15 09:52	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		05/29/15 09:52	460-00-4	
1,2-Dichloroethane-d4 (S)	85	%	70-130	1		05/29/15 09:52	17060-07-0	
Toluene-d8 (S)	92	%	70-130	1		05/29/15 09:52	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**116000**	ug/L	5000	1		06/01/15 15:38		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**234000**	ug/L	25000	1		05/29/15 16:40		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**13600**	ug/L	2000	1		06/03/15 01:24	14808-79-8	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-SW2 **Lab ID: 92251279008** Collected: 05/22/15 14:40 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	**12900**	ug/L	1000	1		06/04/15 08:26	16887-00-6	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-DUP 1(MW-3) **Lab ID: 92251279009** Collected: 05/22/15 11:10 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:39	7440-36-0	
Arsenic	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:39	7440-38-2	
Barium	**73.5**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:39	7440-39-3	
Beryllium	ND	ug/L	1.0	1	05/29/15 16:05	06/03/15 18:39	7440-41-7	
Cadmium	ND	ug/L	1.0	1	05/29/15 16:05	06/03/15 18:39	7440-43-9	
Chromium	**8.7**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:39	7440-47-3	
Cobalt	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:39	7440-48-4	
Copper	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:39	7440-50-8	
Iron	**3400**	ug/L	50.0	1	05/29/15 16:05	06/03/15 18:39	7439-89-6	
Lead	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:39	7439-92-1	
Manganese	**74.4**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:39	7439-96-5	
Nickel	**6.6**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:39	7440-02-0	
Selenium	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:39	7782-49-2	
Silver	ND	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:39	7440-22-4	
Thallium	ND	ug/L	5.4	1	05/29/15 16:05	06/03/15 18:39	7440-28-0	
Vanadium	**9.5**	ug/L	5.0	1	05/29/15 16:05	06/03/15 18:39	7440-62-2	
Zinc	ND	ug/L	10.0	1	05/29/15 16:05	06/03/15 18:39	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	05/27/15 13:35	05/29/15 14:34	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		06/02/15 02:27	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		06/02/15 02:27	107-13-1	
Benzene	ND	ug/L	1.0	1		06/02/15 02:27	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		06/02/15 02:27	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		06/02/15 02:27	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/02/15 02:27	75-25-2	
Bromomethane	ND	ug/L	2.0	1		06/02/15 02:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		06/02/15 02:27	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		06/02/15 02:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		06/02/15 02:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		06/02/15 02:27	108-90-7	
Chloroethane	ND	ug/L	1.0	1		06/02/15 02:27	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/02/15 02:27	67-66-3	
Chloromethane	ND	ug/L	1.0	1		06/02/15 02:27	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		06/02/15 02:27	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		06/02/15 02:27	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		06/02/15 02:27	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		06/02/15 02:27	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		06/02/15 02:27	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/02/15 02:27	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		06/02/15 02:27	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		06/02/15 02:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/02/15 02:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		06/02/15 02:27	75-35-4	

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ANALYTICAL RESULTS

Project: A1 SANDROCK
Pace Project No.: 92251279

Sample: 4117-DUP 1(MW-3) **Lab ID: 92251279009** Collected: 05/22/15 11:10 Received: 05/26/15 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/02/15 02:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/02/15 02:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		06/02/15 02:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		06/02/15 02:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		06/02/15 02:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		06/02/15 02:27	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		06/02/15 02:27	591-78-6	
Iodomethane	ND	ug/L	5.0	1		06/02/15 02:27	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		06/02/15 02:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		06/02/15 02:27	108-10-1	
Styrene	ND	ug/L	1.0	1		06/02/15 02:27	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		06/02/15 02:27	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/02/15 02:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		06/02/15 02:27	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	1		06/02/15 02:27	109-99-9	
Toluene	ND	ug/L	1.0	1		06/02/15 02:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/02/15 02:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/02/15 02:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/02/15 02:27	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		06/02/15 02:27	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		06/02/15 02:27	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		06/02/15 02:27	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		06/02/15 02:27	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		06/02/15 02:27	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		06/02/15 02:27	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		06/02/15 02:27	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		06/02/15 02:27	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**58400**	ug/L	5000	1		06/01/15 15:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**120000**	ug/L	25000	1		05/29/15 16:40		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**9910**	ug/L	2000	1		06/03/15 01:38	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	**4810**	ug/L	1000	1		06/04/15 08:27	16887-00-6	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

QC Batch: MERP/7856
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Associated Lab Samples: 92251279001

METHOD BLANK: 1468385
Matrix: Water
Associated Lab Samples: 92251279001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	05/28/15 10:34	

LABORATORY CONTROL SAMPLE: 1468386

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.7	110	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1468387 1468388

Parameter	Units	92250839001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Mercury	ug/L	0.30	2.5	2.5	2.8	3.0	99	107	75-125	7	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

QC Batch: MERP/7857 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 92251279002, 92251279003, 92251279004, 92251279005, 92251279006, 92251279007, 92251279008, 92251279009

METHOD BLANK: 1468393 Matrix: Water
Associated Lab Samples: 92251279002, 92251279003, 92251279004, 92251279005, 92251279006, 92251279007, 92251279008, 92251279009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	05/29/15 13:21	

LABORATORY CONTROL SAMPLE: 1468394

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1468395 1468396

Parameter	Units	92251264001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Mercury	ug/L	0.13J	2.5	2.5	2.2	2.3	84	86	75-125	2	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

QC Batch: MPRP/18546 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004

METHOD BLANK: 1467532 | Matrix: Water
Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	05/28/15 15:26	
Arsenic	ug/L	ND	10.0	05/28/15 15:26	
Barium	ug/L	ND	5.0	05/28/15 15:26	
Beryllium	ug/L	ND	1.0	05/28/15 15:26	
Cadmium	ug/L	ND	1.0	05/28/15 15:26	
Chromium	ug/L	ND	5.0	05/28/15 15:26	
Cobalt	ug/L	ND	5.0	05/28/15 15:26	
Copper	ug/L	ND	5.0	05/28/15 15:26	
Iron	ug/L	ND	50.0	05/28/15 15:26	
Lead	ug/L	ND	5.0	05/28/15 15:26	
Manganese	ug/L	ND	5.0	05/28/15 15:26	
Nickel	ug/L	ND	5.0	05/28/15 15:26	
Selenium	ug/L	ND	10.0	05/28/15 15:26	
Silver	ug/L	ND	5.0	05/28/15 15:26	
Thallium	ug/L	ND	5.4	05/28/15 15:26	
Vanadium	ug/L	ND	5.0	05/28/15 15:26	
Zinc	ug/L	ND	10.0	05/28/15 15:26	

LABORATORY CONTROL SAMPLE: 1467533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	485	97	80-120	
Arsenic	ug/L	500	470	94	80-120	
Barium	ug/L	500	477	95	80-120	
Beryllium	ug/L	500	478	96	80-120	
Cadmium	ug/L	500	475	95	80-120	
Chromium	ug/L	500	476	95	80-120	
Cobalt	ug/L	500	480	96	80-120	
Copper	ug/L	500	482	96	80-120	
Iron	ug/L	5000	4780	96	80-120	
Lead	ug/L	500	477	95	80-120	
Manganese	ug/L	500	472	94	80-120	
Nickel	ug/L	500	474	95	80-120	
Selenium	ug/L	500	461	92	80-120	
Silver	ug/L	250	236	94	80-120	
Thallium	ug/L	500	480	96	80-120	
Vanadium	ug/L	500	476	95	80-120	
Zinc	ug/L	500	471	94	80-120	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1467534 1467535

Parameter	Units	92248802018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Antimony	ug/L	ND	500	500	486	545	97	108	75-125	11	
Arsenic	ug/L	ND	500	500	479	533	95	106	75-125	11	
Barium	ug/L	1110	500	500	1610	1640	101	106	75-125	2	
Beryllium	ug/L	ND	500	500	473	528	95	106	75-125	11	
Cadmium	ug/L	ND	500	500	474	530	95	106	75-125	11	
Chromium	ug/L	ND	500	500	463	515	92	103	75-125	11	
Cobalt	ug/L	8.8	500	500	468	526	92	103	75-125	12	
Copper	ug/L	3.9J	500	500	489	547	97	109	75-125	11	
Iron	ug/L	15400	5000	5000	20500	20600	102	105	75-125	1	
Lead	ug/L	ND	500	500	452	508	90	101	75-125	12	
Manganese	ug/L	3970	500	500	4510	4480	109	103	75-125	1	
Nickel	ug/L	6.0	500	500	455	509	90	101	75-125	11	
Selenium	ug/L	ND	500	500	462	518	92	103	75-125	11	
Silver	ug/L	ND	250	250	234	263	93	105	75-125	12	
Thallium	ug/L	ND	500	500	453	510	90	102	75-125	12	
Vanadium	ug/L	6.7	500	500	478	536	94	106	75-125	12	
Zinc	ug/L	6.5J	500	500	453	507	89	100	75-125	11	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

QC Batch: MPRP/18577 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92251279005, 92251279006, 92251279007, 92251279008, 92251279009

