

**ANNUAL GROUNDWATER REPORT
For CALENDAR YEAR 2017
(includes 2nd Semiannual Groundwater Monitoring Report)
GOOCHLAND COUNTY LANDFILL – PERMIT No. 179
GOOCHLAND, VIRGINIA 23063
(VDEQ – Piedmont Regional Office Jurisdiction)**

**Original Date: December 5, 2017
Revised Date: August 7, 2018**

PREPARED FOR

***Goochland County
1800 Sandy Hook Road
Goochland, Virginia 23063***

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August 7, 2018

P.N. 97007.12

Mr. Dean E. Starook, P.G.
Groundwater Remediation Specialist
Virginia Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060

**RE: 2017 Annual Groundwater Monitoring Report (REVISED)
Goochland County Landfill, Permit No. 179**

Dear Mr. Starook:

Resource is pleased to submit the attached revised Annual Groundwater Monitoring Report for the referenced landfill. The report includes the second semiannual report as Appendix A. The second semiannual sample collection event occurred on July 25, 2017, and the laboratory's Certificate of Analysis is dated August 8, 2017.

If you have any questions, feel free to contact me at the above referenced number.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen Anstine", written over a horizontal line.

Stephen Anstine
Senior Hydrogeologist

/kmp

Enclosures

cc: Ms. Leigh Dunn, Goochland County

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December 5, 2017

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Goochland County Landfill, Permit No. 179**

Dear Mr. Starook:

Resource is pleased to submit the attached Annual Groundwater Monitoring Report for the referenced landfill. The report includes the second semiannual report as Appendix B. The second semiannual sample collection event occurred on July 25, 2017, and the laboratory's Certificate of Analysis is dated August 8, 2017.

If you have any questions, feel free to contact me at the above referenced number.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael R. Willinger", with a stylized flourish at the end.

Michael R. Willinger, P.G.
Project Manager, Senior Hydrogeologist

/kmp

Enclosures

cc: Ms. Leigh Dunn, Goochland County

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Annual Report QA/QC Submission Checklist [filled out by the report author or Peer reviewer]

INCLUDED WITHIN ANNUAL REPORT?	Yes	No	
Signature of a qualified groundwater professional	X		
Solid Waste facility permit number & facility name	X		
Name of current owner/operator & type of facility	X		
Dates LF began operations and was deemed closed (if applicable)	X		
Dates of last waste receipt (if applicable) [2.b]	X		
Identified if site is lined or unlined [2.b]	X		
Identified waste disposal method [trench fill/area fill/etc.] [2.b]	X		
Total site acreage, and acreage used for waste disposal [2.b]	X		
Adjoining land use described including any aquifer users [2.c]	X		
Topographic Map included as Figure 1 [2.a]	X		1
Figure 1 shows facility location, includes a bar scale, and north arrow	X		
Discuss the type, name & age of geologic unit(s) on site [2.d]	X		
Description of general site topography [2.d]	X		
Name of nearest permanent water body, perennial stream, etc. [2.d]	X		
Description of the uppermost aquifer [2.d]	X		
Description of the aquifer type (confined vs unconfined) [2.d]	X		
Date facility entered detection or phase I monitoring [2.b]	X		
Date facility entered assessment or phase II monitoring [2.b]	X		
Identified if the facility monitors groundwater under a variance	X		
Identified the dates of any groundwater variance approvals	X		
Approval date for wetlands demonstration (if applicable)	X		
Identified all upgradient and downgradient monitoring wells [2.e]	X		
Identified if all monitoring wells were sampled during the year [2.e]	X		
Identified reasons for failure to sample (if applicable) [2.e]	NA	NA	
Identified if any monitoring wells have been abandoned [2.e]	X		
Identified if any wells require replacement [2.e]	X		
Included network performance certification [2.e]	X		
Identified groundwater sampling dates during past year [2.f]	X		
Included site plan drawing as Figure 2 [2.h]	X		1
Figure 2 contains current topographic contours	X		
Figure 2 contains facility and waste management unit boundaries	X		
Figure 2 includes all monitoring wells	X		
Figure 2 includes potentiometric surface contours	X		
Figure 2 includes groundwater flow direction arrows	X		
Figure 2 includes all surface water bodies	X		
Figure 2 includes all structures on site, a bar scale, and north arrow	X		
Listing of groundwater elevation readings in past year [2.h]	X		
Table of historical groundwater elevation data as Appendix A	X		2
Calculated rate of groundwater flow (distance/year) [2.h]	X		
Flow rate calculations included as Appendix B	X		1,3
Identified the name of the analytical laboratory [2.h]	X		
Identified whether the laboratory is DCLS Certified	X		
Identified type of analytical methods used [2.h]	X		
Identified those constituents found above the LOD and LOQ	X		
Identified if verification sampling was used during any event	X		
Identified statistical methods used to analyze groundwater data	X		
Identified any SSI's noted during prior year of monitoring	X		
Table of prior detected constituent concentrations in each well [2.g]	X		4
Field data sheet copies included as Appendix C	X		1
Laboratory results & certificates of analysis as CDROM in Appendix D	X		1
Included historical summary of laboratory results in Appendix E	X		4
Full list of references	X		
Copy of this QA/QC checklist	X		

NOTES 1 – Refer to applicable Semi-annual Groundwater Report

January 25, 2017, Event – Semiannual report included in Appendix A herein

July 25, 2017, Event – Semiannual report included in Appendix A herein

2 – Appendix C

3 – Included in Section 3.3

4 – Appendix B

SIGNATURE PAGE

Report Reviewed by:

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Seal:



The information contained in this report is accurate and complete to the best of my knowledge.

Signature: _____

A handwritten signature in blue ink, appearing to read "Michael R. Willinger", is written over a horizontal line.

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APPENDICES

Appendix A: 1st Semiannual Groundwater Monitoring Report, January 25, 2017 Event

Appendix B: 2nd Semiannual Groundwater Monitoring Report, July 25, 2017 Event

Appendix C: Historical Summary of Laboratory Results

Appendix D: Static Water Levels and Groundwater Elevations

EXECUTIVE SUMMARY

Goochland County maintains the closed Goochland County Landfill under the Virginia Department of Environmental Quality (DEQ) Permit No. 179. This annual report has been prepared and submitted in order to meet the requirements of 9 VAC 20-81-250 E.2.a.

The groundwater monitoring program during 2017 was conducted in accordance with the facility permit and the VSWMR. Based on this monitoring program:

- The groundwater monitoring well network meets the requirements of 9 VAC 20-81-250 A. 3.
- There were no GPS exceedances in any compliance well for any parameter during the January 2017 and the July 2017 monitoring events.

As of the second semiannual event of 2016, the facility has completed the ten-year post-closure period. A termination of post-closure care activity evaluation for groundwater monitoring was submitted to DEQ on November 1, 2017.

1.0 INTRODUCTION

1.1 Purpose

Goochland County maintains a closed sanitary landfill under the Virginia Department of Environmental Quality (DEQ) Permit No. 179. This annual report has been prepared and submitted in order to meet the requirements of 9 VAC 20-81-250 E.2.a.

The annual report has been formatted as suggested in the DEQ Submission Instruction for Groundwater Annual Reports as published on December 16, 2011. Where applicable, references are given to specific requirements of the Virginia Solid Waste Management Regulations (VSWMR). This report incorporates by reference information presented in the first and second semiannual 2017 groundwater reports, which are included as Appendices A and B, respectively, to this document.

1.2 Limitations

The conclusions presented in this report are based solely on the information included herein. Additional information with respect to the study site or adjacent properties that was not available to Resource at the time this report was prepared could modify the conclusions stated herein. It should be noted that any sample collected for chemical analysis may or may not be representative of a larger population. It should also be understood that extrapolation between sample collection points is a matter of professional judgment and interpretation and may not be representative of actual site conditions between sample locations. This report has been prepared in accordance with generally accepted engineering and environmental practices; no other warranty, expressed or implied, is made as to the professional opinions provided under the terms of the agreement and included in this report. Parties other than Goochland County and the DEQ use this document at their own risk.

1.3 Definitions

The following definitions may be applied in this document:

Alternate Concentration Limit (ACL): According to 9 VAC 20-81-250 A.6.b.(4), the Director of the DEQ may establish a risk-based ACL for constituents that are not associated with a Maximum Contamination Level (MCL). The ACL is developed considering an individual risk in the range of 1×10^{-4} to 1×10^{-6} for carcinogens and a hazard quotient of 1 for non-carcinogens. ACL's for some Table 3.1B constituents have been developed by the DEQ and are subject to change without notice. ACL's may also be developed by others by considering health effects of exposure, subject to approval by the Director.

Anthropogenic: of, relating to, or resulting from the influence of human beings on nature.

de minimis: Latin expression meaning *about minimal things*. As used herein, de minimis means conditions that generally do not present a material risk of harm to public health or the environment.

Estimated Quantitation Limit (EQL): The EQL is an inter-laboratory concept and is numerically estimated at 5 to 10 times the Method Detection Limit (MDL). The EQL is derived from laboratory performance, under ideal circumstances, of selected laboratories (not all laboratories). EQL's provide performance goals. Whereas each laboratory determines its own Limits-of-Quantitation (LOQ), EQL's represent published information.

Groundwater Protection Standards (GPS): A GPS represents the largest concentration of a constituent that may be observed in any downgradient well that will not trigger Corrective Action. The GPS may be represented by one of several alternative values:

- for constituents for which a MCL has been promulgated under Section 1412 of the Safe Drinking Water Act (Part 141, Title 40, Code of Federal Regulations), the MCL for that constituent;
- for constituents for which the background level is higher than the MCL identified under 9 VAC 20-81-250 A.6.b.(1) or health-based levels identified under 9 VAC 20-81-250 A.6.b.(4)(a), and by approval of the Director, the background concentration;
- for constituents for which MCL's have not been promulgated, the background concentration of the constituent established from wells in accordance with 9 VAC 20-81-250 A.4.d.;
- the Director may establish an alternate GPS for constituents for which MCL's have not been established by granting a variance based on the petition submitted by the owner or operator in accordance with 9 VAC 20-81-720 A.

Laboratory reporting limit (QL): The laboratory reporting limit is the minimum concentration that a given laboratory presents on its certificate-of-analysis. Each laboratory determines its laboratory reporting limit.

Limit-of-Detection (LOD): The LOD is the lowest concentration that can be determined to be statistically different from a blank and is numerically defined as 3.14 (with six degrees of freedom) times the standard deviation of seven replicate measurements. The LOD must be determined for each parameter and is specific to the individual laboratory.

Limit-of-Quantitation (LOQ): The LOQ is the level above which quantitative results may be obtained with a specified degree of confidence and is numerically defined as 10 times the standard deviation of seven replicate measurements (or 3.18 times the LOD as calculated above). The LOQ must be determined for each parameter and is specific to the individual laboratory.

Maximum Contamination Level (MCL): The MCL is the EPA Drinking Water Standard and is subject to change as promulgated by the EPA.

Method Detection Limit (MDL): The MDL is the minimum concentration of a substance that can be identified, measured, and reported with 99 percent confidence that the concentration of the parameter is greater than zero. The MDL is determined from analysis of a sample in reagent water containing the parameter. Whereas each laboratory determines its own LOD's, MDL's represent published information.

Point of compliance (POC): The point of compliance is the place in the uppermost aquifer where groundwater monitoring takes place and the GPS is set. In accordance with 9 VAC 20-81-740, the point of compliance must be within the facility boundary and shall not be more than 500 feet downgradient from the waste management boundary.

Point of exposure (POE): The POE is the point at which risk is evaluated. The point of exposure is considered to be either (1) the property boundary or (2) nearest point of groundwater discharge (whichever is closer to the waste management boundary).

Statistical prediction limit (SPL): An SPL represents the largest concentration that is likely to be observed among upgradient wells at a specified probability. SPL's may be calculated using a variety of techniques, depending upon the distributional nature of the data.

2.0 SITE DESCRIPTION/BACKGROUND

2.1 Site Background Information

<i>Facility Name:</i>	Goochland County Landfill
<i>Permit Number:</i>	179
<i>Current Operator:</i>	Goochland County, Virginia
<i>Type of Facility:</i>	Sanitary – closed
<i>Date Facility Began Operations:</i>	Permit issued January 3, 1979
<i>Date when landfill first began accepting waste:</i>	Waste disposal operations began officially in 1979, but prior waste disposal at the site may have occurred.
<i>Date of Last Waste Receipt:</i>	Circa 1993
<i>Date of Landfill Closure:</i>	November 18, 1994. However, the landfill closure plat and deed notation were not filed until 2006. Per a March 14, 2006, Letter of Agreement between the County and the DEQ, the 10-year post closure care period began the date the proof of the filing of these documents was submitted to the DEQ.
<i>Is Site Lined or Unlined:</i>	Unlined
<i>Waste Disposal Method:</i>	Waste disposal occurred initially in unlined trenches without leachate collection or similar environmental controls. In later years, subsequent to the filling of trenches, the area method was used to create the current landfill mound. The base grades of the original trenches were not recorded, and the currently designated disposal unit boundary is an approximation.
<i>Groundwater Monitoring Program:</i>	Assessment monitoring

Adjoining Land Use:

Adjoining land use is primarily residential or undeveloped and forested land. The Goochland County Animal Shelter and Convenience Center border the landfill on the south. Hidden Rock Park is located to the north. Some private wells exist on adjoining properties; however, a municipal water supply is available in the area.

Total Site Acreage:

Approximately 48 acres

Acreage Used for Waste Disposal:

Approximately 24 acres

2.2 Physical Setting

The Goochland County Landfill is located in the Piedmont Physiographic Province of Virginia. The facility is underlain by weathered State Farm gneiss, a Proterozoic-aged porphyroblastic garnet-biotite gneiss, locally intruded by pegmatites of light-colored, coarse-grained minerals.

The landfill is located on a broad topographic high within the Courthouse Creek watershed. Groundwater flow gently mimics topography throughout the landfill property, flowing from the east side of the landfill toward surface water west and north of the landfill. Groundwater likely flows northward into a small perennial stream and pond, and then westward into Courthouse Creek.

Structural Considerations

The Goochland terrane underlies the landfill and is bounded by northeastward-trending faults and folds. Goochland County is in the central Virginia seismic zone delineated by the James River as it flows from Charlottesville to Richmond. The central Virginia seismic zone is relatively active and rated as a moderate seismic risk area.

Nearest Water Bodies

There is an onsite storm water pond fed by an unnamed tributary to Courthouse Creek. Courthouse Creek lies approximately 1,000 feet west of the landfill and flows in a southeasterly direction into the James River.

Site Topography

Native topography of the site slopes gently from east (~275 feet) to west (~250 feet). The landfill mounds are superimposed on the native topography, up to ~300 feet.

2.3 Aquifer Recognition

<i>Nature of the uppermost aquifer:</i>	Unconsolidated sediment into saprolite
<i>Nature of groundwater table:</i>	Unconfined. Groundwater flow gently mimics topography throughout the landfill property. It is possible that anisotropic flow patterns occur in saprolite.
<i>Surface Water:</i>	There is an onsite storm water pond fed by an unnamed tributary to Courthouse Creek. Courthouse Creek lies approximately 1,000 feet west of the landfill and flows in a southeasterly direction into the James River.

2.4 Groundwater Monitoring History

<i>Date Groundwater Monitoring Began:</i>	1991
<i>Date Assessment Monitoring Began:</i>	April 1997
<i>Date Groundwater Protection Standards Established:</i>	December 19, 2001
<i>Dates GPS Were Modified:</i>	October 1, 2007 (Statewide Variance) January 27, 2009 (DEQ ACL update) January 31, 2011 (DEQ ACL update) February 1, 2012 (DEQ ACL update) February 3, 2012 (background value for lead) July 1, 2013 (DEQ ACL update) March 1, 2014 (DEQ ACL update) February 15, 2015 (DEQ ACL update) February 15, 2016 (DEQ ACL update)
<i>Statewide ACL used for 2017 Comparisons</i>	February 15, 2016

2.5 Variances or Other Director Approvals

The Goochland County Landfill monitors groundwater under a Final Detection Monitoring and Assessment Monitoring Permit Amendment approved by DEQ and dated May 8, 2003. The permit amendment includes promulgation of previously approved GPS. This was updated to the statewide ACL variance in 2007.

MW-13 and MW-14 have been designated as Alternate Points of Compliance (APC's) based on the DEQ's June 20, 2014, variance approval. The Groundwater Monitoring & Sampling and Analysis Plan was updated October 10, 2014, to reflect this modification.

2.6 Wetland Demonstration (1999 HB 2471)

The landfill is not obligated to perform quarterly groundwater monitoring under 9 VAC 20-81-250.B.1.e because it did not accept waste after June 30, 1999.

2.7 Monitoring Well Network

The monitoring well network utilized in the Permit No. 179 groundwater monitoring program includes:

Well ID	Top of Casing (TOC) Elevation (ft.)	Depth from TOC (ft.)	Screen Interval from TOC (ft.)
MW-01 (U)	291.72	47.16	37-47
MW-02 (D)*	246.57	11.84	8-13
MW-03R (D)	233.29	13.46	9-14
MW-04 (D)	230.98	17.22	7-17
MW-05 (D)*	241.27	29.11	19-29
MW-06 (U)*	292.85	52.02	43-53
MW-13 (U)*	292.45	94.75	75-95
MW-14 (D)*	223.77	16.98	4-14

Notes: (U) – Upgradient well; (D) – Downgradient well

* – Wells identified as compliance well network in 2014 GMP revision

The wells currently included in the Permit No. 179 program are all relatively shallow wells screened in unconsolidated sediment or fragile saprolite to intersect the unconfined water table with the exception of MW-13. MW-13 penetrates the saprolite/competent bedrock zone and was purposely installed at that depth because of

the residential well in use east of the landfill. MW-01, MW-03R and MW-04 were dropped from the program before the second semiannual event and have been replaced in the program by APC's MW-13 and MW-14, respectively.

3.0 HYDROLOGIC EVALUATION

3.1 Annual Review of Monitoring Network

Based on Resource's review of potentiometric surface information obtained from groundwater elevation measurements during sampling events in 2017, it is our opinion that the monitoring well network functioned as designed during calendar year 2017. Further, it is Resource's opinion that the monitoring well network had the ability to determine the landfill's impact, if any, on the quality of groundwater in the uppermost aquifer.

Based on the foregoing, the monitoring well network meets the requirements of 9 VAC 20-81-250 A. 3. No wells were abandoned or replaced in 2017.

3.2 Groundwater Flow Direction

The direction(s) of groundwater flow in the uppermost aquifer are depicted on the potentiometric maps included in the semiannual groundwater monitoring reports in Appendices A and B. A historical summary of groundwater elevation data is included in Appendix D.

3.3 Groundwater Flow Rate Calculation

Calculated groundwater flow rates for the 2017 events are included on the table of groundwater surface elevations in the semiannual reports. The basis for Darcian flow rate determination is as follows:

$$V = ki/n_e$$

where V = Darcy Velocity

k = hydraulic conductivity

(0.001 cm/sec or 2.8346 ft/day average for site from slug tests)

n_e = effective porosity (0.3 assumed based on soil type at site)

i = hydraulic gradient (determined each event)

Based on the groundwater monitoring events occurring in 2017, the groundwater flow rate was calculated to be 15.95 ft/year in January and 17.15 ft/year in July.

4.0 GROUNDWATER EVALUATION

4.1 Groundwater Monitoring Events During 2017

An assessment monitoring event was conducted on January 25, 2017. Documentation of the event is presented in the first Semiannual Groundwater Monitoring Report in Appendix A.

An assessment monitoring event was conducted on July 25, 2017. Documentation of the event is included in the second Semiannual Groundwater Monitoring Report in Appendix B.

4.2 Laboratory Procedures

Samples collected during the 2017 sampling events were submitted to Air Water & Soil Laboratories, Inc., a DCLS certified lab (VA Lab ID#460021) under documented chain of custody. Samples were analyzed for the VSWMR Table 3.1 Column A list of analytes plus additional metals, utilizing the following test methods:

Volatile Organic Analysis SW846 Method 8260B
EDB/DBCP/1,2,3-TCP Analysis SW846 Method 8011
Metals Analysis SW846

Antimony	7010	Lead	6010C
Arsenic	7010	Mercury	7470A
Barium	6010C	Nickel	6010C
Beryllium	6010C	Selenium	6010C
Cadmium	6010C	Silver	6010C
Chromium	6010C	Thallium	7010
Cobalt	6010C	Tin	6010C
Copper	6010C	Vanadium	6010C
		Zinc	6010C

Annually, samples are submitted and analyzed for the above analytes, plus VSWMR Table 3.1 Column B list of analytes utilizing the following test methods:

Semi-volatile Organic Analysis SW846 Method 8270D
Pesticides and PCBs Analysis SW846 Method 8081A/8082A
Herbicides Analysis SW846 Method 8151A
Cyanide Analysis SW9012
Sulfide Analysis SW9215

Appendix C provides a historical summary of laboratory results for this landfill. 2017 results are summarized below.

4.3 Detection of Inorganic Compounds

FIRST SEMIANNUAL SAMPLING EVENT, January 25, 2017

Parameter, µg/L	LOD	LOQ	MW-02 (D)	MW-05 (D)	MW-06 (U)	MW-13 (U)	MW-14 (D)	GPS
Arsenic	1.0	5.0	ND	ND	ND	ND	1.5 J	10
Barium	2.0	10.0	121	170	109	276	307	2000
Chromium	1.0	10.0	10.5	8.4 J	5.5 J	ND	21.0	100
Cobalt	2.0	4.0	4.1	ND	2.7 J	2.4 J	35.8	77.6
Copper	3.0	10.0	ND	ND	ND	ND	32.9	800
Nickel	2.0	10.0	4.8 J	8.5 J	3.9 J	7.6 J	15.8	390
Selenium	8.0	50.0	ND	ND	ND	ND	18.5 J	50
Vanadium	2.0	10.0	19.2	8.3 J	9.1 J	ND	33.5	92
Zinc	10.0	10.0	14.2	ND	13.3	ND	51.7	6000

SECOND SEMIANNUAL SAMPLING EVENT, July 25, 2017

Parameter, µg/L	LOD	LOQ	MW-02 (D)	MW-05 (D)	MW-06 (U)	MW-13 (U)	MW-14 (D)	GPS
Arsenic	1.0	5.0	1.1 J	ND	ND	ND	2.2 J	10
Barium	2.0	10.0	129	167	134	277	349	2000
Cadmium	2.0	5.0	ND	ND	ND	ND	2.8 J	8
Chromium	1.0	10.0	9.0 J	16.4	7.9 J	ND	26.3	100
Cobalt	2.0	4.0	3.1 J	ND	4.0 J	ND	35.1	77.6
Copper	3.0	10.0	5.2 J	ND	5.6 J	ND	57.6	800
Lead	6.0	10.0	ND	ND	ND	ND	8.5 J	15
Nickel	2.0	10.0	4.0 J	6.6 J	4.5 J	6.1 J	19.2	390
Selenium	8.0	50.0	ND	18.0 J	ND	ND	39.6 J	50
Vanadium	2.0	10	21.4	11.1	16.5	ND	44.4	92
Zinc	10.0	10.0	11.8	ND	19.9	ND	58.5	6000

Notes: J - Parameter was detected above the LOD but below the LOQ.
Parameters not listed were not detected

ND – Not Detected

4.4 Detection of Organic Compounds

FIRST SEMIANNUAL SAMPLING EVENT, January 25, 2017

Parameter, µg/L	LOD	LOQ	MW-02 (D)	MW-05 (D)	MW-06 (U)	MW-13 (U)	MW-14 (D)	GPS
1,1-Dichloroethane	0.20	1.00	ND	ND	ND	0.24 J	ND	2.8
1,2-Dichlorobenzene	0.20	1.00	ND	ND	ND	ND	0.25 J	600
1,4-Dichlorobenzene	0.20	1.00	ND	1.54	ND	ND	3.13	75
Benzene	0.20	1.00	ND	0.99 J	ND	0.38 J	0.37 J	5
Chlorobenzene	0.10	1.00	ND	0.54 J	ND	ND	1.53	100
Chloroethane	0.20	1.00	ND	0.23 J	ND	ND	ND	21,000
cis-1,2-Dichloroethylene	0.20	1.00	0.54 J	2.94	ND	7.04	5.05	70
Dichlorodifluoromethane	0.20	1.00	0.56 J	ND	ND	1.76	ND	200
Tetrachloroethylene (PCE)	0.20	1.00	ND	ND	ND	2.30	ND	5
Trichloroethylene	0.20	1.00	ND	ND	ND	0.77 J	ND	5
Vinyl chloride	0.20	0.50	ND	0.55	ND	ND	ND	2
2,4,5-TP (Silvex)	0.100	0.500	ND	0.167 J	ND	0.222 J	0.167 J	50

SECOND SEMIANNUAL SAMPLING EVENT, July 25, 2017

Parameter, µg/L	LOD	LOQ	MW-02 (D)	MW-05 (D)	MW-06 (U)	MW-13 (U)	MW-14 (D)	GPS
1,1-Dichloroethane	0.20	1.00	0.27 J	ND	ND	0.22 J	ND	2.8
1,2-Dichlorobenzene	0.20	1.00	ND	ND	ND	ND	0.25 J	600
1,4-Dichlorobenzene	0.20	1.00	ND	1.24	ND	ND	3.33	75
Benzene	0.20	1.00	0.27 J	0.87 J	ND	0.30 J	0.45 J	5
Chlorobenzene	0.10	1.00	ND	0.60 J	ND	ND	1.89	100
Chloroethane	0.20	1.00	ND	ND	ND	ND	0.52 J	21,000
Chloroform	0.20	1.00	0.81	ND	ND	ND	ND	80
Chloromethane	0.30	1.00	ND	ND	ND	ND	ND	190
cis-1,2-Dichloroethylene	0.20	1.00	1.80	2.01	ND	4.71	5.02	70
Dichlorodifluoromethane	0.20	1.00	2.20	ND	ND	ND	ND	200
Tetrachloroethylene (PCE)	0.20	1.00	1.04	ND	ND	1.66	ND	5
Trichloroethylene	0.20	1.00	0.36 J	ND	ND	0.60 J	ND	5
Vinyl chloride	0.20	0.50	ND	0.54	ND	ND	0.62	2

Parameter, µg/L	LOD	LOQ	MW-02 (D)	MW-05 (D)	MW-06 (U)	MW-13 (U)	MW-14 (D)	GPS
Bis (2-Ethylhexyl) phthalate	1.11	2.78	ND	1.31 J	1.67 J	ND	1.69 J	200
Di-n-butyl phthalate	2.20	11.0	ND	ND	3.37 J	ND	ND	900
o-Xylene	0.10	1.00	ND	ND	ND	0.17 J	ND	10,000

Notes: J - Parameter was detected above the LOD but below the LOQ.
were not detected

ND – Not Detected

Parameters not listed

4.5 Verification Events

No verification sample event was conducted in connection with the 2017 groundwater monitoring program.

4.6 Review of Prior Detections

Prior to 2017, various inorganic compounds were identified at the Goochland County Landfill in concentrations exceeding applicable GPS in wells MW-3R and MW-4. MW-14 was established as an APC for wells MW-3R and MW-4 in June 2014. Since that time, Table 3.1B parameters have not been identified in exceedance of GPS at the landfill.

5.0 STATISTICAL EVALUATION

5.1 Methodology

The statistical analyses were performed in conformance with the methods described in DEQ's Data Analysis Plan.

Outlier testing was performed using Dixon's Method (1953).

Normality testing was performed using the Shapiro-Wilk Method. If the data sets were normally distributed, a parametric prediction or tolerance limit (or interval for pH) was calculated at the 95% confidence level. If the data sets were log-normally distributed, a parametric prediction or tolerance limit (or interval for pH) was calculated on the log-transformed data at the 95% confidence level. If the data sets were non-normally distributed, a non-parametric method was used (the highest value of a data set).

The QA/QC criteria for acceptance of data are not met for a compound when the compound is present in a laboratory method blank, instrument blank, or trip blank. Also, when the laboratory QA/QC documentation indicates that surrogate spike compound recovery falls outside of acceptance limits, data shall be considered compromised and therefore disregarded. Non-quantified data is reported but not used for statistical purposes.

The remainder of this section summarizes information presented in the semiannual reports.

5.2 FIRST SEMIANNUAL SAMPLING EVENT: January 25, 2017

5.2.1 Inorganic Compounds

No statistically significant increases (SSI) for inorganic compounds were detected in any well during the January 25, 2017, monitoring event.

5.2.2 Organic Compounds

During the first semiannual event, the following SSIs were identified based on non-parametric upper prediction limits (LOQ serving as UPL).

Parameter	Well	SSI	Exceeds GPS
1,2 Dichlorobenzene	MW-14	Yes	No
1,4 Dichlorobenzene	MW-05	Yes	No
	MW-14	Yes	No

Parameter	Well	SSI	Exceeds GPS
Benzene	MW-5	Yes	No
	MW-13	Yes	No
	MW-14	Yes	No
Chlorobenzene	MW-5	Yes	No
	MW-14	Yes	No
Chloroethane	MW-4	Yes	No
	MW-14	Yes	No
cis-1,2-dichloroethylene	MW-2	Yes	No
	MW-05	Yes	No
	MW-13	Yes	No
	MW-14	Yes	No
Tetrachloroethylene	MW-13	Yes	No
Trichloroethylene	MW-13	Yes	No
Vinyl Chloride	MW-05	Yes	No
	MW-14	Yes	No

5.3 SECOND SEMIANNUAL SAMPLING EVENT: July 25, 2017

5.3.1 Inorganic Compounds

No SSI for inorganic compounds were detected in any well during the July 25, 2017, monitoring event.

5.3.2 Organic Compounds

During the second semiannual event, the following SSIs were identified based on non-parametric upper prediction limits (LOQ serving as UPL).

Parameter	Well	SSI	Exceeds GPS
1,1-Dichloroethane	MW-13	Yes	No
1,2-Dichlorobenzene	MW-14	Yes	No
1,4 Dichlorobenzene	MW-05	Yes	No
	MW-14	Yes	No
Benzene	MW-05	Yes	No
	MW-13	Yes	No
	MW-14	Yes	No
Chlorobenzene	MW-05	Yes	No
	MW-14	Yes	No
Chloroethane	MW-14	Yes	No
Chloroform	MW-2	Yes	No

Parameter	Well	SSI	Exceeds GPS
Chloromethane	MW-13	Yes	No
cis-1,2-Dichloroethylene	MW-02	Yes	No
	MW-05	Yes	No
	MW-13	Yes	No
	MW-14	Yes	No
Dichlorodifluoromethane	MW-13	Yes	No
Tetrachloroethylene (PCE)	MW-02	Yes	No
	MW-13	Yes	No
Trichloroethylene	MW-13	Yes	No
Vinyl Chloride	MW-05	Yes	No
	MW-13	Yes	No
	MW-14	Yes	No

6.0 CONCLUSIONS

6.1 Summary of Findings

The groundwater monitoring program during 2017 was conducted in accordance with the facility permit and the VSWMR. Based on this monitoring program:

- The groundwater monitoring well network meets the requirements of 9 VAC 20-81-250 A. 3.
- There were no GPS exceedances in any compliance well for any parameter during the January 2017 and the July 2017 monitoring events.

6.2 Recommended Actions

As of the second semiannual event of 2016, the facility has completed the ten-year post-closure period. A termination of post-closure care activity evaluation for groundwater monitoring was submitted to DEQ on November 1, 2017.

7.0 REFERENCES

Virginia Solid Waste Management Regulations (9 VAC 20-81)

DEQ Division of Land Protection and Revitalization Guidance Memo LPR-GWSI -2011-09 Submission Instructions for Groundwater Annual Reports, December 16, 2011

First Semiannual Groundwater Report, 2017, Goochland County Landfill, Permit No. 179, submitted to DEQ on June 5, 2017.

APPENDICES

APPENDIX A
1st Semiannual Groundwater Monitoring Report
January 2017 Sample Event

Semiannual Groundwater Monitoring Report



1] DEQ Region: PRO

1st Semiannual 2017

3] Solid Waste Permit Number: 179

4] Facility Name: Goochland County Landfill

5] Landfill Type: Sanitary

6] Operational Status: Closed

7] GW Program: Assessment

8] GPS Status: Established

9] Simplified Site Location Description: North side of Route 632 (Fairground Road) at Route 665 (Hidden Rock Lane), approximately one mile east of Goochland Courthouse.

10] Simplified Bedrock Type Discussion: Unconsolidated sediments and saprolite. Bedrock outcrops (State Farm Gneiss) are located north of the landfill.

11] Physiographic setting: Piedmont

12] Aquifer Type:

Unconfined

13] # of Compliance Wells: 5

14] # of Upgradient Wells:

2

15] # of Downgradient Wells:

3

16] # of Corrective Action Wells: NA

17] # of Performance Wells:

NA

18] # of Sentinel Wells:

NA

Aquifer Specifics

19] Were groundwater elevations measured at each monitoring well?

Yes

20] List the well pair(s) used to calculate groundwater flow rate?

MW-6 to MW-4

21] The calculated groundwater flow rate (given in feet per year)

15.96 ft/year

22] Direction(s) of groundwater flow on site:

Northwesterly

Groundwater Sampling Specifics

23] Date GW was sampled pursuant to 9 VAC 20-80-300 B or C?

01/25/17

24] Were all wells secured/locked prior to sampling?

Yes

25] Were all wells purged prior to sampling?

Yes

26] Were any compliance wells unable to be sampled?

No

For wells which could not be sampled during the compliance event; provide the non-performance reason below and note whether this was a first time occurrence, or whether it has been observed on site before with the particular well in question.

26-a] External damage to the well? (Initial occurrence?)

N/A

26-b] Internal damage to the well? (Initial occurrence?)

N/A

26-c] Failure to yield sampling volume after purging. (Initial occurrence?)

N/A

26-d] Well dry, could not be purged? (Initial occurrence?)

N/A

Analytical Lab Information	
27] Date GW samples sent to analytical lab:	01/26/17
28] Were samples submitted under Chain of Custody?	Yes
29] Date GW samples rec'd at analytical lab:	01/26/17
30] Were any problems noted with the samples upon rec'pt at lab?	No
31] Were samples analyzed using SW-846 (as updated) methods?	Yes
32] Date signed/certified analytical report issued by lab:	02/09/17
33] Date signed/certified analytical report rec'd by consultant/facility:	02/09/17
Interpretation and Response to Analytical Results	
34] Type of statistical method used to identify exceedances?	UPL, GPS
35] Were any unusual statistical problems noted (i.e. outliers)?	No
36] Do any constituents exceed the site background? (Initial occurrence?)	Yes (No)
37] Were results compared to GPS (including most recent ACLs)?	Yes
38] Do any constituents exceed GPS? (Initial occurrence?)	Yes (No)
(if yes) 38-a] Were any of the exceedances for new constituents or wells?	No
39] Was verification sampling undertaken?	No
(if yes) 39-a] Date of the verification event?	N/A
(if yes) 39-b] Date verification results released by the analytical lab?	N/A
(if yes) 39-c] Did verification event confirm exceedances?	N/A
40] Date DEQ was notified (if applicable) of the exceedance(s)?	N/A
41] Will facility pursue an ASD for any of the exceedances?	N/A
42] If background has been exceeded, has facility already advanced to the next phase of groundwater monitoring?	Yes
43] If GPS have been exceeded, has facility already delineated the release in both the horizontal and vertical dimensions?	Yes
Notes:	

Attachments. The following attachments must be submitted in the order prescribed

Attachment I: Site Identified on a USGS 7 1/2-minute Topographic Map

Attachment II: GW elevation table (as measured during the sampling event)

Attachment III: GW flow rate calculations based on data presented in Attachment II

Attachment IV: Potentiometric Surface Map scaled to fit a size no larger than 11" x 17"

Attachment V: Table of constituents exceeding background, listed for each well

Attachment VI: Table of constituents exceeding GPS, listed for each well

Attachment VII: Complete Laboratory Analytical Report (including Verification events)

Attachment VIII: Chain of Custody documentation (including Verification events)

Attachment IX: Field book documentation (including Verification events)

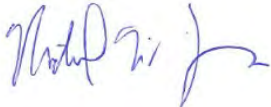
Attachment X: Statistical Data Sheets

Attachment XI: Special Conditions Description

*Note: Attachments VII, VIII, IX, and X may be submitted in electronic format on CD.***Responsible Official Signature:**

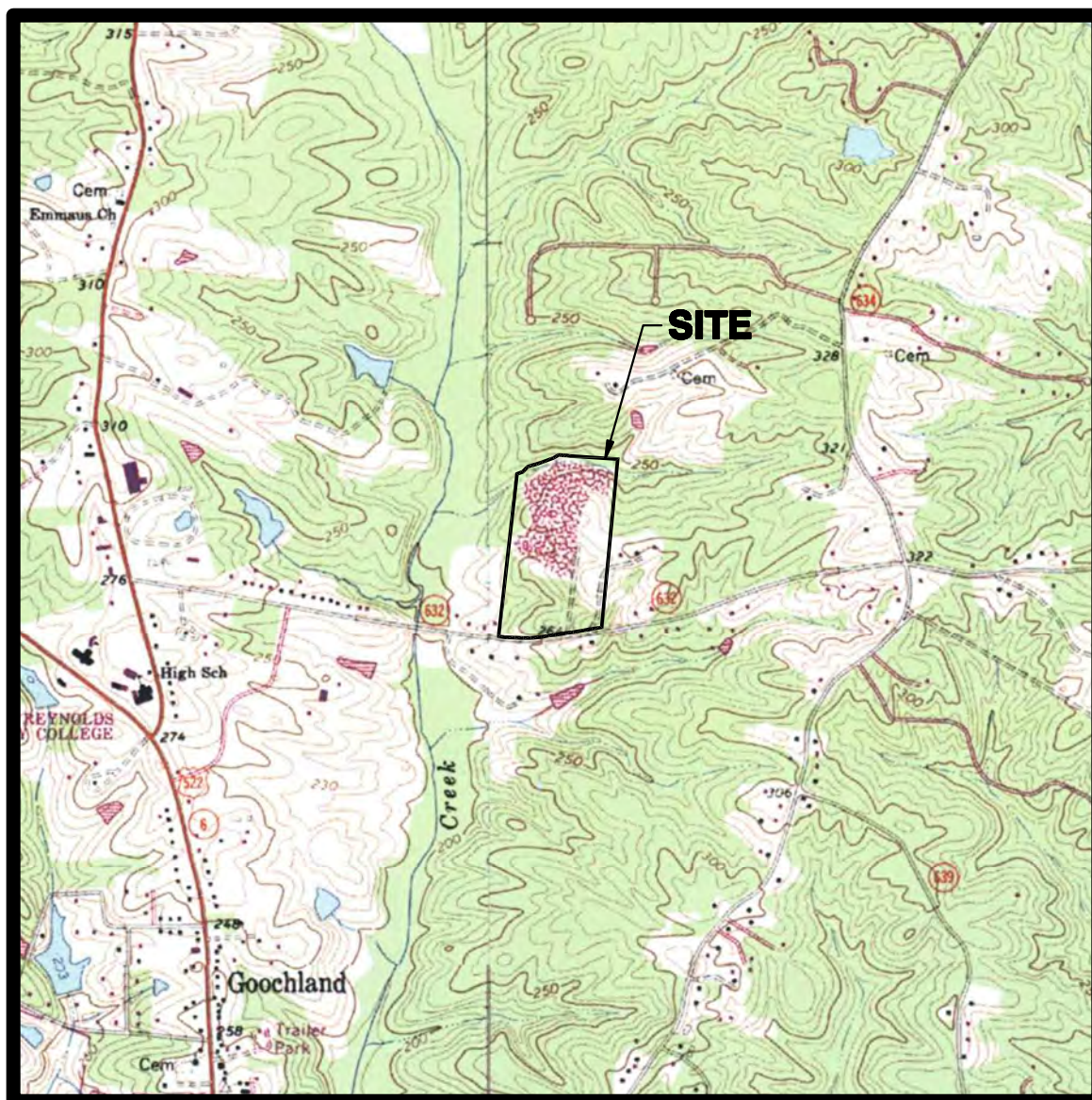
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

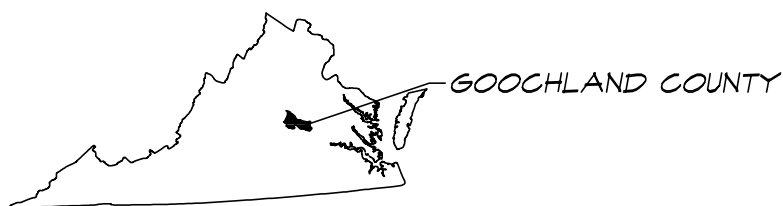
Name:	Michael Willinger, P.G.	Title:	Section Manager, Groundwater & Geology
Signature:		Date:	5/15/2017

ATTACHMENTS

ATTACHMENT I
SITE LOCATION MAP



U.S.G.S. 7.5 SERIES QUADRANGLES
 PERKINSVILLE, VIRGINIA (1968 PHOTOREVISED (1987)
 GOOCHLAND, VIRGINIA (1968, PHOTOREVISED 1987)
 SCALE: 1" = 2000'



NOTE: ALL LOCATIONS ARE APPROXIMATE.

FIGURE 1
 SITE LOCATION MAP
 GOOCHLAND COUNTY SANITARY
 LANDFILL PERMIT NO. 179
 GOOCHLAND, VIRGINIA



P.O. Box 6160 • 9560 Kings Charter Drive • Ashland, VA 23005
 (804) 550-9200 • FAX (804) 550-9259

ATTACHMENT II
GROUNDWATER ELEVATION TABLE

ATTACHMENT II - GROUNDWATER ELEVATION TABLE

Goochland County Landfill

PERMIT #179 SANITARY LANDFILL

Sample Event Date: January 25, 2017

Groundwater Elevation Measurements

January 25, 2017

WELL ID	TOC	DTW	GW Elevation
MW-01	291.72	38.46	253.26
MW-02	246.57	4.37	242.20
MW-03R	233.29	6.96	226.33
MW-04	230.98	10.36	220.62
MW-05	241.27	12.26	229.01
MW-06	292.85	37.72	255.13
MW-07	224.75	3.67	221.08
MW-09	233.75	6.31	227.44
MW-11	244.42	15.03	229.39
MW-13	292.45	39.09	253.36
MW-14	223.77	4.67	219.10

Notes:

TOC - Top of Casing

DTW - Depth to Water

All measurements in feet.

ATTACHMENT III
GROUNDWATER FLOW CALCULATIONS

ATTACHMENT III - GROUNDWATER FLOW RATE CALCULATIONS

Goochland County Landfill

PERMIT #179 SANITARY LANDFILL

Sample Event Date: January 25, 2017

Groundwater Flow Rate Calculations

Hydraulic Conductivity (K) = 0.000223 cm/sec

(Average for site from Draper Aden data)

MW-6/MW-4 Gradient (i) = 0.024218 ft/ft

(Change in GW Elevation/distance between wells)

Effective Porosity (ne) = 0.35 (no units)

(estimated by Draper Aden)

Groundwater Flow Rate (V) = 0.043739 ft/day

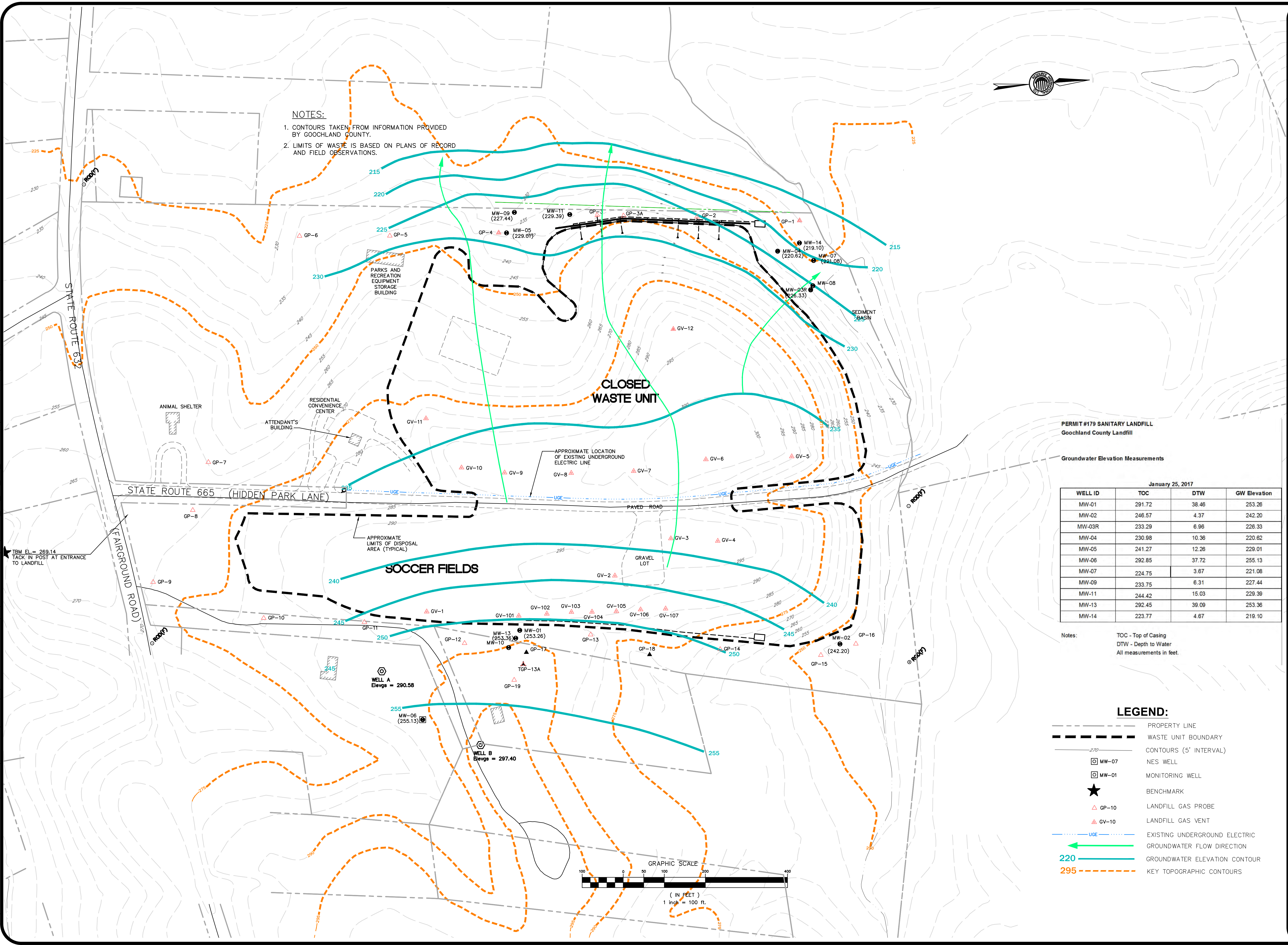
($K_i/ne \times (86400 \text{ sec/day}) \times (1 \text{ ft./30.48 cm})$)

Annual Groundwater Flow Rate = 15.96 ft/year

($V \times 365 \text{ days/year}$)

ATTACHMENT IV
POTENTIOMETRIC MAP

H:\97007.12 - Goochland County Sanitary Landfill\Drawings\Potentiometric Maps\2017 GWC Maps\97007.09 GC PM 012517.dwg Plotted: May 16, 2017 10:18am



resource INTERNATIONAL

P.O. Box 6160 9560 Kings Charter Drive • Ashland, VA 23005
(804) 550-9200 • FAX (804) 550-9259

DESIGNED: V. GILLS
DRAWN: B. DAVIS
CHECKED: M. WILLINGER
DATE: 01/30/2017

GOOCHLAND COUNTY
SANITARY LANDFILL
PERMIT # 179
GOOCHLAND COUNTY, VIRGINIA

POTENTIOMETRIC MAP
JANUARY 25, 2017

PROJECT NO.:
97007.12
SHEET:
FIGURE 2

ATTACHMENT V
CONSTITUENTS EXCEEDING FACILITY BACKGROUND

Page 1 of 1

[illegible]

ATTACHMENT VI
CONSTITUENTS EXCEEDING GPS

Page 1 of 1

[illegible]

ATTACHMENT VII
LABORATORY ANALYTICAL REPORT



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, VA 23237
 (804)-358-8295 - Telephone
 (804)-358-8297 - Fax

Analysis Detects Report

Client Name: Resource International, Ltd.
 Client Site ID: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Laboratory Sample ID: 17A0684-01

Client Sample ID: MW-1

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	01	SW6010C	0.152		0.0020	0.0100	1	mg/L
Chromium	01	SW6010C	0.0050	J	0.0040	0.0100	1	mg/L
Cobalt	01	SW6010C	0.0030	J	0.0020	0.0040	1	mg/L
Nickel	01	SW6010C	0.0079	J	0.0020	0.0100	1	mg/L
Vanadium	01	SW6010C	0.0138		0.0020	0.0100	1	mg/L
Zinc	01	SW6010C	0.0112		0.0100	0.0100	1	mg/L
Chloroform	01	SW8260B	0.21	J	0.20	0.50	1	ug/L
cis-1,2-Dichloroethylene	01	SW8260B	0.31	J	0.20	1.00	1	ug/L

Laboratory Sample ID: 17A0684-02

Client Sample ID: MW-2

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	02	SW6010C	0.121		0.0020	0.0100	1	mg/L
Chromium	02	SW6010C	0.0105		0.0040	0.0100	1	mg/L
Cobalt	02	SW6010C	0.0041		0.0020	0.0040	1	mg/L
Copper	02	SW6010C	0.0051	J	0.0030	0.0100	1	mg/L
Nickel	02RE1	SW6010C	0.0048	J	0.0020	0.0100	1	mg/L
Vanadium	02	SW6010C	0.0192		0.0020	0.0100	1	mg/L
Zinc	02	SW6010C	0.0142		0.0100	0.0100	1	mg/L
cis-1,2-Dichloroethylene	02	SW8260B	0.54	J	0.20	1.00	1	ug/L
Dichlorodifluoromethane	02	SW8260B	0.56	J	0.20	1.00	1	ug/L



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Client Name: Resource International, Ltd.
Client Site ID: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Laboratory Sample ID: 17A0684-03

Client Sample ID: MW-3R

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	03	SW6020A	0.0055		0.0010	0.0050	1	mg/L
Barium	03	SW6010C	0.754		0.0020	0.0100	1	mg/L
Cadmium	03	SW6010C	0.0047		0.0020	0.0040	1	mg/L
Chromium	03	SW6010C	0.0500		0.0040	0.0100	1	mg/L
Cobalt	03	SW6010C	0.0261		0.0020	0.0040	1	mg/L
Nickel	03RE1	SW6010C	0.0175		0.0020	0.0100	1	mg/L
Selenium	03	SW6010C	0.0161	J	0.0150	0.0500	1	mg/L
Vanadium	03	SW6010C	0.0776		0.0020	0.0100	1	mg/L
Zinc	03	SW6010C	0.0286		0.0100	0.0100	1	mg/L
1,2-Dichlorobenzene	03	SW8260B	0.33	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	03	SW8260B	4.73		0.20	1.00	1	ug/L
Benzene	03	SW8260B	1.04		0.20	1.00	1	ug/L
Chlorobenzene	03	SW8260B	1.80		0.10	1.00	1	ug/L
Chloroethane	03	SW8260B	0.39	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW8260B	13.0		0.20	1.00	1	ug/L
Vinyl chloride	03	SW8260B	1.31		0.20	0.50	1	ug/L
2,4,5-T	03	SW8151A	0.611		0.100	0.500	1	ug/L
2,4,5-TP (Silvex)	03	SW8151A	0.278	J	0.100	0.500	1	ug/L



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Client Name: Resource International, Ltd.
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Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Laboratory Sample ID: 17A0684-04

Client Sample ID: MW-4

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	04	SW6020A	0.0040	J	0.0010	0.0050	1	mg/L
Barium	04	SW6010C	0.171		0.0020	0.0100	1	mg/L
Cadmium	04	SW6010C	0.0099		0.0020	0.0040	1	mg/L
Chromium	04	SW6010C	0.0131		0.0040	0.0100	1	mg/L
Cobalt	04	SW6010C	0.0223		0.0020	0.0040	1	mg/L
Nickel	04RE1	SW6010C	0.0048	J	0.0020	0.0100	1	mg/L
Selenium	04	SW6010C	0.0191	J	0.0150	0.0500	1	mg/L
Vanadium	04	SW6010C	0.0298		0.0020	0.0100	1	mg/L
1,4-Dichlorobenzene	04	SW8260B	2.49		0.20	1.00	1	ug/L
Benzene	04	SW8260B	0.83	J	0.20	1.00	1	ug/L
Chlorobenzene	04	SW8260B	1.18		0.10	1.00	1	ug/L
Chloroethane	04	SW8260B	0.34	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260B	1.66		0.20	1.00	1	ug/L
Vinyl chloride	04	SW8260B	3.24		0.20	0.50	1	ug/L
2,4,5-TP (Silvex)	04	SW8151A	0.278	J	0.100	0.500	1	ug/L



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Analysis Detects Report

Client Name: Resource International, Ltd.
Client Site ID: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Laboratory Sample ID: 17A0684-05

Client Sample ID: MW-5

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	05	SW6010C	0.170		0.0020	0.0100	1	mg/L
Chromium	05	SW6010C	0.0084	J	0.0040	0.0100	1	mg/L
Nickel	05RE1	SW6010C	0.0085	J	0.0020	0.0100	1	mg/L
Vanadium	05	SW6010C	0.0083	J	0.0020	0.0100	1	mg/L
1,4-Dichlorobenzene	05	SW8260B	1.54		0.20	1.00	1	ug/L
Benzene	05	SW8260B	0.99	J	0.20	1.00	1	ug/L
Chlorobenzene	05	SW8260B	0.54	J	0.10	1.00	1	ug/L
Chloroethane	05	SW8260B	0.23	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	05	SW8260B	2.94		0.20	1.00	1	ug/L
Vinyl chloride	05	SW8260B	0.55		0.20	0.50	1	ug/L
2,4,5-TP (Silvex)	05	SW8151A	0.167	J	0.100	0.500	1	ug/L

Laboratory Sample ID: 17A0684-06

Client Sample ID: MW-6

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	06	SW6010C	0.109		0.0020	0.0100	1	mg/L
Chromium	06	SW6010C	0.0055	J	0.0040	0.0100	1	mg/L
Cobalt	06	SW6010C	0.0027	J	0.0020	0.0040	1	mg/L
Nickel	06RE1	SW6010C	0.0039	J	0.0020	0.0100	1	mg/L
Vanadium	06	SW6010C	0.0091	J	0.0020	0.0100	1	mg/L
Zinc	06	SW6010C	0.0133		0.0100	0.0100	1	mg/L



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Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detects Report

Client Name: Resource International, Ltd.
Client Site ID: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Laboratory Sample ID: 17A0684-07

Client Sample ID: MW-13

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	07	SW6010C	0.276		0.0020	0.0100	1	mg/L
Cobalt	07	SW6010C	0.0024	J	0.0020	0.0040	1	mg/L
Nickel	07RE1	SW6010C	0.0076	J	0.0020	0.0100	1	mg/L
1,1-Dichloroethane	07	SW8260B	0.24	J	0.20	1.00	1	ug/L
Benzene	07	SW8260B	0.38	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	07	SW8260B	7.04		0.20	1.00	1	ug/L
Dichlorodifluoromethane	07	SW8260B	1.76		0.20	1.00	1	ug/L
o-Xylene	07	SW8260B	0.18	J	0.10	1.00	1	ug/L
Tetrachloroethylene (PCE)	07	SW8260B	2.30		0.20	1.00	1	ug/L
Trichloroethylene	07	SW8260B	0.77	J	0.20	1.00	1	ug/L
2,4,5-TP (Silvex)	07	SW8151A	0.222	J	0.100	0.500	1	ug/L

Analysis Detects Report

Client Name: Resource International, Ltd.
 Client Site ID: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Laboratory Sample ID: 17A0684-08

Client Sample ID: MW-14

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	08	SW6020A	0.0015	J	0.0010	0.0050	1	mg/L
Barium	08	SW6010C	0.307		0.0020	0.0100	1	mg/L
Chromium	08	SW6010C	0.0210		0.0040	0.0100	1	mg/L
Cobalt	08	SW6010C	0.0358		0.0020	0.0040	1	mg/L
Copper	08	SW6010C	0.0329		0.0030	0.0100	1	mg/L
Nickel	08RE1	SW6010C	0.0158		0.0020	0.0100	1	mg/L
Selenium	08	SW6010C	0.0185	J	0.0150	0.0500	1	mg/L
Vanadium	08	SW6010C	0.0335		0.0020	0.0100	1	mg/L
Zinc	08	SW6010C	0.0517		0.0100	0.0100	1	mg/L
1,2-Dichlorobenzene	08	SW8260B	0.25	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	08	SW8260B	3.13		0.20	1.00	1	ug/L
Benzene	08	SW8260B	0.37	J	0.20	1.00	1	ug/L
Chlorobenzene	08	SW8260B	1.53		0.10	1.00	1	ug/L
cis-1,2-Dichloroethylene	08	SW8260B	5.05		0.20	1.00	1	ug/L
2,4,5-TP (Silvex)	08	SW8151A	0.167	J	0.100	0.500	1	ug/L

Laboratory Sample ID: 17A0684-09

Client Sample ID: Field Blank

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
o-Xylene	09	SW8260B	0.17	J	0.10	1.00	1	ug/L
Trichloroethylene	09	SW8260B	0.21	J	0.20	1.00	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 17A0684

Client Name: Resource International, Ltd.

P.O. Box 6160

Ashland, VA 23005

Submitted To: Robert Hundley

Date Received: January 26, 2017 9:30

Date Issued: February 9, 2017 14:59

Project Number: 97007.12

Purchase Order:

Client Site I.D.: Goochland Co. LF

Enclosed are the results of analyses for samples received by the laboratory on 01/26/2017 09:30. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads "Ted Soyars".

Ted Soyars

Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.



Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	17A0684-01	Ground Water	01/25/2017 13:55	01/26/2017 09:30
MW-2	17A0684-02	Ground Water	01/25/2017 15:10	01/26/2017 09:30
MW-3R	17A0684-03	Ground Water	01/25/2017 10:45	01/26/2017 09:30
MW-4	17A0684-04	Ground Water	01/25/2017 10:30	01/26/2017 09:30
MW-5	17A0684-05	Ground Water	01/25/2017 11:40	01/26/2017 09:30
MW-6	17A0684-06	Ground Water	01/25/2017 12:45	01/26/2017 09:30
MW-13	17A0684-07	Ground Water	01/25/2017 14:20	01/26/2017 09:30
MW-14	17A0684-08	Ground Water	01/25/2017 09:35	01/26/2017 09:30
Field Blank	17A0684-09	Ground Water	01/25/2017 15:25	01/26/2017 09:30
Trip Blank	17A0684-10	Ground Water	12/22/2016 14:00	01/26/2017 09:30

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-1

Laboratory Sample ID: 17A0684-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	01	7440-22-4	SW6010C	01/27/2017 15:15	01/30/2017 11:30	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	01	7440-38-2	SW6020A	01/27/2017 15:15	02/01/2017 12:31	BLOD		0.0010	0.0050	1	mg/L	BG
Barium	01	7440-39-3	SW6010C	01/27/2017 15:15	01/30/2017 11:30	0.152		0.0020	0.0100	1	mg/L	CWO
Beryllium	01	7440-41-7	SW6010C	01/27/2017 15:15	01/30/2017 11:30	BLOD		0.0010	0.0040	1	mg/L	CWO
Cadmium	01	7440-43-9	SW6010C	01/27/2017 15:15	01/30/2017 11:31	BLOD		0.0020	0.0040	1	mg/L	CWO
Cobalt	01	7440-48-4	SW6010C	01/27/2017 15:15	01/30/2017 11:31	0.0030	J	0.0020	0.0040	1	mg/L	CWO
Chromium	01	7440-47-3	SW6010C	01/27/2017 15:15	01/30/2017 11:31	0.0050	J	0.0040	0.0100	1	mg/L	CWO
Copper	01	7440-50-8	SW6010C	01/27/2017 15:15	01/30/2017 11:30	BLOD		0.0030	0.0100	1	mg/L	CWO
Mercury	01	7439-97-6	SW7470A	01/30/2017 08:34	01/30/2017 13:17	BLOD		0.00020	0.00020	1	mg/L	RCV
Nickel	01	7440-02-0	SW6010C	01/27/2017 15:15	01/30/2017 11:31	0.0079	J	0.0020	0.0100	1	mg/L	CWO
Lead	01	7439-92-1	SW6010C	01/27/2017 15:15	01/30/2017 11:31	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	01	7440-36-0	SW6020A	01/27/2017 15:15	02/01/2017 12:31	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	01	7782-49-2	SW6010C	01/27/2017 15:15	01/30/2017 11:31	BLOD		0.0150	0.0500	1	mg/L	CWO
Tin	01	7440-31-5	SW6010C	01/27/2017 15:15	01/30/2017 11:31	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	01	7440-28-0	SW6020A	01/27/2017 15:15	02/01/2017 12:31	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	01	7440-62-2	SW6010C	01/27/2017 15:15	01/30/2017 11:30	0.0138		0.0020	0.0100	1	mg/L	CWO
Zinc	01	7440-66-6	SW6010C	01/27/2017 15:15	01/30/2017 11:31	0.0112		0.0100	0.0100	1	mg/L	CWO
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	01	630-20-6	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	01	71-55-6	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	01	79-34-5	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	01	79-00-5	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	01	75-34-3	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	01	75-35-4	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-1

Laboratory Sample ID: 17A0684-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,2,3-Trichloropropane	01	96-18-4	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	01	95-50-1	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	01	107-06-2	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	01	78-87-5	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	01	541-73-1	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	01	106-46-7	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	01	78-93-3	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	01	591-78-6	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	01	108-10-1	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	01	107-13-1	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	01	71-43-2	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	01	74-97-5	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	01	75-27-4	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	01	75-25-2	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	01	74-83-9	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	01	75-15-0	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	01	56-23-5	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	01	108-90-7	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.10	1.00	1	ug/L	KCS
Chloroethane	01	75-00-3	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SW8260B	01/26/2017 17:55	01/26/2017 17:55	0.21	J	0.20	0.50	1	ug/L	KCS
Chloromethane	01	74-87-3	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	01	156-59-2	SW8260B	01/26/2017 17:55	01/26/2017 17:55	0.31	J	0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10061-01-5	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-1

Laboratory Sample ID: 17A0684-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Dibromochloromethane	01	124-48-1	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	01	74-95-3	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	01	100-41-4	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	01	74-88-4	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	01	179601-23-1	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	01	75-09-2	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		1.00	4.00	1	ug/L	KCS
o-Xylene	01	95-47-6	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	01	100-42-5	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	01	127-18-4	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	01	108-88-3	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-60-5	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	10061-02-6	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	110-57-6	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	01	79-01-6	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	01	75-69-4	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	01	75-01-4	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.20	0.50	1	ug/L	KCS
Xylenes, Total	01	1330-20-7	SW8260B	01/26/2017 17:55	01/26/2017 17:55	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	01	107 %	70-120	01/26/2017 17:55	01/26/2017 17:55							
Surr: 4-Bromofluorobenzene	01	97.1 %	75-120	01/26/2017 17:55	01/26/2017 17:55							
Surr: Dibromofluoromethane	01	104 %	80-119	01/26/2017 17:55	01/26/2017 17:55							
Surr: Toluene-d8	01	100 %	85-120	01/26/2017 17:55	01/26/2017 17:55							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-1

Laboratory Sample ID: 17A0684-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
bis (2-Ethylhexyl) phthalate	01	117-81-7	SW8270D	01/30/2017 08:57	02/06/2017 16:05	BLOD		1.06	2.66	1	ug/L	SKS
Di-n-butyl phthalate	01	84-74-2	SW8270D	01/30/2017 08:57	02/06/2017 16:05	BLOD		2.13	10.6	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol</i>	<i>01</i>	<i>79.1 %</i>	<i>40-125</i>	<i>01/30/2017 08:57</i>	<i>02/06/2017 16:05</i>							
<i>Surr: 2-Fluorobiphenyl</i>	<i>01</i>	<i>76.3 %</i>	<i>23-87</i>	<i>01/30/2017 08:57</i>	<i>02/06/2017 16:05</i>							
<i>Surr: 2-Fluorophenol</i>	<i>01</i>	<i>48.4 %</i>	<i>14-52</i>	<i>01/30/2017 08:57</i>	<i>02/06/2017 16:05</i>							
<i>Surr: Nitrobenzene-d5</i>	<i>01</i>	<i>72.6 %</i>	<i>40-110</i>	<i>01/30/2017 08:57</i>	<i>02/06/2017 16:05</i>							
<i>Surr: Phenol-d5</i>	<i>01</i>	<i>28.5 %</i>	<i>5-33</i>	<i>01/30/2017 08:57</i>	<i>02/06/2017 16:05</i>							
<i>Surr: p-Terphenyl-d14</i>	<i>01</i>	<i>63.1 %</i>	<i>22-85</i>	<i>01/30/2017 08:57</i>	<i>02/06/2017 16:05</i>							

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-1

Laboratory Sample ID: 17A0684-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
gamma-BHC (Lindane)	01	58-89-9	SW8081B	01/27/2017 09:18	02/01/2017 15:40	BLOD		0.003	0.052	1	ug/L	SKS
Surr: TCMX	01	65.0 %	18-112	01/27/2017 09:18	02/01/2017 15:40							
Surr: DCB	01	80.0 %	27-131	01/27/2017 09:18	02/01/2017 15:40							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-1

Laboratory Sample ID: 17A0684-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	93-76-5	SW8151A	01/26/2017 13:55	01/31/2017 13:45	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	01	93-72-1	SW8151A	01/26/2017 13:55	01/31/2017 13:45	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	01	94-75-7	SW8151A	01/26/2017 13:55	01/31/2017 13:45	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA	01	110 %	60-112	01/26/2017 13:55	01/31/2017 13:45							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-1

Laboratory Sample ID: 17A0684-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	01	106-93-4	SW8011	01/31/2017 15:22	01/31/2017 21:26	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	01	96-18-4	SW8011	01/31/2017 15:22	01/31/2017 21:26	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	SW8011	01/31/2017 15:22	01/31/2017 21:26	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromoethane (EDB) [2C]	01	106-93-4	SW8011	01/31/2017 15:22	01/31/2017 21:26	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP) [2C]	01	96-12-8	SW8011	01/31/2017 15:22	01/31/2017 21:26	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane [2C]	01	96-18-4	SW8011	01/31/2017 15:22	01/31/2017 21:26	BLOD		0.003	0.010	1	ug/L	CVH

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-1

Laboratory Sample ID: 17A0684-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	57-12-5	SW9012	01/31/2017 15:54	01/31/2017 15:54	BLOD	CI	0.01	0.01	1	mg/L	BBP
Sulfide	01	18496-25-8	SW9215	01/31/2017 15:00	01/31/2017 15:00	BLOD		0.50	1.00	1	mg/L	MLG

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-2

Laboratory Sample ID: 17A0684-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	02	7440-22-4	SW6010C	01/27/2017 15:15	01/30/2017 11:39	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	02	7440-38-2	SW6020A	01/27/2017 15:15	02/01/2017 12:34	BLOD		0.0010	0.0050	1	mg/L	BG
Barium	02	7440-39-3	SW6010C	01/27/2017 15:15	01/30/2017 11:39	0.121		0.0020	0.0100	1	mg/L	CWO
Beryllium	02	7440-41-7	SW6010C	01/27/2017 15:15	01/30/2017 11:39	BLOD		0.0010	0.0040	1	mg/L	CWO
Cadmium	02	7440-43-9	SW6010C	01/27/2017 15:15	01/30/2017 11:39	BLOD		0.0020	0.0040	1	mg/L	CWO
Cobalt	02	7440-48-4	SW6010C	01/27/2017 15:15	01/30/2017 11:39	0.0041		0.0020	0.0040	1	mg/L	CWO
Chromium	02	7440-47-3	SW6010C	01/27/2017 15:15	01/30/2017 11:39	0.0105		0.0040	0.0100	1	mg/L	CWO
Copper	02	7440-50-8	SW6010C	01/27/2017 15:15	01/30/2017 11:39	0.0051	J	0.0030	0.0100	1	mg/L	CWO
Mercury	02	7439-97-6	SW7470A	01/30/2017 08:34	01/30/2017 13:20	BLOD		0.00020	0.00020	1	mg/L	RCV
Nickel	02RE1	7440-02-0	SW6010C	01/27/2017 15:15	01/30/2017 14:35	0.0048	J	0.0020	0.0100	1	mg/L	CWO
Lead	02	7439-92-1	SW6010C	01/27/2017 15:15	01/30/2017 11:39	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	02	7440-36-0	SW6020A	01/27/2017 15:15	02/01/2017 12:34	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	02	7782-49-2	SW6010C	01/27/2017 15:15	01/30/2017 11:39	BLOD		0.0150	0.0500	1	mg/L	CWO
Tin	02	7440-31-5	SW6010C	01/27/2017 15:15	01/30/2017 11:39	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	02	7440-28-0	SW6020A	01/27/2017 15:15	02/01/2017 12:34	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	02	7440-62-2	SW6010C	01/27/2017 15:15	01/30/2017 11:39	0.0192		0.0020	0.0100	1	mg/L	CWO
Zinc	02	7440-66-6	SW6010C	01/27/2017 15:15	01/30/2017 11:39	0.0142		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-2

Laboratory Sample ID: 17A0684-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-6	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-55-6	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	02	79-34-5	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	02	79-00-5	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	02	75-34-3	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	02	75-35-4	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	02	96-18-4	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	02	95-50-1	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	02	107-06-2	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	78-87-5	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	02	541-73-1	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	02	106-46-7	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	02	78-93-3	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	02	591-78-6	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	02	67-64-1	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-13-1	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	02	71-43-2	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	02	74-97-5	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	02	75-27-4	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	02	75-25-2	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	02	74-83-9	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	02	75-15-0	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	02	56-23-5	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-2

Laboratory Sample ID: 17A0684-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorobenzene	02	108-90-7	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.10	1.00	1	ug/L	KCS
Chloroethane	02	75-00-3	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	02	67-66-3	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	02	74-87-3	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	02	156-59-2	SW8260B	01/26/2017 18:19	01/26/2017 18:19	0.54	J	0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	02	10061-01-5	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	02	124-48-1	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	02	74-95-3	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	02	75-71-8	SW8260B	01/26/2017 18:19	01/26/2017 18:19	0.56	J	0.20	1.00	1	ug/L	KCS
Ethylbenzene	02	100-41-4	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	02	74-88-4	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	02	179601-23-1	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	02	75-09-2	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		1.00	4.00	1	ug/L	KCS
o-Xylene	02	95-47-6	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	02	100-42-5	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	02	127-18-4	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	02	108-88-3	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	02	156-60-5	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	02	10061-02-6	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	110-57-6	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	02	79-01-6	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	02	75-69-4	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	02	108-05-4	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		2.20	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-2

Laboratory Sample ID: 17A0684-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	02	75-01-4	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.20	0.50	1	ug/L	KCS
Xylenes, Total	02	1330-20-7	SW8260B	01/26/2017 18:19	01/26/2017 18:19	BLOD		0.30	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4</i>	02	108 %	70-120	01/26/2017 18:19	01/26/2017 18:19							
<i>Surr: 4-Bromofluorobenzene</i>	02	101 %	75-120	01/26/2017 18:19	01/26/2017 18:19							
<i>Surr: Dibromofluoromethane</i>	02	105 %	80-119	01/26/2017 18:19	01/26/2017 18:19							
<i>Surr: Toluene-d8</i>	02	94.4 %	85-120	01/26/2017 18:19	01/26/2017 18:19							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-2

Laboratory Sample ID: 17A0684-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
bis (2-Ethylhexyl) phthalate	02	117-81-7	SW8270D	01/30/2017 08:57	02/06/2017 16:40	BLOD		1.06	2.66	1	ug/L	SKS
Di-n-butyl phthalate	02	84-74-2	SW8270D	01/30/2017 08:57	02/06/2017 16:40	BLOD		2.13	10.6	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol</i>	02	77.9 %	40-125	01/30/2017 08:57	02/06/2017 16:40							
<i>Surr: 2-Fluorobiphenyl</i>	02	78.8 %	23-87	01/30/2017 08:57	02/06/2017 16:40							
<i>Surr: 2-Fluorophenol</i>	02	48.8 %	14-52	01/30/2017 08:57	02/06/2017 16:40							
<i>Surr: Nitrobenzene-d5</i>	02	73.2 %	40-110	01/30/2017 08:57	02/06/2017 16:40							
<i>Surr: Phenol-d5</i>	02	28.5 %	5-33	01/30/2017 08:57	02/06/2017 16:40							
<i>Surr: p-Terphenyl-d14</i>	02	64.8 %	22-85	01/30/2017 08:57	02/06/2017 16:40							

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-2

Laboratory Sample ID: 17A0684-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
gamma-BHC (Lindane)	02	58-89-9	SW8081B	01/27/2017 09:18	02/01/2017 15:59	BLOD		0.003	0.053	1	ug/L	SKS
Surr: TCMX	02	70.0 %	18-112	01/27/2017 09:18	02/01/2017 15:59							
Surr: DCB	02	70.0 %	27-131	01/27/2017 09:18	02/01/2017 15:59							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-2

Laboratory Sample ID: 17A0684-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	02	93-76-5	SW8151A	01/26/2017 13:55	01/31/2017 14:07	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	02	93-72-1	SW8151A	01/26/2017 13:55	01/31/2017 14:07	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	02	94-75-7	SW8151A	01/26/2017 13:55	01/31/2017 14:07	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA	02	80.0 %	60-112	01/26/2017 13:55	01/31/2017 14:07							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-2

Laboratory Sample ID: 17A0684-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	02	106-93-4	SW8011	01/31/2017 15:22	01/31/2017 21:46	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	02	96-18-4	SW8011	01/31/2017 15:22	01/31/2017 21:46	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	SW8011	01/31/2017 15:22	01/31/2017 21:46	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromoethane (EDB) [2C]	02	106-93-4	SW8011	01/31/2017 15:22	01/31/2017 21:46	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP) [2C]	02	96-12-8	SW8011	01/31/2017 15:22	01/31/2017 21:46	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane [2C]	02	96-18-4	SW8011	01/31/2017 15:22	01/31/2017 21:46	BLOD		0.003	0.010	1	ug/L	CVH

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-2

Laboratory Sample ID: 17A0684-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	02	57-12-5	SW9012	01/31/2017 15:57	01/31/2017 15:57	BLOD	CI	0.01	0.01	1	mg/L	BBP
Sulfide	02	18496-25-8	SW9215	01/31/2017 15:00	01/31/2017 15:00	BLOD		0.50	1.00	1	mg/L	MLG

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-3R

Laboratory Sample ID: 17A0684-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	03	7440-22-4	SW6010C	01/27/2017 15:15	01/30/2017 11:41	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	03	7440-38-2	SW6020A	01/27/2017 15:15	02/01/2017 12:37	0.0055		0.0010	0.0050	1	mg/L	BG
Barium	03	7440-39-3	SW6010C	01/27/2017 15:15	01/30/2017 11:41	0.754		0.0020	0.0100	1	mg/L	CWO
Beryllium	03	7440-41-7	SW6010C	01/27/2017 15:15	01/30/2017 11:41	BLOD		0.0010	0.0040	1	mg/L	CWO
Cadmium	03	7440-43-9	SW6010C	01/27/2017 15:15	01/30/2017 11:41	0.0047		0.0020	0.0040	1	mg/L	CWO
Cobalt	03	7440-48-4	SW6010C	01/27/2017 15:15	01/30/2017 11:41	0.0261		0.0020	0.0040	1	mg/L	CWO
Chromium	03	7440-47-3	SW6010C	01/27/2017 15:15	01/30/2017 11:41	0.0500		0.0040	0.0100	1	mg/L	CWO
Copper	03	7440-50-8	SW6010C	01/27/2017 15:15	01/30/2017 11:41	BLOD		0.0030	0.0100	1	mg/L	CWO
Mercury	03	7439-97-6	SW7470A	01/30/2017 08:34	01/30/2017 13:22	BLOD		0.00020	0.00020	1	mg/L	RCV
Nickel	03RE1	7440-02-0	SW6010C	01/27/2017 15:15	01/30/2017 14:36	0.0175		0.0020	0.0100	1	mg/L	CWO
Lead	03	7439-92-1	SW6010C	01/27/2017 15:15	01/30/2017 11:41	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	03	7440-36-0	SW6020A	01/27/2017 15:15	02/01/2017 12:37	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	03	7782-49-2	SW6010C	01/27/2017 15:15	01/30/2017 11:41	0.0161	J	0.0150	0.0500	1	mg/L	CWO
Tin	03	7440-31-5	SW6010C	01/27/2017 15:15	01/30/2017 11:41	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	03	7440-28-0	SW6020A	01/27/2017 15:15	02/01/2017 12:37	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	03	7440-62-2	SW6010C	01/27/2017 15:15	01/30/2017 11:41	0.0776		0.0020	0.0100	1	mg/L	CWO
Zinc	03	7440-66-6	SW6010C	01/27/2017 15:15	01/30/2017 11:41	0.0286		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-3R

Laboratory Sample ID: 17A0684-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	03	630-20-6	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	03	71-55-6	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	03	79-00-5	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	03	75-34-3	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	03	75-35-4	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	03	96-18-4	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	03	95-50-1	SW8260B	01/26/2017 18:43	01/26/2017 18:43	0.33	J	0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	03	107-06-2	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	03	78-87-5	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	03	541-73-1	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	03	106-46-7	SW8260B	01/26/2017 18:43	01/26/2017 18:43	4.73		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	03	78-93-3	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	03	591-78-6	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	03	108-10-1	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	03	67-64-1	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	03	107-13-1	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	03	71-43-2	SW8260B	01/26/2017 18:43	01/26/2017 18:43	1.04		0.20	1.00	1	ug/L	KCS
Bromochloromethane	03	74-97-5	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	03	75-27-4	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	03	75-25-2	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	03	74-83-9	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	03	75-15-0	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	03	56-23-5	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-3R

Laboratory Sample ID: 17A0684-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorobenzene	03	108-90-7	SW8260B	01/26/2017 18:43	01/26/2017 18:43	1.80		0.10	1.00	1	ug/L	KCS
Chloroethane	03	75-00-3	SW8260B	01/26/2017 18:43	01/26/2017 18:43	0.39	J	0.20	1.00	1	ug/L	KCS
Chloroform	03	67-66-3	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	03	74-87-3	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	03	156-59-2	SW8260B	01/26/2017 18:43	01/26/2017 18:43	13.0		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	03	10061-01-5	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	03	124-48-1	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	03	74-95-3	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	03	75-71-8	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	03	100-41-4	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	03	74-88-4	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	03	179601-23-1	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	03	75-09-2	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		1.00	4.00	1	ug/L	KCS
o-Xylene	03	95-47-6	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	03	100-42-5	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	03	127-18-4	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	03	108-88-3	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	03	156-60-5	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	03	10061-02-6	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	03	110-57-6	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	03	79-01-6	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	03	75-69-4	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	03	108-05-4	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		2.20	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-3R

Laboratory Sample ID: 17A0684-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	03	75-01-4	SW8260B	01/26/2017 18:43	01/26/2017 18:43	1.31		0.20	0.50	1	ug/L	KCS
Xylenes, Total	03	1330-20-7	SW8260B	01/26/2017 18:43	01/26/2017 18:43	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	03	109 %	70-120	01/26/2017 18:43	01/26/2017 18:43							
Surr: 4-Bromofluorobenzene	03	96.3 %	75-120	01/26/2017 18:43	01/26/2017 18:43							
Surr: Dibromofluoromethane	03	106 %	80-119	01/26/2017 18:43	01/26/2017 18:43							
Surr: Toluene-d8	03	101 %	85-120	01/26/2017 18:43	01/26/2017 18:43							

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Client Sample ID: MW-3R

Laboratory Sample ID: 17A0684-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
bis (2-Ethylhexyl) phthalate	03	117-81-7	SW8270D	01/30/2017 08:57	02/06/2017 17:14	BLOD		1.04	2.60	1	ug/L	SKS
Di-n-butyl phthalate	03	84-74-2	SW8270D	01/30/2017 08:57	02/06/2017 17:14	BLOD		2.08	10.4	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol	03	120 %	40-125	01/30/2017 08:57	02/06/2017 17:14							
Surr: 2-Fluorobiphenyl	03	107 %	23-87	01/30/2017 08:57	02/06/2017 17:14							
Surr: 2-Fluorophenol	03	68.0 %	14-52	01/30/2017 08:57	02/06/2017 17:14							
Surr: Nitrobenzene-d5	03	94.4 %	40-110	01/30/2017 08:57	02/06/2017 17:14							
Surr: Phenol-d5	03	33.7 %	5-33	01/30/2017 08:57	02/06/2017 17:14							
Surr: p-Terphenyl-d14	03	92.3 %	22-85	01/30/2017 08:57	02/06/2017 17:14							

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Client Site I.D.: Goochland Co. LF
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Client Sample ID: MW-3R

Laboratory Sample ID: 17A0684-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
gamma-BHC (Lindane)	03	58-89-9	SW8081B	01/27/2017 09:18	02/01/2017 16:18	BLOD		0.003	0.052	1	ug/L	SKS
Surr: TCMX	03	65.0 %	18-112	01/27/2017 09:18	02/01/2017 16:18							
Surr: DCB	03	65.0 %	27-131	01/27/2017 09:18	02/01/2017 16:18							

Certificate of Analysis

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Client Sample ID: MW-3R

Laboratory Sample ID: 17A0684-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	03	93-76-5	SW8151A	01/26/2017 13:55	01/31/2017 14:30	0.611		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	03	93-72-1	SW8151A	01/26/2017 13:55	01/31/2017 14:30	0.278	J	0.100	0.500	1	ug/L	CVH
2,4-D	03	94-75-7	SW8151A	01/26/2017 13:55	01/31/2017 14:30	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA	03	470 %	60-112	01/26/2017 13:55	01/31/2017 14:30							S

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Client Name: Resource International, Ltd.
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Client Sample ID: MW-3R

Laboratory Sample ID: 17A0684-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	03	106-93-4	SW8011	01/31/2017 15:22	01/31/2017 22:05	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	03	96-18-4	SW8011	01/31/2017 15:22	01/31/2017 22:05	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	SW8011	01/31/2017 15:22	01/31/2017 22:05	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromoethane (EDB) [2C]	03	106-93-4	SW8011	01/31/2017 15:22	01/31/2017 22:05	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP) [2C]	03	96-12-8	SW8011	01/31/2017 15:22	01/31/2017 22:05	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane [2C]	03	96-18-4	SW8011	01/31/2017 15:22	01/31/2017 22:05	BLOD		0.003	0.010	1	ug/L	CVH

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Client Sample ID: MW-3R

Laboratory Sample ID: 17A0684-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	03	57-12-5	SW9012	01/31/2017 16:00	01/31/2017 16:00	BLOD	CI	0.01	0.01	1	mg/L	BBP
Sulfide	03	18496-25-8	SW9215	01/31/2017 15:00	01/31/2017 15:00	BLOD		0.50	1.00	1	mg/L	MLG

Certificate of Analysis

Client Name: Resource International, Ltd.
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Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-4

Laboratory Sample ID: 17A0684-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	04	7440-22-4	SW6010C	01/27/2017 15:15	01/30/2017 11:43	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	04	7440-38-2	SW6020A	01/27/2017 15:15	02/01/2017 12:40	0.0040	J	0.0010	0.0050	1	mg/L	BG
Barium	04	7440-39-3	SW6010C	01/27/2017 15:15	01/30/2017 11:43	0.171		0.0020	0.0100	1	mg/L	CWO
Beryllium	04	7440-41-7	SW6010C	01/27/2017 15:15	01/30/2017 11:43	BLOD		0.0010	0.0040	1	mg/L	CWO
Cadmium	04	7440-43-9	SW6010C	01/27/2017 15:15	01/30/2017 11:43	0.0099		0.0020	0.0040	1	mg/L	CWO
Cobalt	04	7440-48-4	SW6010C	01/27/2017 15:15	01/30/2017 11:43	0.0223		0.0020	0.0040	1	mg/L	CWO
Chromium	04	7440-47-3	SW6010C	01/27/2017 15:15	01/30/2017 11:43	0.0131		0.0040	0.0100	1	mg/L	CWO
Copper	04	7440-50-8	SW6010C	01/27/2017 15:15	01/30/2017 11:43	BLOD		0.0030	0.0100	1	mg/L	CWO
Mercury	04	7439-97-6	SW7470A	01/30/2017 08:34	01/30/2017 13:24	BLOD		0.00020	0.00020	1	mg/L	RCV
Nickel	04RE1	7440-02-0	SW6010C	01/27/2017 15:15	01/30/2017 14:39	0.0048	J	0.0020	0.0100	1	mg/L	CWO
Lead	04	7439-92-1	SW6010C	01/27/2017 15:15	01/30/2017 11:43	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	04	7440-36-0	SW6020A	01/27/2017 15:15	02/01/2017 12:40	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	04	7782-49-2	SW6010C	01/27/2017 15:15	01/30/2017 11:43	0.0191	J	0.0150	0.0500	1	mg/L	CWO
Tin	04	7440-31-5	SW6010C	01/27/2017 15:15	01/30/2017 11:43	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	04	7440-28-0	SW6020A	01/27/2017 15:15	02/01/2017 12:40	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	04	7440-62-2	SW6010C	01/27/2017 15:15	01/30/2017 11:43	0.0298		0.0020	0.0100	1	mg/L	CWO
Zinc	04	7440-66-6	SW6010C	01/27/2017 15:15	01/30/2017 11:43	BLOD		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

Client Name: Resource International, Ltd.
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Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-4

Laboratory Sample ID: 17A0684-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	04	630-20-6	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	04	71-55-6	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	04	79-34-5	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	04	75-34-3	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	04	75-35-4	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	04	96-18-4	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	04	95-50-1	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	04	107-06-2	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	78-87-5	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	04	541-73-1	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	04	106-46-7	SW8260B	01/26/2017 19:07	01/26/2017 19:07	2.49		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	04	78-93-3	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	04	591-78-6	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	04	108-10-1	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	04	67-64-1	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	04	107-13-1	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	04	71-43-2	SW8260B	01/26/2017 19:07	01/26/2017 19:07	0.83	J	0.20	1.00	1	ug/L	KCS
Bromochloromethane	04	74-97-5	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	04	75-27-4	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	04	75-25-2	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	04	74-83-9	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	04	75-15-0	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	04	56-23-5	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-4

Laboratory Sample ID: 17A0684-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorobenzene	04	108-90-7	SW8260B	01/26/2017 19:07	01/26/2017 19:07	1.18		0.10	1.00	1	ug/L	KCS
Chloroethane	04	75-00-3	SW8260B	01/26/2017 19:07	01/26/2017 19:07	0.34	J	0.20	1.00	1	ug/L	KCS
Chloroform	04	67-66-3	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	04	74-87-3	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	04	156-59-2	SW8260B	01/26/2017 19:07	01/26/2017 19:07	1.66		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	04	10061-01-5	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	04	124-48-1	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	04	74-95-3	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	04	75-71-8	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	04	100-41-4	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	04	74-88-4	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	04	179601-23-1	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	04	75-09-2	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		1.00	4.00	1	ug/L	KCS
o-Xylene	04	95-47-6	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	04	100-42-5	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	04	127-18-4	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	04	108-88-3	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	04	156-60-5	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	04	10061-02-6	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	04	110-57-6	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	04	79-01-6	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	04	75-69-4	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	04	108-05-4	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		2.20	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-4

Laboratory Sample ID: 17A0684-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	04	75-01-4	SW8260B	01/26/2017 19:07	01/26/2017 19:07	3.24		0.20	0.50	1	ug/L	KCS
Xylenes, Total	04	1330-20-7	SW8260B	01/26/2017 19:07	01/26/2017 19:07	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	04	102 %	70-120	01/26/2017 19:07	01/26/2017 19:07							
Surr: 4-Bromofluorobenzene	04	97.5 %	75-120	01/26/2017 19:07	01/26/2017 19:07							
Surr: Dibromofluoromethane	04	106 %	80-119	01/26/2017 19:07	01/26/2017 19:07							
Surr: Toluene-d8	04	101 %	85-120	01/26/2017 19:07	01/26/2017 19:07							

Certificate of Analysis

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Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-4

Laboratory Sample ID: 17A0684-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
bis (2-Ethylhexyl) phthalate	04	117-81-7	SW8270D	01/30/2017 08:57	02/07/2017 10:58	BLOD		1.05	2.63	1	ug/L	SKS
Di-n-butyl phthalate	04	84-74-2	SW8270D	01/30/2017 08:57	02/07/2017 10:58	BLOD		2.11	10.5	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol</i>	<i>04</i>	<i>53.7 %</i>	<i>40-125</i>	<i>01/30/2017 08:57</i>	<i>02/07/2017 10:58</i>							
<i>Surr: 2-Fluorobiphenyl</i>	<i>04</i>	<i>56.6 %</i>	<i>23-87</i>	<i>01/30/2017 08:57</i>	<i>02/07/2017 10:58</i>							
<i>Surr: 2-Fluorophenol</i>	<i>04</i>	<i>37.4 %</i>	<i>14-52</i>	<i>01/30/2017 08:57</i>	<i>02/07/2017 10:58</i>							
<i>Surr: Nitrobenzene-d5</i>	<i>04</i>	<i>54.0 %</i>	<i>40-110</i>	<i>01/30/2017 08:57</i>	<i>02/07/2017 10:58</i>							
<i>Surr: Phenol-d5</i>	<i>04</i>	<i>20.7 %</i>	<i>5-33</i>	<i>01/30/2017 08:57</i>	<i>02/07/2017 10:58</i>							
<i>Surr: p-Terphenyl-d14</i>	<i>04</i>	<i>58.9 %</i>	<i>22-85</i>	<i>01/30/2017 08:57</i>	<i>02/07/2017 10:58</i>							

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-4

Laboratory Sample ID: 17A0684-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
gamma-BHC (Lindane)	04	58-89-9	SW8081B	01/27/2017 09:18	02/01/2017 16:36	BLOD		0.003	0.054	1	ug/L	SKS
Surr: TCMX	04	55.0 %	18-112	01/27/2017 09:18	02/01/2017 16:36							
Surr: DCB	04	55.0 %	27-131	01/27/2017 09:18	02/01/2017 16:36							

Certificate of Analysis

Client Name: Resource International, Ltd.
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Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-4

Laboratory Sample ID: 17A0684-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	04	93-76-5	SW8151A	01/26/2017 13:55	01/31/2017 14:52	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	04	93-72-1	SW8151A	01/26/2017 13:55	01/31/2017 14:52	0.278	J	0.100	0.500	1	ug/L	CVH
2,4-D	04	94-75-7	SW8151A	01/26/2017 13:55	01/31/2017 14:52	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA	04	235 %	60-112	01/26/2017 13:55	01/31/2017 14:52							S

Certificate of Analysis

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Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-4

Laboratory Sample ID: 17A0684-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	04	106-93-4	SW8011	01/31/2017 15:22	01/31/2017 22:24	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	04	96-18-4	SW8011	01/31/2017 15:22	01/31/2017 22:24	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	04	96-12-8	SW8011	01/31/2017 15:22	01/31/2017 22:24	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromoethane (EDB) [2C]	04	106-93-4	SW8011	01/31/2017 15:22	01/31/2017 22:24	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP) [2C]	04	96-12-8	SW8011	01/31/2017 15:22	01/31/2017 22:24	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane [2C]	04	96-18-4	SW8011	01/31/2017 15:22	01/31/2017 22:24	BLOD		0.003	0.010	1	ug/L	CVH

Certificate of Analysis

Client Name: Resource International, Ltd.

Date Issued: 2/9/2017 2:59:40PM

Client Site I.D.: Goochland Co. LF

Submitted To: Robert Hundley

Client Sample ID: MW-4

Laboratory Sample ID: 17A0684-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	04	57-12-5	SW9012	01/31/2017 16:03	01/31/2017 16:03	BLOD	CI	0.01	0.01	1	mg/L	BBP
Sulfide	04	18496-25-8	SW9215	01/31/2017 15:00	01/31/2017 15:00	BLOD		0.50	1.00	1	mg/L	MLG

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-5

Laboratory Sample ID: 17A0684-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	05	7440-22-4	SW6010C	01/27/2017 15:15	01/30/2017 11:45	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	05	7440-38-2	SW6020A	01/27/2017 15:15	02/01/2017 12:43	BLOD		0.0010	0.0050	1	mg/L	BG
Barium	05	7440-39-3	SW6010C	01/27/2017 15:15	01/30/2017 11:45	0.170		0.0020	0.0100	1	mg/L	CWO
Beryllium	05	7440-41-7	SW6010C	01/27/2017 15:15	01/30/2017 11:45	BLOD		0.0010	0.0040	1	mg/L	CWO
Cadmium	05	7440-43-9	SW6010C	01/27/2017 15:15	01/30/2017 11:45	BLOD		0.0020	0.0040	1	mg/L	CWO
Cobalt	05	7440-48-4	SW6010C	01/27/2017 15:15	01/30/2017 11:45	BLOD		0.0020	0.0040	1	mg/L	CWO
Chromium	05	7440-47-3	SW6010C	01/27/2017 15:15	01/30/2017 11:45	0.0084	J	0.0040	0.0100	1	mg/L	CWO
Copper	05	7440-50-8	SW6010C	01/27/2017 15:15	01/30/2017 11:45	BLOD		0.0030	0.0100	1	mg/L	CWO
Mercury	05	7439-97-6	SW7470A	01/30/2017 08:34	01/30/2017 13:26	BLOD		0.00020	0.00020	1	mg/L	RCV
Nickel	05RE1	7440-02-0	SW6010C	01/27/2017 15:15	01/30/2017 14:41	0.0085	J	0.0020	0.0100	1	mg/L	CWO
Lead	05	7439-92-1	SW6010C	01/27/2017 15:15	01/30/2017 11:45	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	05	7440-36-0	SW6020A	01/27/2017 15:15	02/01/2017 12:43	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	05	7782-49-2	SW6010C	01/27/2017 15:15	01/30/2017 11:45	BLOD		0.0150	0.0500	1	mg/L	CWO
Tin	05	7440-31-5	SW6010C	01/27/2017 15:15	01/30/2017 11:45	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	05	7440-28-0	SW6020A	01/27/2017 15:15	02/01/2017 12:43	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	05	7440-62-2	SW6010C	01/27/2017 15:15	01/30/2017 11:45	0.0083	J	0.0020	0.0100	1	mg/L	CWO
Zinc	05	7440-66-6	SW6010C	01/27/2017 15:15	01/30/2017 11:45	BLOD		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-5

Laboratory Sample ID: 17A0684-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	05	630-20-6	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	05	71-55-6	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-5	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	75-34-3	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	75-35-4	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	05	96-18-4	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	95-50-1	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	107-06-2	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	78-87-5	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	05	541-73-1	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW8260B	01/26/2017 19:32	01/26/2017 19:32	1.54		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	05	78-93-3	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	05	591-78-6	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	05	67-64-1	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	05	71-43-2	SW8260B	01/26/2017 19:32	01/26/2017 19:32	0.99	J	0.20	1.00	1	ug/L	KCS
Bromochloromethane	05	74-97-5	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	05	75-27-4	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	05	75-25-2	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	05	74-83-9	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	05	75-15-0	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-5

Laboratory Sample ID: 17A0684-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorobenzene	05	108-90-7	SW8260B	01/26/2017 19:32	01/26/2017 19:32	0.54	J	0.10	1.00	1	ug/L	KCS
Chloroethane	05	75-00-3	SW8260B	01/26/2017 19:32	01/26/2017 19:32	0.23	J	0.20	1.00	1	ug/L	KCS
Chloroform	05	67-66-3	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	05	74-87-3	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	05	156-59-2	SW8260B	01/26/2017 19:32	01/26/2017 19:32	2.94		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	05	10061-01-5	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	05	124-48-1	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	05	74-95-3	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	05	75-71-8	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	05	100-41-4	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	05	74-88-4	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	05	179601-23-1	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	05	75-09-2	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		1.00	4.00	1	ug/L	KCS
o-Xylene	05	95-47-6	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	05	100-42-5	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	05	127-18-4	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	05	108-88-3	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	05	156-60-5	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	05	10061-02-6	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	05	110-57-6	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	05	79-01-6	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	05	75-69-4	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	05	108-05-4	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		2.20	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-5

Laboratory Sample ID: 17A0684-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	05	75-01-4	SW8260B	01/26/2017 19:32	01/26/2017 19:32	0.55		0.20	0.50	1	ug/L	KCS
Xylenes, Total	05	1330-20-7	SW8260B	01/26/2017 19:32	01/26/2017 19:32	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	05	102 %	70-120	01/26/2017 19:32	01/26/2017 19:32							
Surr: 4-Bromofluorobenzene	05	102 %	75-120	01/26/2017 19:32	01/26/2017 19:32							
Surr: Dibromofluoromethane	05	99.8 %	80-119	01/26/2017 19:32	01/26/2017 19:32							
Surr: Toluene-d8	05	109 %	85-120	01/26/2017 19:32	01/26/2017 19:32							

Certificate of Analysis

Client Name: Resource International, Ltd.
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Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-5

Laboratory Sample ID: 17A0684-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
bis (2-Ethylhexyl) phthalate	05	117-81-7	SW8270D	01/30/2017 08:57	02/07/2017 11:33	BLOD		1.06	2.66	1	ug/L	SKS
Di-n-butyl phthalate	05	84-74-2	SW8270D	01/30/2017 08:57	02/07/2017 11:33	BLOD		2.13	10.6	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol</i>	<i>05</i>	<i>54.6 %</i>	<i>40-125</i>	<i>01/30/2017 08:57</i>	<i>02/07/2017 11:33</i>							
<i>Surr: 2-Fluorobiphenyl</i>	<i>05</i>	<i>61.6 %</i>	<i>23-87</i>	<i>01/30/2017 08:57</i>	<i>02/07/2017 11:33</i>							
<i>Surr: 2-Fluorophenol</i>	<i>05</i>	<i>32.5 %</i>	<i>14-52</i>	<i>01/30/2017 08:57</i>	<i>02/07/2017 11:33</i>							
<i>Surr: Nitrobenzene-d5</i>	<i>05</i>	<i>58.4 %</i>	<i>40-110</i>	<i>01/30/2017 08:57</i>	<i>02/07/2017 11:33</i>							
<i>Surr: Phenol-d5</i>	<i>05</i>	<i>19.2 %</i>	<i>5-33</i>	<i>01/30/2017 08:57</i>	<i>02/07/2017 11:33</i>							
<i>Surr: p-Terphenyl-d14</i>	<i>05</i>	<i>53.3 %</i>	<i>22-85</i>	<i>01/30/2017 08:57</i>	<i>02/07/2017 11:33</i>							

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-5

Laboratory Sample ID: 17A0684-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
gamma-BHC (Lindane)	05	58-89-9	SW8081B	01/27/2017 09:18	02/01/2017 16:55	BLOD		0.003	0.054	1	ug/L	SKS
Surr: TCMX	05	50.0 %	18-112	01/27/2017 09:18	02/01/2017 16:55							
Surr: DCB	05	80.0 %	27-131	01/27/2017 09:18	02/01/2017 16:55							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-5

Laboratory Sample ID: 17A0684-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	05	93-76-5	SW8151A	01/26/2017 13:55	01/31/2017 15:14	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	05	93-72-1	SW8151A	01/26/2017 13:55	01/31/2017 15:14	0.167	J	0.100	0.500	1	ug/L	CVH
2,4-D	05	94-75-7	SW8151A	01/26/2017 13:55	01/31/2017 15:14	BLOD		0.100	0.500	1	ug/L	CVH
<i>Surr: DCAA</i>	<i>05</i>	<i>100 %</i>	<i>60-112</i>	<i>01/26/2017 13:55</i>	<i>01/31/2017 15:14</i>							

Certificate of Analysis

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Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-5

Laboratory Sample ID: 17A0684-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	05	106-93-4	SW8011	01/31/2017 15:22	01/31/2017 22:44	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	05	96-18-4	SW8011	01/31/2017 15:22	01/31/2017 22:44	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	05	96-12-8	SW8011	01/31/2017 15:22	01/31/2017 22:44	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromoethane (EDB) [2C]	05	106-93-4	SW8011	01/31/2017 15:22	01/31/2017 22:44	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP) [2C]	05	96-12-8	SW8011	01/31/2017 15:22	01/31/2017 22:44	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane [2C]	05	96-18-4	SW8011	01/31/2017 15:22	01/31/2017 22:44	BLOD		0.003	0.010	1	ug/L	CVH

Certificate of Analysis

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Date Issued: 2/9/2017 2:59:40PM

Client Site I.D.: Goochland Co. LF

Submitted To: Robert Hundley

Client Sample ID: MW-5

Laboratory Sample ID: 17A0684-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	05	57-12-5	SW9012	02/06/2017 14:18	02/06/2017 14:18	BLOD	CI	0.01	0.01	1	mg/L	BBP
Sulfide	05	18496-25-8	SW9215	01/31/2017 15:00	01/31/2017 15:00	BLOD		0.50	1.00	1	mg/L	MLG

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-6

Laboratory Sample ID: 17A0684-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	06	7440-22-4	SW6010C	01/27/2017 15:15	01/30/2017 11:47	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	06	7440-38-2	SW6020A	01/27/2017 15:15	02/01/2017 12:46	BLOD		0.0010	0.0050	1	mg/L	BG
Barium	06	7440-39-3	SW6010C	01/27/2017 15:15	01/30/2017 11:47	0.109		0.0020	0.0100	1	mg/L	CWO
Beryllium	06	7440-41-7	SW6010C	01/27/2017 15:15	01/30/2017 11:47	BLOD		0.0010	0.0040	1	mg/L	CWO
Cadmium	06	7440-43-9	SW6010C	01/27/2017 15:15	01/30/2017 11:47	BLOD		0.0020	0.0040	1	mg/L	CWO
Cobalt	06	7440-48-4	SW6010C	01/27/2017 15:15	01/30/2017 11:47	0.0027	J	0.0020	0.0040	1	mg/L	CWO
Chromium	06	7440-47-3	SW6010C	01/27/2017 15:15	01/30/2017 11:47	0.0055	J	0.0040	0.0100	1	mg/L	CWO
Copper	06	7440-50-8	SW6010C	01/27/2017 15:15	01/30/2017 11:47	BLOD		0.0030	0.0100	1	mg/L	CWO
Mercury	06	7439-97-6	SW7470A	01/30/2017 08:34	01/30/2017 13:29	BLOD		0.00020	0.00020	1	mg/L	RCV
Nickel	06RE1	7440-02-0	SW6010C	01/27/2017 15:15	01/30/2017 14:55	0.0039	J	0.0020	0.0100	1	mg/L	CWO
Lead	06	7439-92-1	SW6010C	01/27/2017 15:15	01/30/2017 11:47	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	06	7440-36-0	SW6020A	01/27/2017 15:15	02/01/2017 12:46	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	06	7782-49-2	SW6010C	01/27/2017 15:15	01/30/2017 11:47	BLOD		0.0150	0.0500	1	mg/L	CWO
Tin	06	7440-31-5	SW6010C	01/27/2017 15:15	01/30/2017 11:47	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	06	7440-28-0	SW6020A	01/27/2017 15:15	02/01/2017 12:46	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	06	7440-62-2	SW6010C	01/27/2017 15:15	01/30/2017 11:47	0.0091	J	0.0020	0.0100	1	mg/L	CWO
Zinc	06	7440-66-6	SW6010C	01/27/2017 15:15	01/30/2017 11:47	0.0133		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

Client Name: Resource International, Ltd.
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 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-6

Laboratory Sample ID: 17A0684-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	06	630-20-6	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	06	71-55-6	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	06	79-34-5	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	06	79-00-5	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	06	75-34-3	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	06	75-35-4	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	06	96-18-4	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	06	95-50-1	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	06	107-06-2	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	06	78-87-5	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	06	541-73-1	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	06	106-46-7	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	06	78-93-3	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	06	591-78-6	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	06	108-10-1	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	06	67-64-1	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	06	107-13-1	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	06	71-43-2	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	06	74-97-5	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	06	75-27-4	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	06	75-25-2	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	06	74-83-9	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	06	75-15-0	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	06	56-23-5	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-6

Laboratory Sample ID: 17A0684-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorobenzene	06	108-90-7	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.10	1.00	1	ug/L	KCS
Chloroethane	06	75-00-3	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	06	67-66-3	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	06	74-87-3	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	06	156-59-2	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	06	10061-01-5	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	06	124-48-1	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	06	74-95-3	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	06	75-71-8	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	06	100-41-4	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	06	74-88-4	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	06	179601-23-1	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	06	75-09-2	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		1.00	4.00	1	ug/L	KCS
o-Xylene	06	95-47-6	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	06	100-42-5	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	06	127-18-4	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	06	108-88-3	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	06	156-60-5	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	06	10061-02-6	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	06	110-57-6	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	06	79-01-6	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	06	75-69-4	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	06	108-05-4	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		2.20	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-6

Laboratory Sample ID: 17A0684-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	06	75-01-4	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.20	0.50	1	ug/L	KCS
Xylenes, Total	06	1330-20-7	SW8260B	01/26/2017 19:55	01/26/2017 19:55	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	06	113 %	70-120	01/26/2017 19:55	01/26/2017 19:55							
Surr: 4-Bromofluorobenzene	06	98.5 %	75-120	01/26/2017 19:55	01/26/2017 19:55							
Surr: Dibromofluoromethane	06	111 %	80-119	01/26/2017 19:55	01/26/2017 19:55							
Surr: Toluene-d8	06	101 %	85-120	01/26/2017 19:55	01/26/2017 19:55							

Certificate of Analysis

Client Name: Resource International, Ltd.
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 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-6

Laboratory Sample ID: 17A0684-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
bis (2-Ethylhexyl) phthalate	06	117-81-7	SW8270D	01/30/2017 08:57	02/01/2017 09:06	BLOD		1.04	2.60	1	ug/L	SKS
Di-n-butyl phthalate	06	84-74-2	SW8270D	01/30/2017 08:57	02/01/2017 09:06	BLOD		2.08	10.4	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol	06	73.8 %	40-125	01/30/2017 08:57	02/01/2017 09:06							
Surr: 2-Fluorobiphenyl	06	84.5 %	23-87	01/30/2017 08:57	02/01/2017 09:06							
Surr: 2-Fluorophenol	06	52.8 %	14-52	01/30/2017 08:57	02/01/2017 09:06							S
Surr: Nitrobenzene-d5	06	82.8 %	40-110	01/30/2017 08:57	02/01/2017 09:06							
Surr: Phenol-d5	06	29.1 %	5-33	01/30/2017 08:57	02/01/2017 09:06							
Surr: p-Terphenyl-d14	06	102 %	22-85	01/30/2017 08:57	02/01/2017 09:06							S

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-6

Laboratory Sample ID: 17A0684-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
gamma-BHC (Lindane)	06	58-89-9	SW8081B	01/27/2017 09:18	02/01/2017 17:14	BLOD		0.003	0.052	1	ug/L	SKS
Surr: TCMX	06	65.0 %	18-112	01/27/2017 09:18	02/01/2017 17:14							
Surr: DCB	06	100 %	27-131	01/27/2017 09:18	02/01/2017 17:14							

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-6

Laboratory Sample ID: 17A0684-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	06	93-76-5	SW8151A	01/26/2017 13:55	01/31/2017 15:37	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	06	93-72-1	SW8151A	01/26/2017 13:55	01/31/2017 15:37	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	06	94-75-7	SW8151A	01/26/2017 13:55	01/31/2017 15:37	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA	06	100 %	60-112	01/26/2017 13:55	01/31/2017 15:37							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-6

Laboratory Sample ID: 17A0684-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	06	106-93-4	SW8011	01/31/2017 15:22	01/31/2017 23:03	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	06	96-18-4	SW8011	01/31/2017 15:22	01/31/2017 23:03	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	06	96-12-8	SW8011	01/31/2017 15:22	01/31/2017 23:03	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromoethane (EDB) [2C]	06	106-93-4	SW8011	01/31/2017 15:22	01/31/2017 23:03	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP) [2C]	06	96-12-8	SW8011	01/31/2017 15:22	01/31/2017 23:03	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane [2C]	06	96-18-4	SW8011	01/31/2017 15:22	01/31/2017 23:03	BLOD		0.003	0.010	1	ug/L	CVH

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-6

Laboratory Sample ID: 17A0684-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	06	57-12-5	SW9012	02/07/2017 12:25	02/07/2017 12:25	BLOD		0.01	0.01	1	mg/L	LAO
Sulfide	06	18496-25-8	SW9215	01/31/2017 15:00	01/31/2017 15:00	BLOD		0.50	1.00	1	mg/L	MLG

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-13

Laboratory Sample ID: 17A0684-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	07	7440-22-4	SW6010C	01/27/2017 15:15	01/30/2017 11:53	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	07	7440-38-2	SW6020A	01/27/2017 15:15	02/01/2017 13:05	BLOD		0.0010	0.0050	1	mg/L	BG
Barium	07	7440-39-3	SW6010C	01/27/2017 15:15	01/30/2017 11:53	0.276		0.0020	0.0100	1	mg/L	CWO
Beryllium	07	7440-41-7	SW6010C	01/27/2017 15:15	01/30/2017 11:53	BLOD		0.0010	0.0040	1	mg/L	CWO
Cadmium	07	7440-43-9	SW6010C	01/27/2017 15:15	01/30/2017 11:53	BLOD		0.0020	0.0040	1	mg/L	CWO
Cobalt	07	7440-48-4	SW6010C	01/27/2017 15:15	01/30/2017 11:53	0.0024	J	0.0020	0.0040	1	mg/L	CWO
Chromium	07	7440-47-3	SW6010C	01/27/2017 15:15	01/30/2017 11:53	BLOD		0.0040	0.0100	1	mg/L	CWO
Copper	07	7440-50-8	SW6010C	01/27/2017 15:15	01/30/2017 11:53	BLOD		0.0030	0.0100	1	mg/L	CWO
Mercury	07	7439-97-6	SW7470A	01/30/2017 08:34	01/30/2017 13:36	BLOD		0.00020	0.00020	1	mg/L	RCV
Nickel	07RE1	7440-02-0	SW6010C	01/27/2017 15:15	01/30/2017 14:57	0.0076	J	0.0020	0.0100	1	mg/L	CWO
Lead	07	7439-92-1	SW6010C	01/27/2017 15:15	01/30/2017 11:53	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	07	7440-36-0	SW6020A	01/27/2017 15:15	02/01/2017 13:05	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	07	7782-49-2	SW6010C	01/27/2017 15:15	01/30/2017 11:53	BLOD		0.0150	0.0500	1	mg/L	CWO
Tin	07	7440-31-5	SW6010C	01/27/2017 15:15	01/30/2017 11:53	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	07	7440-28-0	SW6020A	01/27/2017 15:15	02/01/2017 13:05	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	07	7440-62-2	SW6010C	01/27/2017 15:15	01/30/2017 11:53	BLOD		0.0020	0.0100	1	mg/L	CWO
Zinc	07	7440-66-6	SW6010C	01/27/2017 15:15	01/30/2017 11:53	BLOD		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

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 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-13

Laboratory Sample ID: 17A0684-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	07	630-20-6	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	07	71-55-6	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	07	79-34-5	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	07	79-00-5	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	75-34-3	SW8260B	01/26/2017 20:20	01/26/2017 20:20	0.24	J	0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	07	75-35-4	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	07	96-18-4	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	07	95-50-1	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	07	107-06-2	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	07	78-87-5	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	07	541-73-1	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	07	106-46-7	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	07	78-93-3	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	07	591-78-6	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	07	108-10-1	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	07	67-64-1	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	07	107-13-1	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	07	71-43-2	SW8260B	01/26/2017 20:20	01/26/2017 20:20	0.38	J	0.20	1.00	1	ug/L	KCS
Bromochloromethane	07	74-97-5	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	07	75-27-4	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	07	75-25-2	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	07	74-83-9	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	07	75-15-0	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	07	56-23-5	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-13

Laboratory Sample ID: 17A0684-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorobenzene	07	108-90-7	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.10	1.00	1	ug/L	KCS
Chloroethane	07	75-00-3	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	07	67-66-3	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	07	74-87-3	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	07	156-59-2	SW8260B	01/26/2017 20:20	01/26/2017 20:20	7.04		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	07	10061-01-5	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	07	124-48-1	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	07	74-95-3	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	07	75-71-8	SW8260B	01/26/2017 20:20	01/26/2017 20:20	1.76		0.20	1.00	1	ug/L	KCS
Ethylbenzene	07	100-41-4	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	07	74-88-4	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	07	179601-23-1	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	07	75-09-2	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		1.00	4.00	1	ug/L	KCS
o-Xylene	07	95-47-6	SW8260B	01/26/2017 20:20	01/26/2017 20:20	0.18	J	0.10	1.00	1	ug/L	KCS
Styrene	07	100-42-5	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	07	127-18-4	SW8260B	01/26/2017 20:20	01/26/2017 20:20	2.30		0.20	1.00	1	ug/L	KCS
Toluene	07	108-88-3	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	07	156-60-5	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	07	10061-02-6	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	07	110-57-6	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	07	79-01-6	SW8260B	01/26/2017 20:20	01/26/2017 20:20	0.77	J	0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	07	75-69-4	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	07	108-05-4	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		2.20	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-13

Laboratory Sample ID: 17A0684-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	07	75-01-4	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.20	0.50	1	ug/L	KCS
Xylenes, Total	07	1330-20-7	SW8260B	01/26/2017 20:20	01/26/2017 20:20	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	07	102 %	70-120	01/26/2017 20:20	01/26/2017 20:20							
Surr: 4-Bromofluorobenzene	07	97.9 %	75-120	01/26/2017 20:20	01/26/2017 20:20							
Surr: Dibromofluoromethane	07	93.8 %	80-119	01/26/2017 20:20	01/26/2017 20:20							
Surr: Toluene-d8	07	101 %	85-120	01/26/2017 20:20	01/26/2017 20:20							

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Client Sample ID: MW-13

Laboratory Sample ID: 17A0684-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
bis (2-Ethylhexyl) phthalate	07	117-81-7	SW8270D	01/30/2017 08:57	02/06/2017 18:56	BLOD		1.09	2.72	1	ug/L	SKS
Di-n-butyl phthalate	07	84-74-2	SW8270D	01/30/2017 08:57	02/06/2017 18:56	BLOD		2.17	10.9	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol</i>	<i>07</i>	<i>53.6 %</i>	<i>40-125</i>	<i>01/30/2017 08:57</i>	<i>02/06/2017 18:56</i>							
<i>Surr: 2-Fluorobiphenyl</i>	<i>07</i>	<i>35.1 %</i>	<i>23-87</i>	<i>01/30/2017 08:57</i>	<i>02/06/2017 18:56</i>							
<i>Surr: 2-Fluorophenol</i>	<i>07</i>	<i>24.1 %</i>	<i>14-52</i>	<i>01/30/2017 08:57</i>	<i>02/06/2017 18:56</i>							
<i>Surr: Nitrobenzene-d5</i>	<i>07</i>	<i>33.5 %</i>	<i>40-110</i>	<i>01/30/2017 08:57</i>	<i>02/06/2017 18:56</i>							
<i>Surr: Phenol-d5</i>	<i>07</i>	<i>12.4 %</i>	<i>5-33</i>	<i>01/30/2017 08:57</i>	<i>02/06/2017 18:56</i>							
<i>Surr: p-Terphenyl-d14</i>	<i>07</i>	<i>57.7 %</i>	<i>22-85</i>	<i>01/30/2017 08:57</i>	<i>02/06/2017 18:56</i>							

Certificate of Analysis

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Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-13

Laboratory Sample ID: 17A0684-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
gamma-BHC (Lindane)	07	58-89-9	SW8081B	01/27/2017 09:18	02/01/2017 18:11	BLOD		0.003	0.055	1	ug/L	SKS
Surr: TCMX	07	50.0 %	18-112	01/27/2017 09:18	02/01/2017 18:11							
Surr: DCB	07	80.0 %	27-131	01/27/2017 09:18	02/01/2017 18:11							

Certificate of Analysis

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 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-13

Laboratory Sample ID: 17A0684-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	07	93-76-5	SW8151A	01/26/2017 13:55	01/31/2017 16:44	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	07	93-72-1	SW8151A	01/26/2017 13:55	01/31/2017 16:44	0.222	J	0.100	0.500	1	ug/L	CVH
2,4-D	07	94-75-7	SW8151A	01/26/2017 13:55	01/31/2017 16:44	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA	07	95.0 %	60-112	01/26/2017 13:55	01/31/2017 16:44							

Certificate of Analysis

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Client Sample ID: MW-13

Laboratory Sample ID: 17A0684-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	07	106-93-4	SW8011	01/31/2017 15:22	02/01/2017 00:02	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	07	96-18-4	SW8011	01/31/2017 15:22	02/01/2017 00:02	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	07	96-12-8	SW8011	01/31/2017 15:22	02/01/2017 00:02	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromoethane (EDB) [2C]	07	106-93-4	SW8011	01/31/2017 15:22	02/01/2017 00:02	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP) [2C]	07	96-12-8	SW8011	01/31/2017 15:22	02/01/2017 00:02	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane [2C]	07	96-18-4	SW8011	01/31/2017 15:22	02/01/2017 00:02	BLOD		0.003	0.010	1	ug/L	CVH

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-13

Laboratory Sample ID: 17A0684-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	07	57-12-5	SW9012	02/06/2017 14:24	02/06/2017 14:24	BLOD	CI	0.01	0.01	1	mg/L	BBP
Sulfide	07	18496-25-8	SW9215	01/31/2017 15:00	01/31/2017 15:00	BLOD		0.50	1.00	1	mg/L	MLG

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-14

Laboratory Sample ID: 17A0684-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	08	7440-22-4	SW6010C	01/27/2017 15:15	01/30/2017 11:55	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	08	7440-38-2	SW6020A	01/27/2017 15:15	02/01/2017 13:08	0.0015	J	0.0010	0.0050	1	mg/L	BG
Barium	08	7440-39-3	SW6010C	01/27/2017 15:15	01/30/2017 11:55	0.307		0.0020	0.0100	1	mg/L	CWO
Beryllium	08	7440-41-7	SW6010C	01/27/2017 15:15	01/30/2017 11:55	BLOD		0.0010	0.0040	1	mg/L	CWO
Cadmium	08	7440-43-9	SW6010C	01/27/2017 15:15	01/30/2017 11:56	BLOD		0.0020	0.0040	1	mg/L	CWO
Cobalt	08	7440-48-4	SW6010C	01/27/2017 15:15	01/30/2017 11:56	0.0358		0.0020	0.0040	1	mg/L	CWO
Chromium	08	7440-47-3	SW6010C	01/27/2017 15:15	01/30/2017 11:56	0.0210		0.0040	0.0100	1	mg/L	CWO
Copper	08	7440-50-8	SW6010C	01/27/2017 15:15	01/30/2017 11:55	0.0329		0.0030	0.0100	1	mg/L	CWO
Mercury	08	7439-97-6	SW7470A	01/30/2017 08:34	01/30/2017 13:44	BLOD		0.00020	0.00020	1	mg/L	RCV
Nickel	08RE1	7440-02-0	SW6010C	01/27/2017 15:15	01/30/2017 15:00	0.0158		0.0020	0.0100	1	mg/L	CWO
Lead	08	7439-92-1	SW6010C	01/27/2017 15:15	01/30/2017 11:56	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	08	7440-36-0	SW6020A	01/27/2017 15:15	02/01/2017 13:08	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	08	7782-49-2	SW6010C	01/27/2017 15:15	01/30/2017 11:56	0.0185	J	0.0150	0.0500	1	mg/L	CWO
Tin	08	7440-31-5	SW6010C	01/27/2017 15:15	01/30/2017 11:56	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	08	7440-28-0	SW6020A	01/27/2017 15:15	02/01/2017 13:08	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	08	7440-62-2	SW6010C	01/27/2017 15:15	01/30/2017 11:55	0.0335		0.0020	0.0100	1	mg/L	CWO
Zinc	08	7440-66-6	SW6010C	01/27/2017 15:15	01/30/2017 11:56	0.0517		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-14

Laboratory Sample ID: 17A0684-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	08	630-20-6	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	08	71-55-6	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	08	79-34-5	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	08	79-00-5	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	08	75-34-3	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	08	75-35-4	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	08	96-18-4	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	08	95-50-1	SW8260B	01/26/2017 20:44	01/26/2017 20:44	0.25	J	0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	08	107-06-2	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	08	78-87-5	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	08	541-73-1	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	08	106-46-7	SW8260B	01/26/2017 20:44	01/26/2017 20:44	3.13		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	08	78-93-3	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	08	591-78-6	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	08	108-10-1	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	08	67-64-1	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	08	107-13-1	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	08	71-43-2	SW8260B	01/26/2017 20:44	01/26/2017 20:44	0.37	J	0.20	1.00	1	ug/L	KCS
Bromochloromethane	08	74-97-5	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	08	75-27-4	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	08	75-25-2	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	08	74-83-9	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	08	75-15-0	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	08	56-23-5	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-14

Laboratory Sample ID: 17A0684-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorobenzene	08	108-90-7	SW8260B	01/26/2017 20:44	01/26/2017 20:44	1.53		0.10	1.00	1	ug/L	KCS
Chloroethane	08	75-00-3	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	08	156-59-2	SW8260B	01/26/2017 20:44	01/26/2017 20:44	5.05		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10061-01-5	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	08	124-48-1	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	08	74-95-3	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	08	100-41-4	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	08	74-88-4	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	08	179601-23-1	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		1.00	4.00	1	ug/L	KCS
o-Xylene	08	95-47-6	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	08	100-42-5	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	08	127-18-4	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	08	108-88-3	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	08	156-60-5	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10061-02-6	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-57-6	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	75-69-4	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	08	108-05-4	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		2.20	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-14

Laboratory Sample ID: 17A0684-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	08	75-01-4	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.20	0.50	1	ug/L	KCS
Xylenes, Total	08	1330-20-7	SW8260B	01/26/2017 20:44	01/26/2017 20:44	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	08	111 %	70-120	01/26/2017 20:44	01/26/2017 20:44							
Surr: 4-Bromofluorobenzene	08	97.7 %	75-120	01/26/2017 20:44	01/26/2017 20:44							
Surr: Dibromofluoromethane	08	115 %	80-119	01/26/2017 20:44	01/26/2017 20:44							
Surr: Toluene-d8	08	99.4 %	85-120	01/26/2017 20:44	01/26/2017 20:44							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-14

Laboratory Sample ID: 17A0684-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
bis (2-Ethylhexyl) phthalate	08	117-81-7	SW8270D	01/30/2017 08:57	02/06/2017 19:31	BLOD		1.03	2.58	1	ug/L	SKS
Di-n-butyl phthalate	08	84-74-2	SW8270D	01/30/2017 08:57	02/06/2017 19:31	BLOD		2.06	10.3	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol	08	58.3 %	40-125	01/30/2017 08:57	02/06/2017 19:31							
Surr: 2-Fluorobiphenyl	08	40.9 %	23-87	01/30/2017 08:57	02/06/2017 19:31							
Surr: 2-Fluorophenol	08	30.0 %	14-52	01/30/2017 08:57	02/06/2017 19:31							
Surr: Nitrobenzene-d5	08	37.9 %	40-110	01/30/2017 08:57	02/06/2017 19:31							
Surr: Phenol-d5	08	16.7 %	5-33	01/30/2017 08:57	02/06/2017 19:31							
Surr: p-Terphenyl-d14	08	53.4 %	22-85	01/30/2017 08:57	02/06/2017 19:31							

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-14

Laboratory Sample ID: 17A0684-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
gamma-BHC (Lindane)	08	58-89-9	SW8081B	01/27/2017 09:18	02/01/2017 18:30	BLOD		0.003	0.053	1	ug/L	SKS
Surr: TCMX	08	20.0 %	18-112	01/27/2017 09:18	02/01/2017 18:30							
Surr: DCB	08	50.0 %	27-131	01/27/2017 09:18	02/01/2017 18:30							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-14

Laboratory Sample ID: 17A0684-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	08	93-76-5	SW8151A	01/26/2017 13:55	01/31/2017 17:06	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	08	93-72-1	SW8151A	01/26/2017 13:55	01/31/2017 17:06	0.167	J	0.100	0.500	1	ug/L	CVH
2,4-D	08	94-75-7	SW8151A	01/26/2017 13:55	01/31/2017 17:06	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA	08	185 %	60-112	01/26/2017 13:55	01/31/2017 17:06							S

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-14

Laboratory Sample ID: 17A0684-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	08	106-93-4	SW8011	01/31/2017 15:22	02/01/2017 00:21	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	08	96-18-4	SW8011	01/31/2017 15:22	02/01/2017 00:21	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	08	96-12-8	SW8011	01/31/2017 15:22	02/01/2017 00:21	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromoethane (EDB) [2C]	08	106-93-4	SW8011	01/31/2017 15:22	02/01/2017 00:21	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP) [2C]	08	96-12-8	SW8011	01/31/2017 15:22	02/01/2017 00:21	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane [2C]	08	96-18-4	SW8011	01/31/2017 15:22	02/01/2017 00:21	BLOD		0.003	0.010	1	ug/L	CVH

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: MW-14

Laboratory Sample ID: 17A0684-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	08	57-12-5	SW9012	02/06/2017 14:27	02/06/2017 14:27	BLOD	CI	0.01	0.01	1	mg/L	BBP
Sulfide	08	18496-25-8	SW9215	01/31/2017 15:00	01/31/2017 15:00	BLOD		0.50	1.00	1	mg/L	MLG

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: Field Blank

Laboratory Sample ID: 17A0684-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	09	7440-22-4	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	09	7440-38-2	SW6020A	01/27/2017 15:15	02/01/2017 13:11	BLOD		0.0010	0.0050	1	mg/L	BG
Barium	09	7440-39-3	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0020	0.0100	1	mg/L	CWO
Beryllium	09	7440-41-7	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0010	0.0040	1	mg/L	CWO
Cadmium	09	7440-43-9	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0020	0.0040	1	mg/L	CWO
Cobalt	09	7440-48-4	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0020	0.0040	1	mg/L	CWO
Chromium	09	7440-47-3	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0040	0.0100	1	mg/L	CWO
Copper	09	7440-50-8	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0030	0.0100	1	mg/L	CWO
Mercury	09	7439-97-6	SW7470A	01/30/2017 08:34	01/30/2017 13:46	BLOD		0.00020	0.00020	1	mg/L	RCV
Nickel	09	7440-02-0	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0020	0.0100	1	mg/L	CWO
Lead	09	7439-92-1	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	09	7440-36-0	SW6020A	01/27/2017 15:15	02/01/2017 13:11	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	09	7782-49-2	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0150	0.0500	1	mg/L	CWO
Tin	09	7440-31-5	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	09	7440-28-0	SW6020A	01/27/2017 15:15	02/01/2017 13:11	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	09	7440-62-2	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0020	0.0100	1	mg/L	CWO
Zinc	09	7440-66-6	SW6010C	01/27/2017 15:15	01/30/2017 12:04	BLOD		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

Client Name: Resource International, Ltd.

Date Issued: 2/9/2017 2:59:40PM

Client Site I.D.: Goochland Co. LF

Submitted To: Robert Hundley

Client Sample ID: Field Blank

Laboratory Sample ID: 17A0684-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	09	630-20-6	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	09	71-55-6	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	09	79-34-5	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	09	79-00-5	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	09	75-34-3	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	09	75-35-4	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	09	96-18-4	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	09	95-50-1	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	09	107-06-2	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	09	78-87-5	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	09	541-73-1	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	09	106-46-7	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	09	78-93-3	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	09	591-78-6	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	09	108-10-1	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	09	67-64-1	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	09	107-13-1	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	09	71-43-2	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	09	74-97-5	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	09	75-27-4	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	09	75-25-2	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	09	74-83-9	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	09	75-15-0	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	09	56-23-5	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: Field Blank

Laboratory Sample ID: 17A0684-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorobenzene	09	108-90-7	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.10	1.00	1	ug/L	KCS
Chloroethane	09	75-00-3	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	09	67-66-3	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	09	74-87-3	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	09	156-59-2	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	09	10061-01-5	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	09	124-48-1	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	09	74-95-3	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	09	75-71-8	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	09	100-41-4	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	09	74-88-4	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	09	179601-23-1	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	09	75-09-2	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		1.00	4.00	1	ug/L	KCS
o-Xylene	09	95-47-6	SW8260B	01/26/2017 17:31	01/26/2017 17:31	0.17	J	0.10	1.00	1	ug/L	KCS
Styrene	09	100-42-5	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	09	127-18-4	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	09	108-88-3	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	09	156-60-5	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	09	10061-02-6	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	09	110-57-6	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	09	79-01-6	SW8260B	01/26/2017 17:31	01/26/2017 17:31	0.21	J	0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	09	75-69-4	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	09	108-05-4	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		2.20	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: Field Blank

Laboratory Sample ID: 17A0684-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	09	75-01-4	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.20	0.50	1	ug/L	KCS
Xylenes, Total	09	1330-20-7	SW8260B	01/26/2017 17:31	01/26/2017 17:31	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	09	105 %	70-120	01/26/2017 17:31	01/26/2017 17:31							
Surr: 4-Bromofluorobenzene	09	97.1 %	75-120	01/26/2017 17:31	01/26/2017 17:31							
Surr: Dibromofluoromethane	09	102 %	80-119	01/26/2017 17:31	01/26/2017 17:31							
Surr: Toluene-d8	09	101 %	85-120	01/26/2017 17:31	01/26/2017 17:31							

Certificate of Analysis

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Laboratory Sample ID: 17A0684-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
bis (2-Ethylhexyl) phthalate	09	117-81-7	SW8270D	01/30/2017 08:57	02/06/2017 20:05	BLOD		1.09	2.72	1	ug/L	SKS
Di-n-butyl phthalate	09	84-74-2	SW8270D	01/30/2017 08:57	02/06/2017 20:05	BLOD		2.17	10.9	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol</i>	09	62.8 %	40-125	01/30/2017 08:57	02/06/2017 20:05							
<i>Surr: 2-Fluorobiphenyl</i>	09	58.4 %	23-87	01/30/2017 08:57	02/06/2017 20:05							
<i>Surr: 2-Fluorophenol</i>	09	38.3 %	14-52	01/30/2017 08:57	02/06/2017 20:05							
<i>Surr: Nitrobenzene-d5</i>	09	54.5 %	40-110	01/30/2017 08:57	02/06/2017 20:05							
<i>Surr: Phenol-d5</i>	09	20.0 %	5-33	01/30/2017 08:57	02/06/2017 20:05							
<i>Surr: p-Terphenyl-d14</i>	09	91.1 %	22-85	01/30/2017 08:57	02/06/2017 20:05							

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Client Sample ID: Field Blank

Laboratory Sample ID: 17A0684-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
gamma-BHC (Lindane)	09	58-89-9	SW8081B	01/27/2017 09:18	02/01/2017 18:49	BLOD		0.003	0.054	1	ug/L	SKS
Surr: TCMX	09	40.0 %	18-112	01/27/2017 09:18	02/01/2017 18:49							
Surr: DCB	09	65.0 %	27-131	01/27/2017 09:18	02/01/2017 18:49							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
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Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: Field Blank

Laboratory Sample ID: 17A0684-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	09	93-76-5	SW8151A	01/26/2017 13:55	01/31/2017 17:28	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	09	93-72-1	SW8151A	01/26/2017 13:55	01/31/2017 17:28	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	09	94-75-7	SW8151A	01/26/2017 13:55	01/31/2017 17:28	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA	09	80.0 %	60-112	01/26/2017 13:55	01/31/2017 17:28							

Certificate of Analysis

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Laboratory Sample ID: 17A0684-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	09	106-93-4	SW8011	01/31/2017 15:22	02/01/2017 00:41	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	09	96-18-4	SW8011	01/31/2017 15:22	02/01/2017 00:41	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	09	96-12-8	SW8011	01/31/2017 15:22	02/01/2017 00:41	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromoethane (EDB) [2C]	09	106-93-4	SW8011	01/31/2017 15:22	02/01/2017 00:41	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP) [2C]	09	96-12-8	SW8011	01/31/2017 15:22	02/01/2017 00:41	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane [2C]	09	96-18-4	SW8011	01/31/2017 15:22	02/01/2017 00:41	BLOD		0.003	0.010	1	ug/L	CVH

Certificate of Analysis

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Laboratory Sample ID: 17A0684-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	09	57-12-5	SW9012	02/06/2017 14:30	02/06/2017 14:30	BLOD		0.01	0.01	1	mg/L	BBP
Sulfide	09	18496-25-8	SW9215	01/31/2017 15:00	01/31/2017 15:00	BLOD		0.50	1.00	1	mg/L	MLG

Certificate of Analysis

Client Name: Resource International, Ltd.
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Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 17A0684-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	10	630-20-6	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	10	71-55-6	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	10	79-34-5	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	10	79-00-5	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	10	75-34-3	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	10	75-35-4	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	10	96-18-4	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	10	95-50-1	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	10	107-06-2	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	10	78-87-5	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	10	541-73-1	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	10	106-46-7	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	10	78-93-3	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	10	591-78-6	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	10	108-10-1	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	10	67-64-1	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	10	107-13-1	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	10	71-43-2	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	10	74-97-5	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	10	75-27-4	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	10	75-25-2	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	10	74-83-9	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	10	75-15-0	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	10	56-23-5	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 17A0684-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chlorobenzene	10	108-90-7	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.10	1.00	1	ug/L	KCS
Chloroethane	10	75-00-3	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	10	67-66-3	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	10	74-87-3	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	10	156-59-2	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	10	10061-01-5	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	10	124-48-1	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	10	74-95-3	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	10	75-71-8	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	10	100-41-4	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	10	74-88-4	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	10	179601-23-1	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	10	75-09-2	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		1.00	4.00	1	ug/L	KCS
o-Xylene	10	95-47-6	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	10	100-42-5	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	10	127-18-4	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	10	108-88-3	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	10	156-60-5	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	10	10061-02-6	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	10	110-57-6	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	10	79-01-6	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	10	75-69-4	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	10	108-05-4	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		2.20	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 17A0684-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	10	75-01-4	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.20	0.50	1	ug/L	KCS
Xylenes, Total	10	1330-20-7	SW8260B	01/26/2017 17:07	01/26/2017 17:07	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4	10	105 %	70-120	01/26/2017 17:07	01/26/2017 17:07							
Surr: 4-Bromofluorobenzene	10	98.2 %	75-120	01/26/2017 17:07	01/26/2017 17:07							
Surr: Dibromofluoromethane	10	111 %	80-119	01/26/2017 17:07	01/26/2017 17:07							
Surr: Toluene-d8	10	99.1 %	85-120	01/26/2017 17:07	01/26/2017 17:07							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 17A0684-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	10	106-93-4	SW8011	01/31/2017 15:22	02/01/2017 01:00	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	10	96-18-4	SW8011	01/31/2017 15:22	02/01/2017 01:00	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	10	96-12-8	SW8011	01/31/2017 15:22	02/01/2017 01:00	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromoethane (EDB) [2C]	10	106-93-4	SW8011	01/31/2017 15:22	02/01/2017 01:00	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP) [2C]	10	96-12-8	SW8011	01/31/2017 15:22	02/01/2017 01:00	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane [2C]	10	96-18-4	SW8011	01/31/2017 15:22	02/01/2017 01:00	BLOD		0.003	0.010	1	ug/L	CVH

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAA0598 - EPA200.2/R2.8

Blank (BAA0598-BLK1)

Prepared: 01/27/2017 Analyzed: 01/30/2017

Barium	BLOD	0.0100	mg/L
Beryllium	BLOD	0.0040	mg/L
Cadmium	BLOD	0.0040	mg/L
Chromium	BLOD	0.0100	mg/L
Cobalt	BLOD	0.0040	mg/L
Copper	BLOD	0.0100	mg/L
Lead	BLOD	0.0100	mg/L
Nickel	BLOD	0.0100	mg/L
Selenium	BLOD	0.0500	mg/L
Silver	BLOD	0.0100	mg/L
Tin	BLOD	0.0200	mg/L
Vanadium	BLOD	0.0100	mg/L
Zinc	BLOD	0.0100	mg/L

LCS (BAA0598-BS1)

Prepared: 01/27/2017 Analyzed: 01/30/2017

Barium	0.514	0.0100	mg/L	0.500	103	80-120
Beryllium	0.512	0.0040	mg/L	0.500	102	80-120
Cadmium	0.517	0.0040	mg/L	0.500	103	80-120
Chromium	0.514	0.0100	mg/L	0.500	103	80-120
Cobalt	0.528	0.0040	mg/L	0.500	106	80-120
Copper	0.516	0.0100	mg/L	0.500	103	80-120
Lead	0.523	0.0100	mg/L	0.500	105	80-120
Nickel	0.5290	0.0100	mg/L	0.500	106	80-120
Selenium	0.517	0.0500	mg/L	0.500	103	80-120
Silver	0.103	0.0100	mg/L	0.100	103	80-120
Tin	0.108	0.0200	mg/L	0.100	108	80-120
Vanadium	0.510	0.0100	mg/L	0.500	102	80-120