METHOD BLANK: 1470944 | Matrix: Water
Associated Lab Samples: 92251279005, 92251279006, 92251279007, 92251279008, 92251279009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	06/03/15 18:15	
Arsenic	ug/L	ND	10.0	06/03/15 18:15	
Barium	ug/L	ND	5.0	06/03/15 18:15	
Beryllium	ug/L	ND	1.0	06/03/15 18:15	
Cadmium	ug/L	ND	1.0	06/03/15 18:15	
Chromium	ug/L	ND	5.0	06/03/15 18:15	
Cobalt	ug/L	ND	5.0	06/03/15 18:15	
Copper	ug/L	ND	5.0	06/03/15 18:15	
Iron	ug/L	ND	50.0	06/03/15 18:15	
Lead	ug/L	ND	5.0	06/03/15 18:15	
Manganese	ug/L	ND	5.0	06/03/15 18:15	
Nickel	ug/L	ND	5.0	06/03/15 18:15	
Selenium	ug/L	ND	10.0	06/03/15 18:15	
Silver	ug/L	ND	5.0	06/03/15 18:15	
Thallium	ug/L	ND	5.4	06/03/15 18:15	
Vanadium	ug/L	ND	5.0	06/03/15 18:15	
Zinc	ug/L	ND	10.0	06/03/15 18:15	

LABORATORY CONTROL SAMPLE: 1470945

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	494	99	80-120	
Arsenic	ug/L	500	474	95	80-120	
Barium	ug/L	500	473	95	80-120	
Beryllium	ug/L	500	471	94	80-120	
Cadmium	ug/L	500	474	95	80-120	
Chromium	ug/L	500	462	92	80-120	
Cobalt	ug/L	500	473	95	80-120	
Copper	ug/L	500	483	97	80-120	
Iron	ug/L	5000	4720	94	80-120	
Lead	ug/L	500	470	94	80-120	
Manganese	ug/L	500	471	94	80-120	
Nickel	ug/L	500	470	94	80-120	
Selenium	ug/L	500	474	95	80-120	
Silver	ug/L	250	234	94	80-120	
Thallium	ug/L	500	475	95	80-120	
Vanadium	ug/L	500	478	96	80-120	
Zinc	ug/L	500	471	94	80-120	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1470946 1470947

Parameter	Units	92251279005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Antimony	ug/L	ND	500	500	465	520	93	104	75-125	11	
Arsenic	ug/L	ND	500	500	462	517	92	103	75-125	11	
Barium	ug/L	175	500	500	642	709	93	107	75-125	10	
Beryllium	ug/L	ND	500	500	462	516	92	103	75-125	11	
Cadmium	ug/L	ND	500	500	460	515	92	103	75-125	11	
Chromium	ug/L	27.8	500	500	494	552	93	105	75-125	11	
Cobalt	ug/L	ND	500	500	459	512	91	102	75-125	11	
Copper	ug/L	24.1	500	500	500	569	95	109	75-125	13	
Iron	ug/L	10300	5000	5000	19600	21800	186	229	75-125	10	M1
Lead	ug/L	ND	500	500	450	502	90	100	75-125	11	
Manganese	ug/L	232	500	500	713	780	96	110	75-125	9	
Nickel	ug/L	17.1	500	500	474	528	91	102	75-125	11	
Selenium	ug/L	ND	500	500	462	514	92	103	75-125	11	
Silver	ug/L	ND	250	250	226	256	91	102	75-125	12	
Thallium	ug/L	ND	500	500	451	506	90	101	75-125	11	
Vanadium	ug/L	37.2	500	500	517	577	96	108	75-125	11	
Zinc	ug/L	15.2	500	500	480	540	93	105	75-125	12	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

QC Batch: MSV/31903 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004, 92251279005, 92251279006, 92251279007, 92251279008

METHOD BLANK: 1469627 Matrix: Water
Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004, 92251279005, 92251279006, 92251279007, 92251279008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	05/29/15 03:57	
1,1,1-Trichloroethane	ug/L	ND	1.0	05/29/15 03:57	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/29/15 03:57	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/29/15 03:57	
1,1-Dichloroethane	ug/L	ND	1.0	05/29/15 03:57	
1,1-Dichloroethene	ug/L	ND	1.0	05/29/15 03:57	
1,2,3-Trichloropropane	ug/L	ND	1.0	05/29/15 03:57	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	05/29/15 03:57	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	05/29/15 03:57	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/29/15 03:57	
1,2-Dichloroethane	ug/L	ND	1.0	05/29/15 03:57	
1,2-Dichloropropane	ug/L	ND	1.0	05/29/15 03:57	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/29/15 03:57	
2-Butanone (MEK)	ug/L	ND	5.0	05/29/15 03:57	
2-Hexanone	ug/L	ND	5.0	05/29/15 03:57	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	05/29/15 03:57	
Acetone	ug/L	ND	25.0	05/29/15 03:57	
Acrylonitrile	ug/L	ND	10.0	05/29/15 03:57	
Benzene	ug/L	ND	1.0	05/29/15 03:57	
Bromochloromethane	ug/L	ND	1.0	05/29/15 03:57	
Bromodichloromethane	ug/L	ND	1.0	05/29/15 03:57	
Bromoform	ug/L	ND	1.0	05/29/15 03:57	
Bromomethane	ug/L	ND	2.0	05/29/15 03:57	
Carbon disulfide	ug/L	ND	2.0	05/29/15 03:57	
Carbon tetrachloride	ug/L	ND	1.0	05/29/15 03:57	
Chlorobenzene	ug/L	ND	1.0	05/29/15 03:57	
Chloroethane	ug/L	ND	1.0	05/29/15 03:57	
Chloroform	ug/L	ND	1.0	05/29/15 03:57	
Chloromethane	ug/L	ND	1.0	05/29/15 03:57	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/29/15 03:57	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/29/15 03:57	
Dibromochloromethane	ug/L	ND	1.0	05/29/15 03:57	
Dibromomethane	ug/L	ND	1.0	05/29/15 03:57	
Ethylbenzene	ug/L	ND	1.0	05/29/15 03:57	
Iodomethane	ug/L	ND	5.0	05/29/15 03:57	
Methylene Chloride	ug/L	4.0	1.0	05/29/15 03:57	C9
Styrene	ug/L	ND	1.0	05/29/15 03:57	
Tetrachloroethene	ug/L	ND	1.0	05/29/15 03:57	
Tetrahydrofuran	ug/L	ND	10.0	05/29/15 03:57	
Toluene	ug/L	ND	1.0	05/29/15 03:57	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

METHOD BLANK: 1469627 Matrix: Water

Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004, 92251279005, 92251279006, 92251279007, 92251279008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/29/15 03:57	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/29/15 03:57	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	05/29/15 03:57	
Trichloroethene	ug/L	ND	1.0	05/29/15 03:57	
Trichlorofluoromethane	ug/L	ND	1.0	05/29/15 03:57	
Vinyl acetate	ug/L	ND	2.0	05/29/15 03:57	
Vinyl chloride	ug/L	ND	1.0	05/29/15 03:57	
Xylene (Total)	ug/L	ND	2.0	05/29/15 03:57	
1,2-Dichloroethane-d4 (S)	%	86	70-130	05/29/15 03:57	
4-Bromofluorobenzene (S)	%	101	70-130	05/29/15 03:57	
Toluene-d8 (S)	%	93	70-130	05/29/15 03:57	

LABORATORY CONTROL SAMPLE: 1469628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	49.6	99	80-125	
1,1,1-Trichloroethane	ug/L	50	41.8	84	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	50.1	100	79-124	
1,1,2-Trichloroethane	ug/L	50	47.2	94	85-125	
1,1-Dichloroethane	ug/L	50	43.4	87	73-126	
1,1-Dichloroethene	ug/L	50	47.7	95	66-135	
1,2,3-Trichloropropane	ug/L	50	52.4	105	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	41.0	82	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	49.1	98	83-124	
1,2-Dichlorobenzene	ug/L	50	47.5	95	80-133	
1,2-Dichloroethane	ug/L	50	42.7	85	67-128	
1,2-Dichloropropane	ug/L	50	49.0	98	75-132	
1,4-Dichlorobenzene	ug/L	50	50.8	102	78-130	
2-Butanone (MEK)	ug/L	100	91.1	91	61-144	
2-Hexanone	ug/L	100	113	113	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	72-135	
Acetone	ug/L	100	91.3	91	48-146	
Acrylonitrile	ug/L	250	240	96	40-160	
Benzene	ug/L	50	46.5	93	80-125	
Bromochloromethane	ug/L	50	42.2	84	71-125	
Bromodichloromethane	ug/L	50	44.7	89	78-124	
Bromoform	ug/L	50	46.8	94	71-128	
Bromomethane	ug/L	50	61.5	123	40-160	
Carbon disulfide	ug/L	50	42.7	85	50-160	
Carbon tetrachloride	ug/L	50	44.2	88	69-131	
Chlorobenzene	ug/L	50	51.2	102	81-122	
Chloroethane	ug/L	50	41.1	82	39-148	
Chloroform	ug/L	50	42.5	85	73-127	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