E

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0598 - EPA200.2/R2.8										
LCS (BAA0598-BS1) Prepared: 01/27/2017 Analyzed: 01/30/2017										
Zinc	0.517	0.0100	mg/L	0.500		103	80-120			
LCS Dup (BAA0598-BSD1) Prepared: 01/27/2017 Analyzed: 01/30/2017										
Barium	0.514	0.0100	mg/L	0.500		103	80-120	0.0346	20	
Beryllium	0.511	0.0040	mg/L	0.500		102	80-120	0.102	20	
Cadmium	0.516	0.0040	mg/L	0.500		103	80-120	0.230	20	
Chromium	0.514	0.0100	mg/L	0.500		103	80-120	0.0569	20	
Cobalt	0.520	0.0040	mg/L	0.500		104	80-120	1.58	20	
Copper	0.516	0.0100	mg/L	0.500		103	80-120	0.0890	20	
Lead	0.514	0.0100	mg/L	0.500		103	80-120	1.65	20	
Nickel	0.5191	0.0100	mg/L	0.500		104	80-120	1.87	20	
Selenium	0.514	0.0500	mg/L	0.500		103	80-120	0.646	20	
Silver	0.104	0.0100	mg/L	0.100		104	80-120	1.18	20	E
Tin	0.112	0.0200	mg/L	0.100		112	80-120	2.96	20	
Vanadium	0.508	0.0100	mg/L	0.500		102	80-120	0.232	20	
Zinc	0.516	0.0100	mg/L	0.500		103	80-120	0.201	20	
Matrix Spike (BAA0598-MS1) Source: 17A0682-02 Prepared: 01/27/2017 Analyzed: 01/30/2017										
Barium	0.571	0.0100	mg/L	0.500	0.0409	106	75-125			
Beryllium	0.533	0.0040	mg/L	0.500	BLOD	107	75-125			
Cadmium	0.533	0.0040	mg/L	0.500	BLOD	107	75-125			
Chromium	0.531	0.0100	mg/L	0.500	BLOD	106	75-125			
Cobalt	0.544	0.0040	mg/L	0.500	BLOD	109	75-125			
Copper	0.561	0.0100	mg/L	0.500	0.0262	107	75-125			
Lead	0.539	0.0100	mg/L	0.500	BLOD	108	75-125			
Nickel	0.5436	0.0100	mg/L	0.500	BLOD	109	75-125			
Selenium	0.540	0.0500	mg/L	0.500	BLOD	108	75-125			
Silver	0.109	0.0100	mg/L	0.100	BLOD	109	75-125			E

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0598 - EPA200.2/R2.8										
Matrix Spike (BAA0598-MS1)		Source: 17A0682-02		Prepared: 01/27/2017 Analyzed: 01/30/2017						
Tin	0.112	0.0200	mg/L	0.100	BLOD	112	75-125			
Vanadium	0.524	0.0100	mg/L	0.500	BLOD	105	75-125			
Zinc	0.567	0.0100	mg/L	0.500	0.0318	107	75-125			
Matrix Spike (BAA0598-MS2)		Source: 17A0684-06		Prepared: 01/27/2017 Analyzed: 01/30/2017						
Barium	0.614	0.0100	mg/L	0.500	0.109	101	75-125			
Beryllium	0.504	0.0040	mg/L	0.500	BLOD	101	75-125			
Cadmium	0.507	0.0040	mg/L	0.500	BLOD	101	75-125			
Chromium	0.513	0.0100	mg/L	0.500	0.0055	101	75-125			
Cobalt	0.516	0.0040	mg/L	0.500	0.0027	103	75-125			
Copper	0.514	0.0100	mg/L	0.500	BLOD	103	75-125			
Lead	0.507	0.0100	mg/L	0.500	BLOD	101	75-125			
Nickel	0.5197	0.0100	mg/L	0.500	0.0036	103	75-125			
Selenium	0.497	0.0500	mg/L	0.500	BLOD	99.3	75-125			
Silver	0.102	0.0100	mg/L	0.100	BLOD	102	75-125			E
Tin	0.101	0.0200	mg/L	0.100	BLOD	101	75-125			
Vanadium	0.516	0.0100	mg/L	0.500	0.0091	101	75-125			
Zinc	0.528	0.0100	mg/L	0.500	0.0133	103	75-125			
Matrix Spike Dup (BAA0598-MSD1)		Source: 17A0682-02		Prepared: 01/27/2017 Analyzed: 01/30/2017						
Barium	0.557	0.0100	mg/L	0.500	0.0409	103	75-125	2.40	20	
Beryllium	0.519	0.0040	mg/L	0.500	BLOD	104	75-125	2.63	20	
Cadmium	0.519	0.0040	mg/L	0.500	BLOD	104	75-125	2.54	20	
Chromium	0.519	0.0100	mg/L	0.500	BLOD	104	75-125	2.24	20	
Cobalt	0.521	0.0040	mg/L	0.500	BLOD	104	75-125	4.20	20	
Copper	0.550	0.0100	mg/L	0.500	0.0262	105	75-125	2.01	20	
Lead	0.519	0.0100	mg/L	0.500	BLOD	104	75-125	3.94	20	
Nickel	0.5208	0.0100	mg/L	0.500	BLOD	104	75-125	4.30	20	

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAA0598 - EPA200.2/R2.8

Matrix Spike Dup (BAA0598-MSD1)		Source: 17A0682-02		Prepared: 01/27/2017 Analyzed: 01/30/2017						
Selenium	0.513	0.0500	mg/L	0.500	BLOD	103	75-125	5.03	20	E
Silver	0.105	0.0100	mg/L	0.100	BLOD	105	75-125	2.96	20	
Tin	0.106	0.0200	mg/L	0.100	BLOD	106	75-125	5.21	20	
Vanadium	0.514	0.0100	mg/L	0.500	BLOD	103	75-125	2.07	20	
Zinc	0.551	0.0100	mg/L	0.500	0.0318	104	75-125	2.88	20	

Matrix Spike Dup (BAA0598-MSD2)		Source: 17A0684-06		Prepared: 01/27/2017 Analyzed: 01/30/2017						
Barium	0.633	0.0100	mg/L	0.500	0.109	105	75-125	3.05	20	E
Beryllium	0.512	0.0040	mg/L	0.500	BLOD	102	75-125	1.56	20	
Cadmium	0.515	0.0040	mg/L	0.500	BLOD	103	75-125	1.55	20	
Chromium	0.522	0.0100	mg/L	0.500	0.0055	103	75-125	1.84	20	
Cobalt	0.525	0.0040	mg/L	0.500	0.0027	104	75-125	1.69	20	
Copper	0.525	0.0100	mg/L	0.500	BLOD	105	75-125	2.20	20	
Lead	0.515	0.0100	mg/L	0.500	BLOD	103	75-125	1.43	20	
Nickel	0.5266	0.0100	mg/L	0.500	0.0036	105	75-125	1.33	20	
Selenium	0.501	0.0500	mg/L	0.500	BLOD	100	75-125	0.899	20	
Silver	0.105	0.0100	mg/L	0.100	BLOD	105	75-125	2.63	20	
Tin	0.101	0.0200	mg/L	0.100	BLOD	101	75-125	0.195	20	
Vanadium	0.526	0.0100	mg/L	0.500	0.0091	103	75-125	2.04	20	
Zinc	0.533	0.0100	mg/L	0.500	0.0133	104	75-125	1.08	20	

Batch BAA0619 - EPA200.8 R5.4

Blank (BAA0619-BLK1)		Prepared: 01/27/2017 Analyzed: 02/01/2017								
Antimony	BLOD	0.00500	mg/L							
Arsenic	BLOD	0.0050	mg/L							
Thallium	BLOD	0.00200	mg/L							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0619 - EPA200.8 R5.4										
LCS (BAA0619-BS1)				Prepared: 01/27/2017 Analyzed: 02/01/2017						
Antimony	0.0511	0.00500	mg/L	0.0500		102	80-120			
Arsenic	0.049	0.0050	mg/L	0.0500		98.3	80-120			
Thallium	0.0476	0.00200	mg/L	0.0500		95.2	80-120			
LCS Dup (BAA0619-BSD1)				Prepared: 01/27/2017 Analyzed: 02/01/2017						
Antimony	0.0529	0.00500	mg/L	0.0500		106	80-120	3.50	20	
Arsenic	0.050	0.0050	mg/L	0.0500		100	80-120	1.85	20	
Thallium	0.0492	0.00200	mg/L	0.0500		98.3	80-120	3.22	20	
Matrix Spike (BAA0619-MS1)				Source: 17A0684-06		Prepared: 01/27/2017 Analyzed: 02/01/2017				
Antimony	0.0456	0.00500	mg/L	0.0500	BLOD	91.2	75-125			
Arsenic	0.049	0.0050	mg/L	0.0500	BLOD	98.6	75-125			
Thallium	0.0489	0.00200	mg/L	0.0500	BLOD	97.9	75-125			
Matrix Spike Dup (BAA0619-MSD1)				Source: 17A0684-06		Prepared: 01/27/2017 Analyzed: 02/01/2017				
Antimony	0.0445	0.00500	mg/L	0.0500	BLOD	89.0	75-125	2.46	20	
Arsenic	0.049	0.0050	mg/L	0.0500	BLOD	99.0	75-125	0.363	20	
Thallium	0.0489	0.00200	mg/L	0.0500	BLOD	97.8	75-125	0.0796	20	
Batch BAA0621 - SW7470A										
Blank (BAA0621-BLK1)				Prepared & Analyzed: 01/30/2017						
Mercury	BLOD	0.00020	mg/L							
LCS (BAA0621-BS1)				Prepared & Analyzed: 01/30/2017						
Mercury	0.00252	0.00020	mg/L	0.00250		101	80-120			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0621 - SW7470A										
LCS Dup (BAA0621-BSD1)				Prepared & Analyzed: 01/30/2017						
Mercury	0.00246	0.00020	mg/L	0.00250		98.4	80-120	2.40	20	
Matrix Spike (BAA0621-MS1)				Source: 17A0642-02 Prepared & Analyzed: 01/30/2017						
Mercury	0.00252	0.00020	mg/L	0.00250	BLOD	101	80-120			
Matrix Spike (BAA0621-MS2)				Source: 17A0684-06 Prepared & Analyzed: 01/30/2017						
Mercury	0.00253	0.00020	mg/L	0.00250	BLOD	101	80-120			
Matrix Spike Dup (BAA0621-MSD1)				Source: 17A0642-02 Prepared & Analyzed: 01/30/2017						
Mercury	0.00249	0.00020	mg/L	0.00250	BLOD	99.7	80-120	1.09	20	
Matrix Spike Dup (BAA0621-MSD2)				Source: 17A0684-06 Prepared & Analyzed: 01/30/2017						
Mercury	0.00263	0.00020	mg/L	0.00250	BLOD	105	80-120	3.74	20	

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAA0612 - SW5030B

Blank (BAA0612-BLK1)

Prepared & Analyzed: 01/26/2017

1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L
1,1,1-Trichloroethane	BLOD	1.00	ug/L
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L
1,1,2-Trichloroethane	BLOD	1.00	ug/L
1,1-Dichloroethane	BLOD	1.00	ug/L
1,1-Dichloroethylene	BLOD	1.00	ug/L
1,2,3-Trichloropropane	BLOD	1.00	ug/L
1,2-Dichlorobenzene	BLOD	1.00	ug/L
1,2-Dichloroethane	BLOD	1.00	ug/L
1,2-Dichloropropane	BLOD	1.00	ug/L
1,3-Dichlorobenzene	BLOD	1.00	ug/L
1,4-Dichlorobenzene	BLOD	1.00	ug/L
2-Butanone (MEK)	BLOD	5.00	ug/L
2-Hexanone (MBK)	BLOD	5.00	ug/L
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L
Acetone	BLOD	10.0	ug/L
Acrylonitrile	BLOD	5.00	ug/L
Benzene	BLOD	1.00	ug/L
Bromochloromethane	BLOD	1.00	ug/L
Bromodichloromethane	BLOD	0.50	ug/L
Bromoform	BLOD	1.00	ug/L
Bromomethane	BLOD	1.00	ug/L
Carbon disulfide	BLOD	10.0	ug/L
Carbon tetrachloride	BLOD	1.00	ug/L
Chlorobenzene	BLOD	1.00	ug/L
Chloroethane	BLOD	1.00	ug/L

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAA0612 - SW5030B

Blank (BAA0612-BLK1)

Prepared & Analyzed: 01/26/2017

Chloroform	BLOD	0.50	ug/L							
Chloromethane	BLOD	1.00	ug/L							
cis-1,2-Dichloroethylene	BLOD	1.00	ug/L							
cis-1,3-Dichloropropene	BLOD	1.00	ug/L							
Dibromochloromethane	BLOD	0.50	ug/L							
Dibromomethane	BLOD	1.00	ug/L							
Dichlorodifluoromethane	BLOD	1.00	ug/L							
Ethylbenzene	BLOD	1.00	ug/L							
Iodomethane	BLOD	10.0	ug/L							
m+p-Xylenes	BLOD	2.00	ug/L							
Methylene chloride	BLOD	4.00	ug/L							
o-Xylene	BLOD	1.00	ug/L							
Styrene	BLOD	1.00	ug/L							
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L							
Toluene	BLOD	1.00	ug/L							
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L							
trans-1,3-Dichloropropene	BLOD	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BLOD	4.00	ug/L							
Trichloroethylene	BLOD	1.00	ug/L							
Trichlorofluoromethane	BLOD	1.00	ug/L							
Vinyl acetate	BLOD	10.0	ug/L							
Vinyl chloride	BLOD	0.50	ug/L							
Xylenes, Total	BLOD	3.00	ug/L							
Surr: 1,2-Dichloroethane-d4	51.2		ug/L	50.0		102	70-120			
Surr: 4-Bromofluorobenzene	49.4		ug/L	50.0		98.7	75-120			
Surr: Dibromofluoromethane	50.3		ug/L	50.0		101	80-119			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0612 - SW5030B										
Blank (BAA0612-BLK1)				Prepared & Analyzed: 01/26/2017						
<i>Surr: Toluene-d8</i>	51.3		ug/L	50.0		103	85-120			
LCS (BAA0612-BS1)				Prepared & Analyzed: 01/26/2017						
1,1,1,2-Tetrachloroethane	51.2	0.4	ug/L	50.0		102	80-130			
1,1,1-Trichloroethane	53.1	1	ug/L	50.0		106	65-130			
1,1,2,2-Tetrachloroethane	51.3	0.4	ug/L	50.0		103	65-130			
1,1,2-Trichloroethane	53.7	1	ug/L	50.0		107	75-125			
1,1-Dichloroethane	57.2	1	ug/L	50.0		114	70-135			
1,1-Dichloroethylene	47.3	1	ug/L	50.0		94.6	70-130			
1,2,3-Trichloropropane	53.3	1	ug/L	50.0		107	75-125			
1,2-Dichlorobenzene	56.2	1	ug/L	50.0		112	70-120			
1,2-Dichloroethane	48.9	1	ug/L	50.0		97.9	70-130			
1,2-Dichloropropane	53.1	1	ug/L	50.0		106	75-125			
1,3-Dichlorobenzene	56.0	1	ug/L	50.0		112	75-125			
1,4-Dichlorobenzene	54.0	1	ug/L	50.0		108	75-125			
2-Butanone (MEK)	51.6	5	ug/L	50.0		103	30-150			
2-Hexanone (MBK)	54.9	5	ug/L	50.0		110	55-130			
4-Methyl-2-pentanone (MIBK)	54.8	5	ug/L	50.0		110	60-135			
Acetone	50.7	10	ug/L	50.0		101	40-140			
Acrylonitrile	236	5	ug/L	250		94.5	70-130			
Benzene	54.6	1	ug/L	50.0		109	80-120			
Bromochloromethane	50.9	1	ug/L	50.0		102	65-130			
Bromodichloromethane	56.0	0.5	ug/L	50.0		112	75-120			
Bromoform	52.8	1	ug/L	50.0		106	70-130			
Bromomethane	48.2	1	ug/L	50.0		96.3	30-145			
Carbon disulfide	58.4	10	ug/L	50.0		117	35-160			
Carbon tetrachloride	52.0	1	ug/L	50.0		104	65-140			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAA0612 - SW5030B

LCS (BAA0612-BS1)

Prepared & Analyzed: 01/26/2017

Chlorobenzene	55.1	1	ug/L	50.0		110	80-120			
Chloroethane	49.7	1	ug/L	50.0		99.4	60-135			
Chloroform	51.5	0.5	ug/L	50.0		103	65-135			
Chloromethane	58.2	1	ug/L	50.0		116	40-125			
cis-1,2-Dichloroethylene	53.9	1	ug/L	50.0		108	70-125			
cis-1,3-Dichloropropene	49.4	1	ug/L	50.0		98.9	70-130			
Dibromochloromethane	54.5	0.5	ug/L	50.0		109	60-135			
Dibromomethane	53.9	1	ug/L	50.0		108	75-125			
Dichlorodifluoromethane	56.6	1	ug/L	50.0		113	30-155			
Ethylbenzene	54.3	1	ug/L	50.0		109	75-125			
m+p-Xylenes	112	2	ug/L	100		112	75-130			
Methylene chloride	44.5	4	ug/L	50.0		89.1	55-140			
o-Xylene	55.9	1	ug/L	50.0		112	80-120			
Styrene	57.8	1	ug/L	50.0		116	65-135			
Tetrachloroethylene (PCE)	55.3	1	ug/L	50.0		111	45-150			
Toluene	54.7	1	ug/L	50.0		109	75-120			
trans-1,2-Dichloroethylene	54.1	1	ug/L	50.0		108	60-140			
trans-1,3-Dichloropropene	52.0	1	ug/L	50.0		104	55-140			
Trichloroethylene	51.5	1	ug/L	50.0		103	70-125			
Trichlorofluoromethane	46.0	1	ug/L	50.0		92.0	60-145			
Vinyl chloride	57.3	0.5	ug/L	50.0		115	50-145			
Surr: 1,2-Dichloroethane-d4	50.7		ug/L	50.0		101	70-120			
Surr: 4-Bromofluorobenzene	50.3		ug/L	50.0		101	75-120			
Surr: Dibromofluoromethane	50.1		ug/L	50.0		100	80-119			
Surr: Toluene-d8	50.2		ug/L	50.0		100	85-120			

Duplicate (BAA0612-DUP1)

Source: 17A0672-01

Prepared & Analyzed: 01/26/2017

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAA0612 - SW5030B

Duplicate (BAA0612-DUP1)		Source: 17A0672-01			Prepared & Analyzed: 01/26/2017					
1,1,1,2-Tetrachloroethane	BLOD	2.00	ug/L		BLOD			NA	30	
1,1,1-Trichloroethane	BLOD	5.00	ug/L		BLOD			NA	30	
1,1,2,2-Tetrachloroethane	BLOD	2.00	ug/L		BLOD			NA	30	
1,1,2-Trichloroethane	BLOD	5.00	ug/L		BLOD			NA	30	
1,1-Dichloroethane	BLOD	5.00	ug/L		BLOD			NA	30	
1,1-Dichloroethylene	BLOD	5.00	ug/L		BLOD			NA	30	
1,2,3-Trichloropropane	BLOD	5.00	ug/L		BLOD			NA	30	
1,2-Dichlorobenzene	BLOD	5.00	ug/L		BLOD			NA	30	
1,2-Dichloroethane	BLOD	5.00	ug/L		BLOD			NA	30	
1,2-Dichloropropane	BLOD	5.00	ug/L		BLOD			NA	30	
1,3-Dichlorobenzene	BLOD	5.00	ug/L		BLOD			NA	30	
1,4-Dichlorobenzene	BLOD	5.00	ug/L		BLOD			NA	30	
2-Butanone (MEK)	BLOD	25.0	ug/L		BLOD			NA	30	
2-Hexanone (MBK)	BLOD	25.0	ug/L		BLOD			NA	30	
4-Methyl-2-pentanone (MIBK)	BLOD	25.0	ug/L		BLOD			NA	30	
Acetone	2830	50.0	ug/L		2540			11.0	30	
Acrylonitrile	BLOD	25.0	ug/L		BLOD			NA	30	
Benzene	BLOD	5.00	ug/L		BLOD			NA	30	
Bromochloromethane	BLOD	5.00	ug/L		BLOD			NA	30	
Bromodichloromethane	2.42	2.50	ug/L		2.58			NA	30	J
Bromoform	BLOD	5.00	ug/L		BLOD			NA	30	
Bromomethane	BLOD	5.00	ug/L		BLOD			NA	30	
Carbon disulfide	BLOD	50.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	BLOD	5.00	ug/L		BLOD			NA	30	
Chlorobenzene	BLOD	5.00	ug/L		BLOD			NA	30	
Chloroethane	BLOD	5.00	ug/L		BLOD			NA	30	

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAA0612 - SW5030B

Duplicate (BAA0612-DUP1)

Source: 17A0672-01

Prepared & Analyzed: 01/26/2017

Chloroform	5.55	2.50	ug/L		5.67			2.14	30	
Chloromethane	BLOD	5.00	ug/L		BLOD			NA	30	
cis-1,2-Dichloroethylene	BLOD	5.00	ug/L		BLOD			NA	30	
cis-1,3-Dichloropropene	BLOD	5.00	ug/L		BLOD			NA	30	
Dibromochloromethane	1.44	2.50	ug/L		1.45			NA	30	J
Dibromomethane	BLOD	5.00	ug/L		BLOD			NA	30	
Dichlorodifluoromethane	BLOD	5.00	ug/L		BLOD			NA	30	
Ethylbenzene	BLOD	5.00	ug/L		BLOD			NA	30	
Iodomethane	BLOD	50.0	ug/L		BLOD			NA	30	
m+p-Xylenes	BLOD	10.0	ug/L		BLOD			NA	30	
Methylene chloride	BLOD	20.0	ug/L		BLOD			NA	30	
o-Xylene	BLOD	5.00	ug/L		BLOD			NA	30	
Styrene	BLOD	5.00	ug/L		BLOD			NA	30	
Tetrachloroethylene (PCE)	BLOD	5.00	ug/L		BLOD			NA	30	
Toluene	BLOD	5.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	BLOD	5.00	ug/L		BLOD			NA	30	
trans-1,3-Dichloropropene	BLOD	5.00	ug/L		BLOD			NA	30	
trans-1,4-Dichloro-2-butene	BLOD	20.0	ug/L		BLOD			NA	30	
Trichloroethylene	BLOD	5.00	ug/L		BLOD			NA	30	
Trichlorofluoromethane	BLOD	5.00	ug/L		BLOD			NA	30	
Vinyl acetate	BLOD	50.0	ug/L		BLOD			NA	30	
Vinyl chloride	BLOD	2.50	ug/L		BLOD			NA	30	
Xylenes, Total	BLOD	15.0	ug/L		BLOD			NA	30	
Surr: 1,2-Dichloroethane-d4	261		ug/L	250		104	70-120			
Surr: 4-Bromofluorobenzene	233		ug/L	250		93.3	75-120			
Surr: Dibromofluoromethane	261		ug/L	250		105	80-119			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0612 - SW5030B										
Duplicate (BAA0612-DUP1)		Source: 17A0672-01			Prepared & Analyzed: 01/26/2017					
<i>Surr: Toluene-d8</i>	262		ug/L	250		105	85-120			
Matrix Spike (BAA0612-MS1)		Source: 17A0684-06			Prepared & Analyzed: 01/26/2017					
1,1,1,2-Tetrachloroethane	45.6	0.4	ug/L	50.0	BLOD	91.3	80-130			
1,1,1-Trichloroethane	53.8	1	ug/L	50.0	BLOD	108	65-130			
1,1,2,2-Tetrachloroethane	44.6	0.4	ug/L	50.0	BLOD	89.1	65-130			
1,1,2-Trichloroethane	51.5	1	ug/L	50.0	BLOD	103	75-125			
1,1-Dichloroethane	58.0	1	ug/L	50.0	BLOD	116	70-135			
1,1-Dichloroethylene	50.4	1	ug/L	50.0	BLOD	101	70-130			
1,2,3-Trichloropropane	47.1	1	ug/L	50.0	BLOD	94.1	75-125			
1,2-Dichlorobenzene	52.4	1	ug/L	50.0	BLOD	105	70-120			
1,2-Dichloroethane	47.0	1	ug/L	50.0	BLOD	94.0	70-130			
1,2-Dichloropropane	48.9	1	ug/L	50.0	BLOD	97.8	75-125			
1,3-Dichlorobenzene	52.3	1	ug/L	50.0	BLOD	105	75-125			
1,4-Dichlorobenzene	50.5	1	ug/L	50.0	BLOD	101	75-125			
2-Butanone (MEK)	43.4	5	ug/L	50.0	BLOD	86.8	30-150			
2-Hexanone (MBK)	49.9	5	ug/L	50.0	BLOD	99.8	55-130			
4-Methyl-2-pentanone (MIBK)	52.2	5	ug/L	50.0	BLOD	104	60-135			
Acetone	40.9	10	ug/L	50.0	BLOD	81.8	40-140			
Acrylonitrile	232	5	ug/L	250	BLOD	92.8	70-130			
Benzene	55.1	1	ug/L	50.0	BLOD	110	80-120			
Bromochloromethane	51.5	1	ug/L	50.0	BLOD	103	65-130			
Bromodichloromethane	52.6	0.5	ug/L	50.0	BLOD	105	75-120			
Bromoform	44.9	1	ug/L	50.0	BLOD	89.8	70-130			
Bromomethane	46.5	1	ug/L	50.0	BLOD	93.0	30-145			
Carbon disulfide	69.3	10	ug/L	50.0	BLOD	139	35-160			
Carbon tetrachloride	57.3	1	ug/L	50.0	BLOD	115	65-140			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAA0612 - SW5030B

Matrix Spike (BAA0612-MS1)		Source: 17A0684-06			Prepared & Analyzed: 01/26/2017					
Chlorobenzene	50.7	1	ug/L	50.0	BLOD	101	80-120			
Chloroethane	51.5	1	ug/L	50.0	BLOD	103	60-135			
Chloroform	48.5	0.5	ug/L	50.0	BLOD	97.0	65-135			
Chloromethane	55.9	1	ug/L	50.0	BLOD	112	40-125			
cis-1,2-Dichloroethylene	54.4	1	ug/L	50.0	BLOD	109	70-125			
cis-1,3-Dichloropropene	45.2	1	ug/L	50.0	BLOD	90.4	70-130			
Dibromochloromethane	51.6	0.5	ug/L	50.0	BLOD	103	60-135			
Dibromomethane	49.5	1	ug/L	50.0	BLOD	99.0	75-125			
Dichlorodifluoromethane	61.2	1	ug/L	50.0	BLOD	122	30-155			
Ethylbenzene	50.6	1	ug/L	50.0	BLOD	101	75-125			
m+p-Xylenes	109	2	ug/L	100	BLOD	109	75-130			
Methylene chloride	44.1	4	ug/L	50.0	BLOD	88.2	55-140			
o-Xylene	49.8	1	ug/L	50.0	BLOD	99.6	80-120			
Styrene	54.7	1	ug/L	50.0	BLOD	109	65-135			
Tetrachloroethylene (PCE)	52.5	1	ug/L	50.0	BLOD	105	45-150			
Toluene	55.2	1	ug/L	50.0	BLOD	110	75-120			
trans-1,2-Dichloroethylene	55.3	1	ug/L	50.0	BLOD	111	60-140			
trans-1,3-Dichloropropene	48.5	1	ug/L	50.0	BLOD	97.0	55-140			
Trichloroethylene	50.1	1	ug/L	50.0	BLOD	100	70-125			
Trichlorofluoromethane	51.9	1	ug/L	50.0	BLOD	104	60-145			
Vinyl chloride	59.9	0.5	ug/L	50.0	BLOD	120	50-145			
Surr: 1,2-Dichloroethane-d4	49.2		ug/L	50.0		98.5	70-120			
Surr: 4-Bromofluorobenzene	50.5		ug/L	50.0		101	75-120			
Surr: Dibromofluoromethane	51.4		ug/L	50.0		103	80-119			
Surr: Toluene-d8	54.2		ug/L	50.0		108	85-120			

Matrix Spike Dup (BAA0612-MSD1) Source: 17A0684-06 Prepared & Analyzed: 01/26/2017

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAA0612 - SW5030B

Matrix Spike Dup (BAA0612-MSD1)		Source: 17A0684-06			Prepared & Analyzed: 01/26/2017					
1,1,1,2-Tetrachloroethane	39.4	0.4	ug/L	50.0	BLOD	78.7	80-130	14.8	30	M
1,1,1-Trichloroethane	43.8	1	ug/L	50.0	BLOD	87.5	65-130	20.6	30	
1,1,2,2-Tetrachloroethane	44.1	0.4	ug/L	50.0	BLOD	88.2	65-130	1.01	30	
1,1,2-Trichloroethane	43.8	1	ug/L	50.0	BLOD	87.6	75-125	16.3	30	
1,1-Dichloroethane	46.6	1	ug/L	50.0	BLOD	93.2	70-135	21.8	30	
1,1-Dichloroethylene	39.6	1	ug/L	50.0	BLOD	79.3	70-130	23.8	30	
1,2,3-Trichloropropane	45.5	1	ug/L	50.0	BLOD	91.1	75-125	3.27	30	
1,2-Dichlorobenzene	46.0	1	ug/L	50.0	BLOD	92.0	70-120	13.0	30	
1,2-Dichloroethane	40.2	1	ug/L	50.0	BLOD	80.3	70-130	15.7	30	
1,2-Dichloropropane	42.6	1	ug/L	50.0	BLOD	85.1	75-125	13.9	30	
1,3-Dichlorobenzene	45.9	1	ug/L	50.0	BLOD	91.8	75-125	13.0	30	
1,4-Dichlorobenzene	43.9	1	ug/L	50.0	BLOD	87.8	75-125	14.0	30	
2-Butanone (MEK)	43.3	5	ug/L	50.0	BLOD	86.7	30-150	0.0945	30	
2-Hexanone (MBK)	49.0	5	ug/L	50.0	BLOD	97.9	55-130	1.86	30	
4-Methyl-2-pentanone (MIBK)	48.0	5	ug/L	50.0	BLOD	96.1	60-135	8.28	30	
Acetone	38.3	10	ug/L	50.0	BLOD	76.6	40-140	6.60	30	
Acrylonitrile	241	5	ug/L	250	BLOD	96.3	70-130	3.70	30	
Benzene	43.3	1	ug/L	50.0	BLOD	86.7	80-120	23.9	30	
Bromochloromethane	42.5	1	ug/L	50.0	BLOD	85.1	65-130	19.0	30	
Bromodichloromethane	44.9	0.5	ug/L	50.0	BLOD	89.9	75-120	15.6	30	
Bromoform	44.3	1	ug/L	50.0	BLOD	88.6	70-130	1.38	30	
Bromomethane	40.5	1	ug/L	50.0	BLOD	81.1	30-145	13.7	30	
Carbon disulfide	63.2	10	ug/L	50.0	BLOD	126	35-160	9.23	30	
Carbon tetrachloride	43.2	1	ug/L	50.0	BLOD	86.5	65-140	27.9	30	
Chlorobenzene	42.4	1	ug/L	50.0	BLOD	84.9	80-120	17.8	30	
Chloroethane	40.0	1	ug/L	50.0	BLOD	80.0	60-135	25.1	30	

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0612 - SW5030B										
Matrix Spike Dup (BAA0612-MSD1)		Source: 17A0684-06			Prepared & Analyzed: 01/26/2017					
Chloroform	42.3	0.5	ug/L	50.0	BLOD	84.7	65-135	13.6	30	
Chloromethane	45.7	1	ug/L	50.0	BLOD	91.4	40-125	20.1	30	
cis-1,2-Dichloroethylene	43.0	1	ug/L	50.0	BLOD	86.0	70-125	23.3	30	
cis-1,3-Dichloropropene	39.1	1	ug/L	50.0	BLOD	78.3	70-130	14.4	30	
Dibromochloromethane	43.9	0.5	ug/L	50.0	BLOD	87.8	60-135	16.1	30	
Dibromomethane	43.5	1	ug/L	50.0	BLOD	87.0	75-125	12.9	30	
Dichlorodifluoromethane	46.7	1	ug/L	50.0	BLOD	93.4	30-155	26.9	30	
Ethylbenzene	45.6	1	ug/L	50.0	BLOD	91.3	75-125	10.2	30	
m+p-Xylenes	95.1	2	ug/L	100	BLOD	95.1	75-130	14.1	30	
Methylene chloride	36.3	4	ug/L	50.0	BLOD	72.7	55-140	19.3	30	
o-Xylene	46.9	1	ug/L	50.0	BLOD	93.7	80-120	6.13	30	
Styrene	47.8	1	ug/L	50.0	BLOD	95.6	65-135	13.5	30	
Tetrachloroethylene (PCE)	45.0	1	ug/L	50.0	BLOD	90.0	45-150	15.4	30	
Toluene	43.2	1	ug/L	50.0	BLOD	86.4	75-120	24.5	30	
trans-1,2-Dichloroethylene	44.0	1	ug/L	50.0	BLOD	88.1	60-140	22.8	30	
trans-1,3-Dichloropropene	41.1	1	ug/L	50.0	BLOD	82.2	55-140	16.5	30	
Trichloroethylene	41.9	1	ug/L	50.0	BLOD	83.9	70-125	17.8	30	
Trichlorofluoromethane	42.2	1	ug/L	50.0	BLOD	84.3	60-145	20.8	30	
Vinyl chloride	47.5	0.5	ug/L	50.0	BLOD	95.0	50-145	23.1	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	51.5		ug/L	50.0		103	70-120			
<i>Surr: 4-Bromofluorobenzene</i>	52.6		ug/L	50.0		105	75-120			
<i>Surr: Dibromofluoromethane</i>	51.8		ug/L	50.0		104	80-119			
<i>Surr: Toluene-d8</i>	50.5		ug/L	50.0		101	85-120			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0623 - SW3510C										
Blank (BAA0623-BLK1)										
Prepared: 01/30/2017 Analyzed: 02/01/2017										
bis (2-Ethylhexyl) phthalate	BLOD	2.50	ug/L							
Di-n-butyl phthalate	BLOD	10.0	ug/L							
<i>Surr: 2,4,6-Tribromophenol</i>	64.5		ug/L	100		64.5	40-125			
<i>Surr: 2-Fluorobiphenyl</i>	39.3		ug/L	50.0		78.5	23-87			
<i>Surr: 2-Fluorophenol</i>	56.8		ug/L	100		56.8	14-52			S
<i>Surr: Nitrobenzene-d5</i>	40.1		ug/L	50.0		80.3	40-110			
<i>Surr: Phenol-d5</i>	31.3		ug/L	100		31.3	5-33			
<i>Surr: p-Terphenyl-d14</i>	50.6		ug/L	50.0		101	22-85			S
LCS (BAA0623-BS1)										
Prepared: 01/30/2017 Analyzed: 02/02/2017										
2,4-Dinitrotoluene	19.4	10.0	ug/L	50.0		38.9	39-139			L
2-Chlorophenol	43.2	10.0	ug/L	99.0		43.6	35-105			
4-Nitrophenol	21.6	50.0	ug/L	100		21.6	0-125			J
Acenaphthene	19.8	10.0	ug/L	49.8		39.8	45-110			L
n-Nitrosodi-n-propylamine	17.4	10.0	ug/L	49.8		35.0	35-130			L
p-Chloro-m-cresol	37.6	10.0	ug/L	100		37.6	45-110			L
Pentachlorophenol	48.5	20.0	ug/L	99.0		49.0	40-115			
Phenol	17.5	10.0	ug/L	100		17.5	0-115			
Pyrene	28.8	10.0	ug/L	50.0		57.6	50-130			
<i>Surr: 2,4,6-Tribromophenol</i>	39.7		ug/L	100		39.7	40-125			S
<i>Surr: 2-Fluorobiphenyl</i>	23.1		ug/L	50.0		46.2	23-87			
<i>Surr: 2-Fluorophenol</i>	34.2		ug/L	100		34.2	14-52			
<i>Surr: Nitrobenzene-d5</i>	22.5		ug/L	50.0		45.0	40-110			
<i>Surr: Phenol-d5</i>	19.2		ug/L	100		19.2	5-33			
<i>Surr: p-Terphenyl-d14</i>	24.0		ug/L	50.0		47.9	22-85			
Matrix Spike (BAA0623-MS1)										
Source: 17A0684-06 Prepared: 01/30/2017 Analyzed: 02/02/2017										

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAA0623 - SW3510C

Matrix Spike (BAA0623-MS1)		Source: 17A0684-06		Prepared: 01/30/2017 Analyzed: 02/02/2017						
2,4-Dinitrotoluene	29.0	10.8	ug/L	53.8	BLOD	54.0	39-139			
2-Chlorophenol	59.5	10.8	ug/L	106	BLOD	55.9	35-105			
4-Nitrophenol	23.5	53.8	ug/L	108	BLOD	21.9	0-125			J
Acenaphthene	29.6	10.8	ug/L	53.5	BLOD	55.3	45-110			
n-Nitrosodi-n-propylamine	24.6	10.8	ug/L	53.5	BLOD	45.9	35-130			
p-Chloro-m-cresol	52.2	10.8	ug/L	108	BLOD	48.5	45-110			
Pentachlorophenol	74.7	21.5	ug/L	106	BLOD	70.2	40-115			
Phenol	21.5	10.8	ug/L	108	BLOD	20.0	0-115			
Pyrene	40.2	10.8	ug/L	53.8	BLOD	74.8	50-130			
Surr: 2,4,6-Tribromophenol	62.6		ug/L	108		58.2	40-125			
Surr: 2-Fluorobiphenyl	33.1		ug/L	53.8		61.5	23-87			
Surr: 2-Fluorophenol	41.7		ug/L	108		38.8	14-52			
Surr: Nitrobenzene-d5	31.0		ug/L	53.8		57.6	40-110			
Surr: Phenol-d5	23.2		ug/L	108		21.5	5-33			
Surr: p-Terphenyl-d14	32.4		ug/L	53.8		60.2	22-85			

Matrix Spike Dup (BAA0623-MSD1)		Source: 17A0684-06		Prepared: 01/30/2017 Analyzed: 02/01/2017						
2,4-Dinitrotoluene	32.4	11.0	ug/L	54.9	BLOD	59.0	39-139	11.2	20	
2-Chlorophenol	71.8	11.0	ug/L	109	BLOD	66.0	35-105	18.7	20	
4-Nitrophenol	20.3	54.9	ug/L	110	BLOD	18.4	0-125	15.0	20	J
Acenaphthene	34.7	11.0	ug/L	54.7	BLOD	63.4	45-110	15.9	20	
n-Nitrosodi-n-propylamine	30.7	11.0	ug/L	54.7	BLOD	56.1	35-130	22.0	20	P
p-Chloro-m-cresol	65.3	11.0	ug/L	110	BLOD	59.4	45-110	22.4	20	P
Pentachlorophenol	82.4	22.0	ug/L	109	BLOD	75.7	40-115	9.70	20	
Phenol	28.4	11.0	ug/L	110	BLOD	25.8	0-115	27.4	20	P
Pyrene	67.1	11.0	ug/L	54.9	BLOD	122	50-130	50.0	20	P

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0623 - SW3510C										
Matrix Spike Dup (BAA0623-MSD1)		Source: 17A0684-06		Prepared: 01/30/2017 Analyzed: 02/01/2017						
<i>Surr: 2,4,6-Tribromophenol</i>	72.8		ug/L	110		66.3	40-125			
<i>Surr: 2-Fluorobiphenyl</i>	38.0		ug/L	54.9		69.2	23-87			
<i>Surr: 2-Fluorophenol</i>	52.3		ug/L	110		47.6	14-52			
<i>Surr: Nitrobenzene-d5</i>	36.6		ug/L	54.9		66.7	40-110			
<i>Surr: Phenol-d5</i>	29.6		ug/L	110		27.0	5-33			
<i>Surr: p-Terphenyl-d14</i>	49.3		ug/L	54.9		89.7	22-85			S

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0590 - SW3510C										
Blank (BAA0590-BLK1)				Prepared: 01/27/2017 Analyzed: 02/01/2017						
gamma-BHC (Lindane)	BLOD	0.050	ug/L							
Surr: TCMX	0.140		ug/L	0.200		70.0	18-112			
Surr: DCB	0.210		ug/L	0.200		105	27-131			
LCS (BAA0590-BS1)				Prepared: 01/27/2017 Analyzed: 02/01/2017						
gamma-BHC (Lindane)	0.080	0.050	ug/L	0.100		80.0	23-134			
Surr: TCMX	0.150		ug/L	0.200		75.0	18-112			
Surr: DCB	0.220		ug/L	0.200		110	27-131			
LCS (BAA0590-BS3)				Prepared: 01/27/2017 Analyzed: 02/01/2017						
gamma-BHC (Lindane)	BLOD	0.050	ug/L				23-134			
Surr: TCMX	ND		ug/L	0.200			18-112			
Surr: DCB	ND		ug/L	0.200			27-131			
LCS (BAA0590-BS4)				Prepared: 01/27/2017 Analyzed: 02/01/2017						
gamma-BHC (Lindane)	BLOD	0.050	ug/L				23-134			
Surr: TCMX	ND		ug/L	0.200			18-112			
Surr: DCB	ND		ug/L	0.200			27-131			
Matrix Spike (BAA0590-MS2)				Source: 17A0684-06		Prepared: 01/27/2017 Analyzed: 02/01/2017				
gamma-BHC (Lindane)	0.076	0.054	ug/L	0.109	BLOD	70.0	23-134			
Surr: TCMX	0.152		ug/L	0.217		70.0	18-112			
Surr: DCB	0.185		ug/L	0.217		85.0	27-131			
Matrix Spike Dup (BAA0590-MSD2)				Source: 17A0684-06		Prepared: 01/27/2017 Analyzed: 02/01/2017				
gamma-BHC (Lindane)	0.075	0.054	ug/L	0.108	BLOD	70.0	23-134	1.08	20	
Surr: TCMX	0.140		ug/L	0.215		65.0	18-112			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAA0590 - SW3510C

Matrix Spike Dup (BAA0590-MSD2) **Source: 17A0684-06** Prepared: 01/27/2017 Analyzed: 02/01/2017

Surr: DCB	0.161	ug/L	0.215	75.0	27-131

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Organochlorine Herbicides by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0572 - SW3510C										
Blank (BAA0572-BLK1) Prepared: 01/26/2017 Analyzed: 01/31/2017										
2,4,5-T	BLOD	0.500	ug/L							
2,4,5-TP (Silvex)	BLOD	0.500	ug/L							
2,4-D	BLOD	0.500	ug/L							
Surr: DCAA	0.722		ug/L	1.11		65.0	60-112			
LCS (BAA0572-BS1) Prepared: 01/26/2017 Analyzed: 01/31/2017										
2,4,5-T	0.556	0.500	ug/L	0.556		100	53-144			
2,4,5-TP (Silvex)	0.556	0.500	ug/L	0.556		100	52-129			
2,4-D	0.722	0.500	ug/L	0.556		130	53-126			L
Surr: DCAA	0.833		ug/L	1.11		75.0	60-112			
Matrix Spike (BAA0572-MS1) Source: 17A0684-06 Prepared: 01/26/2017 Analyzed: 01/31/2017										
2,4,5-T	0.500	0.500	ug/L	0.556	BLOD	90.0	53-144			
2,4,5-TP (Silvex)	0.500	0.500	ug/L	0.556	BLOD	90.0	52-129			
2,4-D	0.556	0.500	ug/L	0.556	BLOD	100	53-126			
Surr: DCAA	0.667		ug/L	1.11		60.0	60-112			
Matrix Spike Dup (BAA0572-MSD1) Source: 17A0684-06 Prepared: 01/26/2017 Analyzed: 01/31/2017										
2,4,5-T	0.611	0.500	ug/L	0.556	BLOD	110	53-144	20.0	20	
2,4,5-TP (Silvex)	0.556	0.500	ug/L	0.556	BLOD	100	52-129	10.5	20	
2,4-D	0.611	0.500	ug/L	0.556	BLOD	110	53-126	9.52	20	
Surr: DCAA	0.833		ug/L	1.11		75.0	60-112			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Micro-extractables by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAB0145 - SW8011										
Blank (BAB0145-BLK1)				Prepared & Analyzed: 01/31/2017						
1,2-Dibromoethane (EDB)	BLOD	0.010	ug/L							
1,2,3-Trichloropropane	BLOD	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BLOD	0.010	ug/L							
1,2-Dibromoethane (EDB) [2C]	BLOD	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP) [2C]	BLOD	0.010	ug/L							
1,2,3-Trichloropropane [2C]	BLOD	0.010	ug/L							
LCS (BAB0145-BS1)				Prepared & Analyzed: 01/31/2017						
1,2-Dibromoethane (EDB)	0.232	0.010	ug/L	0.250		92.7	65-135			
1,2,3-Trichloropropane	0.225	0.010	ug/L	0.250		89.9	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.252	0.010	ug/L	0.250		101	65-135			
1,2-Dibromoethane (EDB) [2C]	0.254	0.010	ug/L	0.250		102	65-135			
1,2-Dibromo-3-chloropropane (DBCP) [2C]	0.266	0.010	ug/L	0.250		107	65-135			
1,2,3-Trichloropropane [2C]	0.279	0.010	ug/L	0.250		112	65-135			
LCS Dup (BAB0145-BSD1)				Prepared & Analyzed: 01/31/2017						
1,2-Dibromoethane (EDB)	0.243	0.010	ug/L	0.250		97.1	65-135	4.69	20	
1,2,3-Trichloropropane	0.240	0.010	ug/L	0.250		96.2	65-135	6.82	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.272	0.010	ug/L	0.250		109	65-135	7.89	20	
1,2-Dibromoethane (EDB) [2C]	0.273	0.010	ug/L	0.250		109	65-135	7.08	20	
1,2-Dibromo-3-chloropropane (DBCP) [2C]	0.289	0.010	ug/L	0.250		116	65-135	8.27	20	
1,2,3-Trichloropropane [2C]	0.261	0.010	ug/L	0.250		105	65-135	6.45	20	
Matrix Spike (BAB0145-MS1)				Source: 17A0684-06		Prepared & Analyzed: 01/31/2017				
1,2-Dibromoethane (EDB)	0.132	0.010	ug/L	0.247	BLOD	53.7	65-135			M
1,2,3-Trichloropropane	0.124	0.010	ug/L	0.247	BLOD	50.2	65-135			M
1,2-Dibromo-3-chloropropane (DBCP)	0.136	0.010	ug/L	0.247	BLOD	55.1	65-135			M
1,2-Dibromoethane (EDB) [2C]	0.171	0.010	ug/L	0.247	BLOD	69.3	65-135			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Micro-extractables by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAB0145 - SW8011										
Matrix Spike (BAB0145-MS1)		Source: 17A0684-06			Prepared & Analyzed: 01/31/2017					
1,2-Dibromo-3-chloropropane (DBCP) [2C]	0.146	0.010	ug/L	0.247	BLOD	59.3	65-135			M
1,2,3-Trichloropropane [2C]	0.151	0.010	ug/L	0.247	BLOD	61.2	65-135			M
Matrix Spike Dup (BAB0145-MSD1)		Source: 17A0684-06			Prepared & Analyzed: 01/31/2017					
1,2-Dibromoethane (EDB)	0.160	0.010	ug/L	0.247	BLOD	64.8	65-135	18.8	20	M
1,2,3-Trichloropropane	0.150	0.010	ug/L	0.247	BLOD	60.9	65-135	19.3	20	M
1,2-Dibromo-3-chloropropane (DBCP)	0.175	0.010	ug/L	0.247	BLOD	71.1	65-135	25.4	20	P
1,2-Dibromoethane (EDB) [2C]	0.182	0.010	ug/L	0.247	BLOD	73.8	65-135	6.22	20	
1,2-Dibromo-3-chloropropane (DBCP) [2C]	0.190	0.010	ug/L	0.247	BLOD	77.0	65-135	26.0	20	P
1,2,3-Trichloropropane [2C]	0.165	0.010	ug/L	0.247	BLOD	67.1	65-135	9.19	20	

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0650 - No Prep Wet Chem										
Blank (BAA0650-BLK1)	Prepared & Analyzed: 01/31/2017									
Sulfide	BLOD	1.00	mg/L							
LCS (BAA0650-BS1)	Prepared & Analyzed: 01/31/2017									
Sulfide	4.76	1	mg/L	5.00		95.2	80-120			
LCS Dup (BAA0650-BSD1)	Prepared & Analyzed: 01/31/2017									
Sulfide	4.50	1	mg/L	5.00		90.0	80-120	5.62	20	
Matrix Spike (BAA0650-MS1)	Source: 17A0684-06	Prepared & Analyzed: 01/31/2017								
Sulfide	4.63	1.00	mg/L	5.00	BLOD	92.6	75-125			
Matrix Spike Dup (BAA0650-MSD1)	Source: 17A0684-06	Prepared & Analyzed: 01/31/2017								
Sulfide	4.73	1.00	mg/L	5.00	BLOD	94.6	75-125	2.14	20	
Batch BAA0652 - No Prep Wet Chem										
Blank (BAA0652-BLK1)	Prepared & Analyzed: 01/31/2017									
Cyanide	BLOD	0.01	mg/L							
LCS (BAA0652-BS1)	Prepared & Analyzed: 01/31/2017									
Cyanide	0.25	0.01	mg/L	0.250		101	80-120			
LCS Dup (BAA0652-BSD1)	Prepared & Analyzed: 01/31/2017									
Cyanide	0.25	0.01	mg/L	0.250		102	80-120	1.19	20	
Matrix Spike (BAA0652-MS1)	Source: 17A0519-13	Prepared & Analyzed: 01/31/2017								
Cyanide	0.22	0.01	mg/L	0.250	BLOD	87.3	80-120			

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAA0652 - No Prep Wet Chem										
Matrix Spike (BAA0652-MS2)	Source: 17A0684-04			Prepared & Analyzed: 01/31/2017						
Cyanide	0.23	0.01	mg/L	0.250	BLOD	91.3	80-120			
Matrix Spike Dup (BAA0652-MSD1)	Source: 17A0519-13			Prepared & Analyzed: 01/31/2017						
Cyanide	0.24	0.01	mg/L	0.250	BLOD	96.2	80-120	9.76	20	
Matrix Spike Dup (BAA0652-MSD2)	Source: 17A0684-04			Prepared & Analyzed: 01/31/2017						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	98.5	80-120	7.63	20	
Batch BAB0142 - No Prep Wet Chem										
Blank (BAB0142-BLK1)	Prepared & Analyzed: 02/06/2017									
Cyanide	BLOD	0.01	mg/L							
LCS (BAB0142-BS1)	Prepared & Analyzed: 02/06/2017									
Cyanide	0.24	0.01	mg/L	0.250		96.1	80-120			
LCS Dup (BAB0142-BSD1)	Prepared & Analyzed: 02/06/2017									
Cyanide	0.26	0.01	mg/L	0.250		104	80-120	7.99	20	
Matrix Spike (BAB0142-MS1)	Source: 17B0105-02			Prepared & Analyzed: 02/06/2017						
Cyanide	0.24	0.01	mg/L	0.250	BLOD	96.0	80-120			
Matrix Spike (BAB0142-MS2)	Source: 17B0066-04			Prepared & Analyzed: 02/06/2017						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	101	80-120			
Matrix Spike Dup (BAB0142-MSD1)	Source: 17B0105-02			Prepared & Analyzed: 02/06/2017						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	101	80-120	5.47	20	

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAB0142 - No Prep Wet Chem										
Matrix Spike Dup (BAB0142-MSD2)		Source: 17B0066-04		Prepared & Analyzed: 02/06/2017						
Cyanide	0.26	0.01	mg/L	0.250	BLOD	103	80-120	2.15	20	
Batch BAB0167 - No Prep Wet Chem										
Blank (BAB0167-BLK1)		Prepared & Analyzed: 02/07/2017								
Cyanide	BLOD	0.01	mg/L							
LCS (BAB0167-BS1)		Prepared & Analyzed: 02/07/2017								
Cyanide	0.28	0.01	mg/L	0.250		111	80-120			
LCS Dup (BAB0167-BSD1)		Prepared & Analyzed: 02/07/2017								
Cyanide	0.29	0.01	mg/L	0.250		115	80-120	4.04	20	
Matrix Spike (BAB0167-MS1)		Source: 17A0684-06		Prepared & Analyzed: 02/07/2017						
Cyanide	0.27	0.01	mg/L	0.250	BLOD	107	80-120			
Matrix Spike Dup (BAB0167-MSD1)		Source: 17A0684-06		Prepared & Analyzed: 02/07/2017						
Cyanide	0.28	0.01	mg/L	0.250	BLOD	112	80-120	4.16	20	

Certificate of Analysis

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Date Issued: 2/9/2017 2:59:40PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.2/R2.8		
17A0684-01	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0684	AA70138
17A0684-02	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0684	AA70138
17A0684-02RE1	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0697	AA70138
17A0684-03	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0684	AA70138
17A0684-03RE1	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0697	AA70138
17A0684-04	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0684	AA70138
17A0684-04RE1	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0697	AA70138
17A0684-05	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0684	AA70138
17A0684-05RE1	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0697	AA70138
17A0684-06	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0684	AA70138
17A0684-06RE1	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0697	AA70138
17A0684-07	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0684	AA70138
17A0684-07RE1	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0697	AA70138
17A0684-08	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0684	AA70138
17A0684-08RE1	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0697	AA70138
17A0684-09	50.0 mL / 50.0 mL	SW6010C	BAA0598	SAA0684	AA70138

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.8 R5.4		
17A0684-01	50.0 mL / 50.0 mL	SW6020A	BAA0619	SAB0036	AB70008
17A0684-02	50.0 mL / 50.0 mL	SW6020A	BAA0619	SAB0036	AB70008
17A0684-03	50.0 mL / 50.0 mL	SW6020A	BAA0619	SAB0036	AB70008
17A0684-04	50.0 mL / 50.0 mL	SW6020A	BAA0619	SAB0036	AB70008
17A0684-05	50.0 mL / 50.0 mL	SW6020A	BAA0619	SAB0036	AB70008
17A0684-06	50.0 mL / 50.0 mL	SW6020A	BAA0619	SAB0036	AB70008
17A0684-07	50.0 mL / 50.0 mL	SW6020A	BAA0619	SAB0036	AB70008

Certificate of Analysis

Client Name: Resource International, Ltd.
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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.8 R5.4		
17A0684-08	50.0 mL / 50.0 mL	SW6020A	BAA0619	SAB0036	AB70008
17A0684-09	50.0 mL / 50.0 mL	SW6020A	BAA0619	SAB0036	AB70008

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method: No Prep Wet Chem		
17A0684-01	6.00 mL / 6.00 mL	SW9215	BAA0650	SAA0727	
17A0684-02	6.00 mL / 6.00 mL	SW9215	BAA0650	SAA0727	
17A0684-03	6.00 mL / 6.00 mL	SW9215	BAA0650	SAA0727	
17A0684-04	6.00 mL / 6.00 mL	SW9215	BAA0650	SAA0727	
17A0684-05	6.00 mL / 6.00 mL	SW9215	BAA0650	SAA0727	
17A0684-06	6.00 mL / 6.00 mL	SW9215	BAA0650	SAA0727	
17A0684-07	6.00 mL / 6.00 mL	SW9215	BAA0650	SAA0727	
17A0684-08	6.00 mL / 6.00 mL	SW9215	BAA0650	SAA0727	
17A0684-09	6.00 mL / 6.00 mL	SW9215	BAA0650	SAA0727	
17A0684-01	6.00 mL / 6.00 mL	SW9012	BAA0652	SAA0714	AA70152
17A0684-02	6.00 mL / 6.00 mL	SW9012	BAA0652	SAA0714	AA70152
17A0684-03	6.00 mL / 6.00 mL	SW9012	BAA0652	SAA0714	AA70152
17A0684-04	6.00 mL / 6.00 mL	SW9012	BAA0652	SAA0714	AA70152
17A0684-05	6.00 mL / 6.00 mL	SW9012	BAB0142	SAB0130	AB70026
17A0684-07	6.00 mL / 6.00 mL	SW9012	BAB0142	SAB0130	AB70026
17A0684-08	6.00 mL / 6.00 mL	SW9012	BAB0142	SAB0130	AB70026
17A0684-09	6.00 mL / 6.00 mL	SW9012	BAB0142	SAB0130	AB70026
17A0684-06	6.00 mL / 6.00 mL	SW9012	BAB0167	SAB0157	AB70032

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Herbicides by GC/ECD			Preparation Method: SW3510C		
17A0684-01	900 mL / 5.00 mL	SW8151A	BAA0572	SAB0042	AB70003

Certificate of Analysis

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Herbicides by GC/ECD			Preparation Method:	SW3510C	
17A0684-02	900 mL / 5.00 mL	SW8151A	BAA0572	SAB0042	AB70003
17A0684-03	900 mL / 5.00 mL	SW8151A	BAA0572	SAB0042	AB70003
17A0684-04	900 mL / 5.00 mL	SW8151A	BAA0572	SAB0042	AB70003
17A0684-05	900 mL / 5.00 mL	SW8151A	BAA0572	SAB0042	AB70003
17A0684-06	900 mL / 5.00 mL	SW8151A	BAA0572	SAB0042	AB70003
17A0684-07	900 mL / 5.00 mL	SW8151A	BAA0572	SAB0042	AB70003
17A0684-08	900 mL / 5.00 mL	SW8151A	BAA0572	SAB0042	AB70003
17A0684-09	900 mL / 5.00 mL	SW8151A	BAA0572	SAB0042	AB70003
17A0684-01	960 mL / 1.00 mL	SW8081B	BAA0590	SAB0019	AA70059
17A0684-02	950 mL / 1.00 mL	SW8081B	BAA0590	SAB0019	AA70059
17A0684-03	960 mL / 1.00 mL	SW8081B	BAA0590	SAB0019	AA70059
17A0684-04	930 mL / 1.00 mL	SW8081B	BAA0590	SAB0019	AA70059
17A0684-05	930 mL / 1.00 mL	SW8081B	BAA0590	SAB0019	AA70059
17A0684-06	960 mL / 1.00 mL	SW8081B	BAA0590	SAB0019	AA70059
17A0684-07	910 mL / 1.00 mL	SW8081B	BAA0590	SAB0019	AA70059
17A0684-08	950 mL / 1.00 mL	SW8081B	BAA0590	SAB0019	AA70059
17A0684-09	930 mL / 1.00 mL	SW8081B	BAA0590	SAB0019	AA70059
17A0684-01	940 mL / 1.00 mL	SW8270D	BAA0623	SAB0107	AB70001
17A0684-02	940 mL / 1.00 mL	SW8270D	BAA0623	SAB0107	AB70001
17A0684-03	960 mL / 1.00 mL	SW8270D	BAA0623	SAB0107	AB70001
17A0684-04	950 mL / 1.00 mL	SW8270D	BAA0623	SAB0107	AB70001
17A0684-05	940 mL / 1.00 mL	SW8270D	BAA0623	SAB0107	AB70001
17A0684-06	960 mL / 1.00 mL	SW8270D	BAA0623	SAA0626	AB70001
17A0684-07	920 mL / 1.00 mL	SW8270D	BAA0623	SAB0107	AB70001
17A0684-08	970 mL / 1.00 mL	SW8270D	BAA0623	SAB0107	AB70001
17A0684-08RE1	970 mL / 1.00 mL	SW8270D	BAA0623	SAB0107	AB70001
17A0684-09	920 mL / 1.00 mL	SW8270D	BAA0623	SAB0107	AB70001

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID

Certificate of Analysis

Client Name: Resource International, Ltd.
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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method: SW5030B		
17A0684-01	5.00 mL / 5.00 mL	SW8260B	BAA0612	SAA0658	AA70028
17A0684-02	5.00 mL / 5.00 mL	SW8260B	BAA0612	SAA0658	AA70028
17A0684-03	5.00 mL / 5.00 mL	SW8260B	BAA0612	SAA0658	AA70028
17A0684-04	5.00 mL / 5.00 mL	SW8260B	BAA0612	SAA0658	AA70028
17A0684-05	5.00 mL / 5.00 mL	SW8260B	BAA0612	SAA0658	AA70028
17A0684-06	5.00 mL / 5.00 mL	SW8260B	BAA0612	SAA0658	AA70028
17A0684-07	5.00 mL / 5.00 mL	SW8260B	BAA0612	SAA0658	AA70028
17A0684-08	5.00 mL / 5.00 mL	SW8260B	BAA0612	SAA0658	AA70028
17A0684-09	5.00 mL / 5.00 mL	SW8260B	BAA0612	SAA0658	AA70028
17A0684-10	5.00 mL / 5.00 mL	SW8260B	BAA0612	SAA0658	AA70028

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
17A0684-01	20.0 mL / 20.0 mL	SW7470A	BAA0621	SAA0694	AA70142
17A0684-02	20.0 mL / 20.0 mL	SW7470A	BAA0621	SAA0694	AA70142
17A0684-03	20.0 mL / 20.0 mL	SW7470A	BAA0621	SAA0694	AA70142
17A0684-04	20.0 mL / 20.0 mL	SW7470A	BAA0621	SAA0694	AA70142
17A0684-05	20.0 mL / 20.0 mL	SW7470A	BAA0621	SAA0694	AA70142
17A0684-06	20.0 mL / 20.0 mL	SW7470A	BAA0621	SAA0694	AA70142
17A0684-07	20.0 mL / 20.0 mL	SW7470A	BAA0621	SAA0694	AA70142
17A0684-08	20.0 mL / 20.0 mL	SW7470A	BAA0621	SAA0694	AA70142
17A0684-09	20.0 mL / 20.0 mL	SW7470A	BAA0621	SAA0694	AA70142

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Micro-extractables by GC/ECD			Preparation Method: SW8011		
17A0684-01	60.7 mL / 2.00 mL	SW8011	BAB0145	SAB0131	AB70002
17A0684-02	60.9 mL / 2.00 mL	SW8011	BAB0145	SAB0131	AB70002
17A0684-03	60.9 mL / 2.00 mL	SW8011	BAB0145	SAB0131	AB70002

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Micro-extractables by GC/ECD			Preparation Method:	SW8011	
17A0684-04	60.8 mL / 2.00 mL	SW8011	BAB0145	SAB0131	AB70002
17A0684-05	61.5 mL / 2.00 mL	SW8011	BAB0145	SAB0131	AB70002
17A0684-06	61.2 mL / 2.00 mL	SW8011	BAB0145	SAB0131	AB70002
17A0684-07	61.0 mL / 2.00 mL	SW8011	BAB0145	SAB0131	AB70002
17A0684-08	61.2 mL / 2.00 mL	SW8011	BAB0145	SAB0131	AB70002
17A0684-09	61.1 mL / 2.00 mL	SW8011	BAB0145	SAB0131	AB70002
17A0684-10	60.6 mL / 2.00 mL	SW8011	BAB0145	SAB0131	AB70002

Certificate of Analysis

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Date Issued: 2/9/2017 2:59:40PM

Certified Analyses included in this Report

Analyte	Certifications
SW6010C in Non-Potable Water	
Barium	VELAP,WVDEP
Beryllium	VELAP,WVDEP
Cadmium	VELAP,WVDEP
Chromium	VELAP,WVDEP
Cobalt	VELAP,WVDEP
Copper	VELAP,WVDEP
Lead	VELAP,WVDEP
Nickel	VELAP,WVDEP
Selenium	VELAP,WVDEP
Silver	VELAP,WVDEP
Tin	VELAP,WVDEP
Vanadium	VELAP,WVDEP
Zinc	VELAP,WVDEP
SW6020A in Non-Potable Water	
Antimony	VELAP,NC,WVDEP
Arsenic	VELAP,WVDEP
Thallium	VELAP,WVDEP
SW7470A in Non-Potable Water	
Mercury	VELAP,NC,WVDEP
SW8011 in Non-Potable Water	
1,2-Dibromoethane (EDB)	VELAP,NC
1,2,3-Trichloropropane	VELAP,NC
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NC
SW8081B in Non-Potable Water	
gamma-BHC (Lindane)	NC,VELAP,WVDEP

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Certified Analyses included in this Report

Analyte	Certifications
<i>SW8151A in Non-Potable Water</i>	
2,4,5-T	VELAP,NC
2,4,5-TP (Silvex)	VELAP,NC
2,4-D	VELAP,NC
<i>SW8260B in Non-Potable Water</i>	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,2,3-Trichloropropane	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,2-Dichloroethane	NC,VELAP,WVDEP
1,2-Dichloropropane	NC,VELAP,WVDEP
1,3-Dichlorobenzene	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP
Benzene	NC,VELAP,WVDEP
Bromochloromethane	NC,VELAP,WVDEP
Bromodichloromethane	NC,VELAP,WVDEP
Bromoform	NC,VELAP,WVDEP
Bromomethane	NC,VELAP,WVDEP
Carbon disulfide	NC,VELAP,WVDEP

Certificate of Analysis

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Date Issued: 2/9/2017 2:59:40PM

Certified Analyses included in this Report

Analyte	Certifications
Carbon tetrachloride	NC, VELAP, WVDEP
Chlorobenzene	NC, VELAP, WVDEP
Chloroethane	NC, VELAP, WVDEP
Chloroform	NC, VELAP, WVDEP
Chloromethane	NC, VELAP, WVDEP
cis-1,2-Dichloroethylene	NC, VELAP, WVDEP
cis-1,3-Dichloropropene	NC, VELAP, WVDEP
Dibromochloromethane	NC, VELAP, WVDEP
Dibromomethane	NC, VELAP, WVDEP
Dichlorodifluoromethane	NC, VELAP, WVDEP
Ethylbenzene	NC, VELAP, WVDEP
Iodomethane	NC, VELAP, WVDEP
m+p-Xylenes	NC, VELAP, WVDEP
Methylene chloride	NC, VELAP, WVDEP
o-Xylene	NC, VELAP, WVDEP
Styrene	NC, VELAP, WVDEP
Tetrachloroethylene (PCE)	NC, VELAP, WVDEP
Toluene	NC, VELAP, WVDEP
trans-1,2-Dichloroethylene	NC, VELAP, WVDEP
trans-1,3-Dichloropropene	NC, VELAP, WVDEP
trans-1,4-Dichloro-2-butene	NC, VELAP, WVDEP
Trichloroethylene	NC, VELAP, WVDEP
Trichlorofluoromethane	NC, VELAP, WVDEP
Vinyl acetate	NC, VELAP, WVDEP
Vinyl chloride	NC, VELAP, WVDEP
Xylenes, Total	NC, VELAP, WVDEP
SW8270D in Non-Potable Water	
bis (2-Ethylhexyl) phthalate	NC, VELAP, WVDEP

Certificate of Analysis

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Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Certified Analyses included in this Report

Analyte	Certifications
Di-n-butyl phthalate	NC,VELAP,WVDEP
SW9012 in Non-Potable Water	
Cyanide	VELAP
SW9215 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Cert Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2017
NC	North Carolina DENR	495	12/31/2017
PADEP	NELAC-Pennsylvania	001	10/31/2017
VELAP Certificate #4337	NELAC-Virginia Certificate #8886	460021	06/15/2017
WVDEP	West Virginia DEP	350	11/30/2017

Certificate of Analysis

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Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Qualifiers and Definitions

CI	Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
E	Estimated concentration, outside calibration range
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
P	Duplicate analysis does not meet the acceptance criteria for precision
S	Surrogate recovery was outside acceptance criteria
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

ATTACHMENT VIII
CHAIN OF CUSTODY DOCUMENTATION



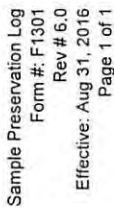
1941 REYMET ROAD
RICHMOND, VIRGINIA 23237
(804) 358-8295 PHONE
(804) 358-8297 FAX

Chain of Custody
Form #: D1331
Rev. 1.0
Effective: Feb 14, 2014

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: Resource Intl.		INVOICE TO: Joanna Sylvia		PROJECT NAME/Quote #: Goochland Co-LF	
CONTACT: Mike Willinger		INVOICE CONTACT:		SITE NAME:	
ADDRESS: 9560 Kings Charter Dr.		INVOICE ADDRESS: SAME		PROJECT NUMBER: 97007-12	
PHONE #: 804.550.9200		INVOICE PHONE #:		P.O. #:	
FAX #: —		EMAIL: mwillingr/vgills@resourceintl.com		Pretreatment Program:	
Is sample for compliance reporting? YES NO		Is sample from a chlorinated supply? YES NO		PWS I.D. #:	
SAMPLER NAME (PRINT): Ginny Gills		SAMPLER SIGNATURE: <i>G. Gills</i>		Turn Around Time: 10 Day(s)	
Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WR=Wipe OT=Other					
CLIENT SAMPLE I.D.					
ANALYSIS / (PRESERVATIVE)					
Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol					
PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (U/min)					
1) MW-1					
2) MW-2					
3) MW-3R					
4) MW-4					
5) MW-5					
6) MW-6 (MS/MSD)					
7) MW-13					
8) MW-14					
9) Field Blank					
10) Trip Blank					
No Seal					
RELINQUISHED: <i>G. Gills</i> 1/26/17 9:30		RECEIVED: <i>Daddy Thach</i> 1/26/17 9:30		COOLER TEMP 1.9 °C	
RELINQUISHED: <i>G. Gills</i> 1/26/17 9:30		RECEIVED: <i>Daddy Thach</i> 1/26/17 9:30		RIL 17A0684	
RELINQUISHED:		RECEIVED:		Goochland County Landfill 3.1A +	
RELINQUISHED:		RECEIVED:		Recd: 01/26/2017 Due: 02/09/2017	



Sample Preservation Log

Order ID 17A0684

Date Performed: 26 Jan 2017

P/A = Present/Absent

Analyst Performing Check:

[illegible]

NaOH ID:

HNO₃ ID:

CrVI preserved date/time:

Analyst Initials:

H₂SO₄ ID: $\text{Na}_2\text{S}_2\text{O}_3$ II

Buffer Sol'n ID:

HCL ID:

Na₂SO₃ ID:

1N NaOH ID:

5N NaOH:

THIS DOCUMENT IS UNCONTROLLED WHEN PRINTED
F1301 Sample Preservation Log 6 of 6



Order ID: 17A0684

Sample Preservation Log

Sample Preservation Log
Form #: F1301
Rev # 6.0
Effective: Aug 31, 2016
Page 1 of 1

Date Performed: 26 JAN 2017

Analyst Performing Check: JLV / SP

P/A = Present/Absent

Sample ID	Container ID	Metals			Cyanide			Sulfide			Ammonia			TKN			Phos, Tot			NO3+NO2			DRO			Pesticide (8081/608)			SVOC (8270/625)			pH as Received			Final pH (if adjust.)
		pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)	Res. Cl as Received	Present/Absent	Res. Cl as Received	Present/Absent	Res. Cl as Received	Present/Absent	pH as Received	Other					
04	F	/																																	
05	A																																		
05	D																																		
05	E																																		
05	F	/																																	
06	A																																		
06	J																																		
06	K																																		
06	L																																		
06	M																																		
06	N																																		
06	O																																		
06	P	/																																	
06	Q	/																																	
06	R	/																																	

NaOH ID: _____ HNO3 ID: _____ CrVI preserved date/time: _____ Analyst Initials: _____

H2SO4 ID: _____ Na2S2O3 ID: 6K60045 Buffer Sol'n ID: _____

HCL ID: _____ Na2SO3 ID: _____ 1N NaOH ID: _____ 5N NaOH: _____

Sample Preservation Log

Order ID
17A0684

Date Performed: 26 Jan 2017

P/A = Present/Absent

Analyst Performing Check:

[illegible]

NaOH ID: _____
HNO₃ ID: _____
[CrVI] preserved date/time: _____
Analyst Initials: _____

H_2SO_4 ID: 6K00045

Buffer Sol'n ID:

HCL ID: _____
Na₂SO₃ ID: _____

1N NaOH ID:

5N NaOH: _____

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F1301 Sample Preservation Log 6 of 6



Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Robert Hundley

Date Issued: 2/9/2017 2:59:40PM

Sample Conditions Checklist

Samples Received at:	1.90°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (above freezing to 6°C) or received on ice and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments

Trip Blank date and time (22 Dec 2016/14.00) as per bottle labels. THM 26 Jan 2017/12.06

ATTACHMENT IX
FIELD BOOK DOCUMENTATION

Resource International, Ltd.