LABORATORY CONTROL SAMPLE: 1469628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloromethane	ug/L	50	44.5	89	44-146	
cis-1,2-Dichloroethene	ug/L	50	43.1	86	74-124	
cis-1,3-Dichloropropene	ug/L	50	46.6	93	72-132	
Dibromochloromethane	ug/L	50	48.7	97	78-125	
Dibromomethane	ug/L	50	50.5	101	82-120	
Ethylbenzene	ug/L	50	48.5	97	79-121	
Iodomethane	ug/L	100	94.8	95	39-154	
Methylene Chloride	ug/L	50	48.1	96	64-133	
Styrene	ug/L	50	49.6	99	84-126	
Tetrachloroethene	ug/L	50	48.8	98	78-122	
Tetrahydrofuran	ug/L	500	497	99	69-148	
Toluene	ug/L	50	48.6	97	80-121	
trans-1,2-Dichloroethene	ug/L	50	42.5	85	71-127	
trans-1,3-Dichloropropene	ug/L	50	45.7	91	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	80.2	160	40-160	
Trichloroethene	ug/L	50	46.2	92	78-122	
Trichlorofluoromethane	ug/L	50	46.6	93	53-137	
Vinyl acetate	ug/L	100	93.9	94	40-160	
Vinyl chloride	ug/L	50	47.6	95	58-137	
Xylene (Total)	ug/L	150	145	97	81-126	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			105	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE SAMPLE: 1469630

Parameter	Units	92251279008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20.0	100	70-130	
1,1,1-Trichloroethane	ug/L	ND	20	17.5	88	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	18.3	92	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	18.8	94	70-130	
1,1-Dichloroethane	ug/L	ND	20	17.5	88	70-130	
1,1-Dichloroethene	ug/L	ND	20	20.4	102	70-166	
1,2,3-Trichloropropane	ug/L	ND	20	19.4	97	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	13.7	68	70-130	M1
1,2-Dibromoethane (EDB)	ug/L	ND	20	19.5	97	70-130	
1,2-Dichlorobenzene	ug/L	ND	20	19.6	98	70-130	
1,2-Dichloroethane	ug/L	ND	20	15.8	79	70-130	
1,2-Dichloropropane	ug/L	ND	20	18.9	95	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	20.9	105	70-130	
2-Butanone (MEK)	ug/L	ND	40	33.7	84	70-130	
2-Hexanone	ug/L	ND	40	40.6	102	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	39.1	98	70-130	
Acetone	ug/L	ND	40	36.6	91	70-130	
Acrylonitrile	ug/L	ND	100	90.7	91	70-130	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

MATRIX SPIKE SAMPLE: 1469630

Parameter	Units	92251279008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	20.0	100	70-148	
Bromochloromethane	ug/L	ND	20	20.5	102	70-130	
Bromodichloromethane	ug/L	ND	20	17.4	87	70-130	
Bromoform	ug/L	ND	20	16.3	81	70-130	
Bromomethane	ug/L	ND	20	19.0	95	70-130	
Carbon disulfide	ug/L	ND	20	18.8	94	70-130	
Carbon tetrachloride	ug/L	ND	20	18.9	94	70-130	
Chlorobenzene	ug/L	ND	20	21.4	107	70-146	
Chloroethane	ug/L	ND	20	24.7	123	70-130	
Chloroform	ug/L	ND	20	17.6	88	70-130	
Chloromethane	ug/L	ND	20	18.3	91	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	17.1	85	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	17.1	85	70-130	
Dibromochloromethane	ug/L	ND	20	17.9	90	70-130	
Dibromomethane	ug/L	ND	20	19.7	99	70-130	
Ethylbenzene	ug/L	ND	20	20.6	103	70-130	
Iodomethane	ug/L	ND	40	25.1	63	70-130	M1
Methylene Chloride	ug/L	ND	20	18.3	92	70-130	
Styrene	ug/L	ND	20	19.8	99	70-130	
Tetrachloroethene	ug/L	ND	20	20.9	105	70-130	
Tetrahydrofuran	ug/L	ND	200	183	91	70-130	
Toluene	ug/L	ND	20	19.9	100	70-155	
trans-1,2-Dichloroethene	ug/L	ND	20	18.8	94	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	16.5	83	70-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	20	19.3	96	70-130	
Trichloroethene	ug/L	ND	20	20.8	104	69-151	
Trichlorofluoromethane	ug/L	ND	20	19.2	96	70-130	
Vinyl acetate	ug/L	ND	40	22.1	55	70-130	M1
Vinyl chloride	ug/L	ND	20	18.9	95	70-130	
1,2-Dichloroethane-d4 (S)	%				86	70-130	
4-Bromofluorobenzene (S)	%				97	70-130	
Toluene-d8 (S)	%				97	70-130	

SAMPLE DUPLICATE: 1469629

Parameter	Units	92251279007 Result	Dup Result	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		
1,1,1-Trichloroethane	ug/L	ND	ND		
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		
1,1,2-Trichloroethane	ug/L	ND	ND		
1,1-Dichloroethane	ug/L	ND	ND		
1,1-Dichloroethene	ug/L	ND	ND		
1,2,3-Trichloropropane	ug/L	ND	ND		
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		
1,2-Dibromoethane (EDB)	ug/L	ND	ND		

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

SAMPLE DUPLICATE: 1469629

Parameter	Units	92251279007 Result	Dup Result	RPD	Qualifiers
1,2-Dichlorobenzene	ug/L	ND	ND		
1,2-Dichloroethane	ug/L	ND	ND		
1,2-Dichloropropane	ug/L	ND	ND		
1,4-Dichlorobenzene	ug/L	ND	ND		
2-Butanone (MEK)	ug/L	ND	ND		
2-Hexanone	ug/L	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		
Acetone	ug/L	ND	ND		
Acrylonitrile	ug/L	ND	ND		
Benzene	ug/L	ND	ND		
Bromochloromethane	ug/L	ND	ND		
Bromodichloromethane	ug/L	ND	ND		
Bromoform	ug/L	ND	ND		
Bromomethane	ug/L	ND	ND		
Carbon disulfide	ug/L	ND	ND		
Carbon tetrachloride	ug/L	ND	ND		
Chlorobenzene	ug/L	ND	ND		
Chloroethane	ug/L	ND	ND		
Chloroform	ug/L	ND	ND		
Chloromethane	ug/L	ND	ND		
cis-1,2-Dichloroethene	ug/L	ND	ND		
cis-1,3-Dichloropropene	ug/L	ND	ND		
Dibromochloromethane	ug/L	ND	ND		
Dibromomethane	ug/L	ND	ND		
Ethylbenzene	ug/L	ND	ND		
Iodomethane	ug/L	ND	ND		
Methylene Chloride	ug/L	ND	ND		
Styrene	ug/L	ND	ND		
Tetrachloroethene	ug/L	ND	ND		
Tetrahydrofuran	ug/L	ND	ND		
Toluene	ug/L	ND	ND		
trans-1,2-Dichloroethene	ug/L	ND	ND		
trans-1,3-Dichloropropene	ug/L	ND	ND		
trans-1,4-Dichloro-2-butene	ug/L	ND	ND		
Trichloroethene	ug/L	ND	ND		
Trichlorofluoromethane	ug/L	ND	ND		
Vinyl acetate	ug/L	ND	ND		
Vinyl chloride	ug/L	ND	ND		
Xylene (Total)	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	89	88	1	
4-Bromofluorobenzene (S)	%	93	98	5	
Toluene-d8 (S)	%	91	91	0	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

QC Batch: MSV/31937
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92251279009

METHOD BLANK: 1471939
Matrix: Water
Associated Lab Samples: 92251279009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	06/01/15 21:58	
1,1,1-Trichloroethane	ug/L	ND	1.0	06/01/15 21:58	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/01/15 21:58	
1,1,2-Trichloroethane	ug/L	ND	1.0	06/01/15 21:58	
1,1-Dichloroethane	ug/L	ND	1.0	06/01/15 21:58	
1,1-Dichloroethene	ug/L	ND	1.0	06/01/15 21:58	
1,2,3-Trichloropropane	ug/L	ND	1.0	06/01/15 21:58	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	06/01/15 21:58	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	06/01/15 21:58	
1,2-Dichlorobenzene	ug/L	ND	1.0	06/01/15 21:58	
1,2-Dichloroethane	ug/L	ND	1.0	06/01/15 21:58	
1,2-Dichloropropane	ug/L	ND	1.0	06/01/15 21:58	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/01/15 21:58	
2-Butanone (MEK)	ug/L	ND	5.0	06/01/15 21:58	
2-Hexanone	ug/L	ND	5.0	06/01/15 21:58	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	06/01/15 21:58	
Acetone	ug/L	ND	25.0	06/01/15 21:58	
Acrylonitrile	ug/L	ND	10.0	06/01/15 21:58	
Benzene	ug/L	ND	1.0	06/01/15 21:58	
Bromochloromethane	ug/L	ND	1.0	06/01/15 21:58	
Bromodichloromethane	ug/L	ND	1.0	06/01/15 21:58	
Bromoform	ug/L	ND	1.0	06/01/15 21:58	
Bromomethane	ug/L	ND	2.0	06/01/15 21:58	
Carbon disulfide	ug/L	ND	2.0	06/01/15 21:58	
Carbon tetrachloride	ug/L	ND	1.0	06/01/15 21:58	
Chlorobenzene	ug/L	ND	1.0	06/01/15 21:58	
Chloroethane	ug/L	ND	1.0	06/01/15 21:58	
Chloroform	ug/L	ND	1.0	06/01/15 21:58	
Chloromethane	ug/L	ND	1.0	06/01/15 21:58	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/01/15 21:58	
cis-1,3-Dichloropropene	ug/L	ND	1.0	06/01/15 21:58	
Dibromochloromethane	ug/L	ND	1.0	06/01/15 21:58	
Dibromomethane	ug/L	ND	1.0	06/01/15 21:58	
Ethylbenzene	ug/L	ND	1.0	06/01/15 21:58	
Iodomethane	ug/L	ND	5.0	06/01/15 21:58	
Methylene Chloride	ug/L	ND	1.0	06/01/15 21:58	
Styrene	ug/L	ND	1.0	06/01/15 21:58	
Tetrachloroethene	ug/L	ND	1.0	06/01/15 21:58	
Tetrahydrofuran	ug/L	ND	10.0	06/01/15 21:58	
Toluene	ug/L	ND	1.0	06/01/15 21:58	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/01/15 21:58	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