GROUNDWATER SAMPLE COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179

Project Number: 97007.09

Date: 1/25/17

Well ID: MW-01

Sampler(s): 66 DF

Sheet ID: 1 of 8

Sample Collection Method:

X Bailer

Notes:

PRE-SAMPLING DATA									
Large well until three successive readings of the following Indicator Parameters have stabilized within 10%: pH; Conductivity and Turbidity. All other parameters may be recorded for informational purposes only.									
TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C	ORP (mV)	Purge Calculation	
1333	0	5.38	0.087	37.2	1.66	14.92	223	Well Diameter=	2"
1338	1.4	5.81	0.091	54.0	1.12	15.14	212	Well Depth (WD)=	47.05
1342	2.8	5.86	0.072	74.5	1.03	15.43	211	Depth to water (DTW)=	38.46
1347	4.2	5.74	0.058	88.2	0.87	15.02	229	WH (WD-DTW)=	8.59
								WV=	1.4
								Time Begin	1333
								Time Finish	14.01
								Total Time (min)	:28
								Purge Vol (gal)	4.2
Sampled: 11 bottles @ 1355								Well Locked?	Y
1401	—	5.68	0.054	57.4	0.00	15.48	231	Riser over inject?	Y
								Casing intact?	Y
								Pad intact?	Y
								Standing water?	N
								Tampering?	N

Final line of Pre-Sampling Data represents conditions at start of sample collection.

Purge Calculation:

For 2" well: 3 well volumes = water height x 0.489 =

4.02

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	ICE	3 clear VOA (40 ml)
Method 8270D SVOC detects	None	ICE	1 1-L amber
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	ICE	2 amber VOA (60 ml)
Method 8151A Herb detects	None	ICE	1 1-L amber
Method 8081/8082 Pest/PCB detects	None	ICE	1 1-L amber
Cyanide	NaOH	ICE	1 plastic (250 ml)
Sulfide	NaOH+ZnAc	ICE	1 1-L plastic
Metals-3.1 A + Hg & Sn	HNO ₃	ICE	1 plastic (500 ml)

Signature

Resource International, Ltd.

GROUNDWATER SAMPLE COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179 Well ID: MW-02
 Project Number: 97007.09 Sampler(s): 66 DF
 Date: 11/25/17 Sheet ID: 2 of 8

Sample Collection Method:
☒ Bailer

Notes:

PRE-SAMPLING DATA									
All other parameters may be recorded for informational purposes only.									
TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C	ORP (mV)	Purge Calculation	
1456	0	6.10	0.167	3.7	0.95	13.17	101	Well Diameter=	2"
1459	1.2	5.66	0.171	15.9	0.00	12.51	139	Well Depth (WD)=	11.86
~~1502~~	2.4	5.65	0.170	16.1	0.00	12.33	132	Depth to water (DTW)=	4.37
~~1504~~	3.6	5.63	0.173	63.6	0.00	12.29	131	WH (WD-DTW)=	7.49
								WV=	1.2
								Time Begin	1454
								Time Finish	1513
								Total Time (min)	17
								Purge Vol (gal)	3.6
Sampled: 11 bottles @ 1500								Well Locked?	Y
								Riser ever intact?	Y
								Casing intact?	Y
								Pad intact?	Y
								Sanding water?	N
								Tempering?	N

Final line of Pre-Sampling Data represents conditions at start of sample collection.

Purge Calculation: For 2" well: 3 well volumes = water height x 0.489 = 3.6

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	ICE	3 clear VOA (40 ml)
Method 8270D SVOC detects	None	ICE	1 1-L amber
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	ICE	2 amber VOA (60 ml)
Method 8151A Herb detects	None	ICE	1 1-L amber
Method 8081/8082 Pest/PCB detects	None	ICE	1 1-L amber
Cyanide	NaOH	ICE	1 plastic (250 ml)
Sulfide	NaOH+ZnAc	ICE	1 1-L plastic
Metals-3.1 A + Hg & Sn	HNO ₃	ICE	1 plastic (500 ml)

Al Hilley
 Signature

Resource International, Ltd.

GROUNDWATER SAMPLE COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179 Well ID: MW-03R
 Project Number: 97007.09 Date: 1/25/17
 Sampler(s): 66 DE
 Sheet ID: 3 of 8

Sample Collection Method:
☒ Bailer

Notes:

PRE-SAMPLING DATA									
Purge well until three successive readings of the following Indicator Parameters have stabilized within 10%: pH; Conductivity and Turbidity. All other parameters may be recorded for informational purposes only.									
TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C	ORP (mV)	Purge Calculation	
9:59	0	6.31	0.775	180	6.5	11.56	22	Well Diameter=	2"
10:01	1.1	6.04	0.770	180	6.5	11.76	15	Well Depth (WD)=	13.41
	2.2							Depth to water (DTW)=	6.96
	3.3							WH (WD-DTW)=	6.45
								WV=	1.1
								Time Begin	9:59
								Time Finish	10:47
								Total Time (min)	1:50
								Purge Vol (gal)	2.0
Sampled: 11 bottles @ 1045								Well Locked?	Y
1049 - 6.04 0.763 374 136 14.09 9								Riser or Inlet?	Y
								Casing Inlet?	Y
								Pad Inlet?	Y
								Standing water?	N
								Tampering?	N

Final line of Pre-Sampling Data represents conditions at start of sample collection.

Purge Calculation:

For 2" well: 3 well volumes = water height x 0.489 =

3.3

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	ICE	3 clear VOA (40 ml)
Method 8270D SVOC detects	None	ICE	1 1-L amber
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	ICE	2 amber VOA (60 ml)
Method 8151A Herb detects	None	ICE	1 1-L amber
Method 8081/8082 Pest/PCB detects	None	ICE	1 1-L amber
Cyanide	NaOH	ICE	1 plastic (250 ml)
Sulfide	NaOH+ZnAc	ICE	1 1-L plastic
Metals-3.1 A + Hg & Sn	HNO ₃	ICE	1 plastic (500 ml)

Signature: [Signature]

GROUNDWATER SAMPLE COLLECTION LOG

Sample Collection Method:

X Bailer

Project Site Name: Goochland County Landfill Permit #179

Well ID: MW-04

Project Number: 97007.09

Sampler(s): G6 DF

Date: 1/25/17

Sheet ID: 4 of 8

PRE-SAMPLING DATA									
Notes:									
Purge well until three successive readings of the following Indicator Parameters have stabilized within 10%: pH; Conductivity and Turbidity									
All other parameters may be recorded for informational purposes only.									
TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C	ORP (mV)	Purge Calculation	
1014	0	6.31	0.910	52.9	3.11	13.32	-69	Well Diameter=	2"
1016	1.1	6.34	0.825	43.3	2.19	13.88	-66	Well Depth (WD)=	17.22
1019	2.2	6.34	0.888	40.0	1.55	14.07	-70	Depth to water (DTW)=	10.36
1022	3.3	6.37	0.966	37.3	1.04	14.19	-73	WH (WD-DTW)=	6.86
								WV=	1.1
								Time Begin	104
								Time Finish	1034
								Total Time (min)	20
								Purge Vol (gal)	3.3
								Well Locked?	Y
								Riser c/w intact?	Y
								Casing intact?	Y
								Pad intact?	Y
								Sanding water?	N
								Tampering?	N
Sampled: 11 bottles @ 1030									
1034	—	6.39	0.928	26.5	0.97	14.20	-63		

Final line of Pre-Sampling Data represents conditions at start of sample collection.

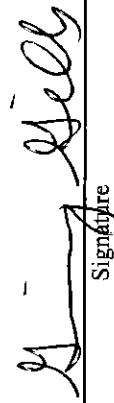
Purge Calculation:

For 2" well: 3 well volumes = water height x 0.489 =

3.3

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	ICE	3 clear VOA (40 ml)
Method 8270D SVOC detects	None	ICE	1 1-L amber
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	ICE	2 amber VOA (60 ml)
Method 8151A Herb detects	None	ICE	1 1-L amber
Method 8081/8082 Pest/PCB detects	None	ICE	1 1-L amber
Cyanide	NaOH	ICE	1 plastic (250 ml)
Sulfide	NaOH+ZnAc	ICE	1 1-L plastic
Metals-3.1 A + Hg & Sn	HNO ₃	ICE	1 plastic (500 ml)

Signature



Resource International, Ltd.

GROUNDWATER SAMPLE COLLECTION LOG

Sample Collection Method:

X Bailer

Project Site Name: Goochland County Landfill Permit #179 Well ID: MW-05
 Project Number: 97007.09 Sampler(s): G6 DF
 Date: 1/25/17 Sheet ID: 5 of 8

Notes:

PRE-SAMPLING DATA									
Purge well until three successive readings of the following Indicator Parameters have stabilized within 10%: pH; Conductivity and Turbidity. All other parameters may be recorded for informational purposes only.									
TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C	ORP (mV)	Purge Calculation	
1117	0	6.16	0.474	22.8	0.58	14.17	123	Well Diameter=	2"
1122	2.7	6.03	0.481	6.6	0.94	14.21	109	Well Depth (WD)=	29.00
1127	5.4	5.96	0.465	9.7	0.19	14.18	115	Depth to water (DTW)=	12.26
1132	8.1	5.93	0.465	13.0	0.00	14.15	108	WH (WD-DTW)=	16.74
								WV=	2.7
								Time Begin	1117
								Time Finish	1143
								Total Time (min)	26
								Purge Vol (gal)	8.1
Sampled: 11 bottles @ 1140								Well Locked?	Y
1143 — 5.97 0.462 13.9 0.00 14.18 102								Riser c/w Inject?	Y
Final line of Pre-Sampling Data represents conditions at start of sample collection.								Casing intact?	Y
Purge Calculation:								Pad intact?	Y
For 2" well: 3 well volumes = water height x 0.489 =								Standing water?	N
								Tamping?	N
									8.1

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	ICE	3 clear VOA (40 ml)
Method 8270D SVOC detects	None	ICE	1 1-L amber
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	ICE	2 amber VOA (60 ml)
Method 8151A Herb detects	None	ICE	1 1-L amber
Method 8081/8082 Pest/PCB detects	None	ICE	1 1-L amber
Cyanide	NaOH	ICE	1 plastic (250 ml)
Sulfide	NaOH+ZnAc	ICE	1 1-L plastic
Metals-3.1 A + Hg & Sn	HNO ₃	ICE	1 plastic (500 ml)

Signature

[Signature]

Resource International, Ltd.

GROUNDWATER SAMPLE COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179 Well ID: MW-06
 Project Number: 97007.09 Date: 11/25/17
 Sampler(s): EGA DC
 Sheet ID: 6 of 8

Sample Collection Method:
☒ Bailer

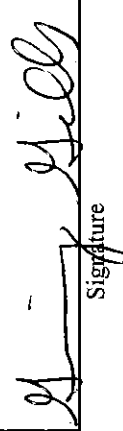
PRE-SAMPLING DATA						
Purge well until three successive readings of the following Indicator Parameters have stabilized within 10%: pH; Conductivity and Turbidity. All other parameters may be recorded for informational purposes only.						
TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C
12:23	0	6.88	0.031	2.0	7.39	14.76
12:28	2.3	6.08	0.032	8.2	7.21	14.66
12:35	4.6	5.76	0.029	31.3	6.79	14.52
12:40	6.9	5.59	0.029	91.7	6.40	14.53
Sampled: 33 bottles @ 1245						
1305	-	5.24	0.028	86.5	5.79	14.12
Final line of Pre-Sampling Data represents conditions at start of sample collection.						

Purge Calculation:

For 2" well: 3 well volumes = water height x 0.489 =

6.9

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	ICE	9 clear VOA (40 ml)
Method 8270D SVOC detects	None	ICE	3 1-L amber
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	ICE	6 amber VOA (60 ml)
Method 8151A Herb detects	None	ICE	3 1-L amber
Method 8081/8082 Pest/PCB detects	None	ICE	5 1-L amber
Cyanide	NaOH	ICE	3 plastic (250 ml)
Sulfide	NaOH+ZnAc	ICE	3 1-L plastic
Metals-3.1 A + Hg & Sn	HNO ₃	ICE	3 plastic (500 ml)

Signature: 

Notes:

MS/MSD on this well.

Resource International, Ltd.

GROUNDWATER SAMPLE COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179 Well ID: MW-13
 Project Number: 97007.09 Sampler(s): 666 DE
 Date: 1/25/16 Sheet ID: 7 of 8

Sample Collection Method:
☒ Bailer

Notes:

PRE-SAMPLING DATA									
TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C	ORP (mV)	Purge Calculation	
~~1405~~	0	5.83	0.212	2.9	3.1	15.79	85	Well Diameter=	2"
~~1408~~	1.0	5.98	0.225	1.3	0	15.47	73	Well Depth (WD)=	94.60
~~1411~~	2.0	6.02	0.225	3.0	0	15.33	72	Depth to water (DTW)=	27.09
~~1414~~	3.0	6.06	0.229	8.4	1.90	15.00	68	WH (WD-DTW)=	55.51
								WV=	9.0
								Time Begin	1405
								Time Finish	1426
								Total Time (min)	21
								Purge Vol (gal)	3.0
								Well Locked?	Y
								Riser c/vr intact?	Y
								Casing intact?	Y
								Pad intact?	Y
								Standing water?	N
								Tempering?	N
Sampled: 11 bottles @ ~~1420~~ 1420									
1426	—	5.99	0.222	1.4	1.64	16.11	66		

Final line of Pre-Sampling Data represents conditions at start of sample collection.

Purge Calculation:

For 2" well: 3 well volumes = water height x 0.489 =

27.0

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	ICE	3 clear VOA (40 ml)
Method 8270D SVOC detects	None	ICE	1 1-L amber
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	ICE	2 amber VOA (60 ml)
Method 8151A Herb detects	None	ICE	1 1-L amber
Method 8081/8082 Pest/PCB detects	None	ICE	1 1-L amber
Cyanide	NaOH	ICE	1 plastic (250 ml)
Sulfide	NaOH+ZnAc	ICE	1 1-L plastic
Metals-3.1 A + Hg & Sn	HNO ₃	ICE	1 plastic (500 ml)

21 25/16
 Signature

Resource International, Ltd.

GROUNDWATER SAMPLE COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179 Well ID: MW-14
 Project Number: 97007.09 Sampler(s): ENG DE
 Date: 1/25/17 Sheet ID: 8 of 8

Sample Collection Method:
☒ Bailer

Notes:

PRE-SAMPLING DATA									
Purge well until three successive readings of the following Indicator Parameters have stabilized within 10%: pH; Conductivity and Turbidity. All other parameters may be recorded for informational purposes only.									
TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C	ORP (mV)	Purge Calculation	
917	0	6.38	0.508	278	2.73	8.81	166	Well Diameter=	2"
920	1.9	6.16	0.698	340	0.83	11.33	78	Well Depth (WD)=	16.47
924	3.8	6.12	0.826	546	0.55	12.17	62	Depth to water (DTW)=	4.67
928	5.7	6.15	0.840	697	0.43	12.57	60	WH (WD-DTW)=	11.80
								WV=	1.9
								Time Begin	917
								Time Finish	942
								Total Time (min)	25
								Purge Vol (gal)	5.7
								Well Locked?	Y
								Riser cvr intact?	Y
								Casing intact?	Y
								Pad intact?	Y
								Standing water?	N
								Tampering?	N

Sampled: 11 bottles @ 935

942 — 6.18 0.857 489 0.19 12.57 65

Final line of Pre-Sampling Data represents conditions at start of sample collection.

Purge Calculation:

For 2" well: 3 well volumes = water height x 0.489 =

5.7

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	ICE	3 clear VOA (40 ml)
Method 8270D SVOC detects	None	ICE	1 1-L amber
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	ICE	2 amber VOA (60 ml)
Method 8151A Herb detects	None	ICE	1 1-L amber
Method 8081/8082 Pest/PCB detects	None	ICE	1 1-L amber
Cyanide	NaOH	ICE	1 plastic (250 ml)
Sulfide	NaOH+ZnAc	ICE	1 1-L plastic
Metals-3.1 A + Hg & Sn	HNO ₃	ICE	1 plastic (500 ml)

Signature: [Signature]

Resource International, Ltd.

FIELD BLANK COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179 Well ID: Field blank Sample Collection Method: Using a new gallon of distilled water, fill field blank bottles using the same process as sample collection.

Project Number: 97007.09 Sampler(s): 616 DF

Date: 1/25/17 Time: 1525

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	3 clear VOA (40 ml)	
Method 8270D SVOC detects	None	1 1-L amber	
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	2 amber VOA (60 ml)	
Method 8151A Herb detects	None	1 1-L amber	
Method 8081/8082 Pest/PCB detects	None	1 1-L amber	
Cyanide	NaOH	1 plastic (250 ml)	
Sulfide	NaOH+ZnAc	1 1-L plastic	
Metals-3.1 A + Hg & Sn	HNO ₃	1 plastic (500 ml)	

NOTES:

Origin of field blank water:

Food Lion - Distilled Water

[Signature]

Signature

ATTACHMENT X
STATISTICAL DATA SHEETS

Project Name: Goochland County Landfill - Permit No. 179

Project Number: 97007.12

Sample Event Date: 01/25/2017

Parameters: VSWMR Column A plus detects

Analysis Date: 02/09/2017

Page 1 of 1

Summary Table of Laboratory Results
with Groundwater Protection Standards

	Sample ID:		MW-01 (U)	MW-02 (D)	MW-03R (D)	MW-04 (D)	MW-05 (D)	MW-06 (U)	MW-13	MW-14	Trip Blank	Field Blank	GPS (ug/l)	Basis
	Sample Date:		1/25/2017	1/25/2017	1/25/2017	1/25/2017	1/25/2017	1/25/2017	1/25/2017	1/25/2017	12/22/2016	1/25/2017		
	LOD	LOQ												
Inorganic compounds: µg/L														
Arsenic	1.0	5.0	ND	ND	5.5	4.0 J	ND	ND	ND	1.5 J	-	ND	10	MCL
Barium	2.0	10.0	152	121	754	171	170	109	276	307	-	ND	2000	MCL
Cadmium	2.0	5.0	ND	ND	4.7	9.9	ND	ND	ND	ND	-	ND	8	BKG
Chromium	1.0	10.0	5.0 J	10.5	50.0	13.1	8.4 J	5.5 J	ND	21.0	-	ND	100	MCL
Cobalt	2.0	4.0	3.0 J	4.1	26.1	22.3	ND	2.7 J	2.4 J	35.8	-	ND	77.6	BKG
Copper	3.0	10.0	ND	5.1 J	ND	ND	ND	ND	ND	32.9	-	ND	800	ACL
Nickel	2.0	10.0	7.9 J	4.8 J	17.5	4.8 J	8.5 J	3.9 J	7.6 J	15.8	-	ND	390	ACL
Selenium	8.0	50.0	ND	ND	16.1 J	19.1 J	ND	ND	ND	18.5 J	-	ND	50	MCL
Vanadium	2.0	10.0	13.8	19.2	77.6	29.8	8.3 J	9.1 J	ND	33.5	-	ND	92	BKG
Zinc	10.0	10.0	11.2	14.2	28.6	ND	ND	13.3	ND	51.7	-	ND	6000	ACL

	Sample ID:		MW-01	MW-02	MW-03R	MW-04	MW-05	MW-06	MW-13	MW-14	Trip Blank	Field Blank	GPS (ug/l)	Basis
	Sample Date:		1/25/2017	1/25/2017	1/25/2017	1/25/2017	1/25/2017	1/25/2017	1/25/2017	1/25/2017	12/22/2016	1/25/2017		
	LOD	LOQ												
Organic compounds: µg/L														
1,1-Dichloroethane	0.20	1.00	ND	ND	ND	ND	ND	ND	0.24 J	ND	ND	ND	28	ACL
1,2-Dichlorobenzene	0.20	1.00	ND	ND	0.33 J	ND	ND	ND	ND	0.25 J	ND	ND	600	MCL
1,4-Dichlorobenzene	0.20	1.00	ND	ND	4.73	2.49	1.54	ND	ND	3.13	ND	ND	75	MCL
Benzene	0.20	1.00	ND	ND	1.04	0.83 J	0.99 J	ND	0.38 J	0.37 J	ND	ND	5	MCL
Chlorobenzene	0.10	1.00	ND	ND	1.80	1.18	0.54 J	ND	ND	1.53	ND	ND	100	MCL
Chloroethane	0.20	1.00	ND	ND	0.39 J	0.34 J	0.23 J	ND	ND	ND	ND	ND	21000	ACL
Chloroform	0.20	0.50	0.21 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	800	MCL
cis-1,2-Dichloroethylene	0.20	1.00	0.31 J	0.54 J	13.0	1.66	2.94	ND	7.04	5.05	ND	ND	70	MCL
Dichlorodifluoromethane	0.20	1.00	ND	0.56 J	ND	ND	ND	ND	1.76	ND	ND	ND	200	MCL
Tetrachloroethylene (PCE)	0.20	1.00	ND	ND	ND	ND	ND	ND	2.30	ND	ND	ND	5	MCL
Trichloroethylene	0.20	1.00	ND	ND	ND	ND	ND	ND	0.77 J	ND	ND	0.21 J	5	MCL
Toluene	0.20	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1100	MCL
Vinyl chloride	0.20	0.50	ND	ND	1.31	3.24	0.55	ND	ND	ND	ND	ND	2	MCL
o-Xylene	0.10	1.00	ND	ND	ND	ND	ND	ND	0.18 J	ND	ND	0.17 J	10000	MCL
2,4,5-T	0.10	0.50	ND	ND	0.611	ND	ND	ND	ND	ND	ND	ND	160	ACL
2,4,5-TP (Silvex)	0.100	0.500	ND	ND	0.278 J	0.278 J	0.167 J	ND	0.222 J	0.167 J	ND	ND	50	MCL

Constituents not listed were not detected.

Bold - Constituent exceeded established GPS.

ND - Not Detected

J - Constituent was detected above the LOD but below the LOQ

† - Individual constituents of trihalomethanes (THM) do not have a constituent-specific MCL. Combined concentrations of THM may not exceed MCL of 80 ug/l.

ATTACHMENT XI
SPECIAL CONDITIONS

There were no “special conditions” (e.g., wells that could not be sampled, problems with analytical data, etc.) requiring additional detailed description for this semi-annual report.

APPENDIX B
2nd Semiannual Groundwater Monitoring Report
July 2017 Sample Event

Semi-Annual Groundwater Monitoring Report



1] DEQ Region: PRO

Second Semiannual 2017

3] Solid Waste Permit Number: 179

4] Facility Name: Goochland County Landfill

5] Landfill Type: Sanitary

6] Operational Status: Closed

7] GW Program: Assessment

8] GPS Status: Established

9] Simplified Site Location Description: North side of Route 632 (Fairground Road) at Route 665 (Hidden Rock Lane), approximately one mile east of Goochland Courthouse.

10] Simplified Bedrock Type Discussion: Unconsolidated sediments and saprolite. Bedrock outcrops (State Farm Gneiss) are located north of the landfill.

11] Physiographic setting: Piedmont

12] Aquifer Type:

Unconfined

13] # of Compliance Wells: 5

14] # of Upgradient Wells:

2

15] # of Downgradient Wells:

3

16] # of Corrective Action Wells: NA

17] # of Performance Wells:

NA

18] # of Sentinel Wells:

NA

Aquifer Specifics

19] Were groundwater elevations measured at each monitoring well?

Yes

20] List the well pair(s) used to calculate groundwater flow rate?

MW-6 to MW-4

21] The calculated groundwater flow rate (given in feet per year)

17.15 ft/year

22] Direction(s) of groundwater flow on site:

Northwesterly

Groundwater Sampling Specifics

23] Date GW was sampled pursuant to 9 VAC 20-80-300 B or C?

25-Jul-17

24] Were all wells secured/locked prior to sampling?

Yes

25] Were all wells purged prior to sampling?

Yes

26] Were any compliance wells unable to be sampled?

No

For wells which could not be sampled during the compliance event; provide the non-performance reason below and note whether this was a first time occurrence, or whether it has been observed on site before with the particular well in question.

26-a] External damage to the well? (Initial occurrence?)

N/A

26-b] Internal damage to the well? (Initial occurrence?)

N/A

26-c] Failure to yield sampling volume after purging. (Initial occurrence?)

N/A

26-d] Well dry, could not be purged? (Initial occurrence?)

N/A

Analytical Lab Information	
27] Date GW samples sent to analytical lab:	07/25/17
28] Were samples submitted under Chain of Custody?	Yes
29] Date GW samples rec'd at analytical lab:	07/25/17
30] Were any problems noted with the samples upon rec'pt at lab?	No
31] Were samples analyzed using SW-846 (as updated) methods?	Yes
32] Date signed/certified analytical report issued by lab:	08/08/17
33] Date signed/certified analytical report rec'd by consultant/facility:	08/08/17
Interpretation and Response to Analytical Results	
34] Type of statistical method used to identify exceedances?	UPL, GPS
35] Were any unusual statistical problems noted (i.e. outliers)?	No
36] Do any constituents exceed the site background? (Initial occurrence?)	No
37] Were results compared to GPS (including most recent ACLs)?	Yes
38] Do any constituents exceed GPS? (Initial occurrence?)	No
(if yes) 38-a] Were any of the exceedances for new constituents or wells?	N/A
39] Was verification sampling undertaken?	N/A
(if yes) 39-a] Date of the verification event?	N/A
(if yes) 39-b] Date verification results released by the analytical lab?	N/A
(if yes) 39-c] Did verification event confirm exceedances?	N/A
40] Date DEQ was notified (if applicable) of the exceedance(s)?	N/A
41] Will facility pursue an ASD for any of the exceedances?	N/A
42] If background has been exceeded, has facility already advanced to the next phase of groundwater monitoring?	Yes
43] If GPS have been exceeded, has facility already delineated the release in both the horizontal and vertical dimensions?	Yes

Notes:

Attachments. The following attachments must be submitted in the order prescribed

Attachment I: Site Identified on a USGS 7 1/2-minute Topographic Map

Attachment II: GW elevation table (as measured during the sampling event)

Attachment III: GW flow rate calculations based on data presented in Attachment II

Attachment IV: Potentiometric Surface Map scaled to fit a size no larger than 11" x 17"

Attachment V: Table of constituents exceeding background, listed for each well

Attachment VI: Table of constituents exceeding GPS, listed for each well

Attachment VII: Complete Laboratory Analytical Report (including Verification events)

Attachment VIII: Chain of Custody documentation (including Verification events)

Attachment IX: Field book documentation (including Verification events)

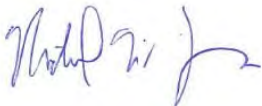
Attachment X: Statistical Data Sheets

Attachment XI: Special Conditions Description

*Note: Attachments VII, VIII, IX, and X may be submitted in electronic format on CD.***Responsible Official Signature:**

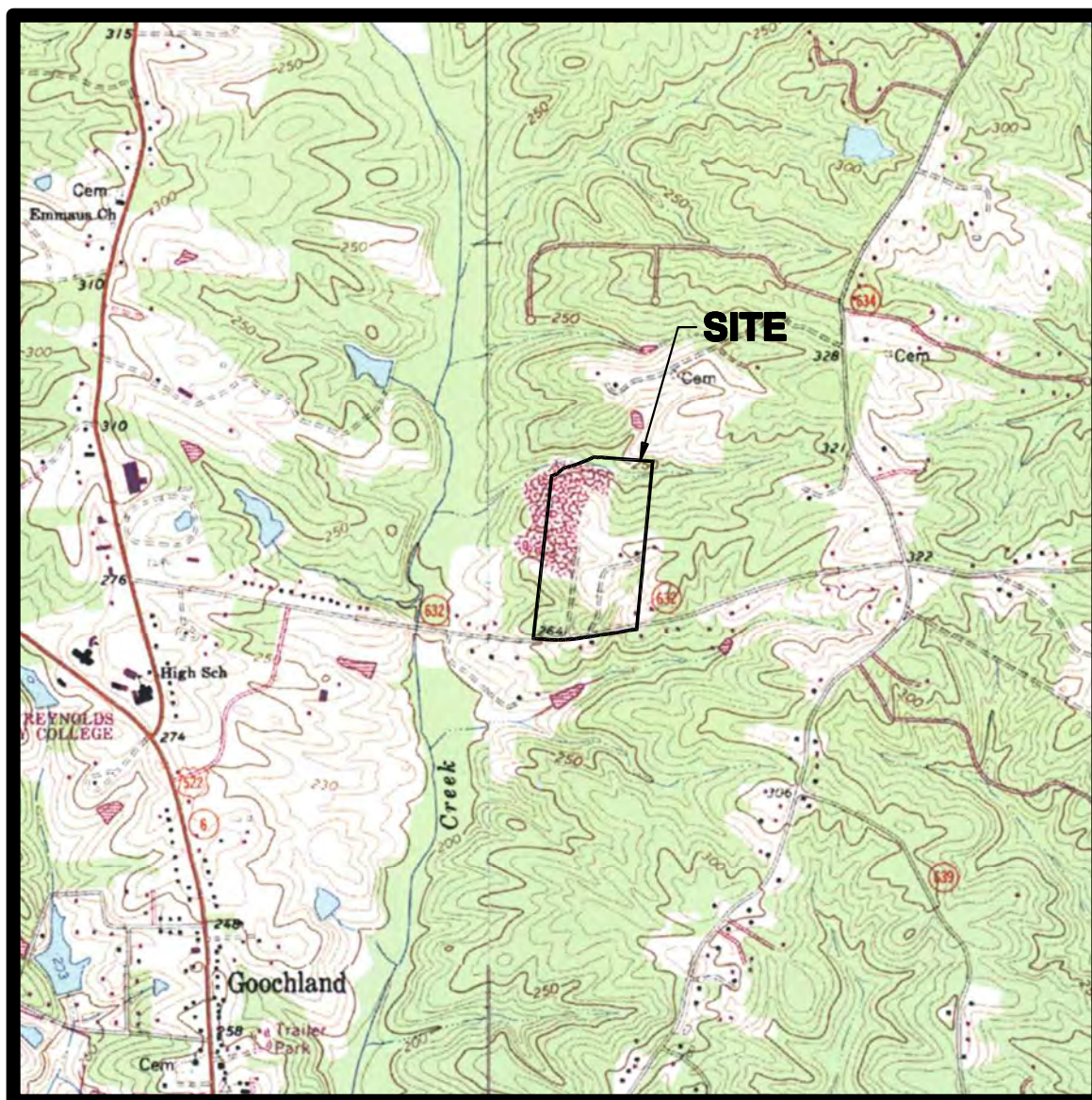
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name:	Michael Willinger, P.G.	Title:	Section Manager, Groundwater & Geology
Signature:		Date:	10/25/2017

ATTACHMENTS

ATTACHMENT I
SITE LOCATION MAP



U.S.G.S. 7.5 SERIES QUADRANGLES
 PERKINSVILLE, VIRGINIA (1968 PHOTOREVISED (1987)
 GOOCHLAND, VIRGINIA (1968, PHOTOREVISED 1987)
 SCALE: 1" = 2000'



NOTE: ALL LOCATIONS ARE APPROXIMATE.

FIGURE 1
 SITE LOCATION MAP
 GOOCHLAND COUNTY SANITARY
 LANDFILL PERMIT NO. 179
 GOOCHLAND, VIRGINIA



INTERNATIONAL
 P.O. Box 6160 9560 Kings Charter Drive Ashland, VA 23005
 (804) 550-9200 FAX (804) 550-9259

ATTACHMENT II
GROUNDWATER ELEVATION TABLE

ATTACHMENT II - GROUNDWATER ELEVATION TABLE

PERMIT #179 SANITARY LANDFILL

Goochland County Landfill

Groundwater Elevation Measurements

July 25, 2017

WELL ID	TOC	DTW	GW Elevation
MW-01	291.72	38.01	253.71
MW-02	246.57	7.08	239.49
MW-03R	233.29	7.11	226.18
MW-04	230.98	12.74	218.24
MW-05	241.27	13.92	227.35
MW-06	292.85	37.54	255.31
MW-07	224.75	5.12	219.63
MW-09	233.75	7.98	225.77
MW-11	244.42	17.27	227.15
MW-13	292.45	39.26	253.19
MW-14	223.77	7.20	216.57

Notes:

TOC - Top of Casing

DTW - Depth to Water

All measurements in feet.

ATTACHMENT III
GROUNDWATER FLOW CALCULATIONS

ATTACHMENT III - GROUNDWATER FLOW RATE CALCULATIONS

PERMIT #179 SANITARY LANDFILL

Goochland County Landfill

July 2017 Sampling Event

Groundwater Flow Rate Calculations

Hydraulic Conductivity (K) = 0.000223 cm/sec
(Average for site from Draper Aden data)

MW-6/MW-4 Gradient (i) = 0.026014 ft/ft
(Change in GW Elevation/distance between wells)

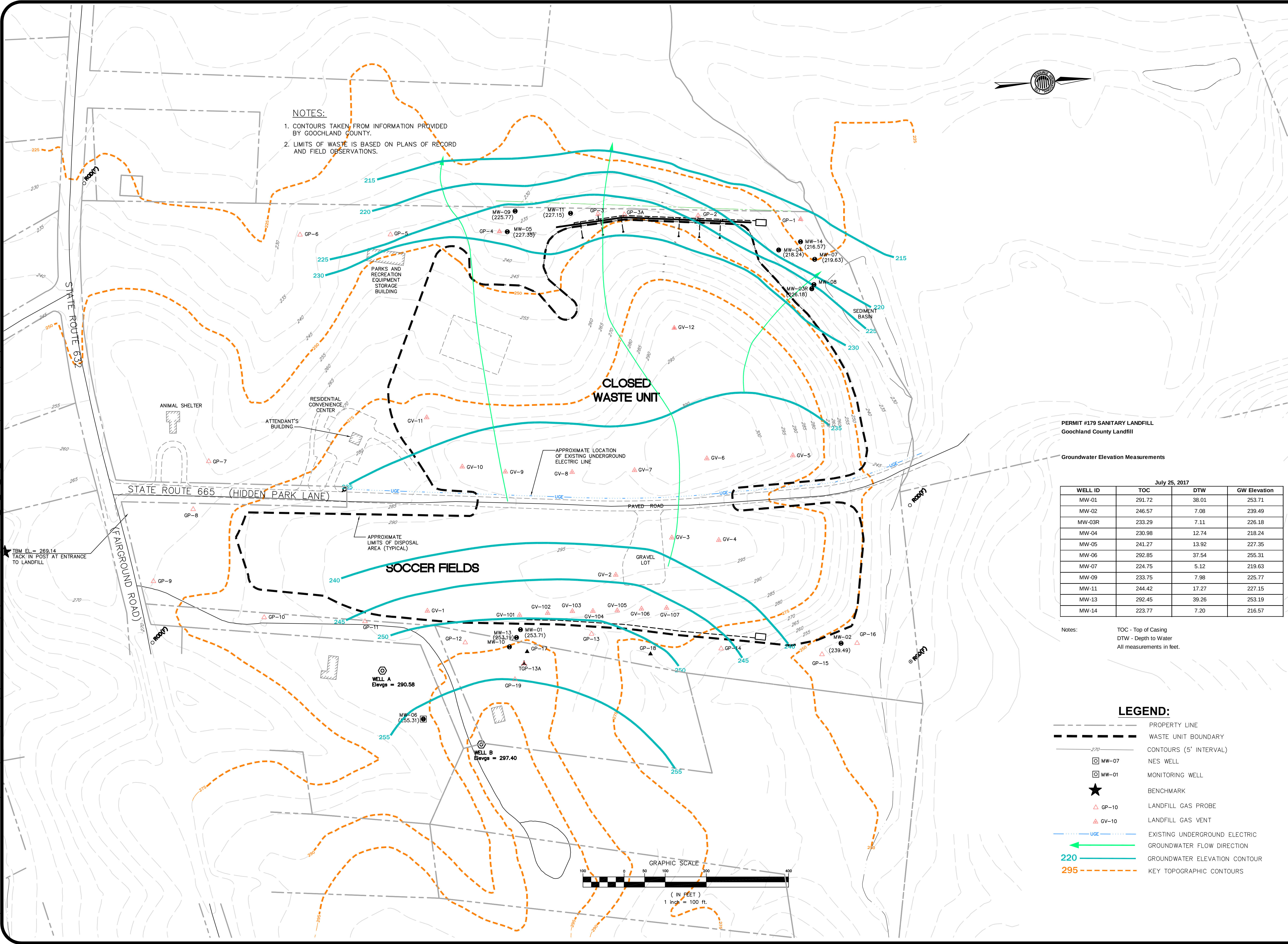
Effective Porosity (ne) = 0.35 (no units)
(estimated by Draper Aden)

Groundwater Flow Rate (V) = 0.046983 ft/day
(K_i/ne X (86400 sec/day) X (1 ft./30.48 cm))

Annual Groundwater Flow Rate = 17.15 ft/year
(V X 365 days/year)

ATTACHMENT IV
POTENTIOMETRIC MAP

H:\97007.12 - Goochland County Sanitary Landfill Drawings\Potentiometric Maps\2017 GWC Maps\97007.09 GC PM 072517.dwg Plotted: Aug 22, 2017 - 10:15am





resource
INTERNATIONAL

P.O. Box 6160 9560 Kings Charter Drive • Ashland, VA 23005
(804) 550-9200 • FAX (804) 550-9259

DESIGNED: V. GILLS
DRAWN: B. DAVIS
CHECKED: M. WILLINGER
DATE: 08/16/2017

GOOCHLAND COUNTY
SANITARY LANDFILL
PERMIT # 179
GOOCHLAND COUNTY, VIRGINIA
POTENTIOMETRIC MAP
JULY 25, 2017

PROJECT NO.:
97007.12
SHEET:
FIGURE 2

ATTACHMENT V
CONSTITUENTS EXCEEDING FACILITY BACKGROUND

Page 1 of 1

[illegible]

ATTACHMENT VI
CONSTITUENTS EXCEEDING GPS

Project Name: Goochland County Landfill - Permit No. 179

Project Number: 97007.09

Sample Event Date: 7/25/17

Parameters: VSWMR Table 3.1B

Analysis Date: 8/8/17

Page 1 of 1

Confirmed Groundwater Protection Standard Exceedances

MW-02	MW-05	MW-06	MW-13	MW-14
07/25/17	07/25/17	07/25/17	07/25/17	07/25/17
There are no GPS exceedances for any constituents in any well for this sampling event.				

ATTACHMENT VII
LABORATORY ANALYTICAL REPORT



Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detects Report

Client Name: Resource International, Ltd.
Client Site ID: Goochland Co. LF
Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Laboratory Sample ID: 17G0698-01

Client Sample ID: MW-02

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	01	SW6020A	0.0011	J	0.0010	0.0050	1	mg/L
Barium	01	SW6010C	0.129		0.0020	0.0100	1	mg/L
Chromium	01	SW6010C	0.0090	J	0.0040	0.0100	1	mg/L
Cobalt	01	SW6010C	0.0031	J	0.0020	0.0040	1	mg/L
Copper	01	SW6010C	0.0052	J	0.0030	0.0100	1	mg/L
Nickel	01	SW6010C	0.0040	J	0.0020	0.0100	1	mg/L
Vanadium	01	SW6010C	0.0214		0.0020	0.0100	1	mg/L
Zinc	01	SW6010C	0.0118		0.0100	0.0100	1	mg/L
1,1-Dichloroethane	01	SW8260B	0.27	J	0.20	1.00	1	ug/L
Benzene	01	SW8260B	0.27	J	0.20	1.00	1	ug/L
Chloroform	01	SW8260B	0.81		0.20	0.50	1	ug/L
cis-1,2-Dichloroethylene	01	SW8260B	1.80		0.20	1.00	1	ug/L
Dichlorodifluoromethane	01	SW8260B	2.20		0.20	1.00	1	ug/L
Tetrachloroethylene (PCE)	01	SW8260B	1.04		0.20	1.00	1	ug/L
Trichloroethylene	01	SW8260B	0.36	J	0.20	1.00	1	ug/L



Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detects Report

Client Name: Resource International, Ltd.
Client Site ID: Goochland Co. LF
Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Laboratory Sample ID: 17G0698-02

Client Sample ID: MW-05

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	02	SW6010C	0.167		0.0020	0.0100	1	mg/L
Chromium	02	SW6010C	0.0164		0.0040	0.0100	1	mg/L
Nickel	02	SW6010C	0.0066	J	0.0020	0.0100	1	mg/L
Selenium	02	SW6010C	0.0180	J	0.0150	0.0500	1	mg/L
Vanadium	02	SW6010C	0.0111		0.0020	0.0100	1	mg/L
1,4-Dichlorobenzene	02	SW8260B	1.24		0.20	1.00	1	ug/L
Benzene	02	SW8260B	0.87	J	0.20	1.00	1	ug/L
Chlorobenzene	02	SW8260B	0.60	J	0.10	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260B	2.01		0.20	1.00	1	ug/L
Vinyl chloride	02	SW8260B	0.54		0.20	0.50	1	ug/L
bis (2-Ethylhexyl) phthalate	02	SW8270D	1.31	J	1.11	2.78	1	ug/L

Laboratory Sample ID: 17G0698-03

Client Sample ID: MW-06

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	03	SW6010C	0.134		0.0020	0.0100	1	mg/L
Chromium	03	SW6010C	0.0079	J	0.0040	0.0100	1	mg/L
Cobalt	03	SW6010C	0.0040	J	0.0020	0.0040	1	mg/L
Copper	03	SW6010C	0.0056	J	0.0030	0.0100	1	mg/L
Nickel	03	SW6010C	0.0045	J	0.0020	0.0100	1	mg/L
Vanadium	03	SW6010C	0.0165		0.0020	0.0100	1	mg/L
Zinc	03	SW6010C	0.0199		0.0100	0.0100	1	mg/L
bis (2-Ethylhexyl) phthalate	03	SW8270D	1.67	J	1.10	2.75	1	ug/L
Di-n-butyl phthalate	03	SW8270D	3.37	J	2.20	11.0	1	ug/L



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Analysis Detects Report

Client Name: Resource International, Ltd.
Client Site ID: Goochland Co. LF
Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Laboratory Sample ID: 17G0698-04

Client Sample ID: MW-13

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	04	SW6010C	0.277		0.0020	0.0100	1	mg/L
Nickel	04	SW6010C	0.0061	J	0.0020	0.0100	1	mg/L
1,1-Dichloroethane	04	SW8260B	0.22	J	0.20	1.00	1	ug/L
Benzene	04	SW8260B	0.30	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260B	4.71		0.20	1.00	1	ug/L
o-Xylene	04	SW8260B	0.17	J	0.10	1.00	1	ug/L
Tetrachloroethylene (PCE)	04	SW8260B	1.66		0.20	1.00	1	ug/L
Trichloroethylene	04	SW8260B	0.60	J	0.20	1.00	1	ug/L



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Analysis Detects Report

Client Name: Resource International, Ltd.
Client Site ID: Goochland Co. LF
Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Laboratory Sample ID: 17G0698-05

Client Sample ID: MW-14

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	05	SW6020A	0.0022	J	0.0010	0.0050	1	mg/L
Barium	05	SW6010C	0.349		0.0020	0.0100	1	mg/L
Cadmium	05	SW6010C	0.0028	J	0.0020	0.0040	1	mg/L
Chromium	05	SW6010C	0.0263		0.0040	0.0100	1	mg/L
Cobalt	05	SW6010C	0.0351		0.0020	0.0040	1	mg/L
Copper	05	SW6010C	0.0576		0.0030	0.0100	1	mg/L
Lead	05	SW6010C	0.0085	J	0.0060	0.0100	1	mg/L
Nickel	05	SW6010C	0.0192		0.0020	0.0100	1	mg/L
Selenium	05	SW6010C	0.0396	J	0.0150	0.0500	1	mg/L
Vanadium	05	SW6010C	0.0444		0.0020	0.0100	1	mg/L
Zinc	05	SW6010C	0.0585		0.0100	0.0100	1	mg/L
1,2-Dichlorobenzene	05	SW8260B	0.25	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	05	SW8260B	3.33		0.20	1.00	1	ug/L
Benzene	05	SW8260B	0.45	J	0.20	1.00	1	ug/L
Chlorobenzene	05	SW8260B	1.89		0.10	1.00	1	ug/L
Chloroethane	05	SW8260B	0.52	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	05	SW8260B	5.02		0.20	1.00	1	ug/L
Vinyl chloride	05	SW8260B	0.62		0.20	0.50	1	ug/L
bis (2-Ethylhexyl) phthalate	05	SW8270D	1.69	J	1.00	2.50	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 17G0698

Client Name: Resource International, Ltd.

P.O. Box 6160

Ashland, VA 23005

Submitted To: Mike Willinger

Date Received: July 25, 2017 16:30

Date Issued: August 8, 2017 15:09

Project Number: 97007-09

Purchase Order:

Client Site I.D.: Goochland Co. LF

Enclosed are the results of analyses for samples received by the laboratory on 07/25/2017 16:30. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads "Ted Soyars".

Ted Soyars

Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.



Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-02	17G0698-01	Ground Water	07/25/2017 14:20	07/25/2017 16:30
MW-05	17G0698-02	Ground Water	07/25/2017 10:10	07/25/2017 16:30
MW-06	17G0698-03	Ground Water	07/25/2017 12:45	07/25/2017 16:30
MW-13	17G0698-04	Ground Water	07/25/2017 13:55	07/25/2017 16:30
MW-14	17G0698-05	Ground Water	07/25/2017 09:15	07/25/2017 16:30
Field Blank	17G0698-06	Ground Water	07/25/2017 14:35	07/25/2017 16:30
Trip Blank	17G0698-07	Ground Water	06/23/2017 14:30	07/25/2017 16:30

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-02

Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	01	7440-22-4	SW6010C	07/26/2017 14:20	07/27/2017 16:17	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	01	7440-38-2	SW6020A	07/26/2017 14:20	07/27/2017 16:02	0.0011	J	0.0010	0.0050	1	mg/L	BG
Barium	01	7440-39-3	SW6010C	07/26/2017 14:20	07/27/2017 13:46	0.129		0.0020	0.0100	1	mg/L	CWO
Beryllium	01	7440-41-7	SW6010C	07/26/2017 14:20	07/27/2017 13:46	BLOD		0.0020	0.0040	1	mg/L	CWO
Cadmium	01	7440-43-9	SW6010C	07/26/2017 14:20	07/27/2017 13:46	BLOD		0.0020	0.0040	1	mg/L	CWO
Cobalt	01	7440-48-4	SW6010C	07/26/2017 14:20	07/27/2017 13:46	0.0031	J	0.0020	0.0040	1	mg/L	CWO
Chromium	01	7440-47-3	SW6010C	07/26/2017 14:20	07/27/2017 13:46	0.0090	J	0.0040	0.0100	1	mg/L	CWO
Copper	01	7440-50-8	SW6010C	07/26/2017 14:20	07/27/2017 13:46	0.0052	J	0.0030	0.0100	1	mg/L	CWO
Mercury	01	7439-97-6	SW7470A	07/28/2017 15:00	07/28/2017 19:55	BLOD		0.00020	0.00020	1	mg/L	CWO
Nickel	01	7440-02-0	SW6010C	07/26/2017 14:20	07/27/2017 13:46	0.0040	J	0.0020	0.0100	1	mg/L	CWO
Lead	01	7439-92-1	SW6010C	07/26/2017 14:20	07/27/2017 13:46	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	01	7440-36-0	SW6020A	07/26/2017 14:20	07/27/2017 16:02	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	01	7782-49-2	SW6010C	07/26/2017 14:20	07/27/2017 13:46	BLOD		0.0150	0.0500	1	mg/L	CWO
Tin	01	7440-31-5	SW6010C	07/26/2017 14:20	07/27/2017 13:46	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	01	7440-28-0	SW6020A	07/26/2017 14:20	07/27/2017 16:02	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	01	7440-62-2	SW6010C	07/26/2017 14:20	07/27/2017 13:46	0.0214		0.0020	0.0100	1	mg/L	CWO
Zinc	01	7440-66-6	SW6010C	07/26/2017 14:20	07/27/2017 13:46	0.0118		0.0100	0.0100	1	mg/L	CWO
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	01	630-20-6	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	01	71-55-6	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	01	79-34-5	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	01	79-00-5	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	01	75-34-3	SW8260B	07/26/2017 14:50	07/26/2017 14:50	0.27	J	0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	01	75-35-4	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-02

Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1-Dichloropropene	01	563-58-6	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	01	96-18-4	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	01	120-82-1	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	01	95-50-1	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	01	107-06-2	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	01	78-87-5	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	01	541-73-1	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	01	142-28-9	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	01	106-46-7	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	01	594-20-7	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	01	78-93-3	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	01	591-78-6	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	01	108-10-1	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	01	67-64-1	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	01	75-05-8	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	01	107-02-8	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	01	107-13-1	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	01	107-05-1	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.60	1.00	1	ug/L	JDW
Benzene	01	71-43-2	SW8260B	07/26/2017 14:50	07/26/2017 14:50	0.27	J	0.20	1.00	1	ug/L	JDW
Bromochloromethane	01	74-97-5	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	01	75-27-4	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	01	75-25-2	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	01	74-83-9	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	01	75-15-0	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		1.00	10.0	1	ug/L	JDW

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-02

Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	01	56-23-5	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	01	108-90-7	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.10	1.00	1	ug/L	JDW
Chloroethane	01	75-00-3	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
Chloroform	01	67-66-3	SW8260B	07/26/2017 14:50	07/26/2017 14:50	0.81		0.20	0.50	1	ug/L	JDW
Chloromethane	01	74-87-3	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	01	126-99-8	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	01	156-59-2	SW8260B	07/26/2017 14:50	07/26/2017 14:50	1.80		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	01	10061-01-5	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	01	124-48-1	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	01	74-95-3	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	01	75-71-8	SW8260B	07/26/2017 14:50	07/26/2017 14:50	2.20		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	01	97-63-2	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	01	100-41-4	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	01	87-68-3	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	01	74-88-4	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	01	78-83-1	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	01	179601-23-1	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	2.00	1	ug/L	JDW
Methacrylonitrile	01	126-98-7	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	01	80-62-6	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	01	75-09-2	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	01	95-47-6	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	01	107-12-0	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	01	100-42-5	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.10	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: Resource International, Ltd.
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Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-02

Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	01	127-18-4	SW8260B	07/26/2017 14:50	07/26/2017 14:50	1.04		0.20	1.00	1	ug/L	JDW
Toluene	01	108-88-3	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	01	156-60-5	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	01	10061-02-6	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	01	110-57-6	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	01	79-01-6	SW8260B	07/26/2017 14:50	07/26/2017 14:50	0.36	J	0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	01	75-69-4	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	01	108-05-4	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	01	75-01-4	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.20	0.50	1	ug/L	JDW
Xylenes, Total	01	1330-20-7	SW8260B	07/26/2017 14:50	07/26/2017 14:50	BLOD		0.30	3.00	1	ug/L	JDW
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	01	102 %	70-120	07/26/2017 14:50	07/26/2017 14:50							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	01	96.6 %	75-120	07/26/2017 14:50	07/26/2017 14:50							
<i>Surr: Dibromofluoromethane (Surr)</i>	01	102 %	80-119	07/26/2017 14:50	07/26/2017 14:50							
<i>Surr: Toluene-d8 (Surr)</i>	01	103 %	85-120	07/26/2017 14:50	07/26/2017 14:50							

Certificate of Analysis

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Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-02

Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
1,3,5-Trinitrobenzene	01	99-35-4	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	5.43	1	ug/L	SKS
1,3-Dinitrobenzene	01	99-65-0	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.72	2.72	1	ug/L	SKS
1,4-Naphthoquinone	01	130-15-4	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
1-Naphthylamine	01	134-32-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	01	58-90-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
2,4,5-Trichlorophenol	01	95-95-4	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
2,4,6-Trichlorophenol	01	88-06-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
2,4-Dichlorophenol	01	120-83-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
2,4-Dimethylphenol	01	105-67-9	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		0.54	0.54	1	ug/L	SKS
2,4-Dinitrophenol	01	51-28-5	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		0.54	54.3	1	ug/L	SKS
2,4-Dinitrotoluene	01	121-14-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
2,6-Dichlorophenol	01	87-65-0	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
2,6-Dinitrotoluene	01	606-20-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
2-Acetylaminofluorene	01	53-96-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.72	2.72	1	ug/L	SKS
2-Chloronaphthalene	01	91-58-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
2-Chlorophenol	01	95-57-8	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
2-Methylnaphthalene	01	91-57-6	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
2-Naphthylamine	01	91-59-8	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
2-Nitroaniline	01	88-74-4	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	21.7	1	ug/L	SKS
2-Nitrophenol	01	88-75-5	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
3,3'-Dichlorobenzidine	01	91-94-1	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		4.35	10.9	1	ug/L	SKS
3,3'-Dimethylbenzidine	01	119-93-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.72	2.72	1	ug/L	SKS
3-Methylcholanthrene	01	56-49-5	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS

Certificate of Analysis

Client Name: Resource International, Ltd.
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 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-02

Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	01	99-09-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	21.7	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	01	534-52-1	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	54.3	1	ug/L	SKS
4-Aminobiphenyl	01	92-67-1	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
4-Bromophenyl phenyl ether	01	101-55-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
4-Chloroaniline	01	106-47-8	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
4-Chlorophenyl phenyl ether	01	7005-72-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
4-Nitroaniline	01	100-01-6	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	21.7	1	ug/L	SKS
4-Nitrophenol	01	100-02-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	54.3	1	ug/L	SKS
5-Nitro-o-toluidine	01	99-55-8	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	01	57-97-6	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
Acenaphthene	01	83-32-9	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Acenaphthylene	01	208-96-8	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Acetophenone	01	98-86-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	21.7	1	ug/L	SKS
Anthracene	01	120-12-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (a) anthracene	01	56-55-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	01	50-32-8	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		0.05	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	01	205-99-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (g,h,i) perylene	01	191-24-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (k) fluoranthene	01	207-08-9	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Benzyl alcohol	01	100-51-6	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	21.7	1	ug/L	SKS
bis (2-Chloroethoxy) methane	01	111-91-1	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
bis (2-Chloroethyl) ether	01	111-44-4	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	01	108-60-1	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	01	117-81-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	2.72	1	ug/L	SKS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-02

Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	01	85-68-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Chlorobenzilate	01	510-15-6	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD	C	2.72	2.72	1	ug/L	SKS
Chrysene	01	218-01-9	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Diallate	01	2303-16-4	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.72	2.72	1	ug/L	SKS
Dibenz (a,h) anthracene	01	53-70-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Dibenzofuran	01	132-64-9	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	5.43	1	ug/L	SKS
Diethyl phthalate	01	84-66-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Dimethoate	01	60-51-5	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.72	2.72	1	ug/L	SKS
Dimethyl phthalate	01	131-11-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Di-n-butyl phthalate	01	84-74-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
Di-n-octyl phthalate	01	117-84-0	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Diphenylamine	01	122-39-4	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
Disulfoton	01	298-04-4	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD	C	2.72	2.72	1	ug/L	SKS
Ethyl methanesulfonate	01	62-50-0	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	21.7	1	ug/L	SKS
Ethyl parathion	01	56-38-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.72	2.72	1	ug/L	SKS
Famphur	01	52-85-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.72	2.72	1	ug/L	SKS
Fluoranthene	01	206-44-0	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Fluorene	01	86-73-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Hexachlorobenzene	01	118-74-1	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	01	87-68-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Hexachlorocyclopentadiene	01	77-47-4	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD	C	1.09	10.9	1	ug/L	SKS
Hexachloroethane	01	67-72-1	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Hexachloropropene	01	1888-71-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	2.72	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	01	193-39-5	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-02

Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Isodrin	01	465-73-6	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD	C	1.09	10.9	1	ug/L	SKS
Isophorone	01	78-59-1	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Isosafrole	01	120-58-1	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
Kepone	01	143-50-0	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD	C	2.17	2.72	1	ug/L	SKS
m+p-Cresols	01	84989-04-8	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Methapyrilene	01	91-80-5	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Methyl methanesulfonate	01	66-27-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Methyl parathion	01	298-00-0	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	2.72	1	ug/L	SKS
Naphthalene	01	91-20-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Nitrobenzene	01	98-95-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
n-Nitrosodiethylamine	01	55-18-5	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.72	2.72	1	ug/L	SKS
n-Nitrosodimethylamine	01	62-75-9	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodi-n-butylamine	01	924-16-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodi-n-propylamine	01	621-64-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodiphenylamine	01	86-30-6	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
n-Nitrosomethylethylamine	01	10595-95-6	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	2.72	1	ug/L	SKS
n-Nitrosopiperidine	01	100-75-4	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosopyrrolidine	01	930-55-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	2.72	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	01	126-68-1	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	01	297-97-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
o+m+p-Cresols	01	1319-77-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		3.26	10.9	1	ug/L	SKS
o-Cresol	01	95-48-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
o-Toluidine	01	95-53-4	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	2.72	1	ug/L	SKS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-02

Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	01	60-11-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	2.72	1	ug/L	SKS
p-Chloro-m-cresol	01	59-50-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Pentachlorobenzene	01	608-93-5	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	01	82-68-8	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	1.09	1	ug/L	SKS
Phenacetin	01	62-44-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Phenanthrene	01	85-01-8	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Phenol	01	108-95-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Phorate	01	298-02-2	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	2.72	1	ug/L	SKS
p-Phenylenediamine	01	106-50-3	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD	C	2.17	10.9	1	ug/L	SKS
Pronamide	01	23950-58-5	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	10.9	1	ug/L	SKS
Pyrene	01	129-00-0	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		1.09	10.9	1	ug/L	SKS
Safrole	01	94-59-7	SW8270D	07/28/2017 09:24	08/01/2017 00:35	BLOD		2.17	2.72	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol (Surr)	01	71.1 %	20-86	07/28/2017 09:24	08/01/2017 00:35							
Surr: 2-Fluorobiphenyl (Surr)	01	76.2 %	23-87	07/28/2017 09:24	08/01/2017 00:35							
Surr: 2-Fluorophenol (Surr)	01	48.3 %	10-52	07/28/2017 09:24	08/01/2017 00:35							
Surr: Nitrobenzene-d5 (Surr)	01	69.2 %	10-98.5	07/28/2017 09:24	08/01/2017 00:35							
Surr: Phenol-d5 (Surr)	01	29.9 %	5-33	07/28/2017 09:24	08/01/2017 00:35							
Surr: p-Terphenyl-d14 (Surr)	01	86.6 %	27-133	07/28/2017 09:24	08/01/2017 00:35							

Certificate of Analysis

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Client Sample ID: MW-02

Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	01	12674-11-2	SW8082A	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.027	0.211	1	ug/L	LBH
PCB as Aroclor 1221	01	11104-28-2	SW8082A	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.211	0.211	1	ug/L	LBH
PCB as Aroclor 1232	01	11141-16-5	SW8082A	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.016	0.211	1	ug/L	LBH
PCB as Aroclor 1242	01	53469-21-9	SW8082A	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.043	0.211	1	ug/L	LBH
PCB as Aroclor 1248	01	12672-29-6	SW8082A	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.051	0.211	1	ug/L	LBH
PCB as Aroclor 1254	01	11097-69-1	SW8082A	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.037	0.211	1	ug/L	LBH
PCB as Aroclor 1260	01	11096-82-5	SW8082A	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.036	0.211	1	ug/L	LBH
Surr: DCB	01	50.0 %	30-105	07/27/2017 09:24	07/28/2017 19:28							
Surr: TCMX	01	65.0 %	30-105	07/27/2017 09:24	07/28/2017 19:28							
4,4'-DDD	01	72-54-8	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD	C	0.005	0.053	1	ug/L	LBH
4,4'-DDE	01	72-55-9	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD	C	0.005	0.053	1	ug/L	LBH
4,4'-DDT	01	50-29-3	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.005	0.053	1	ug/L	LBH
Aldrin	01	309-00-2	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.005	0.053	1	ug/L	LBH
alpha-BHC	01	319-84-6	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.005	0.053	1	ug/L	LBH
beta-BHC	01	319-85-7	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.005	0.053	1	ug/L	LBH
Chlordane	01	57-74-9	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.211	0.211	1	ug/L	LBH
delta-BHC	01	319-86-8	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.002	0.053	1	ug/L	LBH
Dieldrin	01	60-57-1	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.003	0.053	1	ug/L	LBH
Endosulfan I	01	959-98-8	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.002	0.053	1	ug/L	LBH
Endosulfan II	01	33213-65-9	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.002	0.053	1	ug/L	LBH
Endosulfan sulfate	01	1031-07-8	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.002	0.053	1	ug/L	LBH
Endrin	01	72-20-8	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.002	0.053	1	ug/L	LBH
Endrin aldehyde	01	7421-93-4	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.002	0.053	1	ug/L	LBH
gamma-BHC (Lindane)	01	58-89-9	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.003	0.053	1	ug/L	LBH

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-02

Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	01	76-44-8	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.003	0.053	1	ug/L	LBH
Heptachlor epoxide	01	1024-57-3	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.002	0.053	1	ug/L	LBH
Methoxychlor	01	72-43-5	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD	C	0.004	0.053	1	ug/L	LBH
Toxaphene	01	8001-35-2	SW8081B	07/27/2017 09:24	07/28/2017 19:28	BLOD		0.211	1.05	1	ug/L	LBH
Surr: TCMX	01	65.0 %	18-112	07/27/2017 09:24	07/28/2017 19:28							
Surr: DCB	01	55.0 %	27-131	07/27/2017 09:24	07/28/2017 19:28							

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Client Sample ID: MW-02

Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	93-76-5	SW8151A	07/27/2017 14:01	08/04/2017 20:03	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	01	93-72-1	SW8151A	07/27/2017 14:01	08/04/2017 20:03	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	01	94-75-7	SW8151A	07/27/2017 14:01	08/04/2017 20:03	BLOD		0.100	0.500	1	ug/L	CVH
Dinoseb	01	88-85-7	SW8151A	07/27/2017 14:01	08/04/2017 20:03	BLOD		0.010	0.500	1	ug/L	CVH
Pentachlorophenol	01	87-86-5	SW8151A	07/27/2017 14:01	08/04/2017 20:03	BLOD		0.100	0.500	1	ug/L	CVH
<i>Surr: DCAA (Surr)</i>	<i>01</i>	<i>85.0 %</i>	<i>60-112</i>	<i>07/27/2017 14:01</i>	<i>08/04/2017 20:03</i>							

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Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	01	106-93-4	SW8011	07/31/2017 12:05	07/31/2017 21:08	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	01	96-18-4	SW8011	07/31/2017 12:05	07/31/2017 21:08	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	SW8011	07/31/2017 12:05	07/31/2017 21:08	BLOD		0.003	0.010	1	ug/L	CVH

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Laboratory Sample ID: 17G0698-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	57-12-5	SW9012B	08/03/2017 09:30	08/03/2017 16:47	BLOD	CI	0.01	0.01	1	mg/L	TLA
Sulfide	01	18496-25-8	SW9215	07/31/2017 12:45	07/31/2017 12:45	BLOD		0.50	1.00	1	mg/L	BBP

Certificate of Analysis

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 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-05

Laboratory Sample ID: 17G0698-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	02	7440-22-4	SW6010C	07/26/2017 14:20	07/27/2017 16:19	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	02	7440-38-2	SW6020A	07/26/2017 14:20	07/27/2017 16:05	BLOD		0.0010	0.0050	1	mg/L	BG
Barium	02	7440-39-3	SW6010C	07/26/2017 14:20	07/27/2017 13:48	0.167		0.0020	0.0100	1	mg/L	CWO
Beryllium	02	7440-41-7	SW6010C	07/26/2017 14:20	07/27/2017 13:48	BLOD		0.0020	0.0040	1	mg/L	CWO
Cadmium	02	7440-43-9	SW6010C	07/26/2017 14:20	07/27/2017 13:48	BLOD		0.0020	0.0040	1	mg/L	CWO
Cobalt	02	7440-48-4	SW6010C	07/26/2017 14:20	07/27/2017 13:48	BLOD		0.0020	0.0040	1	mg/L	CWO
Chromium	02	7440-47-3	SW6010C	07/26/2017 14:20	07/27/2017 13:48	0.0164		0.0040	0.0100	1	mg/L	CWO
Copper	02	7440-50-8	SW6010C	07/26/2017 14:20	07/27/2017 13:48	BLOD		0.0030	0.0100	1	mg/L	CWO
Mercury	02	7439-97-6	SW7470A	07/28/2017 15:00	07/28/2017 19:57	BLOD		0.00020	0.00020	1	mg/L	CWO
Nickel	02	7440-02-0	SW6010C	07/26/2017 14:20	07/27/2017 13:48	0.0066	J	0.0020	0.0100	1	mg/L	CWO
Lead	02	7439-92-1	SW6010C	07/26/2017 14:20	07/27/2017 13:48	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	02	7440-36-0	SW6020A	07/26/2017 14:20	07/27/2017 16:05	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	02	7782-49-2	SW6010C	07/26/2017 14:20	07/27/2017 13:48	0.0180	J	0.0150	0.0500	1	mg/L	CWO
Tin	02	7440-31-5	SW6010C	07/26/2017 14:20	07/27/2017 13:48	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	02	7440-28-0	SW6020A	07/26/2017 14:20	07/27/2017 16:05	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	02	7440-62-2	SW6010C	07/26/2017 14:20	07/27/2017 13:48	0.0111		0.0020	0.0100	1	mg/L	CWO
Zinc	02	7440-66-6	SW6010C	07/26/2017 14:20	07/27/2017 13:48	BLOD		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-05

Laboratory Sample ID: 17G0698-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-6	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	02	71-55-6	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	02	79-34-5	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	02	79-00-5	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	02	75-34-3	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	02	75-35-4	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloropropene	02	563-58-6	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	02	96-18-4	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	02	120-82-1	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	02	95-50-1	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	02	107-06-2	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	02	78-87-5	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	02	541-73-1	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	02	142-28-9	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	02	106-46-7	SW8260B	07/26/2017 15:15	07/26/2017 15:15	1.24		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	02	594-20-7	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	02	78-93-3	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	02	591-78-6	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	02	67-64-1	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	02	75-05-8	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	02	107-02-8	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	02	107-13-1	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	02	107-05-1	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.60	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-05