METHOD BLANK: 1471939 Matrix: Water
Associated Lab Samples: 92251279009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	ND	1.0	06/01/15 21:58	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	06/01/15 21:58	
Trichloroethene	ug/L	ND	1.0	06/01/15 21:58	
Trichlorofluoromethane	ug/L	ND	1.0	06/01/15 21:58	
Vinyl acetate	ug/L	ND	2.0	06/01/15 21:58	
Vinyl chloride	ug/L	ND	1.0	06/01/15 21:58	
Xylene (Total)	ug/L	ND	2.0	06/01/15 21:58	
1,2-Dichloroethane-d4 (S)	%	94	70-130	06/01/15 21:58	
4-Bromofluorobenzene (S)	%	100	70-130	06/01/15 21:58	
Toluene-d8 (S)	%	101	70-130	06/01/15 21:58	

LABORATORY CONTROL SAMPLE: 1471940

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	54.3	109	80-125	
1,1,1-Trichloroethane	ug/L	50	49.4	99	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	51.3	103	79-124	
1,1,2-Trichloroethane	ug/L	50	51.3	103	85-125	
1,1-Dichloroethane	ug/L	50	50.2	100	73-126	
1,1-Dichloroethene	ug/L	50	48.8	98	66-135	
1,2,3-Trichloropropane	ug/L	50	51.4	103	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	53.3	107	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	52.9	106	83-124	
1,2-Dichlorobenzene	ug/L	50	54.3	109	80-133	
1,2-Dichloroethane	ug/L	50	47.9	96	67-128	
1,2-Dichloropropane	ug/L	50	50.0	100	75-132	
1,4-Dichlorobenzene	ug/L	50	52.6	105	78-130	
2-Butanone (MEK)	ug/L	100	96.7	97	61-144	
2-Hexanone	ug/L	100	101	101	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.9	96	72-135	
Acetone	ug/L	100	91.3	91	48-146	
Acrylonitrile	ug/L	250	232	93	40-160	
Benzene	ug/L	50	52.2	104	80-125	
Bromochloromethane	ug/L	50	51.4	103	71-125	
Bromodichloromethane	ug/L	50	49.3	99	78-124	
Bromoform	ug/L	50	45.3	91	71-128	
Bromomethane	ug/L	50	60.1	120	40-160	
Carbon disulfide	ug/L	50	46.4	93	50-160	
Carbon tetrachloride	ug/L	50	52.9	106	69-131	
Chlorobenzene	ug/L	50	52.7	105	81-122	
Chloroethane	ug/L	50	49.8	100	39-148	
Chloroform	ug/L	50	46.4	93	73-127	
Chloromethane	ug/L	50	48.9	98	44-146	
cis-1,2-Dichloroethene	ug/L	50	50.8	102	74-124	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

LABORATORY CONTROL SAMPLE: 1471940

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,3-Dichloropropene	ug/L	50	51.7	103	72-132	
Dibromochloromethane	ug/L	50	50.8	102	78-125	
Dibromomethane	ug/L	50	51.8	104	82-120	
Ethylbenzene	ug/L	50	52.4	105	79-121	
Iodomethane	ug/L	100	72.6	73	39-154	
Methylene Chloride	ug/L	50	48.0	96	64-133	
Styrene	ug/L	50	56.1	112	84-126	
Tetrachloroethene	ug/L	50	52.8	106	78-122	
Tetrahydrofuran	ug/L	500	473	95	69-148	
Toluene	ug/L	50	51.2	102	80-121	
trans-1,2-Dichloroethene	ug/L	50	49.7	99	71-127	
trans-1,3-Dichloropropene	ug/L	50	54.0	108	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	53.1	106	40-160	
Trichloroethene	ug/L	50	49.9	100	78-122	
Trichlorofluoromethane	ug/L	50	48.9	98	53-137	
Vinyl acetate	ug/L	100	103	103	40-160	
Vinyl chloride	ug/L	50	52.3	105	58-137	
Xylene (Total)	ug/L	150	158	105	81-126	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1471941

Parameter	Units	92251287001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	19.7	99	70-130	
1,1,1-Trichloroethane	ug/L	ND	20	20.9	104	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.4	102	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	20.2	101	70-130	
1,1-Dichloroethane	ug/L	ND	20	21.0	105	70-130	
1,1-Dichloroethene	ug/L	ND	20	21.6	108	70-166	
1,2,3-Trichloropropane	ug/L	ND	20	20.6	103	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20.4	102	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.9	109	70-130	
1,2-Dichlorobenzene	ug/L	ND	20	22.3	112	70-130	
1,2-Dichloroethane	ug/L	ND	20	19.6	98	70-130	
1,2-Dichloropropane	ug/L	ND	20	21.6	108	70-130	
1,4-Dichlorobenzene	ug/L	0.56J	20	22.8	111	70-130	
2-Butanone (MEK)	ug/L	6.4J	40	49.8	109	70-130	
2-Hexanone	ug/L	ND	40	43.0	107	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	41.3	103	70-130	
Acetone	ug/L	239	40	308	174	70-130	M1
Acrylonitrile	ug/L	ND	100	96.1	96	70-130	
Benzene	ug/L	ND	20	22.6	112	70-148	
Bromochloromethane	ug/L	ND	20	21.2	106	70-130	

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REPORT OF LABORATORY ANALYSIS

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(704)875-9092

QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

MATRIX SPIKE SAMPLE: 1471941

Parameter	Units	92251287001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	ND	20	19.2	96	70-130	
Bromoform	ug/L	ND	20	17.1	85	70-130	
Bromomethane	ug/L	ND	20	20.7	103	70-130	
Carbon disulfide	ug/L	ND	20	18.5	92	70-130	
Carbon tetrachloride	ug/L	ND	20	21.4	107	70-130	
Chlorobenzene	ug/L	ND	20	22.6	112	70-146	
Chloroethane	ug/L	ND	20	19.6	98	70-130	
Chloroform	ug/L	ND	20	19.7	99	70-130	
Chloromethane	ug/L	ND	20	22.8	114	70-130	
cis-1,2-Dichloroethene	ug/L	1.1J	20	22.9	109	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	20.1	100	70-130	
Dibromochloromethane	ug/L	ND	20	17.3	87	70-130	
Dibromomethane	ug/L	ND	20	21.1	106	70-130	
Ethylbenzene	ug/L	ND	20	22.0	110	70-130	
Iodomethane	ug/L	ND	40	32.4	81	70-130	
Methylene Chloride	ug/L	ND	20	20.9	105	70-130	
Styrene	ug/L	ND	20	22.7	113	70-130	
Tetrachloroethene	ug/L	ND	20	22.6	113	70-130	
Tetrahydrofuran	ug/L	ND	200	204	102	70-130	
Toluene	ug/L	ND	20	21.5	108	70-155	
trans-1,2-Dichloroethene	ug/L	ND	20	21.8	109	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	19.3	97	70-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	20	20.1	100	70-130	
Trichloroethene	ug/L	ND	20	21.3	106	69-151	
Trichlorofluoromethane	ug/L	ND	20	22.2	111	70-130	
Vinyl acetate	ug/L	ND	40	37.8	95	70-130	
Vinyl chloride	ug/L	ND	20	22.5	111	70-130	
1,2-Dichloroethane-d4 (S)	%				97	70-130	
4-Bromofluorobenzene (S)	%				103	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1471942

Parameter	Units	92251287003 Result	Dup Result	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		
1,1,1-Trichloroethane	ug/L	ND	ND		
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		
1,1,2-Trichloroethane	ug/L	ND	ND		
1,1-Dichloroethane	ug/L	4.4J	4.4	2	
1,1-Dichloroethene	ug/L	ND	ND		
1,2,3-Trichloropropane	ug/L	ND	ND		
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		
1,2-Dibromoethane (EDB)	ug/L	ND	ND		
1,2-Dichlorobenzene	ug/L	0.30J	.31J		
1,2-Dichloroethane	ug/L	ND	ND		