Laboratory Sample ID: 17G0698-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	02	71-43-2	SW8260B	07/26/2017 15:15	07/26/2017 15:15	0.87	J	0.20	1.00	1	ug/L	JDW
Bromochloromethane	02	74-97-5	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	02	75-27-4	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	02	75-25-2	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	02	74-83-9	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	02	75-15-0	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	02	56-23-5	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	02	108-90-7	SW8260B	07/26/2017 15:15	07/26/2017 15:15	0.60	J	0.10	1.00	1	ug/L	JDW
Chloroethane	02	75-00-3	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
Chloroform	02	67-66-3	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	0.50	1	ug/L	JDW
Chloromethane	02	74-87-3	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	02	126-99-8	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	02	156-59-2	SW8260B	07/26/2017 15:15	07/26/2017 15:15	2.01		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	02	10061-01-5	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	02	124-48-1	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	02	74-95-3	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	02	75-71-8	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	02	97-63-2	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	02	100-41-4	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	02	87-68-3	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	02	74-88-4	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	02	78-83-1	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	02	179601-23-	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	2.00	1	ug/L	JDW

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-05

Laboratory Sample ID: 17G0698-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	02	126-98-7	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	02	80-62-6	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	02	75-09-2	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	02	95-47-6	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	02	107-12-0	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	02	100-42-5	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.10	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	02	127-18-4	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
Toluene	02	108-88-3	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	02	156-60-5	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	02	10061-02-6	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	02	110-57-6	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	02	79-01-6	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	02	75-69-4	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	02	108-05-4	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	02	75-01-4	SW8260B	07/26/2017 15:15	07/26/2017 15:15	0.54		0.20	0.50	1	ug/L	JDW
Xylenes, Total	02	1330-20-7	SW8260B	07/26/2017 15:15	07/26/2017 15:15	BLOD		0.30	3.00	1	ug/L	JDW
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	02	103 %	70-120	07/26/2017 15:15	07/26/2017 15:15							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	02	96.9 %	75-120	07/26/2017 15:15	07/26/2017 15:15							
<i>Surr: Dibromofluoromethane (Surr)</i>	02	99.8 %	80-119	07/26/2017 15:15	07/26/2017 15:15							
<i>Surr: Toluene-d8 (Surr)</i>	02	103 %	85-120	07/26/2017 15:15	07/26/2017 15:15							

Certificate of Analysis

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Client Sample ID: MW-05

Laboratory Sample ID: 17G0698-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	02	95-94-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
1,3,5-Trinitrobenzene	02	99-35-4	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	5.56	1	ug/L	SKS
1,3-Dinitrobenzene	02	99-65-0	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.78	2.78	1	ug/L	SKS
1,4-Naphthoquinone	02	130-15-4	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
1-Naphthylamine	02	134-32-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	02	58-90-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
2,4,5-Trichlorophenol	02	95-95-4	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
2,4,6-Trichlorophenol	02	88-06-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
2,4-Dichlorophenol	02	120-83-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
2,4-Dimethylphenol	02	105-67-9	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		0.56	0.56	1	ug/L	SKS
2,4-Dinitrophenol	02	51-28-5	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		0.56	55.6	1	ug/L	SKS
2,4-Dinitrotoluene	02	121-14-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
2,6-Dichlorophenol	02	87-65-0	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
2,6-Dinitrotoluene	02	606-20-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
2-Acetylaminofluorene	02	53-96-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.78	2.78	1	ug/L	SKS
2-Chloronaphthalene	02	91-58-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
2-Chlorophenol	02	95-57-8	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
2-Methylnaphthalene	02	91-57-6	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
2-Naphthylamine	02	91-59-8	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
2-Nitroaniline	02	88-74-4	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	22.2	1	ug/L	SKS
2-Nitrophenol	02	88-75-5	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
3,3'-Dichlorobenzidine	02	91-94-1	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		4.44	11.1	1	ug/L	SKS
3,3'-Dimethylbenzidine	02	119-93-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.78	2.78	1	ug/L	SKS
3-Methylcholanthrene	02	56-49-5	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS

Certificate of Analysis

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Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-05

Laboratory Sample ID: 17G0698-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	02	99-09-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	22.2	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	02	534-52-1	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	55.6	1	ug/L	SKS
4-Aminobiphenyl	02	92-67-1	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
4-Bromophenyl phenyl ether	02	101-55-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
4-Chloroaniline	02	106-47-8	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
4-Chlorophenyl phenyl ether	02	7005-72-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
4-Nitroaniline	02	100-01-6	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	22.2	1	ug/L	SKS
4-Nitrophenol	02	100-02-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	55.6	1	ug/L	SKS
5-Nitro-o-toluidine	02	99-55-8	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	02	57-97-6	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
Acenaphthene	02	83-32-9	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Acenaphthylene	02	208-96-8	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Acetophenone	02	98-86-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	22.2	1	ug/L	SKS
Anthracene	02	120-12-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Benzo (a) anthracene	02	56-55-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		0.06	0.06	1	ug/L	SKS
Benzo (a) pyrene	02	50-32-8	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		0.06	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	02	205-99-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Benzo (g,h,i) perylene	02	191-24-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Benzo (k) fluoranthene	02	207-08-9	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Benzyl alcohol	02	100-51-6	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	22.2	1	ug/L	SKS
bis (2-Chloroethoxy) methane	02	111-91-1	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
bis (2-Chloroethyl) ether	02	111-44-4	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	02	108-60-1	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	02	117-81-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	1.31	J	1.11	2.78	1	ug/L	SKS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-05

Laboratory Sample ID: 17G0698-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	02	85-68-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Chlorobenzilate	02	510-15-6	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD	C	2.78	2.78	1	ug/L	SKS
Chrysene	02	218-01-9	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Diallate	02	2303-16-4	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.78	2.78	1	ug/L	SKS
Dibenz (a,h) anthracene	02	53-70-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Dibenzofuran	02	132-64-9	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	5.56	1	ug/L	SKS
Diethyl phthalate	02	84-66-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Dimethoate	02	60-51-5	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.78	2.78	1	ug/L	SKS
Dimethyl phthalate	02	131-11-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Di-n-butyl phthalate	02	84-74-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
Di-n-octyl phthalate	02	117-84-0	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Diphenylamine	02	122-39-4	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
Disulfoton	02	298-04-4	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD	C	2.78	2.78	1	ug/L	SKS
Ethyl methanesulfonate	02	62-50-0	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	22.2	1	ug/L	SKS
Ethyl parathion	02	56-38-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.78	2.78	1	ug/L	SKS
Famphur	02	52-85-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.78	2.78	1	ug/L	SKS
Fluoranthene	02	206-44-0	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Fluorene	02	86-73-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Hexachlorobenzene	02	118-74-1	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		0.06	0.06	1	ug/L	SKS
Hexachlorobutadiene	02	87-68-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Hexachlorocyclopentadiene	02	77-47-4	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD	C	1.11	11.1	1	ug/L	SKS
Hexachloroethane	02	67-72-1	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Hexachloropropene	02	1888-71-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	2.78	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	02	193-39-5	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS

Certificate of Analysis

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 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-05

Laboratory Sample ID: 17G0698-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Isodrin	02	465-73-6	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD	C	1.11	11.1	1	ug/L	SKS
Isophorone	02	78-59-1	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Isosafrole	02	120-58-1	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
Kepone	02	143-50-0	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD	C	2.22	2.78	1	ug/L	SKS
m+p-Cresols	02	84989-04-8	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Methapyrilene	02	91-80-5	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Methyl methanesulfonate	02	66-27-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Methyl parathion	02	298-00-0	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	2.78	1	ug/L	SKS
Naphthalene	02	91-20-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Nitrobenzene	02	98-95-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
n-Nitrosodiethylamine	02	55-18-5	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.78	2.78	1	ug/L	SKS
n-Nitrosodimethylamine	02	62-75-9	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosodi-n-butylamine	02	924-16-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosodi-n-propylamine	02	621-64-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosodiphenylamine	02	86-30-6	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
n-Nitrosomethylethylamine	02	10595-95-6	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	2.78	1	ug/L	SKS
n-Nitrosopiperidine	02	100-75-4	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosopyrrolidine	02	930-55-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	2.78	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	02	126-68-1	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	02	297-97-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
o+m+p-Cresols	02	1319-77-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		3.33	11.1	1	ug/L	SKS
o-Cresol	02	95-48-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
o-Toluidine	02	95-53-4	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	2.78	1	ug/L	SKS

Certificate of Analysis

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Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-05

Laboratory Sample ID: 17G0698-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	02	60-11-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	2.78	1	ug/L	SKS
p-Chloro-m-cresol	02	59-50-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Pentachlorobenzene	02	608-93-5	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	02	82-68-8	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	1.11	1	ug/L	SKS
Phenacetin	02	62-44-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Phenanthrene	02	85-01-8	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Phenol	02	108-95-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Phorate	02	298-02-2	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	2.78	1	ug/L	SKS
p-Phenylenediamine	02	106-50-3	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD	C	2.22	11.1	1	ug/L	SKS
Pronamide	02	23950-58-5	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	11.1	1	ug/L	SKS
Pyrene	02	129-00-0	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		1.11	11.1	1	ug/L	SKS
Safole	02	94-59-7	SW8270D	07/28/2017 09:24	08/01/2017 01:09	BLOD		2.22	2.78	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol (Surr)	02	81.2 %	20-86	07/28/2017 09:24	08/01/2017 01:09							
Surr: 2-Fluorobiphenyl (Surr)	02	82.8 %	23-87	07/28/2017 09:24	08/01/2017 01:09							
Surr: 2-Fluorophenol (Surr)	02	54.3 %	10-52	07/28/2017 09:24	08/01/2017 01:09							S
Surr: Nitrobenzene-d5 (Surr)	02	74.9 %	10-98.5	07/28/2017 09:24	08/01/2017 01:09							
Surr: Phenol-d5 (Surr)	02	34.7 %	5-33	07/28/2017 09:24	08/01/2017 01:09							S
Surr: p-Terphenyl-d14 (Surr)	02	79.8 %	27-133	07/28/2017 09:24	08/01/2017 01:09							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	02	12674-11-2	SW8082A	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.027	0.211	1	ug/L	LBH
PCB as Aroclor 1221	02	11104-28-2	SW8082A	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.211	0.211	1	ug/L	LBH
PCB as Aroclor 1232	02	11141-16-5	SW8082A	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.016	0.211	1	ug/L	LBH
PCB as Aroclor 1242	02	53469-21-9	SW8082A	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.043	0.211	1	ug/L	LBH
PCB as Aroclor 1248	02	12672-29-6	SW8082A	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.051	0.211	1	ug/L	LBH
PCB as Aroclor 1254	02	11097-69-1	SW8082A	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.037	0.211	1	ug/L	LBH
PCB as Aroclor 1260	02	11096-82-5	SW8082A	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.036	0.211	1	ug/L	LBH
Surr: DCB	02	70.0 %	30-105	07/27/2017 09:24	07/28/2017 19:45							
Surr: TCMX	02	75.0 %	30-105	07/27/2017 09:24	07/28/2017 19:45							
4,4'-DDD	02	72-54-8	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD	C	0.005	0.053	1	ug/L	LBH
4,4'-DDE	02	72-55-9	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD	C	0.005	0.053	1	ug/L	LBH
4,4'-DDT	02	50-29-3	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.005	0.053	1	ug/L	LBH
Aldrin	02	309-00-2	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.005	0.053	1	ug/L	LBH
alpha-BHC	02	319-84-6	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.005	0.053	1	ug/L	LBH
beta-BHC	02	319-85-7	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.005	0.053	1	ug/L	LBH
Chlordane	02	57-74-9	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.211	0.211	1	ug/L	LBH
delta-BHC	02	319-86-8	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.002	0.053	1	ug/L	LBH
Dieldrin	02	60-57-1	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.003	0.053	1	ug/L	LBH
Endosulfan I	02	959-98-8	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.002	0.053	1	ug/L	LBH
Endosulfan II	02	33213-65-9	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.002	0.053	1	ug/L	LBH
Endosulfan sulfate	02	1031-07-8	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.002	0.053	1	ug/L	LBH
Endrin	02	72-20-8	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.002	0.053	1	ug/L	LBH
Endrin aldehyde	02	7421-93-4	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.002	0.053	1	ug/L	LBH
gamma-BHC (Lindane)	02	58-89-9	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.003	0.053	1	ug/L	LBH

Certificate of Analysis

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Client Sample ID: MW-05

Laboratory Sample ID: 17G0698-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	02	76-44-8	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.003	0.053	1	ug/L	LBH
Heptachlor epoxide	02	1024-57-3	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.002	0.053	1	ug/L	LBH
Methoxychlor	02	72-43-5	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD	C	0.004	0.053	1	ug/L	LBH
Toxaphene	02	8001-35-2	SW8081B	07/27/2017 09:24	07/28/2017 19:45	BLOD		0.211	1.05	1	ug/L	LBH
Surr: TCMX	02	65.0 %	18-112	07/27/2017 09:24	07/28/2017 19:45							
Surr: DCB	02	90.0 %	27-131	07/27/2017 09:24	07/28/2017 19:45							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	02	93-76-5	SW8151A	07/27/2017 14:01	08/04/2017 20:25	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	02	93-72-1	SW8151A	07/27/2017 14:01	08/04/2017 20:25	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	02	94-75-7	SW8151A	07/27/2017 14:01	08/04/2017 20:25	BLOD		0.100	0.500	1	ug/L	CVH
Dinoseb	02	88-85-7	SW8151A	07/27/2017 14:01	08/04/2017 20:25	BLOD		0.010	0.500	1	ug/L	CVH
Pentachlorophenol	02	87-86-5	SW8151A	07/27/2017 14:01	08/04/2017 20:25	BLOD		0.100	0.500	1	ug/L	CVH
<i>Surr: DCAA (Surr)</i>	02	115 %	60-112	07/27/2017 14:01	08/04/2017 20:25							S

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	02	106-93-4	SW8011	07/31/2017 12:05	07/31/2017 21:28	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	02	96-18-4	SW8011	07/31/2017 12:05	07/31/2017 21:28	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	SW8011	07/31/2017 12:05	07/31/2017 21:28	BLOD		0.003	0.010	1	ug/L	CVH

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	02	57-12-5	SW9012B	08/03/2017 09:30	08/03/2017 15:50	BLOD	CI	0.01	0.01	1	mg/L	TLA
Sulfide	02	18496-25-8	SW9215	07/31/2017 12:45	07/31/2017 12:45	BLOD		0.50	1.00	1	mg/L	BBP

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Client Sample ID: MW-06

Laboratory Sample ID: 17G0698-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	03	7440-22-4	SW6010C	07/26/2017 14:20	07/27/2017 16:28	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	03	7440-38-2	SW6020A	07/26/2017 14:20	07/27/2017 16:09	BLOD		0.0010	0.0050	1	mg/L	BG
Barium	03	7440-39-3	SW6010C	07/26/2017 14:20	07/27/2017 13:50	0.134		0.0020	0.0100	1	mg/L	CWO
Beryllium	03	7440-41-7	SW6010C	07/26/2017 14:20	07/27/2017 13:50	BLOD		0.0020	0.0040	1	mg/L	CWO
Cadmium	03	7440-43-9	SW6010C	07/26/2017 14:20	07/27/2017 13:50	BLOD		0.0020	0.0040	1	mg/L	CWO
Cobalt	03	7440-48-4	SW6010C	07/26/2017 14:20	07/27/2017 13:50	0.0040	J	0.0020	0.0040	1	mg/L	CWO
Chromium	03	7440-47-3	SW6010C	07/26/2017 14:20	07/27/2017 13:50	0.0079	J	0.0040	0.0100	1	mg/L	CWO
Copper	03	7440-50-8	SW6010C	07/26/2017 14:20	07/27/2017 13:50	0.0056	J	0.0030	0.0100	1	mg/L	CWO
Mercury	03	7439-97-6	SW7470A	07/28/2017 15:00	07/28/2017 20:26	BLOD		0.00020	0.00020	1	mg/L	CWO
Nickel	03	7440-02-0	SW6010C	07/26/2017 14:20	07/27/2017 13:50	0.0045	J	0.0020	0.0100	1	mg/L	CWO
Lead	03	7439-92-1	SW6010C	07/26/2017 14:20	07/27/2017 13:50	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	03	7440-36-0	SW6020A	07/26/2017 14:20	07/27/2017 16:09	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	03	7782-49-2	SW6010C	07/26/2017 14:20	07/27/2017 13:50	BLOD		0.0150	0.0500	1	mg/L	CWO
Tin	03	7440-31-5	SW6010C	07/26/2017 14:20	07/27/2017 13:50	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	03	7440-28-0	SW6020A	07/26/2017 14:20	07/27/2017 16:09	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	03	7440-62-2	SW6010C	07/26/2017 14:20	07/27/2017 13:50	0.0165		0.0020	0.0100	1	mg/L	CWO
Zinc	03	7440-66-6	SW6010C	07/26/2017 14:20	07/27/2017 13:50	0.0199		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-06

Laboratory Sample ID: 17G0698-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	03	630-20-6	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	03	71-55-6	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	03	79-34-5	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	03	79-00-5	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	03	75-34-3	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	03	75-35-4	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloropropene	03	563-58-6	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	03	96-18-4	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	03	120-82-1	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	03	95-50-1	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	03	107-06-2	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	03	78-87-5	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	03	541-73-1	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	03	142-28-9	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	03	106-46-7	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	03	594-20-7	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	03	78-93-3	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	03	591-78-6	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	03	108-10-1	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	03	67-64-1	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	03	75-05-8	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	03	107-02-8	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	03	107-13-1	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	03	107-05-1	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.60	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-06

Laboratory Sample ID: 17G0698-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	03	71-43-2	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
Bromochloromethane	03	74-97-5	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	03	75-27-4	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	03	75-25-2	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	03	74-83-9	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	03	75-15-0	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	03	56-23-5	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	03	108-90-7	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.10	1.00	1	ug/L	JDW
Chloroethane	03	75-00-3	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
Chloroform	03	67-66-3	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	0.50	1	ug/L	JDW
Chloromethane	03	74-87-3	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	03	126-99-8	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	03	156-59-2	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	03	10061-01-5	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	03	124-48-1	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	03	74-95-3	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	03	75-71-8	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	03	97-63-2	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	03	100-41-4	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	03	87-68-3	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	03	74-88-4	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	03	78-83-1	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	03	179601-23-	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	2.00	1	ug/L	JDW

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-06

Laboratory Sample ID: 17G0698-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	03	126-98-7	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	03	80-62-6	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	03	75-09-2	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	03	95-47-6	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	03	107-12-0	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	03	100-42-5	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.10	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	03	127-18-4	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
Toluene	03	108-88-3	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	03	156-60-5	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	03	10061-02-6	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	03	110-57-6	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	03	79-01-6	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	03	75-69-4	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	03	108-05-4	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	03	75-01-4	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.20	0.50	1	ug/L	JDW
Xylenes, Total	03	1330-20-7	SW8260B	07/26/2017 15:39	07/26/2017 15:39	BLOD		0.30	3.00	1	ug/L	JDW
Surr: 1,2-Dichloroethane-d4 (Surr)	03	100 %	70-120	07/26/2017 15:39	07/26/2017 15:39							
Surr: 4-Bromofluorobenzene (Surr)	03	94.0 %	75-120	07/26/2017 15:39	07/26/2017 15:39							
Surr: Dibromofluoromethane (Surr)	03	99.0 %	80-119	07/26/2017 15:39	07/26/2017 15:39							
Surr: Toluene-d8 (Surr)	03	104 %	85-120	07/26/2017 15:39	07/26/2017 15:39							

Certificate of Analysis

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Client Sample ID: MW-06

Laboratory Sample ID: 17G0698-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	03	95-94-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
1,3,5-Trinitrobenzene	03	99-35-4	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	5.49	1	ug/L	SKS
1,3-Dinitrobenzene	03	99-65-0	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.75	2.75	1	ug/L	SKS
1,4-Naphthoquinone	03	130-15-4	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
1-Naphthylamine	03	134-32-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	03	58-90-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
2,4,5-Trichlorophenol	03	95-95-4	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
2,4,6-Trichlorophenol	03	88-06-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
2,4-Dichlorophenol	03	120-83-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
2,4-Dimethylphenol	03	105-67-9	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		0.55	0.55	1	ug/L	SKS
2,4-Dinitrophenol	03	51-28-5	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		0.55	54.9	1	ug/L	SKS
2,4-Dinitrotoluene	03	121-14-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
2,6-Dichlorophenol	03	87-65-0	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
2,6-Dinitrotoluene	03	606-20-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
2-Acetylaminofluorene	03	53-96-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.75	2.75	1	ug/L	SKS
2-Chloronaphthalene	03	91-58-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
2-Chlorophenol	03	95-57-8	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
2-Methylnaphthalene	03	91-57-6	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
2-Naphthylamine	03	91-59-8	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
2-Nitroaniline	03	88-74-4	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	22.0	1	ug/L	SKS
2-Nitrophenol	03	88-75-5	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
3,3'-Dichlorobenzidine	03	91-94-1	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		4.40	11.0	1	ug/L	SKS
3,3'-Dimethylbenzidine	03	119-93-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.75	2.75	1	ug/L	SKS
3-Methylcholanthrene	03	56-49-5	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS

Certificate of Analysis

Client Name: Resource International, Ltd.
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 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-06

Laboratory Sample ID: 17G0698-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	03	99-09-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	22.0	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	03	534-52-1	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	54.9	1	ug/L	SKS
4-Aminobiphenyl	03	92-67-1	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
4-Bromophenyl phenyl ether	03	101-55-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
4-Chloroaniline	03	106-47-8	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
4-Chlorophenyl phenyl ether	03	7005-72-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
4-Nitroaniline	03	100-01-6	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	22.0	1	ug/L	SKS
4-Nitrophenol	03	100-02-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	54.9	1	ug/L	SKS
5-Nitro-o-toluidine	03	99-55-8	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	03	57-97-6	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
Acenaphthene	03	83-32-9	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Acenaphthylene	03	208-96-8	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Acetophenone	03	98-86-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	22.0	1	ug/L	SKS
Anthracene	03	120-12-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Benzo (a) anthracene	03	56-55-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	03	50-32-8	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		0.05	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	03	205-99-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Benzo (g,h,i) perylene	03	191-24-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Benzo (k) fluoranthene	03	207-08-9	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Benzyl alcohol	03	100-51-6	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	22.0	1	ug/L	SKS
bis (2-Chloroethoxy) methane	03	111-91-1	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
bis (2-Chloroethyl) ether	03	111-44-4	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	03	108-60-1	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	03	117-81-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	1.67	J	1.10	2.75	1	ug/L	SKS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-06

Laboratory Sample ID: 17G0698-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	03	85-68-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Chlorobenzilate	03	510-15-6	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD	C	2.75	2.75	1	ug/L	SKS
Chrysene	03	218-01-9	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Diallate	03	2303-16-4	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.75	2.75	1	ug/L	SKS
Dibenz (a,h) anthracene	03	53-70-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Dibenzofuran	03	132-64-9	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	5.49	1	ug/L	SKS
Diethyl phthalate	03	84-66-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Dimethoate	03	60-51-5	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.75	2.75	1	ug/L	SKS
Dimethyl phthalate	03	131-11-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Di-n-butyl phthalate	03	84-74-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	3.37	J	2.20	11.0	1	ug/L	SKS
Di-n-octyl phthalate	03	117-84-0	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Diphenylamine	03	122-39-4	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
Disulfoton	03	298-04-4	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD	C	2.75	2.75	1	ug/L	SKS
Ethyl methanesulfonate	03	62-50-0	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	22.0	1	ug/L	SKS
Ethyl parathion	03	56-38-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.75	2.75	1	ug/L	SKS
Famphur	03	52-85-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.75	2.75	1	ug/L	SKS
Fluoranthene	03	206-44-0	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Fluorene	03	86-73-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Hexachlorobenzene	03	118-74-1	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	03	87-68-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Hexachlorocyclopentadiene	03	77-47-4	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD	C	1.10	11.0	1	ug/L	SKS
Hexachloroethane	03	67-72-1	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Hexachloropropene	03	1888-71-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	2.75	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	03	193-39-5	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-06

Laboratory Sample ID: 17G0698-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Isodrin	03	465-73-6	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD	C	1.10	11.0	1	ug/L	SKS
Isophorone	03	78-59-1	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Isosafrole	03	120-58-1	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
Kepone	03	143-50-0	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD	C	2.20	2.75	1	ug/L	SKS
m+p-Cresols	03	84989-04-8	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Methapyrilene	03	91-80-5	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Methyl methanesulfonate	03	66-27-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Methyl parathion	03	298-00-0	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	2.75	1	ug/L	SKS
Naphthalene	03	91-20-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Nitrobenzene	03	98-95-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
n-Nitrosodiethylamine	03	55-18-5	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.75	2.75	1	ug/L	SKS
n-Nitrosodimethylamine	03	62-75-9	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
n-Nitrosodi-n-butylamine	03	924-16-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
n-Nitrosodi-n-propylamine	03	621-64-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
n-Nitrosodiphenylamine	03	86-30-6	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
n-Nitrosomethylethylamine	03	10595-95-6	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	2.75	1	ug/L	SKS
n-Nitrosopiperidine	03	100-75-4	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
n-Nitrosopyrrolidine	03	930-55-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	2.75	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	03	126-68-1	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	03	297-97-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
o+m+p-Cresols	03	1319-77-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		3.30	11.0	1	ug/L	SKS
o-Cresol	03	95-48-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
o-Toluidine	03	95-53-4	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	2.75	1	ug/L	SKS

Certificate of Analysis

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 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-06

Laboratory Sample ID: 17G0698-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	03	60-11-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	2.75	1	ug/L	SKS
p-Chloro-m-cresol	03	59-50-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Pentachlorobenzene	03	608-93-5	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
Pentachloronitrobenzene (quintozone)	03	82-68-8	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	1.10	1	ug/L	SKS
Phenacetin	03	62-44-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Phenanthrene	03	85-01-8	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Phenol	03	108-95-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Phorate	03	298-02-2	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	2.75	1	ug/L	SKS
p-Phenylenediamine	03	106-50-3	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD	C	2.20	11.0	1	ug/L	SKS
Pronamide	03	23950-58-5	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	11.0	1	ug/L	SKS
Pyrene	03	129-00-0	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		1.10	11.0	1	ug/L	SKS
Safole	03	94-59-7	SW8270D	07/28/2017 09:24	07/31/2017 19:23	BLOD		2.20	2.75	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol (Surr)	03	78.5 %	20-86	07/28/2017 09:24	07/31/2017 19:23							
Surr: 2-Fluorobiphenyl (Surr)	03	53.2 %	23-87	07/28/2017 09:24	07/31/2017 19:23							
Surr: 2-Fluorophenol (Surr)	03	35.7 %	10-52	07/28/2017 09:24	07/31/2017 19:23							
Surr: Nitrobenzene-d5 (Surr)	03	49.7 %	10-98.5	07/28/2017 09:24	07/31/2017 19:23							
Surr: Phenol-d5 (Surr)	03	22.1 %	5-33	07/28/2017 09:24	07/31/2017 19:23							
Surr: p-Terphenyl-d14 (Surr)	03	75.8 %	27-133	07/28/2017 09:24	07/31/2017 19:23							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	03	12674-11-2	SW8082A	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.028	0.217	1	ug/L	LBH
PCB as Aroclor 1221	03	11104-28-2	SW8082A	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.217	0.217	1	ug/L	LBH
PCB as Aroclor 1232	03	11141-16-5	SW8082A	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.016	0.217	1	ug/L	LBH
PCB as Aroclor 1242	03	53469-21-9	SW8082A	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.045	0.217	1	ug/L	LBH
PCB as Aroclor 1248	03	12672-29-6	SW8082A	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.052	0.217	1	ug/L	LBH
PCB as Aroclor 1254	03	11097-69-1	SW8082A	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.038	0.217	1	ug/L	LBH
PCB as Aroclor 1260	03	11096-82-5	SW8082A	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.037	0.217	1	ug/L	LBH
Surr: DCB	03	35.0 %	30-105	07/27/2017 09:24	07/28/2017 20:03							
Surr: TCMX	03	50.0 %	30-105	07/27/2017 09:24	07/28/2017 20:03							
4,4'-DDD	03	72-54-8	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD	C	0.005	0.054	1	ug/L	LBH
4,4'-DDE	03	72-55-9	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD	C	0.005	0.054	1	ug/L	LBH
4,4'-DDT	03	50-29-3	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.005	0.054	1	ug/L	LBH
Aldrin	03	309-00-2	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.005	0.054	1	ug/L	LBH
alpha-BHC	03	319-84-6	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.005	0.054	1	ug/L	LBH
beta-BHC	03	319-85-7	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.005	0.054	1	ug/L	LBH
Chlordane	03	57-74-9	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.217	0.217	1	ug/L	LBH
delta-BHC	03	319-86-8	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.002	0.054	1	ug/L	LBH
Dieldrin	03	60-57-1	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.003	0.054	1	ug/L	LBH
Endosulfan I	03	959-98-8	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan II	03	33213-65-9	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan sulfate	03	1031-07-8	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.002	0.054	1	ug/L	LBH
Endrin	03	72-20-8	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.002	0.054	1	ug/L	LBH
Endrin aldehyde	03	7421-93-4	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.002	0.054	1	ug/L	LBH
gamma-BHC (Lindane)	03	58-89-9	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.003	0.054	1	ug/L	LBH

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Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-06

Laboratory Sample ID: 17G0698-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	03	76-44-8	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.003	0.054	1	ug/L	LBH
Heptachlor epoxide	03	1024-57-3	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.002	0.054	1	ug/L	LBH
Methoxychlor	03	72-43-5	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD	C	0.004	0.054	1	ug/L	LBH
Toxaphene	03	8001-35-2	SW8081B	07/27/2017 09:24	07/28/2017 20:03	BLOD		0.217	1.09	1	ug/L	LBH
Surr: TCMX	03	45.0 %	18-112	07/27/2017 09:24	07/28/2017 20:03							
Surr: DCB	03	30.0 %	27-131	07/27/2017 09:24	07/28/2017 20:03							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	03	93-76-5	SW8151A	07/27/2017 14:01	08/04/2017 20:47	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	03	93-72-1	SW8151A	07/27/2017 14:01	08/04/2017 20:47	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	03	94-75-7	SW8151A	07/27/2017 14:01	08/04/2017 20:47	BLOD		0.100	0.500	1	ug/L	CVH
Dinoseb	03	88-85-7	SW8151A	07/27/2017 14:01	08/04/2017 20:47	BLOD		0.010	0.500	1	ug/L	CVH
Pentachlorophenol	03	87-86-5	SW8151A	07/27/2017 14:01	08/04/2017 20:47	BLOD		0.100	0.500	1	ug/L	CVH
<i>Surr: DCAA (Surr)</i>	<i>03</i>	<i>75.0 %</i>	<i>60-112</i>	<i>07/27/2017 14:01</i>	<i>08/04/2017 20:47</i>							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	03	106-93-4	SW8011	07/31/2017 12:05	07/31/2017 21:47	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	03	96-18-4	SW8011	07/31/2017 12:05	07/31/2017 21:47	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	SW8011	07/31/2017 12:05	07/31/2017 21:47	BLOD		0.003	0.010	1	ug/L	CVH

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	03	57-12-5	SW9012B	08/03/2017 09:30	08/03/2017 16:02	BLOD		0.01	0.01	1	mg/L	TLA
Sulfide	03	18496-25-8	SW9215	07/31/2017 12:45	07/31/2017 12:45	BLOD		0.50	1.00	1	mg/L	BBP

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Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-13

Laboratory Sample ID: 17G0698-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	04	7440-22-4	SW6010C	07/26/2017 14:20	07/27/2017 16:34	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	04	7440-38-2	SW6020A	07/26/2017 14:20	07/27/2017 16:29	BLOD		0.0010	0.0050	1	mg/L	BG
Barium	04	7440-39-3	SW6010C	07/26/2017 14:20	07/27/2017 13:55	0.277		0.0020	0.0100	1	mg/L	CWO
Beryllium	04	7440-41-7	SW6010C	07/26/2017 14:20	07/27/2017 13:56	BLOD		0.0020	0.0040	1	mg/L	CWO
Cadmium	04	7440-43-9	SW6010C	07/26/2017 14:20	07/27/2017 13:56	BLOD		0.0020	0.0040	1	mg/L	CWO
Cobalt	04	7440-48-4	SW6010C	07/26/2017 14:20	07/27/2017 13:56	BLOD		0.0020	0.0040	1	mg/L	CWO
Chromium	04	7440-47-3	SW6010C	07/26/2017 14:20	07/27/2017 13:56	BLOD		0.0040	0.0100	1	mg/L	CWO
Copper	04	7440-50-8	SW6010C	07/26/2017 14:20	07/27/2017 13:55	BLOD		0.0030	0.0100	1	mg/L	CWO
Mercury	04	7439-97-6	SW7470A	07/28/2017 15:00	07/28/2017 20:32	BLOD		0.00020	0.00020	1	mg/L	CWO
Nickel	04	7440-02-0	SW6010C	07/26/2017 14:20	07/27/2017 13:56	0.0061	J	0.0020	0.0100	1	mg/L	CWO
Lead	04	7439-92-1	SW6010C	07/26/2017 14:20	07/27/2017 13:56	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	04	7440-36-0	SW6020A	07/26/2017 14:20	07/27/2017 16:29	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	04	7782-49-2	SW6010C	07/26/2017 14:20	07/27/2017 13:56	BLOD		0.0150	0.0500	1	mg/L	CWO
Tin	04	7440-31-5	SW6010C	07/26/2017 14:20	07/27/2017 13:56	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	04	7440-28-0	SW6020A	07/26/2017 14:20	07/27/2017 16:29	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	04	7440-62-2	SW6010C	07/26/2017 14:20	07/27/2017 13:55	BLOD		0.0020	0.0100	1	mg/L	CWO
Zinc	04	7440-66-6	SW6010C	07/26/2017 14:20	07/27/2017 13:56	BLOD		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-13

Laboratory Sample ID: 17G0698-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	04	630-20-6	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	04	71-55-6	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	04	79-34-5	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	04	79-00-5	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	04	75-34-3	SW8260B	07/26/2017 16:03	07/26/2017 16:03	0.22	J	0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	04	75-35-4	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloropropene	04	563-58-6	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	04	96-18-4	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	04	120-82-1	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	04	95-50-1	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	04	107-06-2	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	04	78-87-5	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	04	541-73-1	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	04	142-28-9	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	04	106-46-7	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	04	594-20-7	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	04	78-93-3	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	04	591-78-6	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	04	108-10-1	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	04	67-64-1	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	04	75-05-8	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	04	107-02-8	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	04	107-13-1	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	04	107-05-1	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.60	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-13

Laboratory Sample ID: 17G0698-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	04	71-43-2	SW8260B	07/26/2017 16:03	07/26/2017 16:03	0.30	J	0.20	1.00	1	ug/L	JDW
Bromochloromethane	04	74-97-5	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	04	75-27-4	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	04	75-25-2	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	04	74-83-9	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	04	75-15-0	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	04	56-23-5	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	04	108-90-7	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.10	1.00	1	ug/L	JDW
Chloroethane	04	75-00-3	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
Chloroform	04	67-66-3	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	0.50	1	ug/L	JDW
Chloromethane	04	74-87-3	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	04	126-99-8	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	04	156-59-2	SW8260B	07/26/2017 16:03	07/26/2017 16:03	4.71		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	04	10061-01-5	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	04	124-48-1	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	04	74-95-3	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	04	75-71-8	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	04	97-63-2	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	04	100-41-4	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	04	87-68-3	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	04	74-88-4	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	04	78-83-1	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	04	179601-23-	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	2.00	1	ug/L	JDW

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-13

Laboratory Sample ID: 17G0698-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	04	126-98-7	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	04	80-62-6	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	04	75-09-2	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	04	95-47-6	SW8260B	07/26/2017 16:03	07/26/2017 16:03	0.17	J	0.10	1.00	1	ug/L	JDW
Propionitrile	04	107-12-0	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	04	100-42-5	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.10	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	04	127-18-4	SW8260B	07/26/2017 16:03	07/26/2017 16:03	1.66		0.20	1.00	1	ug/L	JDW
Toluene	04	108-88-3	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	04	156-60-5	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	04	10061-02-6	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	04	110-57-6	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	04	79-01-6	SW8260B	07/26/2017 16:03	07/26/2017 16:03	0.60	J	0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	04	75-69-4	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	04	108-05-4	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	04	75-01-4	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.20	0.50	1	ug/L	JDW
Xylenes, Total	04	1330-20-7	SW8260B	07/26/2017 16:03	07/26/2017 16:03	BLOD		0.30	3.00	1	ug/L	JDW
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	04	105 %	70-120	07/26/2017 16:03	07/26/2017 16:03							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	04	95.6 %	75-120	07/26/2017 16:03	07/26/2017 16:03							
<i>Surr: Dibromofluoromethane (Surr)</i>	04	99.4 %	80-119	07/26/2017 16:03	07/26/2017 16:03							
<i>Surr: Toluene-d8 (Surr)</i>	04	103 %	85-120	07/26/2017 16:03	07/26/2017 16:03							

Certificate of Analysis

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Client Sample ID: MW-13

Laboratory Sample ID: 17G0698-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	04	95-94-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
1,3,5-Trinitrobenzene	04	99-35-4	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	5.43	1	ug/L	SKS
1,3-Dinitrobenzene	04	99-65-0	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.72	2.72	1	ug/L	SKS
1,4-Naphthoquinone	04	130-15-4	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
1-Naphthylamine	04	134-32-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	04	58-90-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
2,4,5-Trichlorophenol	04	95-95-4	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
2,4,6-Trichlorophenol	04	88-06-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
2,4-Dichlorophenol	04	120-83-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
2,4-Dimethylphenol	04	105-67-9	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		0.54	0.54	1	ug/L	SKS
2,4-Dinitrophenol	04	51-28-5	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		0.54	54.3	1	ug/L	SKS
2,4-Dinitrotoluene	04	121-14-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
2,6-Dichlorophenol	04	87-65-0	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
2,6-Dinitrotoluene	04	606-20-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
2-Acetylaminofluorene	04	53-96-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.72	2.72	1	ug/L	SKS
2-Chloronaphthalene	04	91-58-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
2-Chlorophenol	04	95-57-8	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
2-Methylnaphthalene	04	91-57-6	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
2-Naphthylamine	04	91-59-8	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
2-Nitroaniline	04	88-74-4	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	21.7	1	ug/L	SKS
2-Nitrophenol	04	88-75-5	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
3,3'-Dichlorobenzidine	04	91-94-1	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		4.35	10.9	1	ug/L	SKS
3,3'-Dimethylbenzidine	04	119-93-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.72	2.72	1	ug/L	SKS
3-Methylcholanthrene	04	56-49-5	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS

Certificate of Analysis

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Client Sample ID: MW-13

Laboratory Sample ID: 17G0698-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	04	99-09-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	21.7	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	04	534-52-1	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	54.3	1	ug/L	SKS
4-Aminobiphenyl	04	92-67-1	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
4-Bromophenyl phenyl ether	04	101-55-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
4-Chloroaniline	04	106-47-8	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
4-Chlorophenyl phenyl ether	04	7005-72-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
4-Nitroaniline	04	100-01-6	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	21.7	1	ug/L	SKS
4-Nitrophenol	04	100-02-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	54.3	1	ug/L	SKS
5-Nitro-o-toluidine	04	99-55-8	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	04	57-97-6	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
Acenaphthene	04	83-32-9	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Acenaphthylene	04	208-96-8	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Acetophenone	04	98-86-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	21.7	1	ug/L	SKS
Anthracene	04	120-12-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (a) anthracene	04	56-55-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	04	50-32-8	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		0.05	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	04	205-99-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (g,h,i) perylene	04	191-24-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (k) fluoranthene	04	207-08-9	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Benzyl alcohol	04	100-51-6	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	21.7	1	ug/L	SKS
bis (2-Chloroethoxy) methane	04	111-91-1	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
bis (2-Chloroethyl) ether	04	111-44-4	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	04	108-60-1	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	04	117-81-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	2.72	1	ug/L	SKS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-13

Laboratory Sample ID: 17G0698-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	04	85-68-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Chlorobenzilate	04	510-15-6	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD	C	2.72	2.72	1	ug/L	SKS
Chrysene	04	218-01-9	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Diallate	04	2303-16-4	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.72	2.72	1	ug/L	SKS
Dibenz (a,h) anthracene	04	53-70-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Dibenzofuran	04	132-64-9	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	5.43	1	ug/L	SKS
Diethyl phthalate	04	84-66-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Dimethoate	04	60-51-5	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.72	2.72	1	ug/L	SKS
Dimethyl phthalate	04	131-11-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Di-n-butyl phthalate	04	84-74-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
Di-n-octyl phthalate	04	117-84-0	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Diphenylamine	04	122-39-4	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
Disulfoton	04	298-04-4	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD	C	2.72	2.72	1	ug/L	SKS
Ethyl methanesulfonate	04	62-50-0	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	21.7	1	ug/L	SKS
Ethyl parathion	04	56-38-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.72	2.72	1	ug/L	SKS
Famphur	04	52-85-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.72	2.72	1	ug/L	SKS
Fluoranthene	04	206-44-0	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Fluorene	04	86-73-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Hexachlorobenzene	04	118-74-1	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	04	87-68-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Hexachlorocyclopentadiene	04	77-47-4	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD	C	1.09	10.9	1	ug/L	SKS
Hexachloroethane	04	67-72-1	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Hexachloropropene	04	1888-71-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	2.72	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	04	193-39-5	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS

Certificate of Analysis

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Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-13

Laboratory Sample ID: 17G0698-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Isodrin	04	465-73-6	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD	C	1.09	10.9	1	ug/L	SKS
Isophorone	04	78-59-1	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Isosafrole	04	120-58-1	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
Kepone	04	143-50-0	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD	C	2.17	2.72	1	ug/L	SKS
m+p-Cresols	04	84989-04-8	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Methapyrilene	04	91-80-5	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Methyl methanesulfonate	04	66-27-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Methyl parathion	04	298-00-0	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	2.72	1	ug/L	SKS
Naphthalene	04	91-20-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Nitrobenzene	04	98-95-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
n-Nitrosodiethylamine	04	55-18-5	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.72	2.72	1	ug/L	SKS
n-Nitrosodimethylamine	04	62-75-9	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodi-n-butylamine	04	924-16-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodi-n-propylamine	04	621-64-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodiphenylamine	04	86-30-6	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
n-Nitrosomethylethylamine	04	10595-95-6	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	2.72	1	ug/L	SKS
n-Nitrosopiperidine	04	100-75-4	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosopyrrolidine	04	930-55-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	2.72	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	04	126-68-1	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	04	297-97-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
o+m+p-Cresols	04	1319-77-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		3.26	10.9	1	ug/L	SKS
o-Cresol	04	95-48-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
o-Toluidine	04	95-53-4	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	2.72	1	ug/L	SKS

Certificate of Analysis

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Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-13

Laboratory Sample ID: 17G0698-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	04	60-11-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	2.72	1	ug/L	SKS
p-Chloro-m-cresol	04	59-50-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Pentachlorobenzene	04	608-93-5	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	04	82-68-8	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	1.09	1	ug/L	SKS
Phenacetin	04	62-44-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Phenanthrene	04	85-01-8	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Phenol	04	108-95-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Phorate	04	298-02-2	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	2.72	1	ug/L	SKS
p-Phenylenediamine	04	106-50-3	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD	C	2.17	10.9	1	ug/L	SKS
Pronamide	04	23950-58-5	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	10.9	1	ug/L	SKS
Pyrene	04	129-00-0	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		1.09	10.9	1	ug/L	SKS
Safole	04	94-59-7	SW8270D	07/28/2017 09:24	08/01/2017 01:43	BLOD		2.17	2.72	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol (Surr)	04	79.4 %	20-86	07/28/2017 09:24	08/01/2017 01:43							
Surr: 2-Fluorobiphenyl (Surr)	04	70.7 %	23-87	07/28/2017 09:24	08/01/2017 01:43							
Surr: 2-Fluorophenol (Surr)	04	47.5 %	10-52	07/28/2017 09:24	08/01/2017 01:43							
Surr: Nitrobenzene-d5 (Surr)	04	66.9 %	10-98.5	07/28/2017 09:24	08/01/2017 01:43							
Surr: Phenol-d5 (Surr)	04	30.2 %	5-33	07/28/2017 09:24	08/01/2017 01:43							
Surr: p-Terphenyl-d14 (Surr)	04	82.6 %	27-133	07/28/2017 09:24	08/01/2017 01:43							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	04	12674-11-2	SW8082A	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.028	0.217	1	ug/L	LBH
PCB as Aroclor 1221	04	11104-28-2	SW8082A	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.217	0.217	1	ug/L	LBH
PCB as Aroclor 1232	04	11141-16-5	SW8082A	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.016	0.217	1	ug/L	LBH
PCB as Aroclor 1242	04	53469-21-9	SW8082A	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.045	0.217	1	ug/L	LBH
PCB as Aroclor 1248	04	12672-29-6	SW8082A	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.052	0.217	1	ug/L	LBH
PCB as Aroclor 1254	04	11097-69-1	SW8082A	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.038	0.217	1	ug/L	LBH
PCB as Aroclor 1260	04	11096-82-5	SW8082A	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.037	0.217	1	ug/L	LBH
Surr: DCB	04	60.0 %	30-105	07/27/2017 09:24	07/28/2017 21:31							
Surr: TCMX	04	75.0 %	30-105	07/27/2017 09:24	07/28/2017 21:31							
4,4'-DDD	04	72-54-8	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD	C	0.005	0.054	1	ug/L	LBH
4,4'-DDE	04	72-55-9	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD	C	0.005	0.054	1	ug/L	LBH
4,4'-DDT	04	50-29-3	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.005	0.054	1	ug/L	LBH
Aldrin	04	309-00-2	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.005	0.054	1	ug/L	LBH
alpha-BHC	04	319-84-6	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.005	0.054	1	ug/L	LBH
beta-BHC	04	319-85-7	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.005	0.054	1	ug/L	LBH
Chlordane	04	57-74-9	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.217	0.217	1	ug/L	LBH
delta-BHC	04	319-86-8	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.002	0.054	1	ug/L	LBH
Dieldrin	04	60-57-1	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.003	0.054	1	ug/L	LBH
Endosulfan I	04	959-98-8	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan II	04	33213-65-9	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan sulfate	04	1031-07-8	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.002	0.054	1	ug/L	LBH
Endrin	04	72-20-8	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.002	0.054	1	ug/L	LBH
Endrin aldehyde	04	7421-93-4	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.002	0.054	1	ug/L	LBH
gamma-BHC (Lindane)	04	58-89-9	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.003	0.054	1	ug/L	LBH

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Laboratory Sample ID: 17G0698-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	04	76-44-8	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.003	0.054	1	ug/L	LBH
Heptachlor epoxide	04	1024-57-3	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.002	0.054	1	ug/L	LBH
Methoxychlor	04	72-43-5	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD	C	0.004	0.054	1	ug/L	LBH
Toxaphene	04	8001-35-2	SW8081B	07/27/2017 09:24	07/28/2017 21:31	BLOD		0.217	1.09	1	ug/L	LBH
Surr: TCMX	04	80.0 %	18-112	07/27/2017 09:24	07/28/2017 21:31							
Surr: DCB	04	75.0 %	27-131	07/27/2017 09:24	07/28/2017 21:31							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	04	93-76-5	SW8151A	07/27/2017 14:01	08/04/2017 21:54	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	04	93-72-1	SW8151A	07/27/2017 14:01	08/04/2017 21:54	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	04	94-75-7	SW8151A	07/27/2017 14:01	08/04/2017 21:54	BLOD		0.100	0.500	1	ug/L	CVH
Dinoseb	04	88-85-7	SW8151A	07/27/2017 14:01	08/04/2017 21:54	BLOD		0.010	0.500	1	ug/L	CVH
Pentachlorophenol	04	87-86-5	SW8151A	07/27/2017 14:01	08/04/2017 21:54	BLOD		0.100	0.500	1	ug/L	CVH
<i>Surr: DCAA (Surr)</i>	<i>04</i>	<i>80.0 %</i>	<i>60-112</i>	<i>07/27/2017 14:01</i>	<i>08/04/2017 21:54</i>							

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Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	04	106-93-4	SW8011	07/31/2017 12:05	07/31/2017 22:45	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	04	96-18-4	SW8011	07/31/2017 12:05	07/31/2017 22:45	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	04	96-12-8	SW8011	07/31/2017 12:05	07/31/2017 22:45	BLOD		0.003	0.010	1	ug/L	CVH

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	04	57-12-5	SW9012B	08/03/2017 09:30	08/03/2017 15:53	BLOD		0.01	0.01	1	mg/L	TLA
Sulfide	04	18496-25-8	SW9215	07/31/2017 12:45	07/31/2017 12:45	BLOD		0.50	1.00	1	mg/L	BBP

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Client Sample ID: MW-14

Laboratory Sample ID: 17G0698-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	05	7440-22-4	SW6010C	07/26/2017 14:20	07/27/2017 16:36	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	05	7440-38-2	SW6020A	07/26/2017 14:20	07/27/2017 16:32	0.0022	J	0.0010	0.0050	1	mg/L	BG
Barium	05	7440-39-3	SW6010C	07/26/2017 14:20	07/27/2017 13:57	0.349		0.0020	0.0100	1	mg/L	CWO
Beryllium	05	7440-41-7	SW6010C	07/26/2017 14:20	07/27/2017 13:57	BLOD		0.0020	0.0040	1	mg/L	CWO
Cadmium	05	7440-43-9	SW6010C	07/26/2017 14:20	07/27/2017 13:58	0.0028	J	0.0020	0.0040	1	mg/L	CWO
Cobalt	05	7440-48-4	SW6010C	07/26/2017 14:20	07/27/2017 13:58	0.0351		0.0020	0.0040	1	mg/L	CWO
Chromium	05	7440-47-3	SW6010C	07/26/2017 14:20	07/27/2017 13:58	0.0263		0.0040	0.0100	1	mg/L	CWO
Copper	05	7440-50-8	SW6010C	07/26/2017 14:20	07/27/2017 13:57	0.0576		0.0030	0.0100	1	mg/L	CWO
Mercury	05	7439-97-6	SW7470A	07/28/2017 15:00	07/28/2017 20:35	BLOD		0.00020	0.00020	1	mg/L	CWO
Nickel	05	7440-02-0	SW6010C	07/26/2017 14:20	07/27/2017 13:58	0.0192		0.0020	0.0100	1	mg/L	CWO
Lead	05	7439-92-1	SW6010C	07/26/2017 14:20	07/27/2017 13:58	0.0085	J	0.0060	0.0100	1	mg/L	CWO
Antimony	05	7440-36-0	SW6020A	07/26/2017 14:20	07/27/2017 16:32	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	05	7782-49-2	SW6010C	07/26/2017 14:20	07/27/2017 13:58	0.0396	J	0.0150	0.0500	1	mg/L	CWO
Tin	05	7440-31-5	SW6010C	07/26/2017 14:20	07/27/2017 13:58	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	05	7440-28-0	SW6020A	07/26/2017 14:20	07/27/2017 16:32	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	05	7440-62-2	SW6010C	07/26/2017 14:20	07/27/2017 13:57	0.0444		0.0020	0.0100	1	mg/L	CWO
Zinc	05	7440-66-6	SW6010C	07/26/2017 14:20	07/27/2017 13:58	0.0585		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

Client Name: Resource International, Ltd.

Date Issued: 8/8/2017 3:09:22PM

Client Site I.D.: Goochland Co. LF

Submitted To: Mike Willinger

Client Sample ID: MW-14

Laboratory Sample ID: 17G0698-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	05	630-20-6	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	05	71-55-6	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	05	79-34-5	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	05	79-00-5	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	05	75-34-3	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	05	75-35-4	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloropropene	05	563-58-6	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	05	96-18-4	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	05	120-82-1	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	05	95-50-1	SW8260B	07/26/2017 16:27	07/26/2017 16:27	0.25	J	0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	05	107-06-2	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	05	78-87-5	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	05	541-73-1	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	05	142-28-9	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	05	106-46-7	SW8260B	07/26/2017 16:27	07/26/2017 16:27	3.33		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	05	594-20-7	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	05	78-93-3	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	05	591-78-6	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	05	67-64-1	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	05	75-05-8	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	05	107-02-8	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	05	107-13-1	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	05	107-05-1	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.60	1.00	1	ug/L	JDW

Certificate of Analysis

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Client Sample ID: MW-14

Laboratory Sample ID: 17G0698-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	05	71-43-2	SW8260B	07/26/2017 16:27	07/26/2017 16:27	0.45	J	0.20	1.00	1	ug/L	JDW
Bromochloromethane	05	74-97-5	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	05	75-27-4	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	05	75-25-2	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	05	74-83-9	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	05	75-15-0	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	05	56-23-5	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	05	108-90-7	SW8260B	07/26/2017 16:27	07/26/2017 16:27	1.89		0.10	1.00	1	ug/L	JDW
Chloroethane	05	75-00-3	SW8260B	07/26/2017 16:27	07/26/2017 16:27	0.52	J	0.20	1.00	1	ug/L	JDW
Chloroform	05	67-66-3	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	0.50	1	ug/L	JDW
Chloromethane	05	74-87-3	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	05	126-99-8	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	05	156-59-2	SW8260B	07/26/2017 16:27	07/26/2017 16:27	5.02		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	05	10061-01-5	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	05	124-48-1	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	05	74-95-3	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	05	75-71-8	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	05	97-63-2	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	05	100-41-4	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	05	87-68-3	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	05	74-88-4	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	05	78-83-1	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	05	179601-23-	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	2.00	1	ug/L	JDW

Certificate of Analysis

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Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-14

Laboratory Sample ID: 17G0698-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	05	126-98-7	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	05	80-62-6	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	05	75-09-2	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	05	95-47-6	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	05	107-12-0	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	05	100-42-5	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.10	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	05	127-18-4	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
Toluene	05	108-88-3	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	05	156-60-5	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	05	10061-02-6	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	05	110-57-6	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	05	79-01-6	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	05	75-69-4	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	05	108-05-4	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	05	75-01-4	SW8260B	07/26/2017 16:27	07/26/2017 16:27	0.62		0.20	0.50	1	ug/L	JDW
Xylenes, Total	05	1330-20-7	SW8260B	07/26/2017 16:27	07/26/2017 16:27	BLOD		0.30	3.00	1	ug/L	JDW
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	05	106 %	70-120	07/26/2017 16:27	07/26/2017 16:27							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	05	97.5 %	75-120	07/26/2017 16:27	07/26/2017 16:27							
<i>Surr: Dibromofluoromethane (Surr)</i>	05	101 %	80-119	07/26/2017 16:27	07/26/2017 16:27							
<i>Surr: Toluene-d8 (Surr)</i>	05	104 %	85-120	07/26/2017 16:27	07/26/2017 16:27							

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Laboratory Sample ID: 17G0698-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	05	95-94-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
1,3,5-Trinitrobenzene	05	99-35-4	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	5.00	1	ug/L	SKS
1,3-Dinitrobenzene	05	99-65-0	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.50	2.50	1	ug/L	SKS
1,4-Naphthoquinone	05	130-15-4	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
1-Naphthylamine	05	134-32-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	05	58-90-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
2,4,5-Trichlorophenol	05	95-95-4	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
2,4,6-Trichlorophenol	05	88-06-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
2,4-Dichlorophenol	05	120-83-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
2,4-Dimethylphenol	05	105-67-9	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		0.50	0.50	1	ug/L	SKS
2,4-Dinitrophenol	05	51-28-5	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		0.50	50.0	1	ug/L	SKS
2,4-Dinitrotoluene	05	121-14-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
2,6-Dichlorophenol	05	87-65-0	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
2,6-Dinitrotoluene	05	606-20-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
2-Acetylaminofluorene	05	53-96-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.50	2.50	1	ug/L	SKS
2-Chloronaphthalene	05	91-58-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
2-Chlorophenol	05	95-57-8	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
2-Methylnaphthalene	05	91-57-6	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
2-Naphthylamine	05	91-59-8	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
2-Nitroaniline	05	88-74-4	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	20.0	1	ug/L	SKS
2-Nitrophenol	05	88-75-5	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
3,3'-Dichlorobenzidine	05	91-94-1	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		4.00	10.0	1	ug/L	SKS
3,3'-Dimethylbenzidine	05	119-93-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.50	2.50	1	ug/L	SKS
3-Methylcholanthrene	05	56-49-5	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS

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Laboratory Sample ID: 17G0698-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	05	99-09-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	20.0	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	05	534-52-1	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	50.0	1	ug/L	SKS
4-Aminobiphenyl	05	92-67-1	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
4-Bromophenyl phenyl ether	05	101-55-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
4-Chloroaniline	05	106-47-8	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
4-Chlorophenyl phenyl ether	05	7005-72-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
4-Nitroaniline	05	100-01-6	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	20.0	1	ug/L	SKS
4-Nitrophenol	05	100-02-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	50.0	1	ug/L	SKS
5-Nitro-o-toluidine	05	99-55-8	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	05	57-97-6	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
Acenaphthene	05	83-32-9	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Acenaphthylene	05	208-96-8	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Acetophenone	05	98-86-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	20.0	1	ug/L	SKS
Anthracene	05	120-12-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Benzo (a) anthracene	05	56-55-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	05	50-32-8	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		0.05	0.10	1	ug/L	SKS
Benzo (b) fluoranthene	05	205-99-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Benzo (g,h,i) perylene	05	191-24-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Benzo (k) fluoranthene	05	207-08-9	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Benzyl alcohol	05	100-51-6	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	20.0	1	ug/L	SKS
bis (2-Chloroethoxy) methane	05	111-91-1	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
bis (2-Chloroethyl) ether	05	111-44-4	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	05	108-60-1	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	05	117-81-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	1.69	J	1.00	2.50	1	ug/L	SKS

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-14

Laboratory Sample ID: 17G0698-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	05	85-68-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Chlorobenzilate	05	510-15-6	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD	C	2.50	2.50	1	ug/L	SKS
Chrysene	05	218-01-9	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Diallate	05	2303-16-4	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.50	2.50	1	ug/L	SKS
Dibenz (a,h) anthracene	05	53-70-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Dibenzofuran	05	132-64-9	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	5.00	1	ug/L	SKS
Diethyl phthalate	05	84-66-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Dimethoate	05	60-51-5	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.50	2.50	1	ug/L	SKS
Dimethyl phthalate	05	131-11-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Di-n-butyl phthalate	05	84-74-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
Di-n-octyl phthalate	05	117-84-0	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Diphenylamine	05	122-39-4	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
Disulfoton	05	298-04-4	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD	C	2.50	2.50	1	ug/L	SKS
Ethyl methanesulfonate	05	62-50-0	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	20.0	1	ug/L	SKS
Ethyl parathion	05	56-38-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.50	2.50	1	ug/L	SKS
Famphur	05	52-85-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.50	2.50	1	ug/L	SKS
Fluoranthene	05	206-44-0	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Fluorene	05	86-73-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Hexachlorobenzene	05	118-74-1	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	05	87-68-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Hexachlorocyclopentadiene	05	77-47-4	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD	C	1.00	10.0	1	ug/L	SKS
Hexachloroethane	05	67-72-1	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Hexachloropropene	05	1888-71-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	2.50	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	05	193-39-5	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS

Certificate of Analysis

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Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: MW-14

Laboratory Sample ID: 17G0698-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Isodrin	05	465-73-6	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD	C	1.00	10.0	1	ug/L	SKS
Isophorone	05	78-59-1	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Isosafrole	05	120-58-1	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
Kepone	05	143-50-0	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD	C	2.00	2.50	1	ug/L	SKS
m+p-Cresols	05	84989-04-8	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Methapyrilene	05	91-80-5	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Methyl methanesulfonate	05	66-27-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Methyl parathion	05	298-00-0	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	2.50	1	ug/L	SKS
Naphthalene	05	91-20-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Nitrobenzene	05	98-95-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
n-Nitrosodiethylamine	05	55-18-5	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.50	2.50	1	ug/L	SKS
n-Nitrosodimethylamine	05	62-75-9	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
n-Nitrosodi-n-butylamine	05	924-16-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
n-Nitrosodi-n-propylamine	05	621-64-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
n-Nitrosodiphenylamine	05	86-30-6	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
n-Nitrosomethylethylamine	05	10595-95-6	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	2.50	1	ug/L	SKS
n-Nitrosopiperidine	05	100-75-4	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
n-Nitrosopyrrolidine	05	930-55-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	2.50	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	05	126-68-1	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	05	297-97-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
o+m+p-Cresols	05	1319-77-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		3.00	10.0	1	ug/L	SKS
o-Cresol	05	95-48-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
o-Toluidine	05	95-53-4	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	2.50	1	ug/L	SKS

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Client Sample ID: MW-14

Laboratory Sample ID: 17G0698-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	05	60-11-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	2.50	1	ug/L	SKS
p-Chloro-m-cresol	05	59-50-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Pentachlorobenzene	05	608-93-5	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	05	82-68-8	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	1.00	1	ug/L	SKS
Phenacetin	05	62-44-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Phenanthrene	05	85-01-8	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Phenol	05	108-95-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Phorate	05	298-02-2	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	2.50	1	ug/L	SKS
p-Phenylenediamine	05	106-50-3	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD	C	2.00	10.0	1	ug/L	SKS
Pronamide	05	23950-58-5	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	10.0	1	ug/L	SKS
Pyrene	05	129-00-0	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		1.00	10.0	1	ug/L	SKS
Safole	05	94-59-7	SW8270D	07/28/2017 09:24	08/01/2017 02:18	BLOD		2.00	2.50	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol (Surr)	05	77.1 %	20-86	07/28/2017 09:24	08/01/2017 02:18							
Surr: 2-Fluorobiphenyl (Surr)	05	75.7 %	23-87	07/28/2017 09:24	08/01/2017 02:18							
Surr: 2-Fluorophenol (Surr)	05	47.6 %	10-52	07/28/2017 09:24	08/01/2017 02:18							
Surr: Nitrobenzene-d5 (Surr)	05	68.7 %	10-98.5	07/28/2017 09:24	08/01/2017 02:18							
Surr: Phenol-d5 (Surr)	05	30.0 %	5-33	07/28/2017 09:24	08/01/2017 02:18							
Surr: p-Terphenyl-d14 (Surr)	05	69.8 %	27-133	07/28/2017 09:24	08/01/2017 02:18							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	05	12674-11-2	SW8082A	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.026	0.202	1	ug/L	LBH
PCB as Aroclor 1221	05	11104-28-2	SW8082A	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.202	0.202	1	ug/L	LBH
PCB as Aroclor 1232	05	11141-16-5	SW8082A	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.015	0.202	1	ug/L	LBH
PCB as Aroclor 1242	05	53469-21-9	SW8082A	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.041	0.202	1	ug/L	LBH
PCB as Aroclor 1248	05	12672-29-6	SW8082A	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.048	0.202	1	ug/L	LBH
PCB as Aroclor 1254	05	11097-69-1	SW8082A	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.035	0.202	1	ug/L	LBH
PCB as Aroclor 1260	05	11096-82-5	SW8082A	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.034	0.202	1	ug/L	LBH
Surr: DCB	05	35.0 %	30-105	07/27/2017 09:24	07/28/2017 21:49							
Surr: TCMX	05	90.0 %	30-105	07/27/2017 09:24	07/28/2017 21:49							
4,4'-DDD	05	72-54-8	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD	C	0.005	0.051	1	ug/L	LBH
4,4'-DDE	05	72-55-9	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD	C	0.005	0.051	1	ug/L	LBH
4,4'-DDT	05	50-29-3	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.005	0.051	1	ug/L	LBH
Aldrin	05	309-00-2	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.005	0.051	1	ug/L	LBH
alpha-BHC	05	319-84-6	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.005	0.051	1	ug/L	LBH
beta-BHC	05	319-85-7	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.005	0.051	1	ug/L	LBH
Chlordane	05	57-74-9	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.202	0.202	1	ug/L	LBH
delta-BHC	05	319-86-8	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.002	0.051	1	ug/L	LBH
Dieldrin	05	60-57-1	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.003	0.051	1	ug/L	LBH
Endosulfan I	05	959-98-8	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.002	0.051	1	ug/L	LBH
Endosulfan II	05	33213-65-9	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.002	0.051	1	ug/L	LBH
Endosulfan sulfate	05	1031-07-8	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.002	0.051	1	ug/L	LBH
Endrin	05	72-20-8	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.002	0.051	1	ug/L	LBH
Endrin aldehyde	05	7421-93-4	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.002	0.051	1	ug/L	LBH
gamma-BHC (Lindane)	05	58-89-9	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.003	0.051	1	ug/L	LBH

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Laboratory Sample ID: 17G0698-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	05	76-44-8	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.003	0.051	1	ug/L	LBH
Heptachlor epoxide	05	1024-57-3	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.002	0.051	1	ug/L	LBH
Methoxychlor	05	72-43-5	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD	C	0.004	0.051	1	ug/L	LBH
Toxaphene	05	8001-35-2	SW8081B	07/27/2017 09:24	07/28/2017 21:49	BLOD		0.202	1.01	1	ug/L	LBH
Surr: TCMX	05	90.0 %	18-112	07/27/2017 09:24	07/28/2017 21:49							
Surr: DCB	05	50.0 %	27-131	07/27/2017 09:24	07/28/2017 21:49							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	05	93-76-5	SW8151A	07/27/2017 14:01	08/04/2017 22:16	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	05	93-72-1	SW8151A	07/27/2017 14:01	08/04/2017 22:16	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	05	94-75-7	SW8151A	07/27/2017 14:01	08/04/2017 22:16	BLOD		0.100	0.500	1	ug/L	CVH
Dinoseb	05	88-85-7	SW8151A	07/27/2017 14:01	08/04/2017 22:16	BLOD		0.010	0.500	1	ug/L	CVH
Pentachlorophenol	05	87-86-5	SW8151A	07/27/2017 14:01	08/04/2017 22:16	BLOD		0.100	0.500	1	ug/L	CVH
<i>Surr: DCAA (Surr)</i>	<i>05</i>	<i>260 %</i>	<i>60-112</i>	<i>07/27/2017 14:01</i>	<i>08/04/2017 22:16</i>							<i>S</i>

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Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	05	106-93-4	SW8011	07/31/2017 12:05	07/31/2017 23:05	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	05	96-18-4	SW8011	07/31/2017 12:05	07/31/2017 23:05	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	05	96-12-8	SW8011	07/31/2017 12:05	07/31/2017 23:05	BLOD		0.003	0.010	1	ug/L	CVH

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Wet Chemistry Analysis												
Cyanide	05	57-12-5	SW9012B	08/03/2017 09:30	08/03/2017 15:56	BLOD	CI	0.01	0.01	1	mg/L	TLA
Sulfide	05	18496-25-8	SW9215	07/31/2017 12:45	07/31/2017 12:45	BLOD		0.50	1.00	1	mg/L	BBP

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Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: Field Blank

Laboratory Sample ID: 17G0698-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	06	7440-22-4	SW6010C	07/26/2017 14:20	07/27/2017 16:08	BLOD		0.0020	0.0100	1	mg/L	CWO
Arsenic	06	7440-38-2	SW6020A	07/26/2017 14:20	07/27/2017 16:36	BLOD		0.0010	0.0050	1	mg/L	BG
Barium	06	7440-39-3	SW6010C	07/26/2017 14:20	07/27/2017 13:28	BLOD		0.0020	0.0100	1	mg/L	CWO
Beryllium	06	7440-41-7	SW6010C	07/26/2017 14:20	07/27/2017 13:28	BLOD		0.0020	0.0040	1	mg/L	CWO
Cadmium	06	7440-43-9	SW6010C	07/26/2017 14:20	07/27/2017 13:28	BLOD		0.0020	0.0040	1	mg/L	CWO
Cobalt	06	7440-48-4	SW6010C	07/26/2017 14:20	07/27/2017 13:28	BLOD		0.0020	0.0040	1	mg/L	CWO
Chromium	06	7440-47-3	SW6010C	07/26/2017 14:20	07/27/2017 13:28	BLOD		0.0040	0.0100	1	mg/L	CWO
Copper	06	7440-50-8	SW6010C	07/26/2017 14:20	07/27/2017 13:27	BLOD		0.0030	0.0100	1	mg/L	CWO
Mercury	06	7439-97-6	SW7470A	07/28/2017 15:00	07/28/2017 20:37	BLOD		0.00020	0.00020	1	mg/L	CWO
Nickel	06	7440-02-0	SW6010C	07/26/2017 14:20	07/27/2017 13:28	BLOD		0.0020	0.0100	1	mg/L	CWO
Lead	06	7439-92-1	SW6010C	07/26/2017 14:20	07/27/2017 13:28	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	06	7440-36-0	SW6020A	07/26/2017 14:20	07/27/2017 16:36	BLOD		0.00100	0.00500	1	mg/L	BG
Selenium	06	7782-49-2	SW6010C	07/26/2017 14:20	07/27/2017 13:28	BLOD		0.0150	0.0500	1	mg/L	CWO
Tin	06	7440-31-5	SW6010C	07/26/2017 14:20	07/27/2017 13:28	BLOD		0.0200	0.0200	1	mg/L	CWO
Thallium	06	7440-28-0	SW6020A	07/26/2017 14:20	07/27/2017 16:36	BLOD		0.00100	0.00200	1	mg/L	BG
Vanadium	06	7440-62-2	SW6010C	07/26/2017 14:20	07/27/2017 13:27	BLOD		0.0020	0.0100	1	mg/L	CWO
Zinc	06	7440-66-6	SW6010C	07/26/2017 14:20	07/27/2017 13:28	BLOD		0.0100	0.0100	1	mg/L	CWO