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

SAMPLE DUPLICATE: 1471942

Parameter	Units	92251287003 Result	Dup Result	RPD	Qualifiers
1,2-Dichloropropane	ug/L	1.2	1.2	5	
1,4-Dichlorobenzene	ug/L	4.9	5.0	2	
2-Butanone (MEK)	ug/L	ND	ND		
2-Hexanone	ug/L	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		
Acetone	ug/L	ND	ND		
Acrylonitrile	ug/L	ND	ND		
Benzene	ug/L	1.3	1.3	2	
Bromochloromethane	ug/L	ND	ND		
Bromodichloromethane	ug/L	ND	ND		
Bromoform	ug/L	ND	ND		
Bromomethane	ug/L	ND	ND		
Carbon disulfide	ug/L	ND	ND		
Carbon tetrachloride	ug/L	ND	ND		
Chlorobenzene	ug/L	7.0	7.2	3	
Chloroethane	ug/L	ND	ND		
Chloroform	ug/L	ND	ND		
Chloromethane	ug/L	ND	ND		
cis-1,2-Dichloroethene	ug/L	7.7	8.0	4	
cis-1,3-Dichloropropene	ug/L	ND	ND		
Dibromochloromethane	ug/L	ND	ND		
Dibromomethane	ug/L	ND	ND		
Ethylbenzene	ug/L	ND	ND		
Iodomethane	ug/L	ND	ND		
Methylene Chloride	ug/L	ND	ND		
Styrene	ug/L	ND	ND		
Tetrachloroethene	ug/L	4.6	4.7	3	
Tetrahydrofuran	ug/L	4.5J	4.3J		
Toluene	ug/L	ND	ND		
trans-1,2-Dichloroethene	ug/L	ND	ND		
trans-1,3-Dichloropropene	ug/L	ND	ND		
trans-1,4-Dichloro-2-butene	ug/L	ND	ND		
Trichloroethene	ug/L	3.0	3.0	1	
Trichlorofluoromethane	ug/L	ND	ND		
Vinyl acetate	ug/L	ND	ND		
Vinyl chloride	ug/L	0.89J	.88J		
Xylene (Total)	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	98	97	1	
4-Bromofluorobenzene (S)	%	100	99	0	
Toluene-d8 (S)	%	100	101	1	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

QC Batch: WET/37787 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004, 92251279005, 92251279006, 92251279007, 92251279008, 92251279009

METHOD BLANK: 1471569 | Matrix: Water
Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004, 92251279005, 92251279006, 92251279007, 92251279008, 92251279009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	ug/L	ND	5000	06/01/15 13:33	

LABORATORY CONTROL SAMPLE: 1471570

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	ug/L	50000	46400	93	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1471571 1471572

Parameter	Units	92251279001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Alkalinity, Total as CaCO3	ug/L	124000	50000	50000	166000	167000	83	86	90-110	1	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

QC Batch: WET/37707 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004

METHOD BLANK: 1468801 Matrix: Water
Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	ug/L	ND	25000	05/28/15 10:05	

LABORATORY CONTROL SAMPLE: 1468802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	ug/L	250000	262000	105	90-110	

SAMPLE DUPLICATE: 1468803

Parameter	Units	92251045001 Result	Dup Result	RPD	Qualifiers
Total Dissolved Solids	ug/L	57.0 mg/L	65000	13	D6

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

QC Batch: WET/37771 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 92251279005, 92251279006, 92251279007, 92251279008, 92251279009

METHOD BLANK: 1471028 Matrix: Water
Associated Lab Samples: 92251279005, 92251279006, 92251279007, 92251279008, 92251279009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	ug/L	ND	25000	05/29/15 16:34	

LABORATORY CONTROL SAMPLE: 1471029

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	ug/L	250000	248000	99	90-110	

SAMPLE DUPLICATE: 1471030

Parameter	Units	92251245001 Result	Dup Result	RPD	Qualifiers
Total Dissolved Solids	ug/L	38.0 mg/L	40000	5	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

QC Batch: WETA/23129 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004, 92251279005, 92251279006, 92251279007, 92251279008, 92251279009

METHOD BLANK: 1472556 Matrix: Water
Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004, 92251279005, 92251279006, 92251279007, 92251279008, 92251279009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	ug/L	ND	2000	06/02/15 20:12	

LABORATORY CONTROL SAMPLE: 1472557

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	ug/L	20000	18600	93	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1472558 1472559

Parameter	Units	92251264004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Sulfate	ug/L	ND	20000	20000	19200	19100	96	96	90-110	1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1472560 1472561

Parameter	Units	92251279005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Sulfate	ug/L	38000	20000	20000	57000	56800	95	94	90-110	0	

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QUALITY CONTROL DATA

Project: A1 SANDROCK
Pace Project No.: 92251279

QC Batch: WETA/23134 Analysis Method: SM 4500-Cl-E
QC Batch Method: SM 4500-Cl-E Analysis Description: 4500 Chloride
Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004, 92251279005, 92251279006, 92251279007, 92251279008, 92251279009

METHOD BLANK: 1472697 Matrix: Water
Associated Lab Samples: 92251279001, 92251279002, 92251279003, 92251279004, 92251279005, 92251279006, 92251279007, 92251279008, 92251279009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	ug/L	ND	1000	06/04/15 08:15	

LABORATORY CONTROL SAMPLE: 1472698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	ug/L	20000	20900	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1472699 1472700

Parameter	Units	92251279001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Chloride	ug/L	11100	20000	20000	31400	31200	101	100	90-110	1	

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QUALIFIERS

Project: A1 SANDROCK
Pace Project No.: 92251279

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

C9	Common Laboratory Contaminant.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: A1 SANDROCK
Pace Project No.: 92251279

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92251279001	**4117-MW5**		FLD/		
92251279002	**4117-MW1**		FLD/		
92251279003	**4117-MW2**		FLD/		
92251279004	**4117-MW6**		FLD/		
92251279005	**4117-MW4**		FLD/		
92251279006	**4117-MW3**		FLD/		
92251279007	**4117-SW1**		FLD/		
92251279008	**4117-SW2**		FLD/		
92251279001	**4117-MW5**	EPA 3010	MPRP/18546	EPA 6010	ICP/16639
92251279002	**4117-MW1**	EPA 3010	MPRP/18546	EPA 6010	ICP/16639
92251279003	**4117-MW2**	EPA 3010	MPRP/18546	EPA 6010	ICP/16639
92251279004	**4117-MW6**	EPA 3010	MPRP/18546	EPA 6010	ICP/16639
92251279005	**4117-MW4**	EPA 3010	MPRP/18577	EPA 6010	ICP/16674
92251279006	**4117-MW3**	EPA 3010	MPRP/18577	EPA 6010	ICP/16674
92251279007	**4117-SW1**	EPA 3010	MPRP/18577	EPA 6010	ICP/16674
92251279008	**4117-SW2**	EPA 3010	MPRP/18577	EPA 6010	ICP/16674
92251279009	**4117-DUP 1(MW-3)**	EPA 3010	MPRP/18577	EPA 6010	ICP/16674
92251279001	**4117-MW5**	EPA 7470	MERP/7856	EPA 7470	MERC/7542
92251279002	**4117-MW1**	EPA 7470	MERP/7857	EPA 7470	MERC/7543
92251279003	**4117-MW2**	EPA 7470	MERP/7857	EPA 7470	MERC/7543
92251279004	**4117-MW6**	EPA 7470	MERP/7857	EPA 7470	MERC/7543
92251279005	**4117-MW4**	EPA 7470	MERP/7857	EPA 7470	MERC/7543
92251279006	**4117-MW3**	EPA 7470	MERP/7857	EPA 7470	MERC/7543
92251279007	**4117-SW1**	EPA 7470	MERP/7857	EPA 7470	MERC/7543
92251279008	**4117-SW2**	EPA 7470	MERP/7857	EPA 7470	MERC/7543
92251279009	**4117-DUP 1(MW-3)**	EPA 7470	MERP/7857	EPA 7470	MERC/7543
92251279001	**4117-MW5**	EPA 8260	MSV/31903		
92251279002	**4117-MW1**	EPA 8260	MSV/31903		
92251279003	**4117-MW2**	EPA 8260	MSV/31903		
92251279004	**4117-MW6**	EPA 8260	MSV/31903		
92251279005	**4117-MW4**	EPA 8260	MSV/31903		
92251279006	**4117-MW3**	EPA 8260	MSV/31903		
92251279007	**4117-SW1**	EPA 8260	MSV/31903		
92251279008	**4117-SW2**	EPA 8260	MSV/31903		
92251279009	**4117-DUP 1(MW-3)**	EPA 8260	MSV/31937		
92251279001	**4117-MW5**	SM 2320B	WET/37787		
92251279002	**4117-MW1**	SM 2320B	WET/37787		
92251279003	**4117-MW2**	SM 2320B	WET/37787		
92251279004	**4117-MW6**	SM 2320B	WET/37787		
92251279005	**4117-MW4**	SM 2320B	WET/37787		
92251279006	**4117-MW3**	SM 2320B	WET/37787		
92251279007	**4117-SW1**	SM 2320B	WET/37787		
92251279008	**4117-SW2**	SM 2320B	WET/37787		
92251279009	**4117-DUP 1(MW-3)**	SM 2320B	WET/37787		
92251279001	**4117-MW5**	SM 2540C	WET/37707		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: A1 SANDROCK
Pace Project No.: 92251279