Certificate of Analysis

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	06	630-20-6	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	06	71-55-6	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	06	79-34-5	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	06	79-00-5	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	06	75-34-3	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	06	75-35-4	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloropropene	06	563-58-6	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	06	96-18-4	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	06	120-82-1	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	06	95-50-1	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	06	107-06-2	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	06	78-87-5	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	06	541-73-1	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	06	142-28-9	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	06	106-46-7	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	06	594-20-7	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	06	78-93-3	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	06	591-78-6	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	06	108-10-1	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	06	67-64-1	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	06	75-05-8	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	06	107-02-8	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	06	107-13-1	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	06	107-05-1	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.60	1.00	1	ug/L	JDW

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Client Sample ID: Field Blank

Laboratory Sample ID: 17G0698-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	06	71-43-2	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
Bromochloromethane	06	74-97-5	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	06	75-27-4	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	06	75-25-2	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	06	74-83-9	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	06	75-15-0	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	06	56-23-5	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	06	108-90-7	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.10	1.00	1	ug/L	JDW
Chloroethane	06	75-00-3	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
Chloroform	06	67-66-3	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	0.50	1	ug/L	JDW
Chloromethane	06	74-87-3	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	06	126-99-8	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	06	156-59-2	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	06	10061-01-5	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	06	124-48-1	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	06	74-95-3	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	06	75-71-8	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	06	97-63-2	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	06	100-41-4	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	06	87-68-3	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	06	74-88-4	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	06	78-83-1	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	06	179601-23-	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	2.00	1	ug/L	JDW

Certificate of Analysis

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Laboratory Sample ID: 17G0698-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	06	126-98-7	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	06	80-62-6	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	06	75-09-2	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	06	95-47-6	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	06	107-12-0	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	06	100-42-5	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.10	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	06	127-18-4	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
Toluene	06	108-88-3	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	06	156-60-5	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	06	10061-02-6	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	06	110-57-6	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	06	79-01-6	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	06	75-69-4	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	06	108-05-4	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	06	75-01-4	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.20	0.50	1	ug/L	JDW
Xylenes, Total	06	1330-20-7	SW8260B	07/26/2017 14:26	07/26/2017 14:26	BLOD		0.30	3.00	1	ug/L	JDW
Surr: 1,2-Dichloroethane-d4 (Surr)	06	105 %	70-120	07/26/2017 14:26	07/26/2017 14:26							
Surr: 4-Bromofluorobenzene (Surr)	06	94.8 %	75-120	07/26/2017 14:26	07/26/2017 14:26							
Surr: Dibromofluoromethane (Surr)	06	101 %	80-119	07/26/2017 14:26	07/26/2017 14:26							
Surr: Toluene-d8 (Surr)	06	102 %	85-120	07/26/2017 14:26	07/26/2017 14:26							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
bis (2-Ethylhexyl) phthalate	06	117-81-7	SW8270D	07/28/2017 09:24	08/01/2017 02:52	BLOD		1.12	2.81	1	ug/L	SKS
Di-n-butyl phthalate	06	84-74-2	SW8270D	07/28/2017 09:24	08/01/2017 02:52	BLOD		2.25	11.2	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol (Surr)	06	75.0 %	20-86	07/28/2017 09:24	08/01/2017 02:52							
Surr: 2-Fluorobiphenyl (Surr)	06	80.7 %	23-87	07/28/2017 09:24	08/01/2017 02:52							
Surr: 2-Fluorophenol (Surr)	06	55.5 %	10-52	07/28/2017 09:24	08/01/2017 02:52							S
Surr: Nitrobenzene-d5 (Surr)	06	74.9 %	10-98.5	07/28/2017 09:24	08/01/2017 02:52							
Surr: Phenol-d5 (Surr)	06	35.5 %	5-33	07/28/2017 09:24	08/01/2017 02:52							S
Surr: p-Terphenyl-d14 (Surr)	06	78.4 %	27-133	07/28/2017 09:24	08/01/2017 02:52							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	06	12674-11-2	SW8082A	07/27/2017 09:24	07/28/2017 22:06	BLOD		0.029	0.225	1	ug/L	LBH
PCB as Aroclor 1221	06	11104-28-2	SW8082A	07/27/2017 09:24	07/28/2017 22:06	BLOD		0.225	0.225	1	ug/L	LBH
PCB as Aroclor 1232	06	11141-16-5	SW8082A	07/27/2017 09:24	07/28/2017 22:06	BLOD		0.017	0.225	1	ug/L	LBH
PCB as Aroclor 1242	06	53469-21-9	SW8082A	07/27/2017 09:24	07/28/2017 22:06	BLOD		0.046	0.225	1	ug/L	LBH
PCB as Aroclor 1248	06	12672-29-6	SW8082A	07/27/2017 09:24	07/28/2017 22:06	BLOD		0.054	0.225	1	ug/L	LBH
PCB as Aroclor 1254	06	11097-69-1	SW8082A	07/27/2017 09:24	07/28/2017 22:06	BLOD		0.039	0.225	1	ug/L	LBH
PCB as Aroclor 1260	06	11096-82-5	SW8082A	07/27/2017 09:24	07/28/2017 22:06	BLOD		0.038	0.225	1	ug/L	LBH
Surr: DCB	06	65.0 %	30-105	07/27/2017 09:24	07/28/2017 22:06							
Surr: TCMX	06	55.0 %	30-105	07/27/2017 09:24	07/28/2017 22:06							
gamma-BHC (Lindane)	06	58-89-9	SW8081B	07/27/2017 09:24	07/28/2017 22:06	BLOD		0.003	0.056	1	ug/L	LBH
Surr: TCMX	06	55.0 %	18-112	07/27/2017 09:24	07/28/2017 22:06							
Surr: DCB	06	70.0 %	27-131	07/27/2017 09:24	07/28/2017 22:06							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	06	93-76-5	SW8151A	07/27/2017 14:01	08/04/2017 22:38	BLOD		0.102	0.511	1	ug/L	CVH
2,4,5-TP (Silvex)	06	93-72-1	SW8151A	07/27/2017 14:01	08/04/2017 22:38	BLOD		0.102	0.511	1	ug/L	CVH
2,4-D	06	94-75-7	SW8151A	07/27/2017 14:01	08/04/2017 22:38	BLOD		0.102	0.511	1	ug/L	CVH
Surr: DCAA (Surr)	06	60.0 %	60-112	07/27/2017 14:01	08/04/2017 22:38							S

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	06	106-93-4	SW8011	07/31/2017 12:05	07/31/2017 23:24	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	06	96-18-4	SW8011	07/31/2017 12:05	07/31/2017 23:24	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	06	96-12-8	SW8011	07/31/2017 12:05	07/31/2017 23:24	BLOD		0.003	0.010	1	ug/L	CVH

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	06	57-12-5	SW9012B	08/03/2017 09:30	08/03/2017 15:59	BLOD		0.01	0.01	1	mg/L	TLA
Sulfide	06	18496-25-8	SW9215	07/31/2017 12:45	07/31/2017 12:45	BLOD		0.50	1.00	1	mg/L	BBP

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Client Sample ID: Trip Blank

Laboratory Sample ID: 17G0698-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	07	630-20-6	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	07	71-55-6	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	07	79-34-5	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	07	79-00-5	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	07	75-34-3	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	07	75-35-4	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloropropene	07	563-58-6	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	07	96-18-4	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	07	120-82-1	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	07	95-50-1	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	07	107-06-2	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	07	78-87-5	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	07	541-73-1	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	07	142-28-9	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	07	106-46-7	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	07	594-20-7	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	07	78-93-3	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	07	591-78-6	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	07	108-10-1	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	07	67-64-1	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	07	75-05-8	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	07	107-02-8	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	07	107-13-1	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	07	107-05-1	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.60	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 17G0698-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	07	71-43-2	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
Bromochloromethane	07	74-97-5	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	07	75-27-4	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	07	75-25-2	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	07	74-83-9	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	07	75-15-0	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	07	56-23-5	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	07	108-90-7	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.10	1.00	1	ug/L	JDW
Chloroethane	07	75-00-3	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
Chloroform	07	67-66-3	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	0.50	1	ug/L	JDW
Chloromethane	07	74-87-3	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	07	126-99-8	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	07	156-59-2	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	07	10061-01-5	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	07	124-48-1	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	07	74-95-3	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	07	75-71-8	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	07	97-63-2	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	07	100-41-4	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	07	87-68-3	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	07	74-88-4	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	07	78-83-1	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	07	179601-23-	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	2.00	1	ug/L	JDW

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 17G0698-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	07	126-98-7	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	07	80-62-6	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	07	75-09-2	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	07	95-47-6	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	07	107-12-0	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	07	100-42-5	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.10	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	07	127-18-4	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
Toluene	07	108-88-3	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	07	156-60-5	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	07	10061-02-6	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	07	110-57-6	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	07	79-01-6	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	07	75-69-4	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	07	108-05-4	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	07	75-01-4	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.20	0.50	1	ug/L	JDW
Xylenes, Total	07	1330-20-7	SW8260B	07/26/2017 14:02	07/26/2017 14:02	BLOD		0.30	3.00	1	ug/L	JDW
Surr: 1,2-Dichloroethane-d4 (Surr)	07	103 %	70-120	07/26/2017 14:02	07/26/2017 14:02							
Surr: 4-Bromofluorobenzene (Surr)	07	95.4 %	75-120	07/26/2017 14:02	07/26/2017 14:02							
Surr: Dibromofluoromethane (Surr)	07	104 %	80-119	07/26/2017 14:02	07/26/2017 14:02							
Surr: Toluene-d8 (Surr)	07	104 %	85-120	07/26/2017 14:02	07/26/2017 14:02							

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 17G0698-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	07	106-93-4	SW8011	07/31/2017 12:05	07/31/2017 23:44	BLOD		0.003	0.010	1	ug/L	CVH
1,2,3-Trichloropropane	07	96-18-4	SW8011	07/31/2017 12:05	07/31/2017 23:44	BLOD		0.003	0.010	1	ug/L	CVH
1,2-Dibromo-3-chloropropane (DBCP)	07	96-12-8	SW8011	07/31/2017 12:05	07/31/2017 23:44	BLOD		0.003	0.010	1	ug/L	CVH

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0629 - EPA200.2/R2.8										
Blank (BAG0629-BLK1)				Prepared: 07/26/2017 Analyzed: 07/27/2017						
Barium	BLOD	0.0100	mg/L							
Beryllium	BLOD	0.0040	mg/L							
Cadmium	BLOD	0.0040	mg/L							
Chromium	BLOD	0.0100	mg/L							
Cobalt	BLOD	0.0040	mg/L							
Copper	BLOD	0.0100	mg/L							
Lead	BLOD	0.0100	mg/L							
Nickel	BLOD	0.0100	mg/L							
Selenium	BLOD	0.0500	mg/L							
Tin	BLOD	0.0200	mg/L							
Vanadium	BLOD	0.0100	mg/L							
Zinc	BLOD	0.0100	mg/L							
Blank (BAG0629-BLK2)				Prepared: 07/26/2017 Analyzed: 07/27/2017						
Silver	BLOD	0.0100	mg/L							
LCS (BAG0629-BS1)				Prepared: 07/26/2017 Analyzed: 07/27/2017						
Barium	0.503	0.0100	mg/L	0.500		101	80-120			
Beryllium	0.512	0.0040	mg/L	0.500		102	80-120			
Cadmium	0.514	0.0040	mg/L	0.500		103	80-120			
Chromium	0.506	0.0100	mg/L	0.500		101	80-120			
Cobalt	0.508	0.0040	mg/L	0.500		102	80-120			
Copper	0.511	0.0100	mg/L	0.500		102	80-120			
Lead	0.522	0.0100	mg/L	0.500		104	80-120			
Nickel	0.5071	0.0100	mg/L	0.500		101	80-120			
Selenium	0.523	0.0500	mg/L	0.500		105	80-120			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0629 - EPA200.2/R2.8										
LCS (BAG0629-BS1) Prepared: 07/26/2017 Analyzed: 07/27/2017										
Tin	0.104	0.0200	mg/L	0.100		104	80-120			
Vanadium	0.500	0.0100	mg/L	0.500		100	80-120			
Zinc	0.509	0.0100	mg/L	0.500		102	80-120			
LCS (BAG0629-BS2) Prepared: 07/26/2017 Analyzed: 07/27/2017										
Silver	0.108	0.0100	mg/L	0.100		108	80-120			E
LCS Dup (BAG0629-BSD1) Prepared: 07/26/2017 Analyzed: 07/27/2017										
Barium	0.496	0.0100	mg/L	0.500		99.2	80-120	1.32	20	
Beryllium	0.501	0.0040	mg/L	0.500		100	80-120	2.02	20	
Cadmium	0.504	0.0040	mg/L	0.500		101	80-120	1.87	20	
Chromium	0.496	0.0100	mg/L	0.500		99.1	80-120	2.11	20	
Cobalt	0.503	0.0040	mg/L	0.500		101	80-120	1.07	20	
Copper	0.502	0.0100	mg/L	0.500		100	80-120	1.75	20	
Lead	0.516	0.0100	mg/L	0.500		103	80-120	1.03	20	
Nickel	0.5020	0.0100	mg/L	0.500		100	80-120	1.01	20	
Selenium	0.515	0.0500	mg/L	0.500		103	80-120	1.45	20	
Tin	0.103	0.0200	mg/L	0.100		103	80-120	0.862	20	
Vanadium	0.491	0.0100	mg/L	0.500		98.1	80-120	1.88	20	
Zinc	0.499	0.0100	mg/L	0.500		99.8	80-120	2.03	20	
LCS Dup (BAG0629-BSD2) Prepared: 07/26/2017 Analyzed: 07/27/2017										
Silver	0.106	0.0100	mg/L	0.100		106	80-120	2.03	20	E
Matrix Spike (BAG0629-MS1) Source: 17G0698-03 Prepared: 07/26/2017 Analyzed: 07/27/2017										
Barium	0.624	0.0100	mg/L	0.500	0.134	97.9	75-125			
Beryllium	0.499	0.0040	mg/L	0.500	BLOD	99.7	75-125			

Certificate of Analysis

Client Name: Resource International, Ltd.
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Date Issued: 8/8/2017 3:09:22PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0629 - EPA200.2/R2.8

Matrix Spike (BAG0629-MS1)

Source: 17G0698-03

Prepared: 07/26/2017 Analyzed: 07/27/2017

Cadmium	0.497	0.0040	mg/L	0.500	BLOD	99.4	75-125
Chromium	0.498	0.0100	mg/L	0.500	0.0079	98.0	75-125
Cobalt	0.493	0.0040	mg/L	0.500	0.0040	97.7	75-125
Copper	0.500	0.0100	mg/L	0.500	0.0056	98.8	75-125
Lead	0.502	0.0100	mg/L	0.500	BLOD	100	75-125
Nickel	0.4920	0.0100	mg/L	0.500	0.0045	97.5	75-125
Selenium	0.501	0.0500	mg/L	0.500	BLOD	100	75-125
Tin	0.0929	0.0200	mg/L	0.100	BLOD	92.9	75-125
Vanadium	0.500	0.0100	mg/L	0.500	0.0165	96.8	75-125
Zinc	0.516	0.0100	mg/L	0.500	0.0199	99.2	75-125

Matrix Spike (BAG0629-MS2)

Source: 17G0702-01

Prepared: 07/26/2017 Analyzed: 07/27/2017

Barium	0.520	0.0100	mg/L	0.500	0.0284	98.2	75-125
Beryllium	0.502	0.0040	mg/L	0.500	BLOD	100	75-125
Cadmium	0.501	0.0040	mg/L	0.500	BLOD	100	75-125
Chromium	0.491	0.0100	mg/L	0.500	BLOD	98.2	75-125
Cobalt	0.493	0.0040	mg/L	0.500	BLOD	98.6	75-125
Copper	0.517	0.0100	mg/L	0.500	0.0216	99.1	75-125
Lead	0.501	0.0100	mg/L	0.500	BLOD	100	75-125
Nickel	0.4904	0.0100	mg/L	0.500	BLOD	98.1	75-125
Selenium	0.503	0.0500	mg/L	0.500	BLOD	101	75-125
Tin	0.0998	0.0200	mg/L	0.100	BLOD	99.8	75-125
Vanadium	0.488	0.0100	mg/L	0.500	BLOD	97.6	75-125
Zinc	0.514	0.0100	mg/L	0.500	0.0151	99.9	75-125

Matrix Spike (BAG0629-MS3)

Source: 17G0698-03

Prepared: 07/26/2017 Analyzed: 07/27/2017

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0629 - EPA200.2/R2.8										
Matrix Spike (BAG0629-MS3) Source: 17G0698-03 Prepared: 07/26/2017 Analyzed: 07/27/2017										
Silver	0.108	0.0100	mg/L	0.100	BLOD	108	75-125			E
Matrix Spike (BAG0629-MS4) Source: 17G0702-01 Prepared: 07/26/2017 Analyzed: 07/27/2017										
Silver	0.110	0.0100	mg/L	0.100	BLOD	110	75-125			E
Matrix Spike Dup (BAG0629-MSD1) Source: 17G0698-03 Prepared: 07/26/2017 Analyzed: 07/27/2017										
Barium	0.607	0.0100	mg/L	0.500	0.134	94.5	75-125	2.71	20	
Beryllium	0.491	0.0040	mg/L	0.500	BLOD	98.2	75-125	1.53	20	
Cadmium	0.489	0.0040	mg/L	0.500	BLOD	97.8	75-125	1.69	20	
Chromium	0.491	0.0100	mg/L	0.500	0.0079	96.5	75-125	1.46	20	
Cobalt	0.494	0.0040	mg/L	0.500	0.0040	98.0	75-125	0.242	20	
Copper	0.492	0.0100	mg/L	0.500	0.0056	97.3	75-125	1.54	20	
Lead	0.500	0.0100	mg/L	0.500	BLOD	100	75-125	0.346	20	
Nickel	0.4931	0.0100	mg/L	0.500	0.0045	97.7	75-125	0.215	20	
Selenium	0.506	0.0500	mg/L	0.500	BLOD	101	75-125	0.879	20	
Tin	0.0979	0.0200	mg/L	0.100	BLOD	97.9	75-125	5.25	20	
Vanadium	0.493	0.0100	mg/L	0.500	0.0165	95.2	75-125	1.60	20	
Zinc	0.506	0.0100	mg/L	0.500	0.0199	97.2	75-125	1.92	20	
Matrix Spike Dup (BAG0629-MSD2) Source: 17G0702-01 Prepared: 07/26/2017 Analyzed: 07/27/2017										
Barium	0.524	0.0100	mg/L	0.500	0.0284	99.2	75-125	0.900	20	
Beryllium	0.509	0.0040	mg/L	0.500	BLOD	102	75-125	1.36	20	
Cadmium	0.508	0.0040	mg/L	0.500	BLOD	102	75-125	1.50	20	
Chromium	0.496	0.0100	mg/L	0.500	BLOD	99.3	75-125	1.07	20	
Cobalt	0.494	0.0040	mg/L	0.500	BLOD	98.7	75-125	0.170	20	
Copper	0.523	0.0100	mg/L	0.500	0.0216	100	75-125	1.11	20	
Lead	0.510	0.0100	mg/L	0.500	BLOD	102	75-125	1.65	20	

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0629 - EPA200.2/R2.8										
Matrix Spike Dup (BAG0629-MSD2)		Source: 17G0702-01		Prepared: 07/26/2017 Analyzed: 07/27/2017						
Nickel	0.4924	0.0100	mg/L	0.500	BLOD	98.5	75-125	0.392	20	
Selenium	0.516	0.0500	mg/L	0.500	BLOD	103	75-125	2.63	20	
Tin	0.0996	0.0200	mg/L	0.100	BLOD	99.6	75-125	0.157	20	
Vanadium	0.495	0.0100	mg/L	0.500	BLOD	98.9	75-125	1.31	20	
Zinc	0.522	0.0100	mg/L	0.500	0.0151	101	75-125	1.42	20	
Matrix Spike Dup (BAG0629-MSD3)		Source: 17G0698-03		Prepared: 07/26/2017 Analyzed: 07/27/2017						
Silver	0.104	0.0100	mg/L	0.100	BLOD	104	75-125	3.55	20	E
Matrix Spike Dup (BAG0629-MSD4)		Source: 17G0702-01		Prepared: 07/26/2017 Analyzed: 07/27/2017						
Silver	0.109	0.0100	mg/L	0.100	BLOD	109	75-125	0.736	20	E
Batch BAG0632 - EPA200.8 R5.4										
Blank (BAG0632-BLK1)		Prepared: 07/26/2017 Analyzed: 07/27/2017								
Antimony	BLOD	0.00500	mg/L							
Arsenic	BLOD	0.0050	mg/L							
Thallium	BLOD	0.00200	mg/L							
LCS (BAG0632-BS1)		Prepared: 07/26/2017 Analyzed: 07/27/2017								
Antimony	0.0469	0.00500	mg/L	0.0500		93.8	80-120			
Arsenic	0.047	0.0050	mg/L	0.0500		93.5	80-120			
Thallium	0.0461	0.00200	mg/L	0.0500		92.2	80-120			
LCS Dup (BAG0632-BSD1)		Prepared: 07/26/2017 Analyzed: 07/27/2017								
Antimony	0.0481	0.00500	mg/L	0.0500		96.1	80-120	2.47	20	
Arsenic	0.046	0.0050	mg/L	0.0500		92.9	80-120	0.596	20	
Thallium	0.0467	0.00200	mg/L	0.0500		93.4	80-120	1.25	20	

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0632 - EPA200.8 R5.4										
Matrix Spike (BAG0632-MS1)		Source: 17G0698-03		Prepared: 07/26/2017 Analyzed: 07/27/2017						
Antimony	0.0347	0.00500	mg/L	0.0500	BLOD	69.5	75-125			M
Arsenic	0.046	0.0050	mg/L	0.0500	BLOD	92.6	75-125			
Thallium	0.0142	0.00200	mg/L	0.0500	BLOD	28.4	75-125			M
Matrix Spike (BAG0632-MS2)		Source: 17G0702-01		Prepared: 07/26/2017 Analyzed: 07/27/2017						
Antimony	0.0453	0.00500	mg/L	0.0500	BLOD	90.7	75-125			
Arsenic	0.047	0.0050	mg/L	0.0500	BLOD	93.6	75-125			
Thallium	0.0433	0.00200	mg/L	0.0500	BLOD	86.7	75-125			
Matrix Spike Dup (BAG0632-MSD1)		Source: 17G0698-03		Prepared: 07/26/2017 Analyzed: 07/27/2017						
Antimony	0.0341	0.00500	mg/L	0.0500	BLOD	68.2	75-125	1.79	20	M
Arsenic	0.046	0.0050	mg/L	0.0500	BLOD	91.7	75-125	1.02	20	
Thallium	0.0122	0.00200	mg/L	0.0500	BLOD	24.5	75-125	14.8	20	M
Matrix Spike Dup (BAG0632-MSD2)		Source: 17G0702-01		Prepared: 07/26/2017 Analyzed: 07/27/2017						
Antimony	0.0451	0.00500	mg/L	0.0500	BLOD	90.1	75-125	0.613	20	
Arsenic	0.046	0.0050	mg/L	0.0500	BLOD	92.9	75-125	0.733	20	
Thallium	0.0443	0.00200	mg/L	0.0500	BLOD	88.7	75-125	2.28	20	
Batch BAG0702 - SW7470A										
Blank (BAG0702-BLK1)		Prepared & Analyzed: 07/28/2017								
Mercury	BLOD	0.00020	mg/L							
LCS (BAG0702-BS1)		Prepared & Analyzed: 07/28/2017								
Mercury	0.00248	0.00020	mg/L	0.00250		99.2	80-120			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0702 - SW7470A										
LCS Dup (BAG0702-BSD1)				Prepared & Analyzed: 07/28/2017						
Mercury	0.00248	0.00020	mg/L	0.00250		99.2	80-120	0.0645	20	
Matrix Spike (BAG0702-MS1)				Source: 17G0586-04 Prepared & Analyzed: 07/28/2017						
Mercury	0.00217	0.00020	mg/L	0.00250	BLOD	86.9	80-120			
Matrix Spike (BAG0702-MS2)				Source: 17G0698-03 Prepared & Analyzed: 07/28/2017						
Mercury	0.00227	0.00020	mg/L	0.00250	BLOD	90.6	80-120			
Matrix Spike Dup (BAG0702-MSD1)				Source: 17G0586-04 Prepared & Analyzed: 07/28/2017						
Mercury	0.00218	0.00020	mg/L	0.00250	BLOD	87.2	80-120	0.285	20	
Matrix Spike Dup (BAG0702-MSD2)				Source: 17G0698-03 Prepared & Analyzed: 07/28/2017						
Mercury	0.00229	0.00020	mg/L	0.00250	BLOD	91.4	80-120	0.870	20	

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0657 - SW5030B

Blank (BAG0657-BLK1)

Prepared & Analyzed: 07/26/2017

1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L
1,1,1-Trichloroethane	BLOD	1.00	ug/L
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L
1,1,2-Trichloroethane	BLOD	1.00	ug/L
1,1-Dichloroethane	BLOD	1.00	ug/L
1,1-Dichloroethylene	BLOD	1.00	ug/L
1,1-Dichloropropene	BLOD	1.00	ug/L
1,2,3-Trichloropropane	BLOD	1.00	ug/L
1,2,4-Trichlorobenzene	BLOD	1.00	ug/L
1,2-Dichlorobenzene	BLOD	1.00	ug/L
1,2-Dichloroethane	BLOD	1.00	ug/L
1,2-Dichloropropane	BLOD	1.00	ug/L
1,3-Dichlorobenzene	BLOD	1.00	ug/L
1,3-Dichloropropane	BLOD	1.00	ug/L
1,4-Dichlorobenzene	BLOD	1.00	ug/L
2,2-Dichloropropane	BLOD	2.00	ug/L
2-Butanone (MEK)	BLOD	5.00	ug/L
2-Hexanone (MBK)	BLOD	5.00	ug/L
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L
Acetone	BLOD	10.0	ug/L
Acetonitrile	BLOD	10.0	ug/L
Acrolein	BLOD	10.0	ug/L
Acrylonitrile	BLOD	5.00	ug/L
Allyl chloride	BLOD	1.00	ug/L
Benzene	BLOD	1.00	ug/L

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0657 - SW5030B

Blank (BAG0657-BLK1)

Prepared & Analyzed: 07/26/2017

Bromochloromethane	BLOD	1.00	ug/L
Bromodichloromethane	BLOD	0.50	ug/L
Bromoform	BLOD	1.00	ug/L
Bromomethane	BLOD	1.00	ug/L
Carbon disulfide	BLOD	10.0	ug/L
Carbon tetrachloride	BLOD	1.00	ug/L
Chlorobenzene	BLOD	1.00	ug/L
Chloroethane	BLOD	1.00	ug/L
Chloroform	BLOD	0.50	ug/L
Chloromethane	BLOD	1.00	ug/L
Chloroprene	BLOD	5.00	ug/L
cis-1,2-Dichloroethylene	BLOD	1.00	ug/L
cis-1,3-Dichloropropene	BLOD	1.00	ug/L
Dibromochloromethane	BLOD	0.50	ug/L
Dibromomethane	BLOD	1.00	ug/L
Dichlorodifluoromethane	BLOD	1.00	ug/L
Ethyl methacrylate	BLOD	5.00	ug/L
Ethylbenzene	BLOD	1.00	ug/L
Hexachlorobutadiene	BLOD	0.80	ug/L
Iodomethane	BLOD	10.0	ug/L
Isobutyl Alcohol	BLOD	40.0	ug/L
m+p-Xylenes	BLOD	2.00	ug/L
Methacrylonitrile	BLOD	1.50	ug/L
Methyl methacrylate	BLOD	2.00	ug/L
Methylene chloride	BLOD	4.00	ug/L

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0657 - SW5030B

Blank (BAG0657-BLK1)

Prepared & Analyzed: 07/26/2017

o-Xylene	BLOD	1.00	ug/L
Propionitrile	BLOD	40.0	ug/L
Styrene	BLOD	1.00	ug/L
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L
Toluene	BLOD	1.00	ug/L
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L
trans-1,3-Dichloropropene	BLOD	1.00	ug/L
trans-1,4-Dichloro-2-butene	BLOD	4.00	ug/L
Trichloroethylene	BLOD	1.00	ug/L
Trichlorofluoromethane	BLOD	1.00	ug/L
Vinyl acetate	BLOD	10.0	ug/L
Vinyl chloride	BLOD	0.50	ug/L
Xylenes, Total	BLOD	3.00	ug/L

<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>50.4</i>		<i>ug/L</i>	<i>50.0</i>	<i>101</i>	<i>70-120</i>
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>47.7</i>		<i>ug/L</i>	<i>50.0</i>	<i>95.5</i>	<i>75-120</i>
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>51.9</i>		<i>ug/L</i>	<i>50.0</i>	<i>104</i>	<i>80-119</i>
<i>Surr: Toluene-d8 (Surr)</i>	<i>51.9</i>		<i>ug/L</i>	<i>50.0</i>	<i>104</i>	<i>85-120</i>

LCS (BAG0657-BS1)

Prepared & Analyzed: 07/26/2017

1,1,1,2-Tetrachloroethane	50.5	0.4	ug/L	50.0	101	80-130
1,1,1-Trichloroethane	55.7	1	ug/L	50.0	111	65-130
1,1,2,2-Tetrachloroethane	49.9	0.4	ug/L	50.0	99.7	65-130
1,1,2-Trichloroethane	52.5	1	ug/L	50.0	105	75-125
1,1-Dichloroethane	55.9	1	ug/L	50.0	112	70-135
1,1-Dichloroethylene	48.8	1	ug/L	50.0	97.7	70-130

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0657 - SW5030B										
LCS (BAG0657-BS1)				Prepared & Analyzed: 07/26/2017						
1,1-Dichloropropene	56.4	1	ug/L	50.0		113	75-135			
1,2,3-Trichloropropane	51.9	1	ug/L	50.0		104	75-125			
1,2,4-Trichlorobenzene	53.2	1	ug/L	50.0		106	65-135			
1,2-Dichlorobenzene	53.5	1	ug/L	50.0		107	70-120			
1,2-Dichloroethane	50.5	1	ug/L	50.0		101	70-130			
1,2-Dichloropropane	52.1	1	ug/L	50.0		104	75-125			
1,3-Dichlorobenzene	53.2	1	ug/L	50.0		106	75-125			
1,3-Dichloropropane	52.2	1	ug/L	50.0		104	75-125			
1,4-Dichlorobenzene	53.3	1	ug/L	50.0		107	75-125			
2,2-Dichloropropane	59.8	2	ug/L	50.0		120	70-135			
2-Butanone (MEK)	54.6	5	ug/L	50.0		109	30-150			
2-Hexanone (MBK)	55.0	5	ug/L	50.0		110	55-130			
4-Methyl-2-pentanone (MIBK)	58.4	5	ug/L	50.0		117	60-135			
Acetone	56.3	10	ug/L	50.0		113	40-140			
Acrylonitrile	275	5.00	ug/L				70-130			
Benzene	53.8	1	ug/L	50.0		108	80-120			
Bromochloromethane	51.9	1	ug/L	50.0		104	65-130			
Bromodichloromethane	53.5	0.5	ug/L	50.0		107	75-120			
Bromoform	51.8	1	ug/L	50.0		104	70-130			
Bromomethane	49.9	1	ug/L	50.0		99.9	30-145			
Carbon disulfide	60.6	10	ug/L	50.0		121	35-160			
Carbon tetrachloride	54.0	1	ug/L	50.0		108	65-140			
Chlorobenzene	53.0	1	ug/L	50.0		106	80-120			
Chloroethane	55.2	1	ug/L	50.0		110	60-135			
Chloroform	50.3	0.5	ug/L	50.0		101	65-135			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0657 - SW5030B										
LCS (BAG0657-BS1)				Prepared & Analyzed: 07/26/2017						
Chloromethane	54.1	1	ug/L	50.0		108	40-125			
cis-1,2-Dichloroethylene	51.1	1	ug/L	50.0		102	70-125			
cis-1,3-Dichloropropene	53.4	1	ug/L	50.0		107	70-130			
Dibromochloromethane	53.5	0.5	ug/L	50.0		107	60-135			
Dibromomethane	52.0	1	ug/L	50.0		104	75-125			
Dichlorodifluoromethane	67.9	1	ug/L	50.0		136	30-155			
Ethylbenzene	52.2	1	ug/L	50.0		104	75-125			
Hexachlorobutadiene	57.1	0.8	ug/L	50.0		114	50-140			
m+p-Xylenes	115	2	ug/L	100		115	75-130			
Methylene chloride	49.0	4	ug/L	50.0		98.0	55-140			
o-Xylene	52.0	1	ug/L	50.0		104	80-120			
Styrene	52.3	1	ug/L	50.0		105	65-135			
Tetrachloroethylene (PCE)	76.7	1	ug/L	50.0		153	45-150			L
Toluene	54.3	1	ug/L	50.0		109	75-120			
trans-1,2-Dichloroethylene	52.3	1	ug/L	50.0		105	60-140			
trans-1,3-Dichloropropene	53.0	1	ug/L	50.0		106	55-140			
Trichloroethylene	53.4	1	ug/L	50.0		107	70-125			
Trichlorofluoromethane	59.0	1	ug/L	50.0		118	60-145			
Vinyl chloride	59.5	0.5	ug/L	50.0		119	50-145			
Surr: 1,2-Dichloroethane-d4 (Surr)	48.4		ug/L	50.0		96.7	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.1		ug/L	50.0		100	75-120			
Surr: Dibromofluoromethane (Surr)	51.2		ug/L	50.0		102	80-119			
Surr: Toluene-d8 (Surr)	50.3		ug/L	50.0		101	85-120			

Matrix Spike (BAG0657-MS1)

Source: 17G0698-03

Prepared & Analyzed: 07/26/2017

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0657 - SW5030B										
Matrix Spike (BAG0657-MS1)		Source: 17G0698-03			Prepared & Analyzed: 07/26/2017					
1,1,1,2-Tetrachloroethane	50.2	0.4	ug/L	50.0	BLOD	100	80-130			
1,1,1-Trichloroethane	55.8	1	ug/L	50.0	BLOD	112	65-130			
1,1,2,2-Tetrachloroethane	49.6	0.4	ug/L	50.0	BLOD	99.2	65-130			
1,1,2-Trichloroethane	50.2	1	ug/L	50.0	BLOD	100	75-125			
1,1-Dichloroethane	55.7	1	ug/L	50.0	BLOD	111	70-135			
1,1-Dichloroethylene	71.5	1	ug/L	50.0	BLOD	143	70-130			M
1,1-Dichloropropene	56.6	1	ug/L	50.0	BLOD	113	75-135			
1,2,3-Trichloropropane	50.7	1	ug/L	50.0	BLOD	101	75-125			
1,2,4-Trichlorobenzene	43.7	1	ug/L	50.0	BLOD	87.4	65-135			
1,2-Dichlorobenzene	48.7	1	ug/L	50.0	BLOD	97.4	70-120			
1,2-Dichloroethane	51.1	1	ug/L	50.0	BLOD	102	70-130			
1,2-Dichloropropane	49.7	1	ug/L	50.0	BLOD	99.3	75-125			
1,3-Dichlorobenzene	49.4	1	ug/L	50.0	BLOD	98.9	75-125			
1,3-Dichloropropane	49.6	1	ug/L	50.0	BLOD	99.2	75-125			
1,4-Dichlorobenzene	49.1	1	ug/L	50.0	BLOD	98.2	75-125			
2,2-Dichloropropane	56.1	2	ug/L	50.0	BLOD	112	70-135			
2-Butanone (MEK)	49.3	5	ug/L	50.0	BLOD	98.7	30-150			
2-Hexanone (MBK)	52.4	5	ug/L	50.0	BLOD	105	55-130			
4-Methyl-2-pentanone (MIBK)	57.0	5	ug/L	50.0	BLOD	114	60-135			
Acetone	48.5	10	ug/L	50.0	BLOD	93.7	40-140			
Acrylonitrile	285	5.00	ug/L		BLOD		70-130			
Benzene	51.1	1	ug/L	50.0	BLOD	102	80-120			
Bromochloromethane	50.7	1	ug/L	50.0	BLOD	101	65-130			
Bromodichloromethane	50.6	0.5	ug/L	50.0	BLOD	101	75-120			
Bromoform	48.7	1	ug/L	50.0	BLOD	97.5	70-130			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0657 - SW5030B										
Matrix Spike (BAG0657-MS1)		Source: 17G0698-03			Prepared & Analyzed: 07/26/2017					
Bromomethane	49.7	1	ug/L	50.0	BLOD	99.4	30-145			
Carbon disulfide	64.1	10	ug/L	50.0	BLOD	128	35-160			
Carbon tetrachloride	52.5	1	ug/L	50.0	BLOD	105	65-140			
Chlorobenzene	50.2	1	ug/L	50.0	BLOD	100	80-120			
Chloroethane	60.1	1	ug/L	50.0	BLOD	120	60-135			
Chloroform	50.8	0.5	ug/L	50.0	BLOD	102	65-135			
Chloromethane	58.9	1	ug/L	50.0	BLOD	118	40-125			
cis-1,2-Dichloroethylene	51.0	1	ug/L	50.0	BLOD	102	70-125			
cis-1,3-Dichloropropene	48.4	1	ug/L	50.0	BLOD	96.9	70-130			
Dibromochloromethane	49.0	0.5	ug/L	50.0	BLOD	98.0	60-135			
Dibromomethane	48.4	1	ug/L	50.0	BLOD	96.7	75-125			
Dichlorodifluoromethane	73.2	1	ug/L	50.0	BLOD	146	30-155			
Ethylbenzene	51.1	1	ug/L	50.0	BLOD	102	75-125			
Hexachlorobutadiene	42.0	0.8	ug/L	50.0	BLOD	84.1	50-140			
m+p-Xylenes	113	2	ug/L	100	BLOD	113	75-130			
Methylene chloride	49.1	4	ug/L	50.0	BLOD	97.8	55-140			
o-Xylene	50.1	1	ug/L	50.0	BLOD	100	80-120			
Styrene	50.4	1	ug/L	50.0	BLOD	101	65-135			
Tetrachloroethylene (PCE)	75.3	1	ug/L	50.0	BLOD	151	45-150			M
Toluene	51.9	1	ug/L	50.0	BLOD	104	75-120			
trans-1,2-Dichloroethylene	49.8	1	ug/L	50.0	BLOD	99.6	60-140			
trans-1,3-Dichloropropene	48.6	1	ug/L	50.0	BLOD	97.2	55-140			
Trichloroethylene	50.5	1	ug/L	50.0	BLOD	101	70-125			
Trichlorofluoromethane	64.6	1	ug/L	50.0	BLOD	129	60-145			
Vinyl chloride	63.7	0.5	ug/L	50.0	BLOD	127	50-145			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0657 - SW5030B

Matrix Spike (BAG0657-MS1)

Source: 17G0698-03

Prepared & Analyzed: 07/26/2017

<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	52.1		ug/L	50.0		104	70-120
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	51.2		ug/L	50.0		102	75-120
<i>Surr: Dibromofluoromethane (Surr)</i>	52.0		ug/L	50.0		104	80-119
<i>Surr: Toluene-d8 (Surr)</i>	50.8		ug/L	50.0		102	85-120

Matrix Spike (BAG0657-MS2)

Source: 17G0727-01

Prepared & Analyzed: 07/26/2017

1,1,1,2-Tetrachloroethane	48.8	0.4	ug/L	50.0	BLOD	97.7	80-130
1,1,1-Trichloroethane	53.4	1	ug/L	50.0	BLOD	107	65-130
1,1,2,2-Tetrachloroethane	50.0	0.4	ug/L	50.0	BLOD	99.9	65-130
1,1,2-Trichloroethane	49.5	1	ug/L	50.0	BLOD	99.0	75-125
1,1-Dichloroethane	54.4	1	ug/L	50.0	BLOD	109	70-135
1,1-Dichloroethylene	63.3	1	ug/L	50.0	BLOD	127	70-130
1,1-Dichloropropene	54.6	1	ug/L	50.0	BLOD	109	75-135
1,2,3-Trichloropropane	52.5	1	ug/L	50.0	BLOD	105	75-125
1,2,4-Trichlorobenzene	48.8	1	ug/L	50.0	BLOD	97.6	65-135
1,2-Dichlorobenzene	48.4	1	ug/L	50.0	BLOD	96.8	70-120
1,2-Dichloroethane	50.7	1	ug/L	50.0	BLOD	101	70-130
1,2-Dichloropropane	48.7	1	ug/L	50.0	BLOD	97.3	75-125
1,3-Dichlorobenzene	48.7	1	ug/L	50.0	BLOD	97.5	75-125
1,3-Dichloropropane	49.9	1	ug/L	50.0	BLOD	99.8	75-125
1,4-Dichlorobenzene	47.5	1	ug/L	50.0	BLOD	95.1	75-125
2,2-Dichloropropane	54.5	2	ug/L	50.0	BLOD	109	70-135
2-Butanone (MEK)	42.5	5	ug/L	50.0	BLOD	85.1	30-150
2-Hexanone (MBK)	53.3	5	ug/L	50.0	BLOD	107	55-130
4-Methyl-2-pentanone (MIBK)	55.9	5	ug/L	50.0	BLOD	112	60-135

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0657 - SW5030B										
Matrix Spike (BAG0657-MS2)		Source: 17G0727-01			Prepared & Analyzed: 07/26/2017					
Acetone	53.1	10	ug/L	50.0	BLOD	100	40-140			
Acrylonitrile	269	5.00	ug/L		BLOD		70-130			
Benzene	50.1	1	ug/L	50.0	BLOD	100	80-120			
Bromochloromethane	50.6	1	ug/L	50.0	BLOD	101	65-130			
Bromodichloromethane	50.6	0.5	ug/L	50.0	BLOD	101	75-120			
Bromoform	49.9	1	ug/L	50.0	BLOD	99.8	70-130			
Bromomethane	50.2	1	ug/L	50.0	BLOD	100	30-145			
Carbon disulfide	59.7	10	ug/L	50.0	BLOD	119	35-160			
Carbon tetrachloride	51.5	1	ug/L	50.0	BLOD	103	65-140			
Chlorobenzene	49.9	1	ug/L	50.0	BLOD	99.8	80-120			
Chloroethane	59.0	1	ug/L	50.0	BLOD	118	60-135			
Chloroform	49.4	0.5	ug/L	50.0	BLOD	98.7	65-135			
Chloromethane	57.5	1	ug/L	50.0	BLOD	115	40-125			
cis-1,2-Dichloroethylene	49.6	1	ug/L	50.0	BLOD	99.3	70-125			
cis-1,3-Dichloropropene	48.1	1	ug/L	50.0	BLOD	96.3	70-130			
Dibromochloromethane	50.3	0.5	ug/L	50.0	BLOD	101	60-135			
Dibromomethane	49.0	1	ug/L	50.0	BLOD	97.9	75-125			
Dichlorodifluoromethane	68.4	1	ug/L	50.0	BLOD	137	30-155			
Ethylbenzene	49.9	1	ug/L	50.0	BLOD	99.9	75-125			
Hexachlorobutadiene	49.9	0.8	ug/L	50.0	BLOD	99.7	50-140			
m+p-Xylenes	111	2	ug/L	100	BLOD	111	75-130			
Methylene chloride	48.3	4	ug/L	50.0	BLOD	96.3	55-140			
o-Xylene	49.3	1	ug/L	50.0	BLOD	98.6	80-120			
Styrene	49.9	1	ug/L	50.0	BLOD	99.9	65-135			
Tetrachloroethylene (PCE)	73.0	1	ug/L	50.0	BLOD	146	45-150			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0657 - SW5030B										
Matrix Spike (BAG0657-MS2)		Source: 17G0727-01			Prepared & Analyzed: 07/26/2017					
Toluene	50.5	1	ug/L	50.0	BLOD	101	75-120			
trans-1,2-Dichloroethylene	49.0	1	ug/L	50.0	BLOD	97.9	60-140			
trans-1,3-Dichloropropene	48.2	1	ug/L	50.0	BLOD	96.4	55-140			
Trichloroethylene	49.3	1	ug/L	50.0	BLOD	98.6	70-125			
Trichlorofluoromethane	61.3	1	ug/L	50.0	BLOD	123	60-145			
Vinyl chloride	65.6	0.5	ug/L	50.0	BLOD	131	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>51.8</i>		ug/L	<i>50.0</i>		<i>104</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>50.8</i>		ug/L	<i>50.0</i>		<i>102</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>52.4</i>		ug/L	<i>50.0</i>		<i>105</i>	<i>80-119</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>50.1</i>		ug/L	<i>50.0</i>		<i>100</i>	<i>85-120</i>			
Matrix Spike Dup (BAG0657-MSD1)		Source: 17G0698-03			Prepared & Analyzed: 07/26/2017					
1,1,1,2-Tetrachloroethane	43.5	0.4	ug/L	50.0	BLOD	86.9	80-130	14.3	30	
1,1,1-Trichloroethane	51.3	1	ug/L	50.0	BLOD	103	65-130	8.36	30	
1,1,2,2-Tetrachloroethane	44.1	0.4	ug/L	50.0	BLOD	88.2	65-130	11.7	30	
1,1,2-Trichloroethane	45.9	1	ug/L	50.0	BLOD	91.8	75-125	8.82	30	
1,1-Dichloroethane	51.8	1	ug/L	50.0	BLOD	104	70-135	7.27	30	
1,1-Dichloroethylene	52.5	1	ug/L	50.0	BLOD	105	70-130	30.6	30	P
1,1-Dichloropropene	51.9	1	ug/L	50.0	BLOD	104	75-135	8.70	30	
1,2,3-Trichloropropane	45.2	1	ug/L	50.0	BLOD	90.4	75-125	11.5	30	
1,2,4-Trichlorobenzene	40.7	1	ug/L	50.0	BLOD	81.4	65-135	7.14	30	
1,2-Dichlorobenzene	42.2	1	ug/L	50.0	BLOD	84.3	70-120	14.4	30	
1,2-Dichloroethane	47.0	1	ug/L	50.0	BLOD	93.9	70-130	8.48	30	
1,2-Dichloropropane	45.1	1	ug/L	50.0	BLOD	90.2	75-125	9.67	30	
1,3-Dichlorobenzene	42.7	1	ug/L	50.0	BLOD	85.4	75-125	14.6	30	

Certificate of Analysis

Client Name: Resource International, Ltd.
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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0657 - SW5030B										
Matrix Spike Dup (BAG0657-MSD1)		Source: 17G0698-03			Prepared & Analyzed: 07/26/2017					
1,3-Dichloropropane	44.1	1	ug/L	50.0	BLOD	88.3	75-125	11.6	30	
1,4-Dichlorobenzene	42.6	1	ug/L	50.0	BLOD	85.2	75-125	14.2	30	
2,2-Dichloropropane	50.7	2	ug/L	50.0	BLOD	101	70-135	10.0	30	
2-Butanone (MEK)	50.0	5	ug/L	50.0	BLOD	100	30-150	1.33	30	
2-Hexanone (MBK)	49.0	5	ug/L	50.0	BLOD	98.0	55-130	6.79	30	
4-Methyl-2-pentanone (MIBK)	53.3	5	ug/L	50.0	BLOD	107	60-135	6.78	30	
Acetone	49.4	10	ug/L	50.0	BLOD	95.5	40-140	1.85	30	
Acrylonitrile	273	5.00	ug/L		BLOD		70-130	4.36	30	
Benzene	46.7	1	ug/L	50.0	BLOD	93.4	80-120	9.12	30	
Bromochloromethane	46.3	1	ug/L	50.0	BLOD	92.6	65-130	8.99	30	
Bromodichloromethane	47.0	0.5	ug/L	50.0	BLOD	94.0	75-120	7.36	30	
Bromoform	41.9	1	ug/L	50.0	BLOD	83.9	70-130	15.0	30	
Bromomethane	47.0	1	ug/L	50.0	BLOD	94.1	30-145	5.50	30	
Carbon disulfide	57.6	10	ug/L	50.0	BLOD	115	35-160	10.8	30	
Carbon tetrachloride	48.1	1	ug/L	50.0	BLOD	96.2	65-140	8.73	30	
Chlorobenzene	43.7	1	ug/L	50.0	BLOD	87.4	80-120	13.9	30	
Chloroethane	54.0	1	ug/L	50.0	BLOD	108	60-135	10.6	30	
Chloroform	46.7	0.5	ug/L	50.0	BLOD	93.4	65-135	8.36	30	
Chloromethane	54.8	1	ug/L	50.0	BLOD	110	40-125	7.18	30	
cis-1,2-Dichloroethylene	46.0	1	ug/L	50.0	BLOD	92.0	70-125	10.2	30	
cis-1,3-Dichloropropene	45.3	1	ug/L	50.0	BLOD	90.7	70-130	6.62	30	
Dibromochloromethane	44.6	0.5	ug/L	50.0	BLOD	89.2	60-135	9.48	30	
Dibromomethane	44.5	1	ug/L	50.0	BLOD	89.1	75-125	8.20	30	
Dichlorodifluoromethane	64.6	1	ug/L	50.0	BLOD	129	30-155	12.4	30	
Ethylbenzene	44.8	1	ug/L	50.0	BLOD	89.5	75-125	13.2	30	

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0657 - SW5030B										
Matrix Spike Dup (BAG0657-MSD1) Source: 17G0698-03 Prepared & Analyzed: 07/26/2017										
Hexachlorobutadiene	34.3	0.8	ug/L	50.0	BLOD	68.6	50-140	20.3	30	
m+p-Xylenes	96.7	2	ug/L	100	BLOD	96.7	75-130	15.2	30	
Methylene chloride	44.2	4	ug/L	50.0	BLOD	88.1	55-140	10.4	30	
o-Xylene	42.9	1	ug/L	50.0	BLOD	85.9	80-120	15.4	30	
Styrene	43.4	1	ug/L	50.0	BLOD	86.8	65-135	15.0	30	
Tetrachloroethylene (PCE)	65.4	1	ug/L	50.0	BLOD	131	45-150	14.2	30	
Toluene	47.3	1	ug/L	50.0	BLOD	94.5	75-120	9.28	30	
trans-1,2-Dichloroethylene	46.9	1	ug/L	50.0	BLOD	93.8	60-140	6.08	30	
trans-1,3-Dichloropropene	44.4	1	ug/L	50.0	BLOD	88.8	55-140	9.05	30	
Trichloroethylene	45.7	1	ug/L	50.0	BLOD	91.4	70-125	10.1	30	
Trichlorofluoromethane	58.5	1	ug/L	50.0	BLOD	117	60-145	9.85	30	
Vinyl chloride	59.2	0.5	ug/L	50.0	BLOD	118	50-145	7.30	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	52.4		ug/L	50.0		105	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	49.9		ug/L	50.0		99.8	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	53.4		ug/L	50.0		107	80-119			
<i>Surr: Toluene-d8 (Surr)</i>	50.5		ug/L	50.0		101	85-120			
Matrix Spike Dup (BAG0657-MSD2) Source: 17G0727-01 Prepared & Analyzed: 07/26/2017										
1,1,1,2-Tetrachloroethane	48.4	0.4	ug/L	50.0	BLOD	96.8	80-130	0.926	30	
1,1,1-Trichloroethane	54.1	1	ug/L	50.0	BLOD	108	65-130	1.33	30	
1,1,2,2-Tetrachloroethane	50.5	0.4	ug/L	50.0	BLOD	101	65-130	1.08	30	
1,1,2-Trichloroethane	49.7	1	ug/L	50.0	BLOD	99.4	75-125	0.365	30	
1,1-Dichloroethane	55.1	1	ug/L	50.0	BLOD	110	70-135	1.31	30	
1,1-Dichloroethylene	64.4	1	ug/L	50.0	BLOD	129	70-130	1.70	30	
1,1-Dichloropropene	54.2	1	ug/L	50.0	BLOD	108	75-135	0.848	30	

Certificate of Analysis

Client Name: Resource International, Ltd.
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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0657 - SW5030B										
Matrix Spike Dup (BAG0657-MSD2)		Source: 17G0727-01			Prepared & Analyzed: 07/26/2017					
1,2,3-Trichloropropane	52.0	1	ug/L	50.0	BLOD	104	75-125	0.802	30	
1,2,4-Trichlorobenzene	48.2	1	ug/L	50.0	BLOD	96.5	65-135	1.13	30	
1,2-Dichlorobenzene	48.3	1	ug/L	50.0	BLOD	96.6	70-120	0.155	30	
1,2-Dichloroethane	51.0	1	ug/L	50.0	BLOD	102	70-130	0.541	30	
1,2-Dichloropropane	49.3	1	ug/L	50.0	BLOD	98.5	75-125	1.22	30	
1,3-Dichlorobenzene	48.4	1	ug/L	50.0	BLOD	96.8	75-125	0.745	30	
1,3-Dichloropropane	48.8	1	ug/L	50.0	BLOD	97.6	75-125	2.17	30	
1,4-Dichlorobenzene	48.1	1	ug/L	50.0	BLOD	96.1	75-125	1.09	30	
2,2-Dichloropropane	53.5	2	ug/L	50.0	BLOD	107	70-135	1.79	30	
2-Butanone (MEK)	51.5	5	ug/L	50.0	BLOD	103	30-150	19.0	30	
2-Hexanone (MBK)	58.4	5	ug/L	50.0	BLOD	117	55-130	9.07	30	
4-Methyl-2-pentanone (MIBK)	58.5	5	ug/L	50.0	BLOD	117	60-135	4.69	30	
Acetone	56.8	10	ug/L	50.0	BLOD	107	40-140	6.70	30	
Acrylonitrile	292	5.00	ug/L		BLOD		70-130	8.12	30	
Benzene	49.6	1	ug/L	50.0	BLOD	99.2	80-120	0.991	30	
Bromochloromethane	49.9	1	ug/L	50.0	BLOD	99.8	65-130	1.38	30	
Bromodichloromethane	50.6	0.5	ug/L	50.0	BLOD	101	75-120	0.0969	30	
Bromoform	48.3	1	ug/L	50.0	BLOD	96.5	70-130	3.33	30	
Bromomethane	49.7	1	ug/L	50.0	BLOD	99.4	30-145	0.985	30	
Carbon disulfide	66.0	10	ug/L	50.0	BLOD	132	35-160	9.92	30	
Carbon tetrachloride	51.8	1	ug/L	50.0	BLOD	104	65-140	0.538	30	
Chlorobenzene	48.5	1	ug/L	50.0	BLOD	97.1	80-120	2.73	30	
Chloroethane	57.8	1	ug/L	50.0	BLOD	116	60-135	1.94	30	
Chloroform	50.6	0.5	ug/L	50.0	BLOD	101	65-135	2.49	30	
Chloromethane	59.6	1	ug/L	50.0	BLOD	119	40-125	3.65	30	

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0657 - SW5030B										
Matrix Spike Dup (BAG0657-MSD2)		Source: 17G0727-01			Prepared & Analyzed: 07/26/2017					
cis-1,2-Dichloroethylene	49.2	1	ug/L	50.0	BLOD	98.5	70-125	0.817	30	
cis-1,3-Dichloropropene	48.3	1	ug/L	50.0	BLOD	96.7	70-130	0.377	30	
Dibromochloromethane	48.5	0.5	ug/L	50.0	BLOD	96.9	60-135	3.75	30	
Dibromomethane	49.5	1	ug/L	50.0	BLOD	98.9	75-125	0.977	30	
Dichlorodifluoromethane	71.3	1	ug/L	50.0	BLOD	143	30-155	4.07	30	
Ethylbenzene	49.5	1	ug/L	50.0	BLOD	99.1	75-125	0.804	30	
Hexachlorobutadiene	51.3	0.8	ug/L	50.0	BLOD	103	50-140	2.91	30	
m+p-Xylenes	107	2	ug/L	100	BLOD	107	75-130	3.49	30	
Methylene chloride	47.7	4	ug/L	50.0	BLOD	95.0	55-140	1.31	30	
o-Xylene	47.8	1	ug/L	50.0	BLOD	95.7	80-120	3.06	30	
Styrene	49.1	1	ug/L	50.0	BLOD	98.2	65-135	1.73	30	
Tetrachloroethylene (PCE)	70.7	1	ug/L	50.0	BLOD	141	45-150	3.09	30	
Toluene	49.1	1	ug/L	50.0	BLOD	98.1	75-120	2.89	30	
trans-1,2-Dichloroethylene	49.5	1	ug/L	50.0	BLOD	99.0	60-140	1.07	30	
trans-1,3-Dichloropropene	47.4	1	ug/L	50.0	BLOD	94.9	55-140	1.62	30	
Trichloroethylene	49.4	1	ug/L	50.0	BLOD	98.9	70-125	0.312	30	
Trichlorofluoromethane	62.4	1	ug/L	50.0	BLOD	125	60-145	1.82	30	
Vinyl chloride	65.3	0.5	ug/L	50.0	BLOD	131	50-145	0.367	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>50.8</i>		ug/L	<i>50.0</i>		<i>102</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>51.0</i>		ug/L	<i>50.0</i>		<i>102</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>53.5</i>		ug/L	<i>50.0</i>		<i>107</i>	<i>80-119</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>50.3</i>		ug/L	<i>50.0</i>		<i>101</i>	<i>85-120</i>			

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0693 - SW3510C

Blank (BAG0693-BLK1)

Prepared: 07/28/2017 Analyzed: 07/31/2017

1,2,4,5-Tetrachlorobenzene	BLOD	10.0	ug/L
1,3,5-Trinitrobenzene	BLOD	5.00	ug/L
1,3-Dinitrobenzene	BLOD	2.50	ug/L
1,4-Naphthoquinone	BLOD	10.0	ug/L
1-Naphthylamine	BLOD	10.0	ug/L
2,3,4,6-Tetrachlorophenol	BLOD	10.0	ug/L
2,4,5-Trichlorophenol	BLOD	10.0	ug/L
2,4,6-Trichlorophenol	BLOD	10.0	ug/L
2,4-Dichlorophenol	BLOD	10.0	ug/L
2,4-Dimethylphenol	BLOD	0.50	ug/L
2,4-Dinitrophenol	BLOD	50.0	ug/L
2,4-Dinitrotoluene	BLOD	10.0	ug/L
2,6-Dichlorophenol	BLOD	10.0	ug/L
2,6-Dinitrotoluene	BLOD	10.0	ug/L
2-Acetylaminofluorene	BLOD	2.50	ug/L
2-Chloronaphthalene	BLOD	10.0	ug/L
2-Chlorophenol	BLOD	10.0	ug/L
2-Methylnaphthalene	BLOD	10.0	ug/L
2-Naphthylamine	BLOD	10.0	ug/L
2-Nitroaniline	BLOD	20.0	ug/L
2-Nitrophenol	BLOD	10.0	ug/L
3,3'-Dichlorobenzidine	BLOD	10.0	ug/L
3,3'-Dimethylbenzidine	BLOD	2.50	ug/L
3-Methylcholanthrene	BLOD	10.0	ug/L
3-Nitroaniline	BLOD	20.0	ug/L

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0693 - SW3510C

Blank (BAG0693-BLK1)

Prepared: 07/28/2017 Analyzed: 07/31/2017

4,6-Dinitro-2-methylphenol	BLOD	50.0	ug/L
4-Aminobiphenyl	BLOD	10.0	ug/L
4-Bromophenyl phenyl ether	BLOD	10.0	ug/L
4-Chloroaniline	BLOD	10.0	ug/L
4-Chlorophenyl phenyl ether	BLOD	10.0	ug/L
4-Nitroaniline	BLOD	20.0	ug/L
4-Nitrophenol	BLOD	50.0	ug/L
5-Nitro-o-toluidine	BLOD	10.0	ug/L
7,12-Dimethylbenz (a) anthracene	BLOD	10.0	ug/L
Acenaphthene	BLOD	10.0	ug/L
Acenaphthylene	BLOD	10.0	ug/L
Acetophenone	BLOD	20.0	ug/L
Anthracene	BLOD	10.0	ug/L
Benzo (a) anthracene	BLOD	0.05	ug/L
Benzo (a) pyrene	BLOD	0.10	ug/L
Benzo (b) fluoranthene	BLOD	10.0	ug/L
Benzo (g,h,i) perylene	BLOD	10.0	ug/L
Benzo (k) fluoranthene	BLOD	10.0	ug/L
Benzyl alcohol	BLOD	20.0	ug/L
bis (2-Chloroethoxy) methane	BLOD	10.0	ug/L
bis (2-Chloroethyl) ether	BLOD	10.0	ug/L
2,2'-Oxybis (1-chloropropane)	BLOD	10.0	ug/L
bis (2-Ethylhexyl) phthalate	BLOD	2.50	ug/L
Butyl benzyl phthalate	BLOD	10.0	ug/L
Chlorobenzilate	BLOD	2.50	ug/L

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0693 - SW3510C

Blank (BAG0693-BLK1)

Prepared: 07/28/2017 Analyzed: 07/31/2017

Chrysene	BLOD	10.0	ug/L
Diallate	BLOD	2.50	ug/L
Dibenz (a,h) anthracene	BLOD	10.0	ug/L
Dibenzofuran	BLOD	5.00	ug/L
Diethyl phthalate	BLOD	10.0	ug/L
Dimethoate	BLOD	2.50	ug/L
Dimethyl phthalate	BLOD	10.0	ug/L
Di-n-butyl phthalate	BLOD	10.0	ug/L
Di-n-octyl phthalate	BLOD	10.0	ug/L
Diphenylamine	BLOD	10.0	ug/L
Disulfoton	BLOD	2.50	ug/L
Ethyl methanesulfonate	BLOD	20.0	ug/L
Ethyl parathion	BLOD	2.50	ug/L
Famphur	BLOD	2.50	ug/L
Fluoranthene	BLOD	10.0	ug/L
Fluorene	BLOD	10.0	ug/L
Hexachlorobenzene	BLOD	0.05	ug/L
Hexachlorobutadiene	BLOD	10.0	ug/L
Hexachlorocyclopentadiene	BLOD	10.0	ug/L
Hexachloroethane	BLOD	10.0	ug/L
Hexachloropropene	BLOD	2.50	ug/L
Indeno (1,2,3-cd) pyrene	BLOD	10.0	ug/L
Isodrin	BLOD	10.0	ug/L
Isophorone	BLOD	10.0	ug/L
Isosafrole	BLOD	10.0	ug/L

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0693 - SW3510C

Blank (BAG0693-BLK1)

Prepared: 07/28/2017 Analyzed: 07/31/2017

Kepone	BLOD	2.50	ug/L
m+p-Cresols	BLOD	10.0	ug/L
Methapyrilene	BLOD	10.0	ug/L
Methyl methanesulfonate	BLOD	10.0	ug/L
Methyl parathion	BLOD	2.50	ug/L
Naphthalene	BLOD	10.0	ug/L
Nitrobenzene	BLOD	10.0	ug/L
n-Nitrosodiethylamine	BLOD	2.50	ug/L
n-Nitrosodimethylamine	BLOD	10.0	ug/L
n-Nitrosodi-n-butylamine	BLOD	10.0	ug/L
n-Nitrosodi-n-propylamine	BLOD	10.0	ug/L
n-Nitrosodiphenylamine	BLOD	10.0	ug/L
n-Nitrosomethylethylamine	BLOD	2.50	ug/L
n-Nitrosopiperidine	BLOD	10.0	ug/L
n-Nitrosopyrrolidine	BLOD	2.50	ug/L
o,o,o-Triethyl phosphorothioate	BLOD	10.0	ug/L
o,o-Diethyl o-2-pyrazinyl phosphorothioate	BLOD	10.0	ug/L
o+m+p-Cresols	BLOD	10.0	ug/L
o-Cresol	BLOD	10.0	ug/L
o-Toluidine	BLOD	2.50	ug/L
p-(Dimethylamino) azobenzene	BLOD	2.50	ug/L
p-Chloro-m-cresol	BLOD	10.0	ug/L
Pentachlorobenzene	BLOD	10.0	ug/L
Pentachloronitrobenzene (quintozene)	BLOD	1.00	ug/L
Phenacetin	BLOD	10.0	ug/L

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Blank (BAG0693-BLK1)				Prepared: 07/28/2017 Analyzed: 07/31/2017						
Phenanthrene	BLOD	10.0	ug/L							
Phenol	BLOD	10.0	ug/L							
Phorate	BLOD	2.50	ug/L							
p-Phenylenediamine	BLOD	10.0	ug/L							
Pronamide	BLOD	10.0	ug/L							
Pyrene	BLOD	10.0	ug/L							
Safrole	BLOD	2.50	ug/L							
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	78.5		ug/L	100		78.5	20-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	42.3		ug/L	50.0		84.5	23-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	54.7		ug/L	100		54.7	10-52			S
<i>Surr: Nitrobenzene-d5 (Surr)</i>	39.9		ug/L	50.0		79.9	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	35.0		ug/L	100		35.0	5-33			S
<i>Surr: p-Terphenyl-d14 (Surr)</i>	41.4		ug/L	50.0		82.7	27-133			
LCS (BAG0693-BS1)				Prepared: 07/28/2017 Analyzed: 07/31/2017						
1,1-Biphenyl	BLOD	10.0	ug/L				0-200			
1,2,4,5-Tetrachlorobenzene	BLOD	10.0	ug/L				0-200			
1,2,4-Trichlorobenzene	70.8	10.0	ug/L	100		70.8	21.8-66.7			L
1,2-Dichlorobenzene	69.9	10.0	ug/L	100		69.9	22-60			L
1,2-Dinitrobenzene	BLOD	2.50	ug/L				0-200			
1,2-Diphenylhydrazine	BLOD	10.0	ug/L				0-200			
1,3,5-Trinitrobenzene	BLOD	5.00	ug/L				0-200			
1,3-Dichlorobenzene	66.9	10.0	ug/L	100		66.9	22-60			L
1,3-Dinitrobenzene	BLOD	2.50	ug/L				0-200			
1,4-Dichlorobenzene	66.6	10.0	ug/L	100		66.6	13-68			

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
LCS (BAG0693-BS1)				Prepared: 07/28/2017 Analyzed: 07/31/2017						
1,4-Dinitrobenzene	BLOD	2.50	ug/L				0-200			
1,4-Dioxane	BLOD	50.0	ug/L				0-200			
1,4-Naphthoquinone	BLOD	10.0	ug/L				0-200			
1-Chloronaphthalene	79.4	10.0	ug/L				0-200			
1-Methylnaphthalene	BLOD	10.0	ug/L				0-200			
1-Naphthylamine	BLOD	10.0	ug/L				0-200			
2,3,4,6-Tetrachlorophenol	BLOD	10.0	ug/L				0-200			
2,3,5,6-Tetrachlorophenol	BLOD	2.50	ug/L				0-200			
2,3,7,8-TCDD (SIM)	BLOD	10.0	ug/L				0-200			
2,3-Dichloroaniline	BLOD	2.50	ug/L	100			0-200			
2,4,5-Trichlorophenol	BLOD	10.0	ug/L				50-110			
2,4,6-Trichlorophenol	68.4	10.0	ug/L	100		68.4	50-115			
2,4-Dichlorophenol	76.3	10.0	ug/L	100		76.3	50-105			
2,4-Dimethylphenol	68.6	0.50	ug/L	100		68.6	30-110			
2,4-Dinitrophenol	108	50.0	ug/L	100		108	15-140			
2,4-Dinitrotoluene	102	10.0	ug/L	100		102	21-99			L
2,6-Dichlorophenol	BLOD	10.0	ug/L				0-200			
2,6-Dinitrotoluene	86.0	10.0	ug/L	100		86.0	15-140			
2-Acetylaminofluorene	BLOD	2.50	ug/L				0-200			
2-Chloronaphthalene	81.1	10.0	ug/L	100		81.1	45-105			
2-Chlorophenol	70.1	10.0	ug/L	100		70.1	15-74			
2-Methylnaphthalene	BLOD	10.0	ug/L				45-105			
2-Naphthylamine	BLOD	10.0	ug/L				0-200			
2-Nitroaniline	BLOD	20.0	ug/L				0-200			
2-Nitrophenol	79.6	10.0	ug/L	100		79.6	40-115			