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92251279002	**4117-MW1**	SM 2540C	WET/37707		
92251279003	**4117-MW2**	SM 2540C	WET/37707		
92251279004	**4117-MW6**	SM 2540C	WET/37707		
92251279005	**4117-MW4**	SM 2540C	WET/37771		
92251279006	**4117-MW3**	SM 2540C	WET/37771		
92251279007	**4117-SW1**	SM 2540C	WET/37771		
92251279008	**4117-SW2**	SM 2540C	WET/37771		
92251279009	**4117-DUP 1(MW-3)**	SM 2540C	WET/37771		
92251279001	**4117-MW5**	EPA 300.0	WETA/23129		
92251279002	**4117-MW1**	EPA 300.0	WETA/23129		
92251279003	**4117-MW2**	EPA 300.0	WETA/23129		
92251279004	**4117-MW6**	EPA 300.0	WETA/23129		
92251279005	**4117-MW4**	EPA 300.0	WETA/23129		
92251279006	**4117-MW3**	EPA 300.0	WETA/23129		
92251279007	**4117-SW1**	EPA 300.0	WETA/23129		
92251279008	**4117-SW2**	EPA 300.0	WETA/23129		
92251279009	**4117-DUP 1(MW-3)**	EPA 300.0	WETA/23129		
92251279001	**4117-MW5**	SM 4500-Cl-E	WETA/23134		
92251279002	**4117-MW1**	SM 4500-Cl-E	WETA/23134		
92251279003	**4117-MW2**	SM 4500-Cl-E	WETA/23134		
92251279004	**4117-MW6**	SM 4500-Cl-E	WETA/23134		
92251279005	**4117-MW4**	SM 4500-Cl-E	WETA/23134		
92251279006	**4117-MW3**	SM 4500-Cl-E	WETA/23134		
92251279007	**4117-SW1**	SM 4500-Cl-E	WETA/23134		
92251279008	**4117-SW2**	SM 4500-Cl-E	WETA/23134		
92251279009	**4117-DUP 1(MW-3)**	SM 4500-Cl-E	WETA/23134		

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Pace Analytical	Sample Condition Upon Receipt (SCUR)	Document Revised: May 18, 2015 Page 1 of 2*
	Document Number: F-CHR-CS-003-rev.16	Issuing Authority: Pace Huntersville Quality Office

Client Name: Al Sandrock

* Page 2 of 2 is for Internal Use Only

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ (Pace) Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other_____

Thermometer Used: IR Gun T1401 **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor **T1401** No Correction

Corrected Cooler Temp.: 2.5 °C **Biological Tissue is Frozen:** Yes No N/A

Date and Initials of person examining contents: PP 5.22.15

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☑Yes ☐No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: H2O		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	
Samples checked for dechlorination:	☑Yes ☐No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15. PP 5.22.15
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: JJ Date: 5/22/15

SRF Review: JJ Date: 5/26/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO# : 92251279

92251279

(if no label available)

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

1954320

Section A Required Client Information:

Company: Al Sandrock
Address: 2091 Bishop Road
Greensboro
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To:
Copy To:
Purchase Order No.:
Project Name:
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location
STATE: _____

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): Appendix I 8260 VOC	Appendix 2 8010/8270 + Fe, Mn	Alkalinity	Chloride	Sulfate	TDS	Conductivity (Field)	pH (Field)	Temp (Field)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92251279
1	MW-5					5-21-15	0959	15.6	6	2		1	3					X	X	X	X	X	X	X	X	X		001
2	MW-1					5-21-15	1218	15.9	6	2		1	3					X	X	X	X	X	X	X	X	X		002
3	MW-2					5-21-15	1354	15.6	6	2		1	3					X	X	X	X	X	X	X	X	X		003
4	MW-6					5-21-15	1638	16.9	6	2		1	3					X	X	X	X	X	X	X	X	X		004
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	5-21-15	1808	[signature]	5/22	1200				
	[signature]	5/22/15	1655	Pam Phillips	5/22	1655	2.5	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Michael R. McCrickard

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 5-21-15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: May 18, 2015 Page 1 of 2*
	Document Number: **F-CHR-CS-003-rev.16**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Al Sandock

* Page 2 of 2 is for Internal Use Only

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ (Pace) Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ (Bubble Bags) ☐ None ☐ Other_____

Thermometer Used: IR Gun T1401 **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 2.9 °C **Biological Tissue is Frozen:** Yes No (N/A)

Date and Initials of person examining contents: MG 5/26/15

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:_____	☑Yes ☐No ☐N/A	12. Received (MW-3) Dup-1 Not on COC. 5/22/15 @ 1110
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: JY Date: 5/26/15

SRF Review: JY Date: 5/27/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here

92251279

OR

Handwrite project number (if no label available)

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

1954321

Section A Required Client Information:

Company: AL Sandbrook
Address: Greensboro NC 2091 Bishop Rd
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To:
Copy To:
Purchase Order No.:
Project Name:
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: _____

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): Aromatics / 8260 +THF	Aromatics 2 (8010) +naph +FE	Alkalinity	Chloride	Sulfate	TDS	Conductivity (Field)	pH (Field)	Temp (Field)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92251279
1	MW-4					5-22-15	1320	26	6	2		1	3					X	X	X	X	X	X	X	X	X		005
2	MW-3					5-22-15	1103	20.5	6	2		1	3					X	X	X	X	X	X	X	X	X		006
3																												
4	SW-1					5-22-15	1410	23.4	6	2		1	3					X	X	X	X	X	X	X	X	X		007
5	SW-2					5-22-15	1440	17.2	6	2		1	3					X	X	X	X	X	X	X	X	X		008
6	Dup-1 (MW-3)					5-22-15	1110											X	X	X	X	X	X					009 Dup
7																												
8																												
9																												
10																												
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Couldn't find any	Mich. [signature]	5-22-15	1725	Scott Log [signature]	5-26-15	1134				
water @ SW-3, SW-4	Scott Log PACE	5-26-15	1640	[signature] Pace	5/26/15	1640	2.9	Y	N	X

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Michael K McC

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 5-22-15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical®

Well Diameter (in.)	Multiplication Factor*
1	0.0408
1.5	0.0918
1.625	0.1080
2	0.1630
3	0.3670
4	0.6530
6	1.4680
8	2.6100

GROUNDWATER SAMPLING **FIELD DATA SHEET**

Client: Al Sandock Location: Greensboro NC Project Name/#:
Name & Affiliation (Sampler(s): MRM
Name & Affiliation (Inspector):

Well Information

Well ID: MW-2 Well Locked: (yes) no
Well Diameter: 2" Construction: (PVC) Steel Stainless Steel
Total Well Depth: 32.72 ft. Multi. Factor*: {*(Radius/12)² X 3.14 x 7.48}
Static Water Level: 9.3 ft. Casing Volume: gallons
Height of Water Col.: ft. Cal. 3 Volumes: gallons

Purge Information

Date Purged: 5/21/15 Time Start: 1324 Finish: 1354 Purge Rate: 200ml/min
Purging Method: 2" pump Total Volume Purged: gallons

Sampling Information

Date Sample Collected: 5/21/15 Time Sample Collected: 1354 am (pm)
Sampling Equipment Used: 2" pump

Bottle Type	Preservation	Analysis Required

Field Measurements/Observations

Sample Temp. (°C): 15.8 Time: 1354
Sample pH (s.u.): 6.04 Time: 1354
Specific Cond. (uS): 260.3 Time: 1354
ReDox (mV): 184.7 Time: 1354
Odor:
Turbidity (ntu): 8.61 Time: 1354
Dis. Oxy. (mg/L): .13 Time: 1354
Res. Cl (mg/L): — Time: —
Other: — Time: —
Appearance:
General Observations: 10.5 volts

Weather Conditions: 64 Rain wind

Sampler Signature: [signature] Date: 5/21/15

Stabilization Test

Time Purged	pH (s.u.)	Spec. Cond. (uS)	Redox. (mV)	Turbidity (ntu)	Dissolved Oxy. (mg/L)	Temp. (°C)	Volume Removed (gals.)	Other
1326	6.04	208.7	191.6	200.9	.30	15.2	400	
1336	6.05	269.5	171.1	43.79	.45	16.4	800	
1340	6.04	268.9	173.5	19.98	.19	16.1	1200	
1342	6.05	267.1	175.5	18.45	.16	16.2	1600	
1344	6.04	266.2	177.7	13.22	.16	16.1		
1346	6.04	264.4	179.5	11.30	.15	15.8		
1348	6.04	263.4	181.1	10.80	.14	15.7		

Client:

Location:

Project:

Well ID: MW-2

Time purged	pH (su)	Spec. Cond.(uS)	Redox (mv)	Turb.(ntu)	Dis. Oxy.(mg/l)	Temp.(C)	Vol. (ml) Removed
1350	6.04	263.4	182.1	9.41	.13	15.7	
1352	6.04	261.9	182.9	9.17	.13	15.7	

Pace Analytical®

Well Diameter (in.)	Multiplication Factor
1	0.0408
1.5	0.0918
1.625	0.1080
2	0.1630
3	0.3670
4	0.6530
6	1.4680
8	2.6100

GROUNDWATER SAMPLING FIELD DATA SHEET

Client: Al Sandrock Location: Greensboro NC Project Name/#:
Name & Affiliation (Sampler(s): MRM
Name & Affiliation (Inspector):

Well Information

Well ID: MW-1 Well Locked: (yes) no
Well Diameter: 2" Construction: (PVC) Steel Stainless Steel
Total Well Depth: 46.65 ft. Multi. Factor*: {*(Radius/12)² X 3.14 x 7.48}
Static Water Level: 28.61 ft. Casing Volume: gallons
Height of Water Col.: ft. Cal. 3 Volumes: gallons

Purge Information

Date Purged: 5/21/15 Time Start: 1104 Finish: ~~1208~~ 1218 Purge Rate: 400mL/min
Purging Method: 2" pump Total Volume Purged: gallons

Sampling Information

Date Sample Collected: 5/21/15 Time Sample Collected: ~~1208~~ 1218 am (pm)
Sampling Equipment Used: 2" pump

Bottle Type	Preservation	Analysis Required

Field Measurements/Observations

Sample Temp. (°C): ~~15.75~~ Time: ~~1208~~ 1218
Sample pH (s.u.): 6.51 Time: ~~1208~~
Specific Cond. (uS): 252.0 Time: ~~1208~~
ReDox (mV): 257.6 Time: ~~1208~~
Odor: None

Turbidity (ntu): 29.91 Time: ~~1208~~ 1218
Dis. Oxy. (mg/L): 4.12 Time: ~~1208~~
Res. Cl (mg/L): — Time: —
Other: — Time: —
Appearance: Clear

General Observations: 13.1 volts, check ntu standard, half way .02 = .02
Weather Conditions: Rain

Sampler Signature: [signature] Date: 5/21/15

Stabilization Test

Time Purged	pH (s.u.)	Spec. Cond. (uS)	Redox. (mV)	Turbidity (ntu)	Dissolved Oxy. (mg/L)	Temp. (°C)	Volume Removed (gals.)	Other
1106	6.53	250.1	197.6	84.79	4.70	15.4	800	
1108	6.52	250.7	209.7	71.54	4.41	15.9	1600	
1110	6.53	257.5	215.7	88.75	4.47	15.4	2400	
1112	6.52	249.6	215.9	64.40	4.56	15.5	3200	
1114	6.51	248.6	217.4	64.79	4.58	15.6	4000	
1116	6.51	246.5	217.0	56.21	4.63	15.7	4800	
1118	6.51	246.3	218.0	56.63	4.63	15.7	5600	

Client: Al Sandrock

Location:

Project:

Well ID: MW-1

Time purged	pH (su)	Spec. Cond.(uS)	Redox (mv)	Turb.(ntu)	Dis. Oxy.(mg/l)	Temp.(C)	Vol. (ml) Removed
1120	6.51	254.6	218.6	49.20	4.60	15.5	6400
1125	6.50	246.1	226.8	35.10	4.75	15.6	
1130	6.50	245.3	231.2	34.09	4.74	15.5	
1135	6.50	245.8	239.6	42.51	4.82	~~for~~ 15.6	
1136	6.50	246.5	240.0	44.12	4.63	15.7	
1138	6.50	246.8	240.0	39.76	4.67	15.7	
1140	6.50	247.1	240.6	39.08	4.66	15.6	
1142	6.50	247.2	240.4	41.50	4.60	15.8	
1144	6.50	247.6	241.8	36.39	4.57	15.6	
1146	6.50	248.4	242.7	40.99	4.55	15.6	
1148	6.50	249.7	243.9	39.35	4.54	15.6	
1150	6.50	250.1	244.4	38.72	4.52	15.7	
1152	6.50	250.7	245.2	37.87	4.43	15.7	
1154	6.50	250.9	245.7	36.18	4.49	15.5	
1156	6.50	251.0	245.6	37.73	4.44	15.6	
1158	6.50	251.4	247.1	35.53	4.36	15.7	
1200	6.50	251.6	247.2	37.26	4.35	15.6	
1202	6.50	251.4	252.4	36.32	4.36	15.6	
1204	6.50	251.7	251.5	37.76	4.30	15.7	
1206	6.51	251.7	249.8	32.66	4.21	15.7	
1208	6.51	251.7	249.3	29.94	4.36	15.7	
1210	6.50	252.0	247.8	28.71	4.29	15.7	
1212	6.51	251.8	247.4	31.39	4.17	15.7	
1214	6.51	251.8	248.0	30.89	4.22	15.7	
1216	6.51	251.7	250.0	3830.07	4.21	15.7	

Pace Analytical®

1	0.0408
1.5	0.0918
1.625	0.1080
2	0.1630
3	0.3670
4	0.6530
6	1.4680
8	2.6100

GROUNDWATER SAMPLING **FIELD DATA SHEET**

Client: Al Sandoval Location: Greensboro NC Project Name/#:
Name & Affiliation (Sampler(s): MRM
Name & Affiliation (Inspector):

Well Information

Well ID: 2" MW-3 Well Locked: (yes) no
Well Diameter: 2" Construction: (PVC) Steel Stainless Steel
Total Well Depth: 33.71 ft. Multi. Factor*: {*(Radius/12)² X 3.14 x 7.48}
Static Water Level: 5.49 ft. Casing Volume: gallons
Height of Water Col.: ft. Cal. 3 Volumes: gallons

Purge Information

Date Purged: 5/22/15 Time Start: 0842 Finish: 1103 Purge Rate: ~~200~~ 400 ml/min
Purging Method: 2" pump Total Volume Purged: gallons

Sampling Information

Date Sample Collected: 5/22/15 Time Sample Collected: 1103 (am) pm
Sampling Equipment Used: 2" pump

Bottle Type	Preservation	Analysis Required

Field Measurements/Observations

Sample Temp. (°C): 20.5 Time: 1103
Sample pH (s.u.): 6.07 Time: 1103
Specific Cond. (uS): 1650 Time: 1103
ReDox (mV): 302 Time: 1103
Odor: none
Turbidity (ntu): 32.0 Time: 1103
Dis. Oxy. (mg/L): 3.25 Time: 1103
Res. Cl (mg/L): — Time: —
Other: — Time: —
Appearance: Clear
General Observations: 17 vols, Dup 1110

Weather Conditions: 67° Sunny

Sampler Signature: [signature] Date: 5/22/15

Stabilization Test

Time Purged	pH (s.u.)	Spec. Cond. (uS)	Redox. (mV)	Turbidity (ntu)	Dissolved Oxy. (mg/L)	Temp. (°C)	Volume Removed (gals.)	Other
0844	5.98	166.5	298.7	1100	4.16	14.1	800	
0854	6.00	164.5	314.2	1100	3.95	14.3	~~800~~ 1600	
0924	6.01	164.2	328.9	1100	4.09	15.3		
0934	6.02	163.6	323.9	523.0	3.56	16.3		
0944	6.04	163.9	319.1	236.6	3.84	16.9		
0954	6.04	164.3	310.7	157.0	3.32	17.7		
1004	6.05		310.9	133.1	3.23	17.8		

Client: Al Sandrock
Location: Greensboro NC
Project:
Well ID: MW-3

Time purged	pH (su)	Spec. Cond.(uS)	Redox (mv)	Turb.(ntu)	Dis. Oxy.(mg/l)	Temp.(C)	Vol. (ml) Removed
1024	6.06	164.3	312.2	72.12	3.90	18.3	
1034	6.06	164.6	305.6	54.58	3.36	19.0	
1044	6.06	164.8	306.4	42.29	3.32	19.5	
1054	6.07	165.0	307.4	41.70	3.36	19.9	
1056	6.07	164.7	309.4	34.42	3.51	19.9	
1058	6.07	165.1	307.0	31.91	3.35	20.1	
1100	6.07	165.0	307.7	34.51	3.23	20.2	

Pace Analytical®

Well Diameter (in.)	Multiplication Factor
1	0.0408
1.5	0.0918
1.625	0.1080
2	0.1630
3	0.3670
4	0.6530
6	1.4680
8	2.6100

GROUNDWATER SAMPLING **FIELD DATA SHEET**

Client: Al Sandrock Location: Greensboro NC Project Name/#:
Name & Affiliation (Sampler(s): MRM
Name & Affiliation (Inspector):

Well Information

Well ID: MW-4 Well Locked: (yes) no
Well Diameter: 2" Construction: (PVC) Steel Stainless Steel
Total Well Depth: 26.10 ft. Multi. Factor*: {*(Radius/12)² X 3.14 x 7.48}
Static Water Level: 5.63 ft. Casing Volume: gallons
Height of Water Col.: ft. Cal. 3 Volumes: gallons

Purge Information

Date Purged: 5/22/15 Time Start: 1210 Finish: 1320 Purge Rate: 200mL/min
Purging Method: 2" pump Total Volume Purged: 13 gallons

Sampling Information

Date Sample Collected: 5/22/15 Time Sample Collected: 1320 am (pm)
Sampling Equipment Used: 2" pump

Bottle Type	Preservation	Analysis Required

Field Measurements/Observations

Sample Temp. (°C): 26.0 Time: 1320
Sample pH (s.u.): 6.24 Time: 1320
Specific Cond. (uS): 255.7 Time: 1320
ReDox (mV): 255.0 Time: 1320
Odor: None
Turbidity (ntu): 254.8 Time: 1320
Dis. Oxy. (mg/L): .72 Time: 1320
Res. Cl (mg/L): — Time: —
Other: — Time: —
Appearance: cloudy
General Observations: 10.1 vol