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
LCS (BAG0693-BS1)										
Prepared: 07/28/2017 Analyzed: 07/31/2017										
2-Picoline	BLOD	2.50	ug/L				0-200			
3,3'-Dichlorobenzidine	86.5	10.0	ug/L	100		86.5	20-110			
3,3'-Dimethylbenzidine	BLOD	2.50	ug/L				0-200			
3-Methylcholanthrene	BLOD	10.0	ug/L				0-200			
3-Nitroaniline	BLOD	20.0	ug/L				0-200			
4,4'-DDE	BLOD	2.50	ug/L				0-200			
4,6-Dinitro-2-methylphenol	99.7	50.0	ug/L	100		99.7	40-130			
4-Aminobiphenyl	BLOD	10.0	ug/L				0-200			
4-Bromophenyl phenyl ether	83.8	10.0	ug/L	100		83.8	15-110			
4-Chloroaniline	BLOD	10.0	ug/L				15-110			
4-Chlorophenyl phenyl ether	87.2	10.0	ug/L	100		87.2	15-110			
4-Nitroaniline	BLOD	20.0	ug/L				0-200			
4-Nitrophenol	46.3	50.0	ug/L	100		46.3	0-125			
4-Nitroquinoline-1-oxide	BLOD	40.0	ug/L				0-200			
5-Nitro-o-toluidine	BLOD	10.0	ug/L				0-200			
7,12-Dimethylbenz (a) anthracene	BLOD	10.0	ug/L				0-200			
Acenaphthene	79.8	10.0	ug/L	100		79.8	27.7-85.5			
Acenaphthylene	86.9	10.0	ug/L	100		86.9	50-105			
Acetochlor	BLOD	2.50	ug/L				0-200			
Acetophenone	60.6	20.0	ug/L	100		60.6	0-200			
Alachlor	BLOD	2.50	ug/L				0-200			
Aldrin	BLOD	2.50	ug/L				0-200			
alpha, alpha-Dimethyl phenethylamine	BLOD	2.50	ug/L				0-200			
alpha-Terpineol	74.0	2.50	ug/L	100		74.0	0-200			
Aniline	BLOD	50.0	ug/L				0-200			

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
LCS (BAG0693-BS1)				Prepared: 07/28/2017 Analyzed: 07/31/2017						
Anthracene	82.3	10.0	ug/L	100		82.3	55-110			
Aramite	BLOD	2.50	ug/L				0-200			
Atrazine	BLOD	2.50	ug/L				0-200			
Benzaldehyde	BLOD	2.50	ug/L				0-200			
Benzidine	BLOD	50.0	ug/L	100			0-130			
Benzo (a) anthracene	101	0.05	ug/L	100		101	55-110			
Benzo (a) pyrene	83.7	0.10	ug/L	100		83.7	55-110			
Benzo (b) fluoranthene	80.6	10.0	ug/L	100		80.6	45-120			
Benzo (g,h,i) perylene	82.9	10.0	ug/L	100		82.9	40-125			
Benzo (k) fluoranthene	88.6	10.0	ug/L	100		88.6	45-125			
Benzoic acid	BLOD	50.0	ug/L				0-125			
Benzyl alcohol	BLOD	20.0	ug/L				0-200			
bis (2-Chloroethoxy) methane	80.5	10.0	ug/L	100		80.5	40-125			
bis (2-Chloroethyl) ether	79.6	10.0	ug/L	100		79.6	40-125			
2,2'-Oxybis (1-chloropropane)	73.2	10.0	ug/L	100		73.2	40-125			
bis (2-Ethylhexyl) adipate	BLOD	2.50	ug/L				0-200			
bis (2-Ethylhexyl) phthalate	79.8	2.50	ug/L	100		79.8	40-125			
Butachlor	BLOD	2.50	ug/L				0-200			
Butyl benzyl phthalate	84.9	10.0	ug/L	100		84.9	45-115			
Caprolactam	BLOD	2.50	ug/L				0-200			
Carbazole	105	2.50	ug/L	100		105	0-200			
Catechol	BLOD	2.50	ug/L				0-200			
Chlorobenzilate	BLOD	2.50	ug/L				0-200			
Chrysene	97.1	10.0	ug/L	100		97.1	55-110			
Diallate	BLOD	2.50	ug/L				0-200			

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
LCS (BAG0693-BS1)				Prepared: 07/28/2017 Analyzed: 07/31/2017						
Dibenz (a,h) anthracene	91.4	10.0	ug/L	100		91.4	40-125			
Dibenz (a,j) acridine	BLOD	10.0	ug/L				0-200			
Dibenzofuran	BLOD	5.00	ug/L				0-200			
Dieldrin	BLOD	2.50	ug/L				0-200			
Diethyl phthalate	75.0	10.0	ug/L	100		75.0	40-120			
Dimethoate	BLOD	2.50	ug/L				0-200			
Dimethyl phthalate	76.7	10.0	ug/L	100		76.7	25-125			
Dimethylphenethylamine	BLOD	2.50	ug/L				0-200			
Di-n-butyl phthalate	81.6	10.0	ug/L	100		81.6	55-115			
Di-n-octyl phthalate	65.8	10.0	ug/L	100		65.8	35-135			
Dinoseb	BLOD	2.50	ug/L				0-200			
Diphenyl ether	BLOD	2.50	ug/L				0-200			
Diphenylamine	BLOD	10.0	ug/L				0-200			
Disulfoton	BLOD	2.50	ug/L				0-200			
Endrin	BLOD	2.50	ug/L				0-200			
EPTC	BLOD	2.50	ug/L				0-200			
Ethyl methacrylate	BLOD	2.50	ug/L				0-200			
Ethyl methanesulfonate	BLOD	20.0	ug/L				0-200			
Ethyl parathion	BLOD	2.50	ug/L				0-200			
Famphur	BLOD	2.50	ug/L				0-200			
Fluoranthene	86.6	10.0	ug/L	100		86.6	55-115			
Fluorene	83.6	10.0	ug/L	100		83.6	50-110			
gamma-BHC (Lindane)	BLOD	2.50	ug/L				0-200			
Heptachlor	BLOD	2.50	ug/L				0-200			
Heptachlor epoxide	BLOD	2.50	ug/L				0-200			

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Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
LCS (BAG0693-BS1)				Prepared: 07/28/2017 Analyzed: 07/31/2017						
Hexachlorobenzene	78.7	0.05	ug/L	100		78.7	25-125			
Hexachlorobutadiene	74.6	10.0	ug/L	100		74.6	25-125			
Hexachlorocyclopentadiene	54.0	10.0	ug/L	100		54.0	25-125			
Hexachloroethane	64.7	10.0	ug/L	100		64.7	25-125			
Hexachlorophene	BLOD	50.0	ug/L				0-200			
Hexachloropropene	BLOD	2.50	ug/L				0-200			
Indeno (1,2,3-cd) pyrene	88.7	10.0	ug/L	100		88.7	45-125			
Isodrin	BLOD	10.0	ug/L				0-200			
Isophorone	78.8	10.0	ug/L	100		78.8	10-110			
Isosafrole	BLOD	10.0	ug/L				0-200			
Kepone	BLOD	2.50	ug/L				0-200			
Library Search	ND	0.00	ug/L				0-200			
m+p-Cresols	BLOD	10.0	ug/L				30-110			
Methapyrilene	BLOD	10.0	ug/L				0-200			
Methoxychlor	BLOD	2.50	ug/L				0-200			
Methyl methacrylate	BLOD	2.50	ug/L				0-200			
Methyl methanesulfonate	BLOD	10.0	ug/L				0-200			
Methyl parathion	BLOD	2.50	ug/L				0-200			
Metolachlor	BLOD	2.50	ug/L				0-200			
Metribuzin	BLOD	2.50	ug/L				0-200			
Molinate	BLOD	2.50	ug/L				0-200			
Naphthalene	67.0	10.0	ug/L	100		67.0	40-100			
n-Decane	BLOD	2.50	ug/L	100			0-200			
Nicotine	BLOD	10.0	ug/L				0-200			
Nitrobenzene	80.5	10.0	ug/L	100		80.5	40-100			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
LCS (BAG0693-BS1)										
Prepared: 07/28/2017 Analyzed: 07/31/2017										
n-Nitrosodiethylamine	BLOD	2.50	ug/L				0-200			
n-Nitrosodimethylamine	53.6	10.0	ug/L	100		53.6	25-110			
n-Nitrosodi-n-butylamine	BLOD	10.0	ug/L				0-200			
n-Nitrosodi-n-propylamine	68.8	10.0	ug/L	100		68.8	12-97			
n-Nitrosodiphenylamine	66.2	10.0	ug/L	100		66.2	12-97			
n-Nitrosomethylethylamine	BLOD	2.50	ug/L				25-110			
n-Nitrosomorpholine	BLOD	10.0	ug/L				0-200			
n-Nitrosopiperidine	BLOD	10.0	ug/L				0-200			
n-Nitrosopyrrolidine	BLOD	2.50	ug/L				0-200			
Nonylphenol	BLOD	50.0	ug/L				0-200			
o,o,o-Triethyl phosphorothioate	BLOD	10.0	ug/L				0-200			
o,o-Diethyl o-2-pyrazinyl phosphorothioate	BLOD	10.0	ug/L				0-200			
o+m+p-Cresols	BLOD	10.0	ug/L				0-200			
o-Cresol	BLOD	10.0	ug/L				40-110			
o-Toluidine	BLOD	2.50	ug/L				0-200			
p-(Dimethylamino) azobenzene	BLOD	2.50	ug/L				0-200			
p-Chloro-m-cresol	79.1	10.0	ug/L	100		79.1	10-91			
Pentachlorobenzene	BLOD	10.0	ug/L				0-200			
Pentachloroethane	BLOD	10.0	ug/L				0-200			
Pentachloronitrobenzene (quintozene)	BLOD	1.00	ug/L				0-200			
Pentachlorophenol	72.7	20.0	ug/L	100		72.7	30-109			
Phenacetin	BLOD	10.0	ug/L				0-200			
Phenanthrene	85.6	10.0	ug/L	100		85.6	50-115			
Phenol	37.8	10.0	ug/L	101		37.4	0-115			
Phorate	BLOD	2.50	ug/L				0-200			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0693 - SW3510C

LCS (BAG0693-BS1)

Prepared: 07/28/2017 Analyzed: 07/31/2017

p-Phenylenediamine	BLOD	10.0	ug/L				0-200			
Pronamide	BLOD	10.0	ug/L				0-200			
Propachlor	BLOD	2.50	ug/L				0-200			
Pyrene	76.6	10.0	ug/L	100		76.6	27-110			
Pyridine	36.5	10.0	ug/L	100		36.5	0-200			
Safrole	BLOD	2.50	ug/L				0-200			
Simazine	BLOD	2.50	ug/L				0-200			
Sulfotepp	BLOD	10.0	ug/L				0-200			
Terbacil	BLOD	2.50	ug/L				0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>90.1</i>		ug/L	<i>100</i>		<i>90.1</i>	<i>20-86</i>			<i>S</i>
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>44.8</i>		ug/L	<i>50.0</i>		<i>89.5</i>	<i>23-87</i>			<i>S</i>
<i>Surr: 2-Fluorophenol (Surr)</i>	<i>59.2</i>		ug/L	<i>100</i>		<i>59.2</i>	<i>10-52</i>			<i>S</i>
<i>Surr: Nitrobenzene-d5 (Surr)</i>	<i>42.0</i>		ug/L	<i>50.0</i>		<i>84.0</i>	<i>10-98.5</i>			
<i>Surr: Phenol-d5 (Surr)</i>	<i>38.7</i>		ug/L	<i>100</i>		<i>38.7</i>	<i>5-33</i>			<i>S</i>
<i>Surr: p-Terphenyl-d14 (Surr)</i>	<i>50.4</i>		ug/L	<i>50.0</i>		<i>101</i>	<i>27-133</i>			

LCS (BAG0693-BS2)

Prepared: 07/28/2017 Analyzed: 07/31/2017

1,1-Biphenyl	BLOD	10.0	ug/L				0-200			
1,2,4,5-Tetrachlorobenzene	BLOD	10.0	ug/L				0-200			
1,2,4-Trichlorobenzene	BLOD	10.0	ug/L				21.8-66.7			
1,2-Dichlorobenzene	BLOD	10.0	ug/L				22-60			
1,2-Dinitrobenzene	BLOD	2.50	ug/L				0-200			
1,2-Diphenylhydrazine	BLOD	10.0	ug/L				0-200			
1,3,5-Trinitrobenzene	BLOD	5.00	ug/L				0-200			
1,3-Dichlorobenzene	BLOD	10.0	ug/L				22-60			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
LCS (BAG0693-BS2)				Prepared: 07/28/2017 Analyzed: 07/31/2017						
1,3-Dinitrobenzene	BLOD	2.50	ug/L				0-200			
1,4-Dichlorobenzene	BLOD	10.0	ug/L				13-68			
1,4-Dinitrobenzene	BLOD	2.50	ug/L				0-200			
1,4-Dioxane	BLOD	50.0	ug/L				0-200			
1,4-Naphthoquinone	BLOD	10.0	ug/L				0-200			
1-Chloronaphthalene	BLOD	10.0	ug/L				0-200			
1-Methylnaphthalene	BLOD	10.0	ug/L				0-200			
1-Naphthylamine	BLOD	10.0	ug/L				0-200			
2,3,4,6-Tetrachlorophenol	BLOD	10.0	ug/L				0-200			
2,3,5,6-Tetrachlorophenol	BLOD	2.50	ug/L				0-200			
2,3,7,8-TCDD (SIM)	BLOD	10.0	ug/L				0-200			
2,3-Dichloroaniline	BLOD	2.50	ug/L				0-200			
2,4,5-Trichlorophenol	BLOD	10.0	ug/L				50-110			
2,4,6-Trichlorophenol	BLOD	10.0	ug/L				50-115			
2,4-Dichlorophenol	BLOD	10.0	ug/L				50-105			
2,4-Dimethylphenol	BLOD	0.50	ug/L				30-110			
2,4-Dinitrophenol	BLOD	50.0	ug/L				15-140			
2,4-Dinitrotoluene	BLOD	10.0	ug/L				21-99			
2,6-Dichlorophenol	BLOD	10.0	ug/L				0-200			
2,6-Dinitrotoluene	BLOD	10.0	ug/L				15-140			
2-Acetylaminofluorene	BLOD	2.50	ug/L				0-200			
2-Chloronaphthalene	BLOD	10.0	ug/L				45-105			
2-Chlorophenol	BLOD	10.0	ug/L				15-74			
2-Methylnaphthalene	BLOD	10.0	ug/L				45-105			
2-Naphthylamine	BLOD	10.0	ug/L				0-200			

Certificate of Analysis

Client Name: Resource International, Ltd.
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Date Issued: 8/8/2017 3:09:22PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
LCS (BAG0693-BS2)				Prepared: 07/28/2017 Analyzed: 07/31/2017						
2-Nitroaniline	BLOD	20.0	ug/L				0-200			
2-Nitrophenol	BLOD	10.0	ug/L				40-115			
2-Picoline	BLOD	2.50	ug/L				0-200			
3,3'-Dichlorobenzidine	BLOD	10.0	ug/L				20-110			
3,3'-Dimethylbenzidine	BLOD	2.50	ug/L				0-200			
3-Methylcholanthrene	BLOD	10.0	ug/L				0-200			
3-Nitroaniline	BLOD	20.0	ug/L				0-200			
4,4'-DDE	BLOD	2.50	ug/L				0-200			
4,6-Dinitro-2-methylphenol	BLOD	50.0	ug/L				40-130			
4-Aminobiphenyl	BLOD	10.0	ug/L				0-200			
4-Bromophenyl phenyl ether	BLOD	10.0	ug/L				15-110			
4-Chloroaniline	BLOD	10.0	ug/L				15-110			
4-Chlorophenyl phenyl ether	BLOD	10.0	ug/L				15-110			
4-Nitroaniline	BLOD	20.0	ug/L				0-200			
4-Nitrophenol	BLOD	50.0	ug/L				0-125			
4-Nitroquinoline-1-oxide	BLOD	40.0	ug/L				0-200			
5-Nitro-o-toluidine	BLOD	10.0	ug/L				0-200			
7,12-Dimethylbenz (a) anthracene	BLOD	10.0	ug/L				0-200			
Acenaphthene	BLOD	10.0	ug/L				27.7-85.5			
Acenaphthylene	BLOD	10.0	ug/L				50-105			
Acetochlor	BLOD	2.50	ug/L				0-200			
Acetophenone	BLOD	20.0	ug/L				0-200			
Alachlor	BLOD	2.50	ug/L				0-200			
Aldrin	BLOD	2.50	ug/L				0-200			
alpha,alpha-Dimethyl phenethylamine	BLOD	2.50	ug/L				0-200			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
LCS (BAG0693-BS2)				Prepared: 07/28/2017 Analyzed: 07/31/2017						
alpha-Terpineol	BLOD	2.50	ug/L				0-200			
Aniline	BLOD	50.0	ug/L				0-200			
Anthracene	BLOD	10.0	ug/L				55-110			
Aramite	BLOD	2.50	ug/L				0-200			
Atrazine	BLOD	2.50	ug/L				0-200			
Benzaldehyde	BLOD	2.50	ug/L				0-200			
Benzidine	BLOD	50.0	ug/L				0-130			
Benzo (a) anthracene	BLOD	0.05	ug/L				55-110			
Benzo (a) pyrene	BLOD	0.10	ug/L				55-110			
Benzo (b) fluoranthene	BLOD	10.0	ug/L				45-120			
Benzo (g,h,i) perylene	BLOD	10.0	ug/L				40-125			
Benzo (k) fluoranthene	BLOD	10.0	ug/L				45-125			
Benzoic acid	BLOD	50.0	ug/L				0-125			
Benzyl alcohol	BLOD	20.0	ug/L				0-200			
bis (2-Chloroethoxy) methane	BLOD	10.0	ug/L				40-125			
bis (2-Chloroethyl) ether	BLOD	10.0	ug/L				40-125			
2,2'-Oxybis (1-chloropropane)	BLOD	10.0	ug/L				40-125			
bis (2-Ethylhexyl) adipate	BLOD	2.50	ug/L				0-200			
bis (2-Ethylhexyl) phthalate	BLOD	2.50	ug/L				40-125			
Butachlor	BLOD	2.50	ug/L				0-200			
Butyl benzyl phthalate	BLOD	10.0	ug/L				45-115			
Caprolactam	BLOD	2.50	ug/L				0-200			
Carbazole	BLOD	2.50	ug/L				0-200			
Catechol	BLOD	2.50	ug/L				0-200			
Chlorobenzilate	BLOD	2.50	ug/L				0-200			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0693 - SW3510C

LCS (BAG0693-BS2)

Prepared: 07/28/2017 Analyzed: 07/31/2017

Chrysene	BLOD	10.0	ug/L				55-110			
Diallate	BLOD	2.50	ug/L				0-200			
Dibenz (a,h) anthracene	BLOD	10.0	ug/L				40-125			
Dibenz (a,j) acridine	BLOD	10.0	ug/L				0-200			
Dibenzofuran	BLOD	5.00	ug/L				0-200			
Dieldrin	BLOD	2.50	ug/L				0-200			
Diethyl phthalate	BLOD	10.0	ug/L				40-120			
Dimethoate	BLOD	2.50	ug/L				0-200			
Dimethyl phthalate	BLOD	10.0	ug/L				25-125			
Dimethylphenethylamine	BLOD	2.50	ug/L				0-200			
Di-n-butyl phthalate	BLOD	10.0	ug/L				55-115			
Di-n-octyl phthalate	BLOD	10.0	ug/L				35-135			
Dinoseb	BLOD	2.50	ug/L				0-200			
Diphenyl ether	BLOD	2.50	ug/L				0-200			
Diphenylamine	BLOD	10.0	ug/L				0-200			
Disulfoton	BLOD	2.50	ug/L				0-200			
Endrin	BLOD	2.50	ug/L				0-200			
EPTC	BLOD	2.50	ug/L				0-200			
Ethyl methacrylate	BLOD	2.50	ug/L				0-200			
Ethyl methanesulfonate	BLOD	20.0	ug/L				0-200			
Ethyl parathion	BLOD	2.50	ug/L				0-200			
Famphur	BLOD	2.50	ug/L				0-200			
Fluoranthene	BLOD	10.0	ug/L				55-115			
Fluorene	BLOD	10.0	ug/L				50-110			
gamma-BHC (Lindane)	BLOD	2.50	ug/L				0-200			

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0693 - SW3510C

LCS (BAG0693-BS2)

Prepared: 07/28/2017 Analyzed: 07/31/2017

Heptachlor	BLOD	2.50	ug/L				0-200			
Heptachlor epoxide	BLOD	2.50	ug/L				0-200			
Hexachlorobenzene	BLOD	0.05	ug/L				25-125			
Hexachlorobutadiene	BLOD	10.0	ug/L				25-125			
Hexachlorocyclopentadiene	BLOD	10.0	ug/L				25-125			
Hexachloroethane	BLOD	10.0	ug/L				25-125			
Hexachlorophene	BLOD	50.0	ug/L				0-200			
Hexachloropropene	BLOD	2.50	ug/L				0-200			
Indeno (1,2,3-cd) pyrene	BLOD	10.0	ug/L				45-125			
Isodrin	BLOD	10.0	ug/L				0-200			
Isophorone	BLOD	10.0	ug/L				10-110			
Isosafrole	BLOD	10.0	ug/L				0-200			
Kepone	BLOD	2.50	ug/L				0-200			
Library Search	ND	0.00	ug/L				0-200			
m+p-Cresols	BLOD	10.0	ug/L				30-110			
Methapyrilene	BLOD	10.0	ug/L				0-200			
Methoxychlor	BLOD	2.50	ug/L				0-200			
Methyl methacrylate	BLOD	2.50	ug/L				0-200			
Methyl methanesulfonate	BLOD	10.0	ug/L				0-200			
Methyl parathion	BLOD	2.50	ug/L				0-200			
Metolachlor	BLOD	2.50	ug/L				0-200			
Metribuzin	BLOD	2.50	ug/L				0-200			
Molinate	BLOD	2.50	ug/L				0-200			
Naphthalene	BLOD	10.0	ug/L				40-100			
n-Decane	BLOD	2.50	ug/L				0-200			

Certificate of Analysis

Client Name: Resource International, Ltd.
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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
LCS (BAG0693-BS2)				Prepared: 07/28/2017 Analyzed: 07/31/2017						
Nicotine	BLOD	10.0	ug/L				0-200			
Nitrobenzene	BLOD	10.0	ug/L				40-100			
n-Nitrosodiethylamine	BLOD	2.50	ug/L				0-200			
n-Nitrosodimethylamine	BLOD	10.0	ug/L				25-110			
n-Nitrosodi-n-butylamine	BLOD	10.0	ug/L				0-200			
n-Nitrosodi-n-propylamine	BLOD	10.0	ug/L				12-97			
n-Nitrosodiphenylamine	BLOD	10.0	ug/L				12-97			
n-Nitrosomethylethylamine	BLOD	2.50	ug/L				25-110			
n-Nitrosomorpholine	BLOD	10.0	ug/L				0-200			
n-Nitrosopiperidine	BLOD	10.0	ug/L				0-200			
n-Nitrosopyrrolidine	BLOD	2.50	ug/L				0-200			
Nonylphenol	BLOD	50.0	ug/L				0-200			
o,o,o-Triethyl phosphorothioate	BLOD	10.0	ug/L				0-200			
o,o-Diethyl o-2-pyrazinyl phosphorothioate	BLOD	10.0	ug/L				0-200			
o+m+p-Cresols	BLOD	10.0	ug/L				0-200			
o-Cresol	BLOD	10.0	ug/L				40-110			
o-Toluidine	BLOD	2.50	ug/L				0-200			
p-(Dimethylamino) azobenzene	BLOD	2.50	ug/L				0-200			
p-Chloro-m-cresol	BLOD	10.0	ug/L				10-91			
Pentachlorobenzene	BLOD	10.0	ug/L				0-200			
Pentachloroethane	BLOD	10.0	ug/L				0-200			
Pentachloronitrobenzene (quintozene)	BLOD	1.00	ug/L				0-200			
Pentachlorophenol	BLOD	20.0	ug/L				30-109			
Phenacetin	BLOD	10.0	ug/L				0-200			
Phenanthrene	BLOD	10.0	ug/L				50-115			

Certificate of Analysis

Client Name: Resource International, Ltd.
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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
LCS (BAG0693-BS2)				Prepared: 07/28/2017 Analyzed: 07/31/2017						
Phenol	BLOD	10.0	ug/L				0-115			
Phorate	BLOD	2.50	ug/L				0-200			
p-Phenylenediamine	BLOD	10.0	ug/L				0-200			
Pronamide	BLOD	10.0	ug/L				0-200			
Propachlor	BLOD	2.50	ug/L				0-200			
Pyrene	BLOD	10.0	ug/L				27-110			
Pyridine	BLOD	10.0	ug/L				0-200			
Safrole	BLOD	2.50	ug/L				0-200			
Simazine	BLOD	2.50	ug/L				0-200			
Sulfotepp	BLOD	10.0	ug/L				0-200			
Terbacil	BLOD	2.50	ug/L				0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>ND</i>		ug/L	<i>100</i>			<i>20-86</i>			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>ND</i>		ug/L	<i>50.0</i>			<i>23-87</i>			
<i>Surr: 2-Fluorophenol (Surr)</i>	<i>ND</i>		ug/L	<i>100</i>			<i>10-52</i>			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	<i>ND</i>		ug/L	<i>50.0</i>			<i>10-98.5</i>			
<i>Surr: Phenol-d5 (Surr)</i>	<i>ND</i>		ug/L	<i>100</i>			<i>5-33</i>			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	<i>ND</i>		ug/L	<i>50.0</i>			<i>27-133</i>			
Matrix Spike (BAG0693-MS1)				Source: 17G0698-03 Prepared: 07/28/2017 Analyzed: 07/31/2017						
1,1-Biphenyl	BLOD	11.0	ug/L		BLOD		0-200			
1,2,4,5-Tetrachlorobenzene	BLOD	11.0	ug/L		BLOD		0-200			
1,2,4-Trichlorobenzene	42.0	11.0	ug/L	110	BLOD	38.2	21.8-66.7			
1,2-Dichlorobenzene	40.7	11.0	ug/L	110	BLOD	37.0	22-60			
1,2-Dinitrobenzene	BLOD	2.75	ug/L		BLOD		0-200			
1,2-Diphenylhydrazine	BLOD	11.0	ug/L		BLOD		0-200			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike (BAG0693-MS1)		Source: 17G0698-03		Prepared: 07/28/2017 Analyzed: 07/31/2017						
1,3,5-Trinitrobenzene	BLOD	5.49	ug/L		BLOD		0-200			
1,3-Dichlorobenzene	39.2	11.0	ug/L	110	BLOD	35.7	22-60			
1,3-Dinitrobenzene	BLOD	2.75	ug/L		BLOD		0-200			
1,4-Dichlorobenzene	39.0	11.0	ug/L	110	BLOD	35.5	22-60			
1,4-Dinitrobenzene	BLOD	2.75	ug/L		BLOD		0-200			
1,4-Dioxane	BLOD	54.9	ug/L		BLOD		0-200			
1,4-Naphthoquinone	BLOD	11.0	ug/L		BLOD		0-200			
1-Chloronaphthalene	45.5	11.0	ug/L		BLOD		0-200			
1-Methylnaphthalene	BLOD	11.0	ug/L		BLOD		0-200			
1-Naphthylamine	BLOD	11.0	ug/L		BLOD		0-200			
2,3,4,6-Tetrachlorophenol	BLOD	11.0	ug/L		BLOD		0-200			
2,3,5,6-Tetrachlorophenol	BLOD	2.75	ug/L		BLOD		0-200			
2,3,7,8-TCDD (SIM)	BLOD	11.0	ug/L		BLOD		0-200			
2,3-Dichloroaniline	BLOD	2.75	ug/L	110	BLOD		0-200			
2,4,5-Trichlorophenol	BLOD	11.0	ug/L		BLOD		50-110			
2,4,6-Trichlorophenol	46.3	11.0	ug/L	110	BLOD	42.1	50-115			M
2,4-Dichlorophenol	45.0	11.0	ug/L	110	BLOD	40.9	50-105			M
2,4-Dimethylphenol	37.6	0.55	ug/L	110	BLOD	34.2	30-110			
2,4-Dinitrophenol	74.4	54.9	ug/L	110	BLOD	67.7	15-140			
2,4-Dinitrotoluene	67.8	11.0	ug/L	110	BLOD	61.7	17-111			
2,6-Dichlorophenol	BLOD	11.0	ug/L		BLOD		0-200			
2,6-Dinitrotoluene	57.1	11.0	ug/L	110	BLOD	52.0	15-140			
2-Acetylaminofluorene	BLOD	2.75	ug/L		BLOD		0-200			
2-Chloronaphthalene	46.6	11.0	ug/L	110	BLOD	42.4	45-105			M
2-Chlorophenol	43.0	11.0	ug/L	110	BLOD	39.2	19-64			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike (BAG0693-MS1)		Source: 17G0698-03		Prepared: 07/28/2017 Analyzed: 07/31/2017						
2-Methylnaphthalene	BLOD	11.0	ug/L		BLOD		45-105			
2-Naphthylamine	BLOD	11.0	ug/L		BLOD		0-200			
2-Nitroaniline	BLOD	22.0	ug/L		BLOD		0-200			
2-Nitrophenol	45.2	11.0	ug/L	110	BLOD	41.2	40-115			
2-Picoline	BLOD	2.75	ug/L		BLOD		0-200			
3,3'-Dichlorobenzidine	36.2	11.0	ug/L	110	BLOD	33.0	20-110			
3,3'-Dimethylbenzidine	BLOD	2.75	ug/L		BLOD		0-200			
3-Methylcholanthrene	BLOD	11.0	ug/L		BLOD		0-200			
3-Nitroaniline	BLOD	22.0	ug/L		BLOD		0-200			
4,4'-DDE	BLOD	2.75	ug/L		BLOD		0-200			
4,6-Dinitro-2-methylphenol	69.0	54.9	ug/L	110	BLOD	62.8	40-130			
4-Aminobiphenyl	BLOD	11.0	ug/L		BLOD		0-200			
4-Bromophenyl phenyl ether	58.5	11.0	ug/L	110	BLOD	53.3	15-110			
4-Chloroaniline	BLOD	11.0	ug/L		BLOD		15-110			
4-Chlorophenyl phenyl ether	58.2	11.0	ug/L	110	BLOD	53.0	15-110			
4-Nitroaniline	BLOD	22.0	ug/L		BLOD		0-200			
4-Nitrophenol	31.6	54.9	ug/L	110	BLOD	28.7	0-125			
4-Nitroquinoline-1-oxide	BLOD	44.0	ug/L		BLOD		0-200			
5-Nitro-o-toluidine	BLOD	11.0	ug/L		BLOD		0-200			
7,12-Dimethylbenz (a) anthracene	BLOD	11.0	ug/L		BLOD		0-200			
Acenaphthene	48.6	11.0	ug/L	110	BLOD	44.2	24-90			
Acenaphthylene	51.8	11.0	ug/L	110	BLOD	47.1	50-105			M
Acetochlor	BLOD	2.75	ug/L		BLOD		0-200			
Acetophenone	38.2	22.0	ug/L	110	BLOD	34.7	0-200			
Alachlor	BLOD	2.75	ug/L		BLOD		0-200			

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike (BAG0693-MS1)		Source: 17G0698-03		Prepared: 07/28/2017 Analyzed: 07/31/2017						
Aldrin	BLOD	2.75	ug/L		BLOD		0-200			
alpha, alpha-Dimethyl phenethylamine	BLOD	2.75	ug/L		BLOD		0-200			
alpha-Terpineol	45.5	2.75	ug/L	110	BLOD	41.4	0-200			
Aniline	BLOD	54.9	ug/L		BLOD		0-200			
Anthracene	58.2	11.0	ug/L	110	BLOD	53.0	55-110			M
Aramite	BLOD	2.75	ug/L		BLOD		0-200			
Atrazine	BLOD	2.75	ug/L		BLOD		0-200			
Benzaldehyde	BLOD	2.75	ug/L		BLOD		0-200			
Benzidine	BLOD	54.9	ug/L	110	BLOD		0-130			
Benzo (a) anthracene	64.4	0.05	ug/L	110	BLOD	58.6	55-110			
Benzo (a) pyrene	56.7	0.11	ug/L	110	BLOD	51.6	55-110			M
Benzo (b) fluoranthene	53.3	11.0	ug/L	110	BLOD	48.5	45-120			
Benzo (g,h,i) perylene	56.0	11.0	ug/L	110	BLOD	51.0	40-125			
Benzo (k) fluoranthene	61.6	11.0	ug/L	110	BLOD	56.1	45-125			
Benzoic acid	BLOD	54.9	ug/L		BLOD		0-125			
Benzyl alcohol	BLOD	22.0	ug/L		BLOD		0-200			
bis (2-Chloroethoxy) methane	44.8	11.0	ug/L	110	BLOD	40.8	40-125			
bis (2-Chloroethyl) ether	46.1	11.0	ug/L	110	BLOD	42.0	40-125			
2,2'-Oxybis (1-chloropropane)	39.6	11.0	ug/L	110	BLOD	36.1	40-125			M
bis (2-Ethylhexyl) adipate	BLOD	2.75	ug/L		BLOD		0-200			
bis (2-Ethylhexyl) phthalate	43.0	2.75	ug/L	110	1.67	37.6	40-125			M
Butachlor	BLOD	2.75	ug/L		BLOD		0-200			
Butyl benzyl phthalate	52.8	11.0	ug/L	110	BLOD	48.0	45-115			
Caprolactam	BLOD	2.75	ug/L		BLOD		0-200			
Carbazole	73.4	2.75	ug/L	110	BLOD	66.8	0-200			

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BAG0693 - SW3510C

Matrix Spike (BAG0693-MS1)

Source: 17G0698-03

Prepared: 07/28/2017 Analyzed: 07/31/2017

Catechol	BLOD	2.75	ug/L		BLOD		0-200			
Chlorobenzilate	BLOD	2.75	ug/L		BLOD		0-200			
Chrysene	62.4	11.0	ug/L	110	BLOD	56.8	55-110			
Diallate	BLOD	2.75	ug/L		BLOD		0-200			
Dibenz (a,h) anthracene	63.7	11.0	ug/L	110	BLOD	58.0	40-125			
Dibenz (a,j) acridine	BLOD	11.0	ug/L		BLOD		0-200			
Dibenzofuran	BLOD	5.49	ug/L		BLOD		0-200			
Dieldrin	BLOD	2.75	ug/L		BLOD		0-200			
Diethyl phthalate	52.3	11.0	ug/L	110	BLOD	47.6	40-120			
Dimethoate	BLOD	2.75	ug/L		BLOD		0-200			
Dimethyl phthalate	48.3	11.0	ug/L	110	BLOD	43.9	25-125			
Dimethylphenethylamine	BLOD	2.75	ug/L		BLOD		0-200			
Di-n-butyl phthalate	54.1	11.0	ug/L	110	3.37	46.1	55-115			M
Di-n-octyl phthalate	44.1	11.0	ug/L	110	BLOD	40.2	35-135			
Dinoseb	BLOD	2.75	ug/L		BLOD		0-200			
Diphenyl ether	BLOD	2.75	ug/L		BLOD		0-200			
Diphenylamine	BLOD	11.0	ug/L		BLOD		0-200			
Disulfoton	BLOD	2.75	ug/L		BLOD		0-200			
Endrin	BLOD	2.75	ug/L		BLOD		0-200			
EPTC	BLOD	2.75	ug/L		BLOD		0-200			
Ethyl methacrylate	BLOD	2.75	ug/L		BLOD		0-200			
Ethyl methanesulfonate	BLOD	22.0	ug/L		BLOD		0-200			
Ethyl parathion	BLOD	2.75	ug/L		BLOD		0-200			
Famphur	BLOD	2.75	ug/L		BLOD		0-200			
Fluoranthene	61.3	11.0	ug/L	110	BLOD	55.8	55-115			

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike (BAG0693-MS1) Source: 17G0698-03 Prepared: 07/28/2017 Analyzed: 07/31/2017										
Fluorene	58.9	11.0	ug/L	110	BLOD	53.6	50-110			
gamma-BHC (Lindane)	BLOD	2.75	ug/L		BLOD		0-200			
Heptachlor	BLOD	2.75	ug/L		BLOD		0-200			
Heptachlor epoxide	BLOD	2.75	ug/L		BLOD		0-200			
Hexachlorobenzene	55.9	0.05	ug/L	110	BLOD	50.9	25-125			
Hexachlorobutadiene	45.5	11.0	ug/L	110	BLOD	41.4	25-125			
Hexachlorocyclopentadiene	21.5	11.0	ug/L	110	BLOD	19.6	25-125			M
Hexachloroethane	37.8	11.0	ug/L	110	BLOD	34.4	25-125			
Hexachlorophene	BLOD	54.9	ug/L		BLOD		0-200			
Hexachloropropene	BLOD	2.75	ug/L		BLOD		0-200			
Indeno (1,2,3-cd) pyrene	62.2	11.0	ug/L	110	BLOD	56.6	45-125			
Isodrin	BLOD	11.0	ug/L		BLOD		0-200			
Isophorone	42.9	11.0	ug/L	110	BLOD	39.0	10-110			
Isosafrole	BLOD	11.0	ug/L		BLOD		0-200			
Kepone	BLOD	2.75	ug/L		BLOD		0-200			
Library Search	ND	0.00	ug/L		BLOD		0-200			
m+p-Cresols	BLOD	11.0	ug/L		BLOD		30-110			
Methapyrilene	BLOD	11.0	ug/L		BLOD		0-200			
Methoxychlor	BLOD	2.75	ug/L		BLOD		0-200			
Methyl methacrylate	BLOD	2.75	ug/L		BLOD		0-200			
Methyl methanesulfonate	BLOD	11.0	ug/L		BLOD		0-200			
Methyl parathion	BLOD	2.75	ug/L		BLOD		0-200			
Metolachlor	BLOD	2.75	ug/L		BLOD		0-200			
Metribuzin	BLOD	2.75	ug/L		BLOD		0-200			
Molinate	BLOD	2.75	ug/L		BLOD		0-200			

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike (BAG0693-MS1)		Source: 17G0698-03		Prepared: 07/28/2017 Analyzed: 07/31/2017						
Naphthalene	43.6	11.0	ug/L	110	BLOD	39.7	40-100			M
n-Decane	BLOD	2.75	ug/L	110	BLOD		0-200			
Nicotine	BLOD	11.0	ug/L		BLOD		0-200			
Nitrobenzene	46.1	11.0	ug/L	110	BLOD	42.0	40-100			
n-Nitrosodiethylamine	BLOD	2.75	ug/L		BLOD		0-200			
n-Nitrosodimethylamine	34.4	11.0	ug/L	110	BLOD	31.3	25-110			
n-Nitrosodi-n-butylamine	BLOD	11.0	ug/L		BLOD		0-200			
n-Nitrosodi-n-propylamine	41.5	11.0	ug/L	110	BLOD	37.8	12-97			
n-Nitrosodiphenylamine	43.3	11.0	ug/L	110	BLOD	39.4	12-97			
n-Nitrosomethylethylamine	BLOD	2.75	ug/L		BLOD		25-110			
n-Nitrosomorpholine	BLOD	11.0	ug/L		BLOD		0-200			
n-Nitrosopiperidine	BLOD	11.0	ug/L		BLOD		0-200			
n-Nitrosopyrrolidine	BLOD	2.75	ug/L		BLOD		0-200			
Nonylphenol	BLOD	54.9	ug/L		BLOD		0-200			
o,o,o-Triethyl phosphorothioate	BLOD	11.0	ug/L		BLOD		0-200			
o,o-Diethyl o-2-pyrazinyl phosphorothioate	BLOD	11.0	ug/L		BLOD		0-200			
o+m+p-Cresols	BLOD	11.0	ug/L		BLOD		0-200			
o-Cresol	BLOD	11.0	ug/L		BLOD		40-110			
o-Toluidine	BLOD	2.75	ug/L		BLOD		0-200			
p-(Dimethylamino) azobenzene	BLOD	2.75	ug/L		BLOD		0-200			
p-Chloro-m-cresol	50.1	11.0	ug/L	110	BLOD	45.6	10-91			
Pentachlorobenzene	BLOD	11.0	ug/L		BLOD		0-200			
Pentachloroethane	BLOD	11.0	ug/L		BLOD		0-200			
Pentachloronitrobenzene (quintozene)	BLOD	1.10	ug/L		BLOD		0-200			
Pentachlorophenol	50.0	22.0	ug/L	110	BLOD	45.5	27-109			

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike (BAG0693-MS1)		Source: 17G0698-03		Prepared: 07/28/2017 Analyzed: 07/31/2017						
Phenacetin	BLOD	11.0	ug/L		BLOD		0-200			
Phenanthrene	62.7	11.0	ug/L	110	BLOD	57.0	50-115			
Phenol	23.2	11.0	ug/L	111	BLOD	20.9	0-115			
Phorate	BLOD	2.75	ug/L		BLOD		0-200			
p-Phenylenediamine	BLOD	11.0	ug/L		BLOD		0-200			
Pronamide	BLOD	11.0	ug/L		BLOD		0-200			
Propachlor	BLOD	2.75	ug/L		BLOD		0-200			
Pyrene	51.0	11.0	ug/L	110	BLOD	46.5	23-110			
Pyridine	11.4	11.0	ug/L	110	BLOD	10.4	0-200			
Safrole	BLOD	2.75	ug/L		BLOD		0-200			
Simazine	BLOD	2.75	ug/L		BLOD		0-200			
Sulfotepp	BLOD	11.0	ug/L		BLOD		0-200			
Terbacil	BLOD	2.75	ug/L		BLOD		0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	61.4		ug/L	110		55.9	20-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	23.8		ug/L	54.9		43.3	23-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	35.9		ug/L	110		32.7	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	22.9		ug/L	54.9		41.6	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	23.4		ug/L	110		21.3	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	29.9		ug/L	54.9		54.4	27-133			
Matrix Spike Dup (BAG0693-MSD1)		Source: 17G0698-03		Prepared: 07/28/2017 Analyzed: 07/31/2017						
1,1-Biphenyl	BLOD	10.9	ug/L		BLOD		0-200		20	
1,2,4,5-Tetrachlorobenzene	BLOD	10.9	ug/L		BLOD		0-200		20	
1,2,4-Trichlorobenzene	53.4	10.9	ug/L	109	BLOD	49.1	21.8-66.7	23.8	20	P
1,2-Dichlorobenzene	52.5	10.9	ug/L	109	BLOD	48.3	22-60	25.2	20	P

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike Dup (BAG0693-MSD1) Source: 17G0698-03 Prepared: 07/28/2017 Analyzed: 07/31/2017										
1,2-Dinitrobenzene	BLOD	2.72	ug/L		BLOD		0-200		20	
1,2-Diphenylhydrazine	BLOD	10.9	ug/L		BLOD		0-200		20	
1,3,5-Trinitrobenzene	BLOD	5.43	ug/L		BLOD		0-200		20	
1,3-Dichlorobenzene	49.7	10.9	ug/L	109	BLOD	45.7	22-60	23.6	20	P
1,3-Dinitrobenzene	BLOD	2.72	ug/L		BLOD		0-200		20	
1,4-Dichlorobenzene	50.2	10.9	ug/L	109	BLOD	46.2	22-60	25.1	20	P
1,4-Dinitrobenzene	BLOD	2.72	ug/L		BLOD		0-200		20	
1,4-Dioxane	BLOD	54.3	ug/L		BLOD		0-200		20	
1,4-Naphthoquinone	BLOD	10.9	ug/L		BLOD		0-200		20	
1-Chloronaphthalene	61.0	10.9	ug/L		BLOD		0-200	28.9	20	P
1-Methylnaphthalene	BLOD	10.9	ug/L		BLOD		0-200		20	
1-Naphthylamine	BLOD	10.9	ug/L		BLOD		0-200		20	
2,3,4,6-Tetrachlorophenol	BLOD	10.9	ug/L		BLOD		0-200		20	
2,3,5,6-Tetrachlorophenol	BLOD	2.72	ug/L		BLOD		0-200		20	
2,3,7,8-TCDD (SIM)	BLOD	10.9	ug/L		BLOD		0-200		20	
2,3-Dichloroaniline	BLOD	2.72	ug/L	109	BLOD		0-200		20	
2,4,5-Trichlorophenol	BLOD	10.9	ug/L		BLOD		50-110		20	
2,4,6-Trichlorophenol	64.1	10.9	ug/L	109	BLOD	59.0	50-115	32.3	20	P
2,4-Dichlorophenol	58.7	10.9	ug/L	109	BLOD	54.0	50-105	26.4	20	P
2,4-Dimethylphenol	46.2	0.54	ug/L	109	BLOD	42.5	30-110	20.7	20	P
2,4-Dinitrophenol	103	54.3	ug/L	109	BLOD	95.0	15-140	32.5	20	P
2,4-Dinitrotoluene	98.0	10.9	ug/L	109	BLOD	90.2	17-111	36.5	20	P
2,6-Dichlorophenol	BLOD	10.9	ug/L		BLOD		0-200		20	
2,6-Dinitrotoluene	81.4	10.9	ug/L	109	BLOD	74.9	15-140	35.1	20	P
2-Acetylaminofluorene	BLOD	2.72	ug/L		BLOD		0-200		20	

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike Dup (BAG0693-MSD1) Source: 17G0698-03 Prepared: 07/28/2017 Analyzed: 07/31/2017										
2-Chloronaphthalene	62.3	10.9	ug/L	109	BLOD	57.3	45-105	28.9	20	P
2-Chlorophenol	54.0	10.9	ug/L	109	BLOD	49.6	19-64	22.5	20	P
2-Methylnaphthalene	BLOD	10.9	ug/L		BLOD		45-105		20	
2-Naphthylamine	BLOD	10.9	ug/L		BLOD		0-200		20	
2-Nitroaniline	BLOD	21.7	ug/L		BLOD		0-200		20	
2-Nitrophenol	58.5	10.9	ug/L	109	BLOD	53.8	40-115	25.5	20	P
2-Picoline	BLOD	2.72	ug/L		BLOD		0-200		20	
3,3'-Dichlorobenzidine	50.5	10.9	ug/L	109	BLOD	46.4	20-110	32.8	20	P
3,3'-Dimethylbenzidine	BLOD	2.72	ug/L		BLOD		0-200		20	
3-Methylcholanthrene	BLOD	10.9	ug/L		BLOD		0-200		20	
3-Nitroaniline	BLOD	21.7	ug/L		BLOD		0-200		20	
4,4'-DDE	BLOD	2.72	ug/L		BLOD		0-200		20	
4,6-Dinitro-2-methylphenol	96.5	54.3	ug/L	109	BLOD	88.8	40-130	33.2	20	P
4-Aminobiphenyl	BLOD	10.9	ug/L		BLOD		0-200		20	
4-Bromophenyl phenyl ether	80.9	10.9	ug/L	109	BLOD	74.5	15-110	32.1	20	P
4-Chloroaniline	BLOD	10.9	ug/L		BLOD		15-110		20	
4-Chlorophenyl phenyl ether	81.7	10.9	ug/L	109	BLOD	75.1	15-110	33.6	20	P
4-Nitroaniline	BLOD	21.7	ug/L		BLOD		0-200		20	
4-Nitrophenol	44.8	54.3	ug/L	109	BLOD	41.2	0-125	34.7	20	P
4-Nitroquinoline-1-oxide	BLOD	43.5	ug/L		BLOD		0-200		20	
5-Nitro-o-toluidine	BLOD	10.9	ug/L		BLOD		0-200		20	
7,12-Dimethylbenz (a) anthracene	BLOD	10.9	ug/L		BLOD		0-200		20	
Acenaphthene	68.5	10.9	ug/L	109	BLOD	63.1	24-90	34.1	20	P
Acenaphthylene	73.8	10.9	ug/L	109	BLOD	67.8	50-105	35.0	20	P
Acetochlor	BLOD	2.72	ug/L		BLOD		0-200		20	

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike Dup (BAG0693-MSD1) Source: 17G0698-03 Prepared: 07/28/2017 Analyzed: 07/31/2017										
Acetophenone	48.0	21.7	ug/L	109	BLOD	44.1	0-200	22.8	20	P
Alachlor	BLOD	2.72	ug/L		BLOD		0-200		20	
Aldrin	BLOD	2.72	ug/L		BLOD		0-200		20	
alpha,alpha-Dimethyl phenethylamine	BLOD	2.72	ug/L		BLOD		0-200		20	
alpha-Terpineol	61.0	2.72	ug/L	109	BLOD	56.1	0-200	29.1	20	P
Aniline	BLOD	54.3	ug/L		BLOD		0-200		20	
Anthracene	80.7	10.9	ug/L	109	BLOD	74.2	55-110	32.4	20	P
Aramite	BLOD	2.72	ug/L		BLOD		0-200		20	
Atrazine	BLOD	2.72	ug/L		BLOD		0-200		20	
Benzaldehyde	BLOD	2.72	ug/L		BLOD		0-200		20	
Benzidine	BLOD	54.3	ug/L	109	BLOD		0-130		20	
Benzo (a) anthracene	98.1	0.05	ug/L	109	BLOD	90.3	55-110	41.5	20	P
Benzo (a) pyrene	84.0	0.11	ug/L	109	BLOD	77.3	55-110	38.9	20	P
Benzo (b) fluoranthene	76.3	10.9	ug/L	109	BLOD	70.2	45-120	35.4	20	P
Benzo (g,h,i) perylene	81.9	10.9	ug/L	109	BLOD	75.4	40-125	37.6	20	P
Benzo (k) fluoranthene	88.8	10.9	ug/L	109	BLOD	81.7	45-125	36.2	20	P
Benzoic acid	BLOD	54.3	ug/L		BLOD		0-125		20	
Benzyl alcohol	BLOD	21.7	ug/L		BLOD		0-200		20	
bis (2-Chloroethoxy) methane	58.7	10.9	ug/L	109	BLOD	54.0	40-125	26.8	20	P
bis (2-Chloroethyl) ether	60.3	10.9	ug/L	109	BLOD	55.5	40-125	26.7	20	P
2,2'-Oxybis (1-chloropropane)	52.9	10.9	ug/L	109	BLOD	48.7	40-125	28.6	20	P
bis (2-Ethylhexyl) adipate	BLOD	2.72	ug/L		BLOD		0-200		20	
bis (2-Ethylhexyl) phthalate	72.5	2.72	ug/L	109	1.67	65.1	40-125	51.1	20	P
Butachlor	BLOD	2.72	ug/L		BLOD		0-200		20	
Butyl benzyl phthalate	82.2	10.9	ug/L	109	BLOD	75.6	45-115	43.6	20	P

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike Dup (BAG0693-MSD1)		Source: 17G0698-03		Prepared: 07/28/2017 Analyzed: 07/31/2017						
Caprolactam	BLOD	2.72	ug/L		BLOD		0-200		20	
Carbazole	102	2.72	ug/L	109	BLOD	94.1	0-200	32.9	20	P
Catechol	BLOD	2.72	ug/L		BLOD		0-200		20	
Chlorobenzilate	BLOD	2.72	ug/L		BLOD		0-200		20	
Chrysene	92.0	10.9	ug/L	109	BLOD	84.6	55-110	38.3	20	P
Diallate	BLOD	2.72	ug/L		BLOD		0-200		20	
Dibenz (a,h) anthracene	91.4	10.9	ug/L	109	BLOD	84.1	40-125	35.7	20	P
Dibenz (a,j) acridine	BLOD	10.9	ug/L		BLOD		0-200		20	
Dibenzofuran	BLOD	5.43	ug/L		BLOD		0-200		20	
Dieldrin	BLOD	2.72	ug/L		BLOD		0-200		20	
Diethyl phthalate	73.9	10.9	ug/L	109	BLOD	68.0	40-120	34.3	20	P
Dimethoate	BLOD	2.72	ug/L		BLOD		0-200		20	
Dimethyl phthalate	71.2	10.9	ug/L	109	BLOD	65.5	25-125	38.4	20	P
Dimethylphenethylamine	BLOD	2.72	ug/L		BLOD		0-200		20	
Di-n-butyl phthalate	81.5	10.9	ug/L	109	3.37	71.9	55-115	40.4	20	P
Di-n-octyl phthalate	60.7	10.9	ug/L	109	BLOD	55.8	35-135	31.6	20	P
Dinoseb	BLOD	2.72	ug/L		BLOD		0-200		20	
Diphenyl ether	BLOD	2.72	ug/L		BLOD		0-200		20	
Diphenylamine	BLOD	10.9	ug/L		BLOD		0-200		20	
Disulfoton	BLOD	2.72	ug/L		BLOD		0-200		20	
Endrin	BLOD	2.72	ug/L		BLOD		0-200		20	
EPTC	BLOD	2.72	ug/L		BLOD		0-200		20	
Ethyl methacrylate	BLOD	2.72	ug/L		BLOD		0-200		20	
Ethyl methanesulfonate	BLOD	21.7	ug/L		BLOD		0-200		20	
Ethyl parathion	BLOD	2.72	ug/L		BLOD		0-200		20	

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike Dup (BAG0693-MSD1) Source: 17G0698-03 Prepared: 07/28/2017 Analyzed: 07/31/2017										
Famphur	BLOD	2.72	ug/L		BLOD		0-200		20	
Fluoranthene	86.1	10.9	ug/L	109	BLOD	79.2	55-115	33.7	20	P
Fluorene	81.0	10.9	ug/L	109	BLOD	74.5	50-110	31.6	20	P
gamma-BHC (Lindane)	BLOD	2.72	ug/L		BLOD		0-200		20	
Heptachlor	BLOD	2.72	ug/L		BLOD		0-200		20	
Heptachlor epoxide	BLOD	2.72	ug/L		BLOD		0-200		20	
Hexachlorobenzene	77.8	0.05	ug/L	109	BLOD	71.6	25-125	32.7	20	P
Hexachlorobutadiene	57.9	10.9	ug/L	109	BLOD	53.3	25-125	23.9	20	P
Hexachlorocyclopentadiene	31.5	10.9	ug/L	109	BLOD	28.9	25-125	37.6	20	P
Hexachloroethane	48.8	10.9	ug/L	109	BLOD	44.8	25-125	25.3	20	P
Hexachlorophene	BLOD	54.3	ug/L		BLOD		0-200		20	
Hexachloropropene	BLOD	2.72	ug/L		BLOD		0-200		20	
Indeno (1,2,3-cd) pyrene	87.9	10.9	ug/L	109	BLOD	80.9	45-125	34.3	20	P
Isodrin	BLOD	10.9	ug/L		BLOD		0-200		20	
Isophorone	57.5	10.9	ug/L	109	BLOD	52.9	10-110	29.2	20	P
Isosafrole	BLOD	10.9	ug/L		BLOD		0-200		20	
Kepone	BLOD	2.72	ug/L		BLOD		0-200		20	
Library Search	ND	0.00	ug/L		BLOD		0-200		20	
m+p-Cresols	BLOD	10.9	ug/L		BLOD		30-110		20	
Methapyrilene	BLOD	10.9	ug/L		BLOD		0-200		20	
Methoxychlor	BLOD	2.72	ug/L		BLOD		0-200		20	
Methyl methacrylate	BLOD	2.72	ug/L		BLOD		0-200		20	
Methyl methanesulfonate	BLOD	10.9	ug/L		BLOD		0-200		20	
Methyl parathion	BLOD	2.72	ug/L		BLOD		0-200		20	
Metolachlor	BLOD	2.72	ug/L		BLOD		0-200		20	

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike Dup (BAG0693-MSD1) Source: 17G0698-03 Prepared: 07/28/2017 Analyzed: 07/31/2017										
Metribuzin	BLOD	2.72	ug/L		BLOD		0-200		20	
Molinate	BLOD	2.72	ug/L		BLOD		0-200		20	
Naphthalene	54.7	10.9	ug/L	109	BLOD	50.3	40-100	22.5	20	P
n-Decane	BLOD	2.72	ug/L	109	BLOD		0-200		20	
Nicotine	BLOD	10.9	ug/L		BLOD		0-200		20	
Nitrobenzene	59.8	10.9	ug/L	109	BLOD	55.0	40-100	25.8	20	P
n-Nitrosodiethylamine	BLOD	2.72	ug/L		BLOD		0-200		20	
n-Nitrosodimethylamine	44.4	10.9	ug/L	109	BLOD	40.9	25-110	25.5	20	P
n-Nitrosodi-n-butylamine	BLOD	10.9	ug/L		BLOD		0-200		20	
n-Nitrosodi-n-propylamine	53.7	10.9	ug/L	109	BLOD	49.4	12-97	25.6	20	P
n-Nitrosodiphenylamine	62.0	10.9	ug/L	109	BLOD	57.0	12-97	35.6	20	P
n-Nitrosomethylethylamine	BLOD	2.72	ug/L		BLOD		25-110		20	
n-Nitrosomorpholine	BLOD	10.9	ug/L		BLOD		0-200		20	
n-Nitrosopiperidine	BLOD	10.9	ug/L		BLOD		0-200		20	
n-Nitrosopyrrolidine	BLOD	2.72	ug/L		BLOD		0-200		20	
Nonylphenol	BLOD	54.3	ug/L		BLOD		0-200		20	
o,o,o-Triethyl phosphorothioate	BLOD	10.9	ug/L		BLOD		0-200		20	
o,o-Diethyl o-2-pyrazinyl phosphorothioate	BLOD	10.9	ug/L		BLOD		0-200		20	
o+m+p-Cresols	BLOD	10.9	ug/L		BLOD		0-200		20	
o-Cresol	BLOD	10.9	ug/L		BLOD		40-110		20	
o-Toluidine	BLOD	2.72	ug/L		BLOD		0-200		20	
p-(Dimethylamino) azobenzene	BLOD	2.72	ug/L		BLOD		0-200		20	
p-Chloro-m-cresol	72.2	10.9	ug/L	109	BLOD	66.4	10-91	36.1	20	P
Pentachlorobenzene	BLOD	10.9	ug/L		BLOD		0-200		20	
Pentachloroethane	BLOD	10.9	ug/L		BLOD		0-200		20	

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0693 - SW3510C										
Matrix Spike Dup (BAG0693-MSD1)		Source: 17G0698-03		Prepared: 07/28/2017 Analyzed: 07/31/2017						
Pentachloronitrobenzene (quintozene)	BLOD	1.09	ug/L		BLOD		0-200		20	
Pentachlorophenol	72.2	21.7	ug/L	109	BLOD	66.4	27-109	36.3	20	P
Phenacetin	BLOD	10.9	ug/L		BLOD		0-200		20	
Phenanthrene	86.2	10.9	ug/L	109	BLOD	79.3	50-115	31.6	20	P
Phenol	28.5	10.9	ug/L	110	BLOD	26.0	0-115	20.6	20	P
Phorate	BLOD	2.72	ug/L		BLOD		0-200		20	
p-Phenylenediamine	BLOD	10.9	ug/L		BLOD		0-200		20	
Pronamide	BLOD	10.9	ug/L		BLOD		0-200		20	
Propachlor	BLOD	2.72	ug/L		BLOD		0-200		20	
Pyrene	74.9	10.9	ug/L	109	BLOD	68.9	23-110	37.9	20	P
Pyridine	14.5	10.9	ug/L	109	BLOD	13.4	0-200	24.0	20	P
Safrole	BLOD	2.72	ug/L		BLOD		0-200		20	
Simazine	BLOD	2.72	ug/L		BLOD		0-200		20	
Sulfotepp	BLOD	10.9	ug/L		BLOD		0-200		20	
Terbacil	BLOD	2.72	ug/L		BLOD		0-200		20	
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>88.5</i>		<i>ug/L</i>	<i>109</i>		<i>81.4</i>	<i>20-86</i>			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>33.1</i>		<i>ug/L</i>	<i>54.3</i>		<i>60.9</i>	<i>23-87</i>			
<i>Surr: 2-Fluorophenol (Surr)</i>	<i>44.5</i>		<i>ug/L</i>	<i>109</i>		<i>41.0</i>	<i>10-52</i>			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	<i>30.2</i>		<i>ug/L</i>	<i>54.3</i>		<i>55.6</i>	<i>10-98.5</i>			
<i>Surr: Phenol-d5 (Surr)</i>	<i>28.8</i>		<i>ug/L</i>	<i>109</i>		<i>26.5</i>	<i>5-33</i>			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	<i>46.2</i>		<i>ug/L</i>	<i>54.3</i>		<i>84.9</i>	<i>27-133</i>			



Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0650 - SW3510C										
Blank (BAG0650-BLK1)				Prepared: 07/27/2017 Analyzed: 07/28/2017						
PCB as Aroclor 1016	BLOD	0.200	ug/L							
4,4'-DDD	BLOD	0.050	ug/L							
PCB as Aroclor 1221	BLOD	0.200	ug/L							
PCB as Aroclor 1232	BLOD	0.200	ug/L							
4,4'-DDE	BLOD	0.050	ug/L							
PCB as Aroclor 1242	BLOD	0.200	ug/L							
4,4'-DDT	BLOD	0.050	ug/L							
PCB as Aroclor 1248	BLOD	0.200	ug/L							
PCB as Aroclor 1254	BLOD	0.200	ug/L							
PCB as Aroclor 1260	BLOD	0.200	ug/L							
Aldrin	BLOD	0.050	ug/L							
alpha-BHC	BLOD	0.050	ug/L							
beta-BHC	BLOD	0.050	ug/L							
Chlordane	BLOD	0.200	ug/L							
delta-BHC	BLOD	0.050	ug/L							
Dieldrin	BLOD	0.050	ug/L							
Endosulfan I	BLOD	0.050	ug/L							
Endosulfan II	BLOD	0.050	ug/L							
Endosulfan sulfate	BLOD	0.050	ug/L							
Endrin	BLOD	0.050	ug/L							
Endrin aldehyde	BLOD	0.050	ug/L							
gamma-BHC (Lindane)	BLOD	0.050	ug/L							
Heptachlor	BLOD	0.050	ug/L							
Heptachlor epoxide	BLOD	0.050	ug/L							
Methoxychlor	BLOD	0.050	ug/L							

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0650 - SW3510C										
Blank (BAG0650-BLK1)				Prepared: 07/27/2017 Analyzed: 07/28/2017						
Toxaphene	BLOD	1.00	ug/L							
Surr: DCB	0.190		ug/L	0.200		95.0	30-105			
Surr: TCMX	0.120		ug/L	0.200		60.0	30-105			
Surr: TCMX	0.120		ug/L	0.200		60.0	18-112			
Surr: DCB	0.240		ug/L	0.200		120	27-131			
LCS (BAG0650-BS1)				Prepared: 07/27/2017 Analyzed: 07/28/2017						
4,4'-DDD	0.070	0.050	ug/L	0.100		70.0	23-134			
4,4'-DDE	0.060	0.050	ug/L	0.100		60.0	23-134			
4,4'-DDT	0.090	0.050	ug/L	0.100		90.0	23-134			
Aldrin	0.060	0.050	ug/L	0.100		60.0	23-134			
alpha-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
beta-BHC	0.090	0.050	ug/L	0.100		90.0	23-134			
Chlordane	BLOD	0.200	ug/L				23-134			
delta-BHC	0.080	0.050	ug/L	0.100		80.0	23-134			
Dieldrin	0.080	0.050	ug/L	0.100		80.0	23-134			
Endosulfan I	0.090	0.050	ug/L	0.100		90.0	23-134			
Endosulfan II	0.080	0.050	ug/L	0.100		80.0	23-134			
Endosulfan sulfate	0.080	0.050	ug/L	0.100		80.0	23-134			
Endrin	0.100	0.050	ug/L	0.100		100	23-134			
Endrin aldehyde	0.070	0.050	ug/L	0.100		70.0	23-134			
gamma-BHC (Lindane)	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor epoxide	0.080	0.050	ug/L	0.100		80.0	23-134			
Methoxychlor	0.090	0.050	ug/L	0.100		90.0	23-134			

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0650 - SW3510C										
LCS (BAG0650-BS1)				Prepared: 07/27/2017 Analyzed: 07/28/2017						
Mirex	0.070	0.050	ug/L	0.100		70.0	23-134			
Toxaphene	BLOD	1.00	ug/L				23-134			
Surr: TCMX	0.120		ug/L	0.200		60.0	18-112			
Surr: DCB	0.200		ug/L	0.200		100	27-131			
LCS (BAG0650-BS2)				Prepared: 07/27/2017 Analyzed: 07/28/2017						
PCB as Aroclor 1016	0.840	0.200	ug/L	1.00		84.0	40-90			
PCB as Aroclor 1260	0.930	0.200	ug/L	1.00		93.0	40-90			L
Surr: DCB	0.190		ug/L	0.200		95.0	30-105			
Surr: TCMX	0.150		ug/L	0.200		75.0	30-105			
LCS (BAG0650-BS3)				Prepared: 07/27/2017 Analyzed: 07/28/2017						
4,4'-DDD	BLOD	0.050	ug/L				23-134			
4,4'-DDE	BLOD	0.050	ug/L				23-134			
4,4'-DDT	BLOD	0.050	ug/L				23-134			
Aldrin	BLOD	0.050	ug/L				23-134			
alpha-BHC	BLOD	0.050	ug/L				23-134			
beta-BHC	BLOD	0.050	ug/L				23-134			
Chlordane	BLOD	0.200	ug/L				23-134			
delta-BHC	BLOD	0.050	ug/L				23-134			
Dieldrin	BLOD	0.050	ug/L				23-134			
Endosulfan I	BLOD	0.050	ug/L				23-134			
Endosulfan II	BLOD	0.050	ug/L				23-134			
Endosulfan sulfate	BLOD	0.050	ug/L				23-134			
Endrin	BLOD	0.050	ug/L				23-134			
Endrin aldehyde	BLOD	0.050	ug/L				23-134			

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0650 - SW3510C										
LCS (BAG0650-BS3)				Prepared: 07/27/2017 Analyzed: 07/28/2017						
gamma-BHC (Lindane)	BLOD	0.050	ug/L				23-134			
Heptachlor	BLOD	0.050	ug/L				23-134			
Heptachlor epoxide	BLOD	0.050	ug/L				23-134			
Methoxychlor	BLOD	0.050	ug/L				23-134			
Mirex	BLOD	0.050	ug/L				23-134			
Toxaphene	BLOD	1.00	ug/L				23-134			
Surr: TCMX	0.0700		ug/L	0.200		35.0	18-112			
Surr: DCB	0.0800		ug/L	0.200		40.0	27-131			
LCS (BAG0650-BS4)				Prepared: 07/27/2017 Analyzed: 07/28/2017						
4,4'-DDD	BLOD	0.050	ug/L				23-134			
4,4'-DDE	BLOD	0.050	ug/L				23-134			
4,4'-DDT	BLOD	0.050	ug/L				23-134			
Aldrin	BLOD	0.050	ug/L				23-134			
alpha-BHC	BLOD	0.050	ug/L				23-134			
beta-BHC	BLOD	0.050	ug/L				23-134			
Chlordane	BLOD	0.200	ug/L				23-134			
delta-BHC	BLOD	0.050	ug/L				23-134			
Dieldrin	BLOD	0.050	ug/L				23-134			
Endosulfan I	BLOD	0.050	ug/L				23-134			
Endosulfan II	BLOD	0.050	ug/L				23-134			
Endosulfan sulfate	BLOD	0.050	ug/L				23-134			
Endrin	BLOD	0.050	ug/L				23-134			
Endrin aldehyde	BLOD	0.050	ug/L				23-134			
gamma-BHC (Lindane)	BLOD	0.050	ug/L				23-134			

Certificate of Analysis

Client Name: Resource International, Ltd.
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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0650 - SW3510C										
LCS (BAG0650-BS4)				Prepared: 07/27/2017 Analyzed: 07/28/2017						
Heptachlor	BLOD	0.050	ug/L				23-134			
Heptachlor epoxide	BLOD	0.050	ug/L				23-134			
Methoxychlor	BLOD	0.050	ug/L				23-134			
Mirex	BLOD	0.050	ug/L				23-134			
Toxaphene	1.90	1.00	ug/L	2.50		76.0	23-134			
Surr: TCMX	0.130		ug/L	0.200		65.0	18-112			
Surr: DCB	0.130		ug/L	0.200		65.0	27-131			
LCS (BAG0650-BS5)				Prepared: 07/27/2017 Analyzed: 07/28/2017						
4,4'-DDD	BLOD	0.050	ug/L				23-134			
4,4'-DDE	BLOD	0.050	ug/L				23-134			
4,4'-DDT	BLOD	0.050	ug/L				23-134			
Aldrin	BLOD	0.050	ug/L				23-134			
alpha-BHC	BLOD	0.050	ug/L				23-134			
beta-BHC	BLOD	0.050	ug/L				23-134			
Chlordane	1.63	0.200	ug/L	2.50		65.2	23-134			
delta-BHC	BLOD	0.050	ug/L				23-134			
Dieldrin	BLOD	0.050	ug/L				23-134			
Endosulfan I	BLOD	0.050	ug/L				23-134			
Endosulfan II	BLOD	0.050	ug/L				23-134			
Endosulfan sulfate	BLOD	0.050	ug/L				23-134			
Endrin	BLOD	0.050	ug/L				23-134			
Endrin aldehyde	BLOD	0.050	ug/L				23-134			
gamma-BHC (Lindane)	BLOD	0.050	ug/L				23-134			
Heptachlor	BLOD	0.050	ug/L				23-134			