Weather Conditions: 70° sunny windy

Sampler Signature: [signature] Date: 5/22/15

Stabilization Test

Time Purged	pH (s.u.)	Spec. Cond. (uS)	Redox. (mV)	Turbidity (ntu)	Dissolved Oxy. (mg/L)	Temp. (°C)	Volume Removed (gals.)	Other
1212	6.26	249.3	277.0	161.6	1.21	22.7	400	
1222	6.29	252.3	293.8	165.8	1.18	26.4	800	
1232	6.26	248.2	278.5	416.7	.81	21.6	1200	
1242	6.26	251.4	247.6	476.0	1.21	24.0		
1252	6.25	253.6	247.3	404.8	.71	24.4		
1302	6.25	255.1	249.0	377.8	.71	25.6		
1312	6.25	256.0	252.9	396.5	.90	25.6		

Client: Al Sandrock
Location: Greensboro NC
Project:
Well ID: MW-4

Time purged	pH (su)	Spec. Cond.(uS)	Redox (mv)	Turb.(ntu)	Dis. Oxy.(mg/l)	Temp.(C)	Vol. (ml) Removed
1314	6.24	255.2	257.0	309.6	.73	25.7	
1316	6.24	255.1	256.4	259.7	.72	25.8	
1318	6.24	255.2	252.8	252.8	.72	25.8	

Pace Analytical®

Well Diameter (in.)	Multiplication Factor*
1	0.0408
1.5	0.0918
1.625	0.1080
2	0.1630
3	0.3670
4	0.6530
6	1.4680
8	2.6100

GROUNDWATER SAMPLING FIELD DATA SHEET

Client: Alsarbrook Location: Greensboro NC Project Name/#:
Name & Affiliation (Sampler(s): MRM
Name & Affiliation (Inspector):

Well Information

Well ID: MW-5 Well Locked: yes (no)
Well Diameter: 2" Construction: (PVC) Steel Stainless Steel
Total Well Depth: 31.14 ft. Multi. Factor*: {*(Radius/12)² X 3.14 x 7.48}
Static Water Level: 15.44 ft. Casing Volume: gallons
Height of Water Col.: ft. Cal. 3 Volumes: gallons

Purge Information

Date Purged: 5/21/15 Time Start: 0935 Finish: 0959 Purge Rate: 400 mL/min
Purging Method: 2" pump Total Volume Purged: gallons

Sampling Information

Date Sample Collected: 5/21/15 Time Sample Collected: 0959 (am) pm
Sampling Equipment Used: 2" pump

Bottle Type	Preservation	Analysis Required

Field Measurements/Observations

Sample Temp. (°C): 15.6 Time: 0959
Sample pH (s.u.): 6.15 Time: 0959
Specific Cond. (uS): 434.9 Time: 0959
ReDox (mV): 22 Time: 0959
Odor:
Turbidity (ntu): 7.58 Time: 0959
Dis. Oxy. (mg/L): .16 Time: 0959
Res. Cl (mg/L): — Time: —
Other: — Time: —
Appearance:
General Observations: 10.7 Hrs

Weather Conditions: 64° cloudy

Sampler Signature: M. Remo Date: 5/21/15

Stabilization Test

Time Purged	pH (s.u.)	Spec. Cond. (uS)	Redox. (mV)	Turbidity (ntu)	Dissolved Oxy. (mg/L)	Temp. (°C)	Volume Removed (gals.)	Other
0940	6.09	434.3	15.5	15.6	.29	15.8	1600	
0944	6.11	435.6	14.3	34.1				
0946	6.11	433.1	-3.0	20.37	.18	15.1		
0948	6.12	431.7	-2.2	13.76	.17	15.4		
0950	6.12	431.6	5.7	14.84	.17	15.5		
0952	6.13	432.2	7.3	12.02	.17	15.4		
0954	6.14	432.5	11	9.06	.17	15.6		
				9.65				

Client:

Location:

Project:

Well ID: MW-5

Time purged	pH (su)	Spec. Cond.(uS)	Redox (mv)	Turb.(ntu)	Dis. Oxy.(mg/l)	Temp.(C)	Vol. (ml) Removed
0956	6.15	434.3	12.6	8.57	.17	15.6	
0							

Pace Analytical®

Well Diameter (in.)	Multiplier Factor
1	0.0408
1.5	0.0918
1.625	0.1080
2	0.1630
3	0.3670
4	0.6530
6	1.4680
8	2.6100

GROUNDWATER SAMPLING **FIELD DATA SHEET**

Client: Al Sandrock Location: Greensboro NC Project Name/#:
Name & Affiliation (Sampler(s): MFM
Name & Affiliation (Inspector):

Well Information

Well ID: MW-6 Well Locked: yes no
Well Diameter: 2" Construction: PVC Steel Stainless Steel
Total Well Depth: 47.45 ft. Multi. Factor*: {*(Radius/12)² X 3.14 x 7.48}
Static Water Level: 25.05 ft. Casing Volume: gallons
Height of Water Col.: ft. Cal. 3 Volumes: gallons

Purge Information

Date Purged: 5/21/15 Time Start: 1448 Finish: 1638 Purge Rate: 400mL/min
Purging Method: 2" pump Total Volume Purged: gallons

Sampling Information

Date Sample Collected: 5/21/15 Time Sample Collected: 1638 am pm
Sampling Equipment Used: 2" pump

Bottle Type	Preservation	Analysis Required

Field Measurements/Observations

Sample Temp. (°C): 18.9 Time: 1638
Sample pH (s.u.): 6.71 Time: 1638
Specific Cond. (uS): 229.9 Time: 1638
ReDox (mV): -243.5 Time: 1638
Odor:
Turbidity (ntu): .08 Time: 1638
Dis. Oxy. (mg/L): 295.9 Time: 1638
Res. Cl (mg/L): — Time: —
Other: — Time: —
Appearance:
General Observations: 15 volts, turbidity not cooperating can't get it any lower
Weather Conditions: 67° Cloudy

Sampler Signature: [signature] Date: 5/21/15

Stabilization Test

Time Purged	pH (s.u.)	Spec. Cond. (uS)	Redox. (mV)	Turbidity (ntu)	Dissolved Oxy. (mg/L)	Temp. (°C)	Volume Removed (gals.)	Other
1450	6.6	213.9	-356.7	567.2	.51	16.6	800	
1500	6.62	214.7	-376.9	849.0	.38	17.1		
1510	6.63	218.5	-320.7	~~897.0~~	.35	16.8		
—	6.66	221.3	-320.1	833.6	.85	17.9		
1520	6.66	221.3	-320.1	740.3	.85	17.9		
1530	6.69	224.2	-312.8	392.4	.33	18.5		
1540	6.69	224.8	-282.8	357.8	.20	18.8		

922

Client:

Location:

Project:

Well ID: MW-6

Time purged	pH (su)	Spec. Cond.(uS)	Redox (mv)	Turb.(ntu)	Dis. Oxy.(mg/l)	Temp.(C)	Vol. (ml) Removed
1550	6.69	225.8	-302.5	256.0	.37	18.3	
1600	6.69	225.8	-258.9	269.2	.12	18.1	
1610	6.7	227.5	-262.1	242.7	.11	18.0	
1620	6.71	229.1	-263.0	238.4	.35	18.9	
1630	6.71	229.8	-287.3	330.3	.09 .09	19.1	
1632	6.71	229.7	-264.1	339.6	.09 .09	19.0	
1634	6.71	231.2	-265.9	378.6	.08 .08	19.0	
1636	6.71	230.5	-264.1	305.7	.9 .08	18.9	

Location Greensboro NC Date 5-22-15

Project / Client Al sandrock

1440	SW-1	ph	7.95
		Con	500.6
		Turb.	
		DO	7.53
		ORP	260.5
		Temp	23.4
1440	SW-2	ph	7.51
		Temp	17.2
		Con	323.7
		DO	9.83
		ORP	184.8

MKM

ATTACHMENT 3

Environmental Monitoring Reporting Form and

Electronic Data Deliverable (EDD; Electronic File Only)

DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- **Prepare one form for each individually monitored unit.**
- **Please type or print legibly.**
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

SCS Engineers

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Marta VanDussen Phone: 828-285-8951

E-mail: mvandussen@scsengineers.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
A-1 Sandrock C&D Landfill	2132 Bishop Road, Greensboro Guilford County	41-17	.0500	May 21 and 22, 2015

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring ☒ Detection Monitoring ☐ Assessment Monitoring ☐ Corrective Action

Type of data submitted: (Check all that apply)

☒ Groundwater monitoring data from monitoring wells
☐ Groundwater monitoring data from private water supply wells
☐ Leachate monitoring data
☒ Surface water monitoring data
☐ Methane gas monitoring data
☐ Corrective action data (specify) _____
☐ Other(specify) _____

Notification attached?

☐ No. No groundwater or surface water standards were exceeded.
☒ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
☐ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

David Garrett P.G. 919-418-4375

Facility Representative Name (Print) Title (Area Code) Telephone Number

Digitally signed by dgarrett@scsengineers.com
DN: cn=dgarrett@scsengineers.com
Date: 2015.08.20 15:42:44 -04'00'

Signature Date

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 983 GEOLOGIST DAVID GARRETT

322 Chapanoke Road, Suite 101, Raleigh, North Carolina 27603

Facility Representative Address

C-1837

NC PE Firm License Number (if applicable effective May 1, 2009)

Revised 6/2009