Certificate of Analysis

Client Name: Resource International, Ltd.
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Date Issued: 8/8/2017 3:09:22PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0650 - SW3510C										
LCS (BAG0650-BS5)				Prepared: 07/27/2017 Analyzed: 07/28/2017						
Heptachlor epoxide	BLOD	0.050	ug/L				23-134			
Methoxychlor	BLOD	0.050	ug/L				23-134			
Mirex	BLOD	0.050	ug/L				23-134			
Toxaphene	BLOD	1.00	ug/L				23-134			
Surr: TCMX	0.120		ug/L	0.200		60.0	18-112			
Surr: DCB	0.130		ug/L	0.200		65.0	27-131			
Matrix Spike (BAG0650-MS1)				Source: 17G0698-03 Prepared: 07/27/2017 Analyzed: 07/28/2017						
4,4'-DDD	0.033	0.054	ug/L	0.109	BLOD	30.0	23-134			
4,4'-DDE	0.022	0.054	ug/L	0.109	BLOD	20.0	23-134			M
4,4'-DDT	0.033	0.054	ug/L	0.109	BLOD	30.0	23-134			
Aldrin	0.022	0.054	ug/L	0.109	BLOD	20.0	23-134			M
alpha-BHC	0.076	0.054	ug/L	0.109	BLOD	70.0	23-134			
beta-BHC	0.087	0.054	ug/L	0.109	BLOD	80.0	23-134			
delta-BHC	0.087	0.054	ug/L	0.109	BLOD	80.0	23-134			
Dieldrin	0.054	0.054	ug/L	0.109	BLOD	50.0	23-134			
Endosulfan I	0.054	0.054	ug/L	0.109	BLOD	50.0	23-134			
Endosulfan II	0.065	0.054	ug/L	0.109	BLOD	60.0	23-134			
Endosulfan sulfate	0.076	0.054	ug/L	0.109	BLOD	70.0	23-134			
Endrin	0.076	0.054	ug/L	0.109	BLOD	70.0	23-134			
Endrin aldehyde	0.065	0.054	ug/L	0.109	BLOD	60.0	23-134			
gamma-BHC (Lindane)	0.076	0.054	ug/L	0.109	BLOD	70.0	23-134			
Heptachlor	0.043	0.054	ug/L	0.109	BLOD	40.0	23-134			
Heptachlor epoxide	0.065	0.054	ug/L	0.109	BLOD	60.0	23-134			
Methoxychlor	0.054	0.054	ug/L	0.109	BLOD	50.0	23-134			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0650 - SW3510C										
Matrix Spike (BAG0650-MS1)		Source: 17G0698-03			Prepared: 07/27/2017 Analyzed: 07/28/2017					
Mirex	0.022	0.054	ug/L	0.109	BLOD	20.0	23-134			M
Surr: TCMX	0.109		ug/L	0.217		50.0	18-112			
Surr: DCB	0.0652		ug/L	0.217		30.0	27-131			
Matrix Spike (BAG0650-MS2)		Source: 17G0698-03			Prepared: 07/27/2017 Analyzed: 07/28/2017					
PCB as Aroclor 1016	0.689	0.222	ug/L	1.11	BLOD	62.0	40-120			
PCB as Aroclor 1260	0.378	0.222	ug/L	1.11	BLOD	34.0	40-120			M
Surr: DCB	0.0444		ug/L	0.222		20.0	30-105			S
Surr: TCMX	0.122		ug/L	0.222		55.0	30-105			
Matrix Spike Dup (BAG0650-MSD1)		Source: 17G0698-03			Prepared: 07/27/2017 Analyzed: 07/28/2017					
4,4'-DDD	0.021	0.053	ug/L	0.105	BLOD	20.0	23-134	43.1	20	M, P
4,4'-DDE	0.021	0.053	ug/L	0.105	BLOD	20.0	23-134	3.21	20	M
4,4'-DDT	0.021	0.053	ug/L	0.105	BLOD	20.0	23-134	43.1	20	M, P
Aldrin	0.021	0.053	ug/L	0.105	BLOD	20.0	23-134	3.21	20	M
alpha-BHC	0.063	0.053	ug/L	0.105	BLOD	60.0	23-134	18.6	20	
beta-BHC	0.084	0.053	ug/L	0.105	BLOD	80.0	23-134	3.21	20	
delta-BHC	0.074	0.053	ug/L	0.105	BLOD	70.0	23-134	16.5	20	
Dieldrin	0.032	0.053	ug/L	0.105	BLOD	30.0	23-134	53.0	20	P
Endosulfan I	0.042	0.053	ug/L	0.105	BLOD	40.0	23-134	25.4	20	P
Endosulfan II	0.053	0.053	ug/L	0.105	BLOD	50.0	23-134	21.4	20	P
Endosulfan sulfate	0.053	0.053	ug/L	0.105	BLOD	50.0	23-134	36.4	20	P
Endrin	0.053	0.053	ug/L	0.105	BLOD	50.0	23-134	36.4	20	P
Endrin aldehyde	0.053	0.053	ug/L	0.105	BLOD	50.0	23-134	21.4	20	P
gamma-BHC (Lindane)	0.063	0.053	ug/L	0.105	BLOD	60.0	23-134	18.6	20	
Heptachlor	0.032	0.053	ug/L	0.105	BLOD	30.0	23-134	31.7	20	P

Certificate of Analysis

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0650 - SW3510C										
Matrix Spike Dup (BAG0650-MSD1)		Source: 17G0698-03		Prepared: 07/27/2017 Analyzed: 07/28/2017						
Heptachlor epoxide	0.042	0.053	ug/L	0.105	BLOD	40.0	23-134	43.1	20	P
Methoxychlor	0.032	0.053	ug/L	0.105	BLOD	30.0	23-134	53.0	20	P
Mirex	0.021	0.053	ug/L	0.105	BLOD	20.0	23-134	3.21	20	M
Surr: TCMX	0.0632		ug/L	0.211		30.0	18-112			
Surr: DCB	0.0421		ug/L	0.211		20.0	27-131			S
Matrix Spike Dup (BAG0650-MSD2)		Source: 17G0698-03		Prepared: 07/27/2017 Analyzed: 07/28/2017						
PCB as Aroclor 1016	0.564	0.213	ug/L	1.06	BLOD	53.0	40-120	20.0	20	
PCB as Aroclor 1260	0.223	0.213	ug/L	1.06	BLOD	21.0	40-120	51.4	20	M, P
Surr: DCB	0.0426		ug/L	0.213		20.0	30-105			S
Surr: TCMX	0.106		ug/L	0.213		50.0	30-105			

Certificate of Analysis

Client Name: Resource International, Ltd.
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Date Issued: 8/8/2017 3:09:22PM

Organochlorine Herbicides by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0667 - SW3510C										
Blank (BAG0667-BLK1)				Prepared: 07/27/2017 Analyzed: 08/04/2017						
2,4,5-T	BLOD	0.500	ug/L							
2,4,5-TP (Silvex)	BLOD	0.500	ug/L							
2,4-D	BLOD	0.500	ug/L							
Dinoseb	BLOD	0.500	ug/L							
Pentachlorophenol	BLOD	0.500	ug/L							
<i>Surr: DCAA (Surr)</i>	<i>0.667</i>		ug/L	<i>1.11</i>		<i>60.0</i>	<i>60-112</i>			
LCS (BAG0667-BS1)				Prepared: 07/27/2017 Analyzed: 08/04/2017						
2,4,5-T	0.556	0.500	ug/L	0.556		100	53-144			
2,4,5-TP (Silvex)	0.556	0.500	ug/L	0.556		100	52-129			
2,4-D	0.556	0.500	ug/L	0.556		100	53-126			
Dinoseb	0.611	0.500	ug/L	0.556		110	60-137			
Pentachlorophenol	0.500	0.500	ug/L	0.556		90.0	52-124			
<i>Surr: DCAA (Surr)</i>	<i>0.722</i>		ug/L	<i>1.11</i>		<i>65.0</i>	<i>60-112</i>			
Matrix Spike (BAG0667-MS1)				Source: 17G0698-03	Prepared: 07/27/2017 Analyzed: 08/04/2017					
2,4,5-T	0.500	0.500	ug/L	0.556	BLOD	90.0	53-144			
2,4,5-TP (Silvex)	0.556	0.500	ug/L	0.556	BLOD	100	52-129			
2,4-D	0.556	0.500	ug/L	0.556	BLOD	100	53-126			
Dinoseb	0.611	0.500	ug/L	0.556	BLOD	110	60-137			
Pentachlorophenol	0.444	0.500	ug/L	0.556	BLOD	80.0	52-124			
<i>Surr: DCAA (Surr)</i>	<i>1.06</i>		ug/L	<i>1.11</i>		<i>95.0</i>	<i>60-112</i>			
Matrix Spike (BAG0667-MS2)				Source: 17G0727-01	Prepared: 07/27/2017 Analyzed: 08/04/2017					
2,4,5-T	0.556	0.500	ug/L	0.556	BLOD	100	53-144			
2,4,5-TP (Silvex)	0.556	0.500	ug/L	0.556	BLOD	100	52-129			

Certificate of Analysis

Client Name: Resource International, Ltd.
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Organochlorine Herbicides by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0667 - SW3510C										
Matrix Spike (BAG0667-MS2)		Source: 17G0727-01			Prepared: 07/27/2017 Analyzed: 08/04/2017					
2,4-D	0.611	0.500	ug/L	0.556	BLOD	110	53-126			
Dinoseb	0.611	0.500	ug/L	0.556	BLOD	110	60-137			
Pentachlorophenol	0.444	0.500	ug/L	0.556	BLOD	80.0	52-124			
<i>Surr: DCAA (Surr)</i>	<i>1.11</i>		ug/L	<i>1.11</i>		<i>100</i>	<i>60-112</i>			
Matrix Spike Dup (BAG0667-MSD1)		Source: 17G0698-03			Prepared: 07/27/2017 Analyzed: 08/04/2017					
2,4,5-T	0.500	0.500	ug/L	0.556	BLOD	90.0	53-144	0.00	20	
2,4,5-TP (Silvex)	0.500	0.500	ug/L	0.556	BLOD	90.0	52-129	10.5	20	
2,4-D	0.611	0.500	ug/L	0.556	BLOD	110	53-126	9.52	20	
Dinoseb	0.611	0.500	ug/L	0.556	BLOD	110	60-137	0.00	20	
Pentachlorophenol	0.444	0.500	ug/L	0.556	BLOD	80.0	52-124	0.00	20	
<i>Surr: DCAA (Surr)</i>	<i>0.833</i>		ug/L	<i>1.11</i>		<i>75.0</i>	<i>60-112</i>			
Matrix Spike Dup (BAG0667-MSD2)		Source: 17G0727-01			Prepared: 07/27/2017 Analyzed: 08/04/2017					
2,4,5-T	0.556	0.500	ug/L	0.556	BLOD	100	53-144	0.00	20	
2,4,5-TP (Silvex)	0.611	0.500	ug/L	0.556	BLOD	110	52-129	9.52	20	
2,4-D	0.500	0.500	ug/L	0.556	BLOD	90.0	53-126	20.0	20	
Dinoseb	0.611	0.500	ug/L	0.556	BLOD	110	60-137	0.00	20	
Pentachlorophenol	0.500	0.500	ug/L	0.556	BLOD	90.0	52-124	11.8	20	
<i>Surr: DCAA (Surr)</i>	<i>1.00</i>		ug/L	<i>1.11</i>		<i>90.0</i>	<i>60-112</i>			

Certificate of Analysis

Client Name: Resource International, Ltd.
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Date Issued: 8/8/2017 3:09:22PM

Micro-extractables by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0738 - SW8011										
Blank (BAG0738-BLK1)				Prepared & Analyzed: 07/31/2017						
1,2-Dibromoethane (EDB)	BLOD	0.010	ug/L							
1,2,3-Trichloropropane	BLOD	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BLOD	0.010	ug/L							
LCS (BAG0738-BS1)				Prepared & Analyzed: 07/31/2017						
1,2-Dibromoethane (EDB)	0.280	0.010	ug/L	0.250		112	65-135			
1,2,3-Trichloropropane	0.262	0.010	ug/L	0.250		105	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.298	0.010	ug/L	0.250		119	65-135			
LCS Dup (BAG0738-BSD1)				Prepared & Analyzed: 07/31/2017						
1,2-Dibromoethane (EDB)	0.291	0.010	ug/L	0.250		117	65-135	3.97	20	
1,2,3-Trichloropropane	0.302	0.010	ug/L	0.250		121	65-135	14.2	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.303	0.010	ug/L	0.250		121	65-135	1.87	20	
Matrix Spike (BAG0738-MS1)				Source: 17G0698-03	Prepared & Analyzed: 07/31/2017					
1,2-Dibromoethane (EDB)	0.193	0.010	ug/L	0.243	BLOD	79.3	65-135			
1,2,3-Trichloropropane	0.178	0.010	ug/L	0.243	BLOD	73.1	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.179	0.010	ug/L	0.243	BLOD	73.6	65-135			
Matrix Spike Dup (BAG0738-MSD1)				Source: 17G0698-03	Prepared & Analyzed: 07/31/2017					
1,2-Dibromoethane (EDB)	0.209	0.010	ug/L	0.248	BLOD	84.3	65-135	8.09	20	
1,2,3-Trichloropropane	0.214	0.010	ug/L	0.248	BLOD	86.5	65-135	18.8	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.197	0.010	ug/L	0.248	BLOD	79.3	65-135	9.34	20	

Certificate of Analysis

Client Name: Resource International, Ltd.
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Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAG0725 - No Prep Wet Chem										
Blank (BAG0725-BLK1)				Prepared & Analyzed: 07/31/2017						
Sulfide	BLOD	1.00	mg/L							
LCS (BAG0725-BS1)				Prepared & Analyzed: 07/31/2017						
Sulfide	4.75	1	mg/L	5.00		95.0	80-120			
LCS Dup (BAG0725-BSD1)				Prepared & Analyzed: 07/31/2017						
Sulfide	4.72	1	mg/L	5.00		94.4	80-120	0.634	20	
Matrix Spike (BAG0725-MS1)				Source: 17G0698-03 Prepared & Analyzed: 07/31/2017						
Sulfide	4.55	1.00	mg/L	5.00	BLOD	91.0	75-125			
Matrix Spike (BAG0725-MS2)				Source: 17G0727-01 Prepared & Analyzed: 07/31/2017						
Sulfide	4.65	1.00	mg/L	5.00	BLOD	93.0	75-125			
Matrix Spike Dup (BAG0725-MSD1)				Source: 17G0698-03 Prepared & Analyzed: 07/31/2017						
Sulfide	4.62	1.00	mg/L	5.00	BLOD	92.4	75-125	1.53	20	
Matrix Spike Dup (BAG0725-MSD2)				Source: 17G0727-01 Prepared & Analyzed: 07/31/2017						
Sulfide	4.71	1.00	mg/L	5.00	BLOD	94.2	75-125	1.28	20	
Batch BAH0133 - No Prep Wet Chem										
Blank (BAH0133-BLK1)				Prepared & Analyzed: 08/03/2017						
Cyanide	BLOD	0.01	mg/L							
LCS (BAH0133-BS1)				Prepared & Analyzed: 08/03/2017						
Cyanide	0.22	0.01	mg/L	0.250		89.5	80-120			

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAH0133 - No Prep Wet Chem										
LCS Dup (BAH0133-BSD1)				Prepared & Analyzed: 08/03/2017						
Cyanide	0.23	0.01	mg/L	0.250		93.4	80-120	4.29	20	
Matrix Spike (BAH0133-MS1)				Source: 17G0687-01 Prepared & Analyzed: 08/03/2017						
Cyanide	0.21	0.01	mg/L	0.250	BLOD	84.4	80-120			
Matrix Spike (BAH0133-MS2)				Source: 17G0698-03 Prepared & Analyzed: 08/03/2017						
Cyanide	0.24	0.01	mg/L	0.250	BLOD	96.5	80-120			
Matrix Spike Dup (BAH0133-MSD1)				Source: 17G0687-01 Prepared & Analyzed: 08/03/2017						
Cyanide	0.24	0.01	mg/L	0.250	BLOD	95.1	80-120	12.0	20	
Matrix Spike Dup (BAH0133-MSD2)				Source: 17G0698-03 Prepared & Analyzed: 08/03/2017						
Cyanide	0.24	0.01	mg/L	0.250	BLOD	97.6	80-120	1.15	20	

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Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.2/R2.8		
17G0698-01	50.0 mL / 50.0 mL	SW6010C	BAG0629	SAG0679	AG70125
17G0698-01	50.0 mL / 50.0 mL	SW6010C	BAG0629	SAG0690	AG70128
17G0698-02	50.0 mL / 50.0 mL	SW6010C	BAG0629	SAG0679	AG70125
17G0698-02	50.0 mL / 50.0 mL	SW6010C	BAG0629	SAG0690	AG70128
17G0698-03	50.0 mL / 50.0 mL	SW6010C	BAG0629	SAG0679	AG70125
17G0698-03	50.0 mL / 50.0 mL	SW6010C	BAG0629	SAG0690	AG70128
17G0698-04	50.0 mL / 50.0 mL	SW6010C	BAG0629	SAG0679	AG70125
17G0698-04	50.0 mL / 50.0 mL	SW6010C	BAG0629	SAG0690	AG70128
17G0698-05	50.0 mL / 50.0 mL	SW6010C	BAG0629	SAG0679	AG70125
17G0698-05	50.0 mL / 50.0 mL	SW6010C	BAG0629	SAG0690	AG70128
17G0698-06	50.0 mL / 50.0 mL	SW6010C	BAG0629	SAG0679	AG70125
17G0698-06	50.0 mL / 50.0 mL	SW6010C	BAG0629	SAG0690	AG70128
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.8 R5.4		
17G0698-01	50.0 mL / 50.0 mL	SW6020A	BAG0632	SAG0696	AG70130
17G0698-02	50.0 mL / 50.0 mL	SW6020A	BAG0632	SAG0696	AG70130
17G0698-03	50.0 mL / 50.0 mL	SW6020A	BAG0632	SAG0696	AG70130
17G0698-04	50.0 mL / 50.0 mL	SW6020A	BAG0632	SAG0696	AG70130
17G0698-05	50.0 mL / 50.0 mL	SW6020A	BAG0632	SAG0696	AG70130
17G0698-06	50.0 mL / 50.0 mL	SW6020A	BAG0632	SAG0696	AG70130
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method: No Prep Wet Chem		
17G0698-01	6.00 mL / 6.00 mL	SW9215	BAG0725	SAG0733	
17G0698-02	6.00 mL / 6.00 mL	SW9215	BAG0725	SAG0733	

Certificate of Analysis

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method:	No Prep Wet Chem	
17G0698-03	6.00 mL / 6.00 mL	SW9215	BAG0725	SAG0733	
17G0698-04	6.00 mL / 6.00 mL	SW9215	BAG0725	SAG0733	
17G0698-05	6.00 mL / 6.00 mL	SW9215	BAG0725	SAG0733	
17G0698-06	6.00 mL / 6.00 mL	SW9215	BAG0725	SAG0733	
17G0698-01	6.00 mL / 6.00 mL	SW9012B	BAH0133	SAH0150	AH70030
17G0698-02	6.00 mL / 6.00 mL	SW9012B	BAH0133	SAH0150	AH70030
17G0698-03	6.00 mL / 6.00 mL	SW9012B	BAH0133	SAH0150	AH70030
17G0698-04	6.00 mL / 6.00 mL	SW9012B	BAH0133	SAH0150	AH70030
17G0698-05	6.00 mL / 6.00 mL	SW9012B	BAH0133	SAH0150	AH70030
17G0698-06	6.00 mL / 6.00 mL	SW9012B	BAH0133	SAH0150	AH70030

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Pesticides and PCBs by GC/ECD			Preparation Method:	SW3510C	
17G0698-01	950 mL / 1.00 mL	SW8081B	BAG0650	SAH0024	AD70062
17G0698-02	950 mL / 1.00 mL	SW8081B	BAG0650	SAH0024	AD70062
17G0698-03	920 mL / 1.00 mL	SW8081B	BAG0650	SAH0024	AD70062
17G0698-04	920 mL / 1.00 mL	SW8081B	BAG0650	SAH0024	AD70062
17G0698-05	990 mL / 1.00 mL	SW8081B	BAG0650	SAH0024	AD70062
17G0698-06	890 mL / 1.00 mL	SW8081B	BAG0650	SAH0024	AD70062
17G0698-01	950 mL / 1.00 mL	SW8082A	BAG0650	SAH0025	AJ60160
17G0698-02	950 mL / 1.00 mL	SW8082A	BAG0650	SAH0025	AJ60160
17G0698-03	920 mL / 1.00 mL	SW8082A	BAG0650	SAH0025	AJ60160
17G0698-04	920 mL / 1.00 mL	SW8082A	BAG0650	SAH0025	AJ60160
17G0698-05	990 mL / 1.00 mL	SW8082A	BAG0650	SAH0025	AJ60160
17G0698-06	890 mL / 1.00 mL	SW8082A	BAG0650	SAH0025	AJ60160
17G0698-01	900 mL / 5.00 mL	SW8151A	BAG0667	SAH0181	AH70038
17G0698-02	900 mL / 5.00 mL	SW8151A	BAG0667	SAH0181	AH70038
17G0698-03	900 mL / 5.00 mL	SW8151A	BAG0667	SAH0181	AH70038

Certificate of Analysis

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Herbicides by GC/ECD			Preparation Method: SW3510C		
17G0698-04	900 mL / 5.00 mL	SW8151A	BAG0667	SAH0181	AH70038
17G0698-05	900 mL / 5.00 mL	SW8151A	BAG0667	SAH0181	AH70038
17G0698-06	880 mL / 5.00 mL	SW8151A	BAG0667	SAH0181	AH70038
17G0698-01	920 mL / 1.00 mL	SW8270D	BAG0693	SAH0066	AG70061
17G0698-02	900 mL / 1.00 mL	SW8270D	BAG0693	SAH0066	AG70061
17G0698-03	910 mL / 1.00 mL	SW8270D	BAG0693	SAH0066	AG70061
17G0698-04	920 mL / 1.00 mL	SW8270D	BAG0693	SAH0066	AG70061
17G0698-05	1000 mL / 1.00 mL	SW8270D	BAG0693	SAH0066	AG70061
17G0698-06	890 mL / 1.00 mL	SW8270D	BAG0693	SAH0066	AG70061

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method: SW5030B		
17G0698-01	5.00 mL / 5.00 mL	SW8260B	BAG0657	SAG0664	AG70121
17G0698-02	5.00 mL / 5.00 mL	SW8260B	BAG0657	SAG0664	AG70121
17G0698-03	5.00 mL / 5.00 mL	SW8260B	BAG0657	SAG0664	AG70121
17G0698-04	5.00 mL / 5.00 mL	SW8260B	BAG0657	SAG0664	AG70121
17G0698-05	5.00 mL / 5.00 mL	SW8260B	BAG0657	SAG0664	AG70121
17G0698-06	5.00 mL / 5.00 mL	SW8260B	BAG0657	SAG0664	AG70121
17G0698-07	5.00 mL / 5.00 mL	SW8260B	BAG0657	SAG0664	AG70121

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
17G0698-01	20.0 mL / 20.0 mL	SW7470A	BAG0702	SAH0010	AH70003
17G0698-02	20.0 mL / 20.0 mL	SW7470A	BAG0702	SAH0010	AH70003
17G0698-03	20.0 mL / 20.0 mL	SW7470A	BAG0702	SAH0010	AH70003
17G0698-04	20.0 mL / 20.0 mL	SW7470A	BAG0702	SAH0010	AH70003
17G0698-05	20.0 mL / 20.0 mL	SW7470A	BAG0702	SAH0010	AH70003
17G0698-06	20.0 mL / 20.0 mL	SW7470A	BAG0702	SAH0010	AH70003

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Micro-extractables by GC/ECD			Preparation Method: SW8011		
17G0698-01	60.3 mL / 2.00 mL	SW8011	BAG0738	SAG0746	AG70133
17G0698-02	59.1 mL / 2.00 mL	SW8011	BAG0738	SAG0746	AG70133
17G0698-03	61.6 mL / 2.00 mL	SW8011	BAG0738	SAG0746	AG70133
17G0698-04	60.4 mL / 2.00 mL	SW8011	BAG0738	SAG0746	AG70133
17G0698-05	60.7 mL / 2.00 mL	SW8011	BAG0738	SAG0746	AG70133
17G0698-06	59.6 mL / 2.00 mL	SW8011	BAG0738	SAG0746	AG70133
17G0698-07	57.6 mL / 2.00 mL	SW8011	BAG0738	SAG0746	AG70133

Certificate of Analysis

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Certified Analyses included in this Report

Analyte	Certifications
<i>SW6010C in Non-Potable Water</i>	
Barium	VELAP,WVDEP
Beryllium	VELAP,WVDEP
Cadmium	VELAP,WVDEP
Chromium	VELAP,WVDEP
Cobalt	VELAP,WVDEP
Copper	VELAP,WVDEP
Lead	VELAP,WVDEP
Nickel	VELAP,WVDEP
Selenium	VELAP,WVDEP
Silver	VELAP,WVDEP
Tin	VELAP,WVDEP
Vanadium	VELAP,WVDEP
Zinc	VELAP,WVDEP
<i>SW6020A in Non-Potable Water</i>	
Antimony	VELAP,NC,WVDEP
Arsenic	VELAP,WVDEP
Thallium	VELAP,WVDEP
<i>SW7470A in Non-Potable Water</i>	
Mercury	VELAP,NC,WVDEP
<i>SW8011 in Non-Potable Water</i>	
1,2-Dibromoethane (EDB)	VELAP,NC
1,2,3-Trichloropropane	VELAP,NC
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NC
<i>SW8081B in Non-Potable Water</i>	
4,4'-DDD	NC,VELAP,WVDEP

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Certified Analyses included in this Report

Analyte	Certifications
4,4'-DDE	NC,VELAP,WVDEP
4,4'-DDT	NC,VELAP,WVDEP
Aldrin	NC,VELAP,WVDEP
alpha-BHC	NC,VELAP,WVDEP
beta-BHC	NC,VELAP,WVDEP
Chlordane	NC,VELAP,WVDEP
delta-BHC	NC,VELAP,WVDEP
Dieldrin	NC,VELAP,WVDEP
Endosulfan I	NC,VELAP,WVDEP
Endosulfan II	NC,VELAP,WVDEP
Endosulfan sulfate	NC,VELAP,WVDEP
Endrin	NC,VELAP,WVDEP
Endrin aldehyde	NC,VELAP,WVDEP
gamma-BHC (Lindane)	NC,VELAP,WVDEP
Heptachlor	NC,VELAP,WVDEP
Heptachlor epoxide	NC,VELAP,WVDEP
Methoxychlor	NC,VELAP,WVDEP
Toxaphene	NC,VELAP,WVDEP
SW8082A in Non-Potable Water	
PCB as Aroclor 1016	VELAP,NC,WVDEP
PCB as Aroclor 1221	VELAP,NC,WVDEP
PCB as Aroclor 1232	VELAP,NC,WVDEP
PCB as Aroclor 1242	VELAP,NC,WVDEP
PCB as Aroclor 1248	VELAP,NC,WVDEP
PCB as Aroclor 1254	VELAP,NC,WVDEP
PCB as Aroclor 1260	VELAP,NC,WVDEP
SW8151A in Non-Potable Water	
2,4,5-T	VELAP,NC

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Certified Analyses included in this Report

Analyte	Certifications
2,4,5-TP (Silvex)	VELAP,NC
2,4-D	VELAP,NC
Dinoseb	VELAP,NC
Pentachlorophenol	VELAP,NC
SW8260B in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,1-Dichloropropene	NC,VELAP,WVDEP
1,2,3-Trichloropropane	NC,VELAP,WVDEP
1,2,4-Trichlorobenzene	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,2-Dichloroethane	NC,VELAP,WVDEP
1,2-Dichloropropane	NC,VELAP,WVDEP
1,3-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2,2-Dichloropropane	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acetonitrile	NC,VELAP,WVDEP
Acrolein	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP

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Certified Analyses included in this Report

Analyte	Certifications
Allyl chloride	NC, VELAP, WVDEP
Benzene	NC, VELAP, WVDEP
Bromochloromethane	NC, VELAP, WVDEP
Bromodichloromethane	NC, VELAP, WVDEP
Bromoform	NC, VELAP, WVDEP
Bromomethane	NC, VELAP, WVDEP
Carbon disulfide	NC, VELAP, WVDEP
Carbon tetrachloride	NC, VELAP, WVDEP
Chlorobenzene	NC, VELAP, WVDEP
Chloroethane	NC, VELAP, WVDEP
Chloroform	NC, VELAP, WVDEP
Chloromethane	NC, VELAP, WVDEP
Chloroprene	NC, VELAP, WVDEP
cis-1,2-Dichloroethylene	NC, VELAP, WVDEP
cis-1,3-Dichloropropene	NC, VELAP, WVDEP
Dibromochloromethane	NC, VELAP, WVDEP
Dibromomethane	NC, VELAP, WVDEP
Dichlorodifluoromethane	NC, VELAP, WVDEP
Ethyl methacrylate	NC, VELAP, WVDEP
Ethylbenzene	NC, VELAP, WVDEP
Hexachlorobutadiene	NC, VELAP, WVDEP
Iodomethane	NC, VELAP, WVDEP
Isobutyl Alcohol	NC, VELAP, WVDEP
m+p-Xylenes	NC, VELAP, WVDEP
Methacrylonitrile	NC, VELAP, WVDEP
Methyl methacrylate	NC, VELAP, WVDEP
Methylene chloride	NC, VELAP, WVDEP
o-Xylene	NC, VELAP, WVDEP

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Certified Analyses included in this Report

Analyte	Certifications
Propionitrile	NC, VELAP, WVDEP
Styrene	NC, VELAP, WVDEP
Tetrachloroethylene (PCE)	NC, VELAP, WVDEP
Toluene	NC, VELAP, WVDEP
trans-1,2-Dichloroethylene	NC, VELAP, WVDEP
trans-1,3-Dichloropropene	NC, VELAP, WVDEP
trans-1,4-Dichloro-2-butene	NC, VELAP, WVDEP
Trichloroethylene	NC, VELAP, WVDEP
Trichlorofluoromethane	NC, VELAP, WVDEP
Vinyl acetate	NC, VELAP, WVDEP
Vinyl chloride	NC, VELAP, WVDEP
Xylenes, Total	NC, VELAP, WVDEP
<i>SW8270D in Non-Potable Water</i>	
1,2,4,5-Tetrachlorobenzene	NC, VELAP, WVDEP
1,3,5-Trinitrobenzene	NC, VELAP, WVDEP
1,3-Dinitrobenzene	NC, VELAP, WVDEP
1,4-Naphthoquinone	NC, VELAP, WVDEP
1-Naphthylamine	NC, VELAP, WVDEP
2,3,4,6-Tetrachlorophenol	NC, VELAP, WVDEP
2,4,5-Trichlorophenol	NC, VELAP, WVDEP
2,4,6-Trichlorophenol	NC, VELAP, WVDEP
2,4-Dichlorophenol	NC, VELAP, WVDEP
2,4-Dimethylphenol	NC, VELAP, WVDEP
2,4-Dinitrophenol	NC, VELAP, WVDEP
2,4-Dinitrotoluene	NC, VELAP, WVDEP
2,6-Dichlorophenol	NC, VELAP, WVDEP
2,6-Dinitrotoluene	NC, VELAP, WVDEP
2-Acetylaminofluorene	NC, VELAP, WVDEP

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Certified Analyses included in this Report

Analyte	Certifications
2-Chloronaphthalene	NC, VELAP, WVDEP
2-Chlorophenol	NC, VELAP, WVDEP
2-Methylnaphthalene	NC, VELAP, WVDEP
2-Naphthylamine	NC, VELAP, WVDEP
2-Nitroaniline	NC, VELAP, WVDEP
2-Nitrophenol	NC, VELAP, WVDEP
3,3'-Dichlorobenzidine	NC, VELAP, WVDEP
3,3'-Dimethylbenzidine	NC, VELAP, WVDEP
3-Methylcholanthrene	NC, VELAP, WVDEP
3-Nitroaniline	NC, VELAP, WVDEP
4,6-Dinitro-2-methylphenol	NC, VELAP, WVDEP
4-Aminobiphenyl	NC, VELAP, WVDEP
4-Bromophenyl phenyl ether	NC, VELAP, WVDEP
4-Chloroaniline	NC, VELAP, WVDEP
4-Chlorophenyl phenyl ether	NC, VELAP, WVDEP
4-Nitroaniline	NC, VELAP, WVDEP
4-Nitrophenol	NC, VELAP, WVDEP
5-Nitro-o-toluidine	NC, VELAP, WVDEP
7,12-Dimethylbenz (a) anthracene	NC, VELAP, WVDEP
Acenaphthene	NC, VELAP, WVDEP
Acenaphthylene	NC, VELAP, WVDEP
Acetophenone	NC, VELAP, WVDEP
Anthracene	NC, VELAP, WVDEP
Benzo (a) anthracene	NC, VELAP, WVDEP
Benzo (a) pyrene	NC, VELAP, WVDEP
Benzo (b) fluoranthene	NC, VELAP, WVDEP
Benzo (g,h,i) perylene	NC, VELAP, WVDEP
Benzo (k) fluoranthene	NC, VELAP, WVDEP

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Analyte	Certifications
Benzyl alcohol	NC, VELAP, WVDEP
bis (2-Chloroethoxy) methane	NC, VELAP, WVDEP
bis (2-Chloroethyl) ether	NC, VELAP, WVDEP
2,2'-Oxybis (1-chloropropane)	NC, VELAP, WVDEP
bis (2-Ethylhexyl) phthalate	NC, VELAP, WVDEP
Butyl benzyl phthalate	NC, VELAP, WVDEP
Chlorobenzilate	NC, VELAP, WVDEP
Chrysene	NC, VELAP, WVDEP
Diallate	NC, VELAP, WVDEP
Dibenz (a,h) anthracene	NC, VELAP, WVDEP
Dibenzofuran	NC, VELAP, WVDEP
Diethyl phthalate	NC, VELAP, WVDEP
Dimethoate	NC, VELAP, WVDEP
Dimethyl phthalate	NC, VELAP, WVDEP
Di-n-butyl phthalate	NC, VELAP, WVDEP
Di-n-octyl phthalate	NC, VELAP, WVDEP
Diphenylamine	NC, VELAP, WVDEP
Disulfoton	NC, VELAP, WVDEP
Ethyl methanesulfonate	NC, VELAP, WVDEP
Ethyl parathion	NC, VELAP, WVDEP
Famphur	NC, VELAP, WVDEP
Fluoranthene	NC, VELAP, WVDEP
Fluorene	NC, VELAP, WVDEP
Hexachlorobenzene	NC, VELAP, WVDEP
Hexachlorobutadiene	NC, VELAP, WVDEP
Hexachlorocyclopentadiene	NC, VELAP, WVDEP
Hexachloroethane	NC, VELAP, WVDEP
Hexachloropropene	NC, VELAP, WVDEP

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Certified Analyses included in this Report

Analyte	Certifications
Indeno (1,2,3-cd) pyrene	NC,VELAP,WVDEP
Isodrin	NC,VELAP,WVDEP
Isophorone	NC,VELAP,WVDEP
Isosafrole	NC,VELAP,WVDEP
Kepone	NC,VELAP,WVDEP
m+p-Cresols	NC,VELAP,WVDEP
Methapyrilene	NC,VELAP,WVDEP
Methyl methanesulfonate	NC,VELAP,WVDEP
Methyl parathion	NC,VELAP,WVDEP
Naphthalene	NC,VELAP,WVDEP
Nitrobenzene	NC,VELAP,WVDEP
n-Nitrosodiethylamine	NC,VELAP,WVDEP
n-Nitrosodimethylamine	NC,VELAP,WVDEP
n-Nitrosodi-n-butylamine	NC,VELAP,WVDEP
n-Nitrosodi-n-propylamine	NC,VELAP,WVDEP
n-Nitrosodiphenylamine	NC,VELAP,WVDEP
n-Nitrosomethylethylamine	NC,VELAP,WVDEP
n-Nitrosopiperidine	NC,VELAP,WVDEP
n-Nitrosopyrrolidine	NC,VELAP,WVDEP
o,o,o-Triethyl phosphorothioate	NC,VELAP,WVDEP
o,o-Diethyl o-2-pyrazinyl phosphorothioate	NC,VELAP,WVDEP
o+m+p-Cresols	VELAP,WVDEP
o-Cresol	NC,VELAP,WVDEP
o-Toluidine	NC,VELAP,WVDEP
p-(Dimethylamino) azobenzene	NC,VELAP,WVDEP
p-Chloro-m-cresol	NC,VELAP,WVDEP
Pentachlorobenzene	NC,VELAP,WVDEP
Pentachloronitrobenzene (quintozene)	NC,VELAP,WVDEP

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Certified Analyses included in this Report

Analyte	Certifications
Phenacetin	NC, VELAP, WVDEP
Phenanthrene	NC, VELAP, WVDEP
Phenol	NC, VELAP, WVDEP
Phorate	NC, VELAP, WVDEP
p-Phenylenediamine	NC, VELAP, WVDEP
Pronamide	NC, VELAP, WVDEP
Pyrene	NC, VELAP, WVDEP
Safrole	NC, VELAP, WVDEP
SW9012B in Non-Potable Water	
Cyanide	VELAP
SW9215 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Cert Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2017
NC	North Carolina DENR	495	12/31/2017
PADEP	NELAC-Pennsylvania	001	10/31/2017
VELAP Certificate #4337	NELAC-Virginia Certificate #9316	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2017

Certificate of Analysis

Client Name: Resource International, Ltd.
 Client Site I.D.: Goochland Co. LF
 Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Qualifiers and Definitions

C	Continuing calibration verification response for this analyte is outside specifications.
Cl	Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
E	Estimated concentration, outside calibration range
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
P	Duplicate analysis does not meet the acceptance criteria for precision
S	Surrogate recovery was outside acceptance criteria
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

ATTACHMENT VIII
CHAIN OF CUSTODY DOCUMENTATION



1941 REYMET ROAD
RICHMOND, VIRGINIA 23237
(804) 358-8295 PHONE
(804) 358-8297 FAX

Chain of Custody
Form #: F1331
Rev. 2.0
Effective: Jun 28, 2016

CHAIN OF CUSTODY

LABORATORIES, INC.

COMPANY NAME: Resource Int'l.	INVOICE TO: Joanna Sylva	PROJECT NAME/Quote #: Goochland Co. LF
CONTACT: Mike W, Ginny G.	INVOICE CONTACT:	SITE NAME:
ADDRESS: 1560 Kings Charter Dr.	INVOICE ADDRESS: GMMO	PROJECT NUMBER: 97007-09
PHONE #: 804-550-9200	INVOICE PHONE #:	P.O. #:
FAX #: -	EMAIL: mwilling@vpi.com	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT): GINNY GILLS	SAMPLER SIGNATURE: <i>Ginny Gills</i>	Turn Around Time: 10 5 Days or Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other

CLIENT SAMPLE I.D.	Grab		Composite		Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)					PRESERVATIVE CODES: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol	PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)					
	Grab	Composite	Grab	Composite									1	2	3	4	5							
1) MW-2	X							7/25/17 1420			GW	11	X											
2) MW-5	X							140				11	X											
3) MW-6 MS/MSP	X							1355				35	X											
4) MW-13	X							1355				11	X											
5) MW-14	X							915				11	X											
6) Field Blank	X							1435				11	X											
7) Trip Blank	X							6/23/17 1430				4	X											
8)																								
9)																								
10)																								
RELINQUISHED: <i>Ginny Gills</i> 7/25/17 1630	DATE / TIME	RECEIVED: <i>Ginny Gills</i> 7/25/17 1630	DATE / TIME	RELINQUISHED: <i>Ginny Gills</i> 7/25/17 1630	DATE / TIME	RECEIVED: <i>Ginny Gills</i> 7/25/17 1630	DATE / TIME	RELINQUISHED: <i>Ginny Gills</i> 7/25/17 1630	DATE / TIME	RECEIVED: <i>Ginny Gills</i> 7/25/17 1630	DATE / TIME	RELINQUISHED: <i>Ginny Gills</i> 7/25/17 1630	DATE / TIME	RECEIVED: <i>Ginny Gills</i> 7/25/17 1630	DATE / TIME	RELINQUISHED: <i>Ginny Gills</i> 7/25/17 1630	DATE / TIME	RECEIVED: <i>Ginny Gills</i> 7/25/17 1630	DATE / TIME					
LAB USE ONLY													COOLER TEMP 1.3 °C		NO SEAL ON ICE									
QC Data Package													Level III ☐		Level IV ☐		Level II ☒		RIL 17G0698		Goochland Cy LF 3.1B		Recd: 07/25/2017 Due: 08/08/2017	



Order ID: 17G0698

Sample Preservation Log

Sample Preservation Log
Form #: F1301
Rev # 7.0
Effective: Feb 21, 2017
Page 1 of 1

Date Performed: 26 July 2017

Analyst Performing Check: TW/S

Sample ID	Container ID	Metals			Cyanide			Sulfide			Ammonia			TKN			Phos, Tot			NO3+NO2			DRO			Pesticide (8081/608/508)			SVOC (525.2/8270/625)			CrVI*			pH as Received			Final pH (if adjust.)		
		pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)	Res. Cl as Received	Present/Absent	Res. Cl P/A (if adjust.)	Res. Cl as Received	Present/Absent	Res. Cl P/A (if adjust.)	pH as Received	Other	Final pH (if adjust.)	pH as Received	Other	Final pH (if adjust.)						
03	2	/																																						
03	5	/																																						
03	T	/																																						
04	A	/																																						
04	D	/																																						
04	E	/																																						
04	F	/																																						
05	A	/																																						
05	D	/																																						
05	E	/																																						
05	F	/																																						
06	A	/																																						
06	D	/																																						
06	E	/																																						
06	F	/																																						

NaOH ID: _____ HNO3 ID: _____ Analyst Initials: _____
H2SO4 ID: _____ Na2S2O3 ID: _____
HCL ID: _____ Na2SO3 ID: _____
5N NaOH: _____
1N NaOH ID: _____

CrVI preserved date/time: _____
*pH must be adjusted between 9.3 - 9.7
Buffer Sol'n ID: _____

THIS DOCUMENT IS UNCONTROLLED WHEN PRINTED
F1301 Sample Preservation Log 7.0.xls



Order ID 17G0698

Sample Preservation Log

Sample Preservation Log
Form #: F1301
Rev # 7.0
Effective: Feb 21, 2017
Page 1 of 1

Date Performed: 20 July 2017

Analyst Performing Check: Tm/18

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/608/508)				SVOC (525.2/8270/625)		CrVI*		pH as Received		Final pH (if adjust.)	
		pH as Received	Final pH (if adjust.)	pH as Received	Final pH (if adjust.)	pH as Received	Final pH (if adjust.)	pH as Received	Final pH (if adjust.)	pH as Received	Final pH (if adjust.)	pH as Received	Final pH (if adjust.)	pH as Received	Final pH (if adjust.)	pH as Received	Final pH (if adjust.)	Res. Cl as Received	Present	Absent	Res. Cl as Received	Present	Absent	pH as Received	Final pH (if adjust.)	pH as Received	Final pH (if adjust.)	pH as Received	Final pH (if adjust.)
01	A																												
01	D																												
01	E																												
01	F																												
02	A																												
02	D																												
02	E																												
02	F																												
03	A																												
03	L																												
03	M																												
03	N																												
03	O																												
03	P																												
03	Q																												

NaOH ID: _____

HNO3 ID: _____

CrVI preserved date/time: _____

Analyst Initials: _____

H2SO4 ID: _____

Na2S2O3 ID: _____

* pH must be adjusted between 9.3 - 9.7

Buffer Sol'n ID: _____

HCL ID: _____

Na2SO3 ID: _____

1N NaOH ID: _____

5N NaOH: _____

THIS DOCUMENT IS UNCONTROLLED WHEN PRINTED

F1301 Sample Preservation Log 7.0.xls



Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Resource International, Ltd.
Client Site I.D.: Goochland Co. LF
Submitted To: Mike Willinger

Date Issued: 8/8/2017 3:09:22PM

Sample Conditions Checklist

Samples Received at:	1.30°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (above freezing to 6°C) or received on ice and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments

ATTACHMENT IX
FIELD BOOK DOCUMENTATION

Resource International, Ltd.

GROUNDWATER SAMPLE COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179
 Project Number: 97007.09
 Date: 7/25/17
 Well ID: MW-02
 Sampler(s): GAB
 Sheet ID: 2 of 8
 Sample Collection Method:
 X Bailer

Notes:

PRE-SAMPLING DATA

Large well until three successive readings of the following Indicator Parameters have stabilized within 10%. pH; Conductivity and Turbidity
 All other parameters may be recorded for informational purposes only.

TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C	Salinity %	ORP (mV)	Purge Calculation
1411	200	6.37	0.170	20.9	0.00	21.87	—	48	Well Diameter= 2" Well Depth (WD)= 11.86 Depth to water (DTW)= 7.08 WH (WD-DTW)= 4.78 WV= 0.8 Time Begin 1411 Time Finish 1424 Total Time (min) :13 Purge Vol (gal) 0.5
				dry @ 0.5 gal					Well Looked? Y Riser ovr intact? Y Casing intact? Y Pad intact? Y Standing water? N Tempering? N
Sampled: 11 bottles @ 1420									

Final line of Pre-Sampling Data represents conditions at start of sample collection.

Purge Calculation: For 2" well: 3 well volumes = water height x 0.489 = 2.4

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	ICE	3 clear VOA (40 ml)
Method 8270D SVOC detects	None	ICE	1 1-L amber
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	ICE	2 amber VOA (60 ml)
Method 8151A Herb detects	None	ICE	1 1-L amber
Method 8081/8082 Pest/PCB detects	None	ICE	1 1-L amber
Cyanide	NaOH	ICE	1 plastic (250 ml)
Sulfide	NaOH+ZnAc	ICE	1 1-L plastic
Metals-3.1 A + Hg & Sn	HNO ₃	ICE	1 plastic (500 ml)

Signature: 
 Sherry Kelly

Resource International, Ltd.

GROUNDWATER SAMPLE COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179

Project Number: 97007.09

Date: 7/25/17

Well ID: MW-05

Sampler(s): 6/6

Sheet ID: 5 of 8

Sample Collection Method:

X Bailer

Notes:

PRE-SAMPLING DATA									
Large well until three successive readings of the following Indicator Parameters have stabilized within 10%: pH; Conductivity and Turbidity All other parameters may be recorded for informational purposes only.									
TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C	Salinity %	ORP (mV)	Purge Calculation
952	0	6.34	0.426	30.9	0.00	17.42	—	104	Well Diameter= 2" 29.00
956	2.5	6.20	0.419	2.1	0.00	16.67	—	98	Well Depth (WD)= 13.92
1000	5.0	6.18	0.418	3.9	0.00	16.24	—	111	Depth to water (DTW)= 15.08
1004	7.5	6.17	0.417	3.3	0.00	16.21	—	110	WH (WD-DTW)= 2.5
									Time Begin 952
									Time Finish 1014
									Total Time (min) 7:22
									Purge Vol (gal) 7.5
									Well Locked? Y
									Riser or Intact? Y
									Casing Intact? Y
									Pad Intact? Y
									Standing water? N
									Tampering? N

Sampled: 11 bottles @ 1010

1014 — 6.13 0.417 5.0 0.00 15.99 — 107

Final line of Pre-Sampling Data represents conditions at start of sample collection.

Purge Calculation:

For 2" well: 3 well volumes = water height x 0.489 = 7.5

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	3 clear VOA (40 ml)	
Method 8270D SVOC detects	None	1 1-L amber	
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	2 amber VOA (60 ml)	
Method 8151A Herb detects	None	1 1-L amber	
Method 8081/8082 Pest/PCB detects	None	1 1-L amber	
Cyanide	NaOH	1 plastic (250 ml)	
Sulfide	NaOH+ZnAc	1 1-L plastic	
Metals-3.1 A + Hg & Sn	HNO ₃	1 plastic (500 ml)	

[Signature]
Signalura

Resource International, Ltd.

GROUNDWATER SAMPLE COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179

Project Number: 97007.09

Date: 7/25/17

Well ID: MW-06

Sampler(s): 66

Sheet ID: 6 of 8

Sample Collection Method:

X Bailer

PRE-SAMPLING DATA									
Purge well until three successive readings of the following Indicator Parameters have stabilized within 10%: pH; Conductivity and Turbidity. All other parameters may be recorded for informational purposes only.									
TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C	Salinity %	ORP (mV)	Purge Calculation
1220	0	7.13	0.077	14.0	0.59	17.87	—	147	Well Diameter= 2"
1230	2.3	5.75	0.036	33.6	0.36	16.80	—	196	Well Depth (WD)= 51.70
1235	4.6	5.05	0.026	136	0.00	15.83	—	113	Depth to water (DTW)= 37.54
1239	6.9	4.71	0.024	163	1.79	15.72	—	128	WH (WD-DTW)= 14.16
Sampled: 35 bottles @ 045									WV= 2.3
1307	—	4.65	0.025	110	0.05	15.79	—	131	Time Begin 1220
Final line of Pre-Sampling Data represents conditions at start of sample collection.									
									Time Finish 1307
									Total Time (min) 47
									Purge Vol (gal) 6.4
									Well Locked? Y
									Riser or Intact? Y
									Casing Intact? Y
									Pad Intact? Y
									Sanding water? N
									Tampering? N

Purge Calculation:

For 2" well: 3 well volumes = water height x 0.489 =

6.4

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	ICE	9 clear VOA (40 ml)
Method 8270D SVOC detects	None	ICE	3 1-L amber
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	ICE	6 amber VOA (60 ml)
Method 8151A Herb detects	None	ICE	3 1-L amber
Method 8081/8082 Pest/PCB detects	None	ICE	5 1-L amber
Cyanide	NaOH	ICE	3 plastic (250 ml)
Sulfide	NaOH+ZnAc	ICE	3 1-L plastic
Metals-3.1 A + Hg & Sn	HNO ₃	ICE	3 plastic (500 ml)

Sherry Hill
Signature

Notes:

MS/MSD on this well.

Resource International, Ltd.

GROUNDWATER SAMPLE COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179

Project Number: 97007.09

Date: 7/25/17

Well ID: MW-13

Sampler(s): 66

Sheet ID: 7 of 8

Sample Collection Method:

X Bailer

Notes:

PRE-SAMPLING DATA									
Purge well until three successive readings of the following Indicator Parameters have stabilized within 10%: pH; Conductivity and Turbidity. All other parameters may be recorded for informational purposes only.									
TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C	Salinity %	ORP (mV)	Purge Calculation
1336	0	6.28	0.183	18.4	0.00	17.12	-	24	Well Diameter= 2"
1340	2.0	6.32	0.189	15.1	0.00	16.19	-	19	Well Depth (WD)= 94.60
1345	4.0	6.35	0.185	17.8	0.00	16.03	-	14	Depth to water (DTW)= 39.26
1349	6.0	6.38	0.180	17.9	0.00	17.65	-	12	WH (WD-DTW)= 55.34
									WV= 9.0
									Time Begin 1336
									Time Finish 1359
									Total Time (min) : 23
									Purge Vol (gal) 6.0
									Well Locked? Y
									Riser cap intact? Y
									Casing intact? Y
									Pad intact? N
									Standing water? N
									Tampering? N

Sampled: 11 bottles @ 1355

1359 - 6.50 0.178 16.4 0.00 17.75 - 17

Final line of Pre-Sampling Data represents conditions at start of sample collection.

Purge Calculation:

For 2" well: 3 well volumes = water height x 0.489 =

267.0

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	ICE	3 clear VOA (40 ml)
Method 8270D SVOC detects	None	ICE	1 1-L amber
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	ICE	2 amber VOA (60 ml)
Method 8151A Herb detects	None	ICE	1 1-L amber
Method 8081/8082 Pest/PCB detects	None	ICE	1 1-L amber
Cyanide	NaOH	ICE	1 plastic (250 ml)
Sulfide	NaOH+ZnAc	ICE	1 1-L plastic
Metals-3.1 A + Hg & Sn	HNO ₃	ICE	1 plastic (500 ml)

Signature: *Shing Yick*

Signature

Resource International, Ltd.

GROUNDWATER SAMPLE COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179

Project Number: 97007.09

Date: 7/25/17

Well ID: MW-14

Sampler(s): 66

Sheet ID: 8 of 8

Sample Collection Method:

X Bailer

Notes:

PRE-SAMPLING DATA									
Purge well until three successive readings of the following Indicator Parameters have stabilized within 10%: pH; Conductivity and Turbidity. All other parameters may be recorded for informational purposes only.									
TIME	Gallons Purged	pH	Cond (mS/cm)	Turbidity (NTU)	DO (mg/l)	Temp °C	Salinity %	ORP (mV)	Purge Calculation
902	0	6.97	0.764	234	8.81	17.32	—	91	Well Diameter= 2"
904	1.5	6.91	0.754	217	8.10	15.69	—	89	Well Depth (WD)= 16.47
906	3.0	6.67	0.766	299	6.00	15.15	—	87	Depth to water (DTW)= 7.20
908	4.5	6.66	0.779	450	0.19	14.76	—	86	WH (WD-DTW)= 9.27
									WW= 1.5
									Time Begin 902
									Time Finish 919
									Total Time (min) 17
									Purge Vol (gal) 4.5
									Well Locked? Y
									Riser ovr intact? Y
									Casing intact? Y
									Pad intact? Y
									Standing water? N
									Tampering? N

Sampled: 11 bottles @ 915

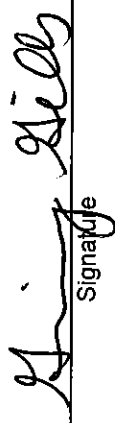
Final line of Pre-Sampling Data represents conditions at start of sample collection.

Purge Calculation:

For 2" well: 3 well volumes = water height x 0.489 =

4.5

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	3 clear VOA (40 ml)	
Method 8270D SVOC detects	None	1 1-L amber	
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	2 amber VOA (60 ml)	
Method 8151A Herb detects	None	1 1-L amber	
Method 8081/8082 Pest/PCB detects	None	1 1-L amber	
Cyanide	NaOH	1 plastic (250 ml)	
Sulfide	NaOH+ZnAc	1 1-L plastic	
Metals-3.1 A + Hg & Sn	HNO ₃	1 plastic (500 ml)	

Signature: 

Resource International, Ltd.

FIELD BLANK COLLECTION LOG

Project Site Name: Goochland County Landfill Permit #179

Project Number: 97007.09

Date: 7/25/17

Well ID: Field blank

Sampler(s): 515

Time: 1435

Sample Collection Method:

Using a new gallon of distilled water, fill field blank bottles using the same process as sample collection.

Analysis	Preservative	Containers	Collected (check)
Method 8260 Volatiles + detects	HCl	3 clear VOA (40 ml)	
Method 8270D SVOC detects	None	1 1-L amber	
Method 8011 EDB, DBCP, 1,2,3-TCP	HCl	2 amber VOA (60 ml)	
Method 8151A Herb detects	None	1 1-L amber	
Method 8081/8082 Pest/PCB detects	None	1 1-L amber	
Cyanide	NaOH	1 plastic (250 ml)	
Sulfide	NaOH+ZnAc	1 1-L plastic	
Metals-3.1 A + Hg & Sn	HNO ₃	1 plastic (500 ml)	

NOTES:

Origin of field blank water:

Food Lion Distilled water

[Signature]

Signature

ATTACHMENT X
STATISTICAL DATA SHEETS

Project Name: Goochland County Landfill - Permit No. 179
Project Number: 97007.09
Sample Event Date: 07/25/2017
Parameters: VSWMR Table 3.1B
Analysis Date: 08/08/2017
Page 1 of 1

Summary Table of Laboratory Results
with Groundwater Protection Standards

	Sample ID:		MW-02 (D)	MW-05 (D)	MW-06 (U)	MW-13 (D)	MW-14 (U)	Trip Blank	Field Blank	GPS (ug/l)	Basis
	Sample Date:		7/25/2017	7/25/2017	7/25/2017	7/25/2017	7/25/2017	6/23/2017	7/25/2017		
	LOD	LOQ									
Inorganic compounds: µg/L											
Arsenic	1.0	5.0	1.1 J	ND	ND	ND	2.2 J	-	ND	10	MCL
Barium	2.0	10.0	129	167	134	277	349	-	ND	2000	MCL
Cadmium	2.0	4.0	ND	ND	ND	ND	2.8 J	-	ND	8	BKG
Chromium	1.0	10.0	9.0 J	16.4	7.9 J	ND	26.3	-	ND	100	MCL
Cobalt	2.0	4.0	3.1 J	ND	4.0 J	ND	35.1	-	ND	77.6	BKG
Copper	3.0	10.0	5.2 J	ND	5.6 J	ND	57.6	-	ND	800	ACL
Lead	6.0	10.0	ND	ND	ND	ND	8.5 J	-	ND	15	MCL
Nickel	2.0	10.0	4.0 J	6.6 J	4.5 J	6.1 J	19.2	-	ND	390	ACL
Selenium	8.0	50.0	ND	18.0	ND	ND	39.6	-	ND	50	MCL
Vanadium	2.0	10.0	21.4	11.1	16.5	ND	44.4	-	ND	92	BKG
Zinc	10.0	10.0	11.8	ND	19.9	ND	58.5	-	ND	6000	ACL

	Sample ID:		MW-02 (D)	MW-05 (D)	MW-06 (U)	MW-13 (D)	MW-14 (U)	Trip Blank	Field Blank	GPS (ug/l)	Basis
	Sample Date:		7/25/2017	7/25/2017	7/25/2017	7/25/2017	7/25/2017	6/23/2017	7/25/2017		
	LOD	LOQ									
Organic compounds: µg/L											
1,1-Dichloroethane	0.20	1.00	0.27 J	ND	ND	0.22 J	ND	ND	ND	2.8	ACL
1,2-Dichlorobenzene	0.20	1.00	ND	ND	ND	ND	0.25 J	ND	ND	600	MCL
1,4-Dichlorobenzene	0.20	1.00	ND	1.24	ND	ND	3.33	ND	ND	75	MCL
Benzene	0.20	1.00	0.27 J	0.87 J	ND	0.30 J	0.45 J	ND	ND	5	MCL
Chlorobenzene	0.10	1.00	ND	0.60 J	ND	ND	1.89	ND	ND	100	MCL
Chloroethane	0.20	1.00	ND	ND	ND	ND	0.52 J	ND	ND	21000	ACL
Chloroform (TTHM)	0.20	0.50	0.81	ND	ND	ND	ND	ND	ND	80	TTHM
cis-1,2-Dichloroethylene	0.20	1.00	1.80	2.01	ND	4.71	5.02	ND	ND	70	MCL
Dichlorodifluoromethane	0.20	1.00	2.20	ND	ND	ND	ND	ND	ND	200	ACL
Tetrachloroethylene (PCE)	0.20	1.00	1.04	ND	ND	1.66	ND	ND	ND	5	MCL
Trichloroethylene	0.20	1.00	0.36 J	ND	ND	0.60 J	ND	ND	ND	5	MCL
Vinyl chloride	0.20	0.50	ND	0.54	ND	ND	0.62	ND	ND	2	MCL
bis (2-Ethylhexyl) phthalate	1.11	2.78	ND	1.31 J	1.67 J	ND	1.69 J	ND	ND	6	MCL
Di-n-butyl phthalate	2.20	11.0	ND	ND	3.37 J	ND	ND	ND	ND	900	ACL
o-Xylene	0.10	1.0	ND	ND	ND	0.17 J	ND	ND	ND	10000	MCL

Constituents not listed were not detected.

ND - Not Detected

J - Constituent was detected above the LOD but below the LOQ

TTHM - Individual constituents of trihalomethanes (THM) do not have a constituent-specific MCL. Combined concentrations of THM may not exceed MCL of 80 ug/l.

ATTACHMENT XI
SPECIAL CONDITIONS

There were no “special conditions” (e.g., wells that could not be sampled, problems with analytical data, etc.) requiring additional detailed description for this semi-annual report.

APPENDIX C

Historical Summary of Lab Results

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
ANTIMONY

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Antimony CAS = 7440-36-0 GPS = 6 (MCL) BACK = LOQ	09/19/95	ETSI	<5	<5	<5		<5	<5								
	12/13/95	ETSI	<5	<5	<5		<5	<5								
	03/07/96	ETSI	<5	<5	<5		<5	<5								
	07/26/96	ETSI	<5	<5	<5		<5	<5								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	02/11/97	ETSI	<5	<5	<5		<5	<5	<5							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	08/13/97	ETSI	<5	<5	7		<5	<5	<5							
	02/24/98	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/14/98	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/10/99	Lab Corp	<6	<6	<6		<6	<6	<6							
	07/13/99	Lab Corp	<6	<6	<6		<6	<6	<6							
	02/09/00	Lab Corp	<6	<6	<6		<6	<6	<6							
	08/09/00	Analytics	<6	<6	<6		<6	<6	<6							
	02/13/01	Analytics	<6	<6	<6		<6	<6	<6							
Approved 12-19-01	08/23/01	Analytics	<2.47	<2.47	<2.47		<2.47	<2.47	<2.47					2.47	6.0	
	02/19/02	Analytics	<2.47	<2.47	<2.47		<2.47	<2.47	<2.47					2.47	6.0	
	08/15/02	Analytics	<2.47	<2.47	<2.47		<2.47	<2.47	<2.47					2.47	6.0	
	02/06/03	Analytics	<2.47	<2.47	<2.47		<2.47	<2.47	<2.47					2.47	6.0	
	04/08/03	Analytics	n/a	n/a	n/a	n/a	n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a	n/a	n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<2.47	<2.47		<2.47	<2.47	<2.47	<2.47					2.47	6.0	
	01/22/04	ProChem	<1.69	<1.69		<1.69	<1.69	<1.69	<1.69					1.69	5.0	
	07/14/04	ProChem	<1.51	<1.51		<5	<1.51	<1.51	<1.51					1.51	5.0	
	01/20/05	ProChem	<1.51	<1.51		<1.51	<1.51	<1.51	<1.51					1.51	5.0	
	07/28/05	AWS	<1	<1		<1	<1	<1	<1					1	5	
	02/01/06	AWS	<3	<3		<3	<3	<3	<3					3	5	
	07/25/06	AWS	<3	<3		<3	<3	<3	<3					3	5	
	01/23/07	AWS	<3	<3		<3	<3	<3	<3					3	5	
	07/17/07	AWS	<3	<3		<3	<3	<3	<3					3	5	
	01/24/08	AWS	<3	<3		<3	<3	<3	<3					3	5	
	7/30/2008	AWS	<3	<3		<3	<3	<3	<3					3	5	
	1-Feb-12	1/20/2009	AWS	<3	<3		<3	<3	<3					3	5	
	01-Jul-13	7/9/2009	AWS	<3	<3		<3	<3	<3					3	5	
ACL Changes	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/6/2010	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	<3.0					3.0	5.0	
	7/8/2010	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	<3.0					3.0	5.0	
	AVG value of quantified hits:		#DIV/0!	#DIV/0!	7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
	Maximum value:		0	0	7	0	0	0	0							

Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC	
Antimony		12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v	
CAS = 7440-36-0		1/13/2011	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	<3.0					3.0	5.0		
		7/28/2011	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	<3.0					3.0	5.0		
		8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a		
GPS = 6 (MCL)		1/17/2012	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	<3.0					3.0	5.0		
		3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a		
BACK = LOQ		7/11/2012	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	<3.0					3.0	5.0		
		2/7/2013	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	<3.0	<3.0	<3.0				3.0	5.0	
		3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
		7/25/2013	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	<3.0	n/a	n/a	<3.0			3.0	5.0	
		8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
		10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a	<3.0		3.0	5.0	
		2/13/2014	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	<3.0	n/a	n/a	<3.0	<3.0		3.0	5.0	
		7/9/2014	AWS		<3.0				<3.0	<3.0			<3.0	<3.0		3.0	5.0	
		2/6/2015	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0		3.0	5.0	
		7/14/2015	AWS		<3.0				<3.0	<3.0			<3.0	<3.0		3.0	5.0	
		1/20/2016	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		1.0	5.0		
		7/13/2016	AWS		<1.0				<1.0	<1.0			<1.0	<1.0		1.0	5.0	
		1/25/2017	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		1.0	5.0	
		7/25/2017	AWS		<1.0				<1.0	<1.0			<1.0	<1.0		1.0	5.0	
Approved 12-19-01																		
ACL Changes																		
ACL	Effective Date																	
6.26	1-Oct-07																	
6.26	27-Jan-09																	
6.24	31-Jan-11																	
6.24	1-Feb-12																	
6	01-Jul-13																	
6	01-Mar-14					</												

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
ARSENIC

Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Arsenic		09/19/95	ETSI	<5	<5	<5		<5	<5								
		12/13/95	ETSI	<5	<5	<5		<5	<5								
		03/07/96	ETSI	<5	<5	<5		<5	<5								
		07/26/96	ETSI	<5	<5	<5		<5	<5								
CAS = 7440-38-2		10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<3							
		11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<3							
GPS = 10 (MCL)		12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	5							
		02/11/97	ETSI	<5	<5	<5		<5	<5	<5							
BACK = LOQ		04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
		05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
Approved 12-19-01		07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
		07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
		08/13/97	ETSI	<5	<5	6		<5	<5	<5							
		02/24/98	Lab Corp	<50	<50	<50		<50	<50	<50							
		08/14/98	Lab Corp	<5	<5	<5		<5	<5	<5							
		02/10/99	Lab Corp	<10	<10	<10		<10	<10	<10							
		07/13/99	Lab Corp	<10	<10	<10		<10	<10	<10							
		02/09/00	Lab Corp	<10	<10	<10		<10	<10	<10							
		08/09/00	Analytics	<10	<10	<10		12	<10	<10							
		02/13/01	Analytics	<10	<10	<10		<10	<10	<10							
		08/23/01	Analytics	<2.47	<2.47	<2.47		11.9(ib)	<2.47	<2.47				<2.47	2.47	10	ib
		02/19/02	Analytics	<2	<2	<2		11	<2	<2					2	10	
		08/15/02	Analytics	<2.47	<2.47	<2.47		<2.47	<2.47	<2.47					2.47	10	
		02/06/03	Analytics	<2.47	<2.47	<2.47		<2.47	<2.47	<2.47					2.47	10	
		04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
		05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
		08/26/03	Analytics	<0.8	<0.8		<0.8	<0.8	<0.8	<0.8					0.8	10	
		01/22/04	ProChem	<5	<0.93		<0.93	<5	<0.93	<0.93					0.93	5	
		07/14/04	ProChem	<5	<1.32		<1.32	<5	<5	<1.32					1.32	5	
		01/20/05	ProChem	<5	<1.32		<5	<5	<1.32	<1.32					1.32	5	
ACL Changes		07/28/05	AWS	<3	<10(tb)		<3	<10(tb)	<3	<3			<10	3	10	tb	
		02/01/06	AWS	<3	<3		<3	<3	<3	<3				3	10		
		07/25/06	AWS	<3	<3		<3	<3	<3	<3				3	10		
		01/23/07	AWS	<3	<3		<3	<3	<3	<3				3	10		
ACL	Effective Date	07/17/07	AWS	<3	<3		<10	<3	<3	<3				3	10		
0.044648	1-Oct-07	01/24/08	AWS	<3	<3		<3	<3	<3	<3				3	10		
0.044648	27-Jan-09	7/30/2008	AWS	<3	<3		<3	<3	<3	<3				3	10		
0.044822	31-Jan-11	1/20/2009	AWS	<3	<10		<3	<3	<3	<3				3	10		
0.044822	1-Feb-12	7/9/2009	AWS	<3	<3		<3	<3	<3	<3				3	10		
0.045	01-Jul-13	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a	v	
0.052	15-Feb-15	1/6/2010	AWS	<9.0	<9.0		<9.0	<9.0	<9.0	<9.0				9.0	10.0		
		7/8/2010	AWS	<9.0	<9.0		<9.0	<9.0	<9.0	<9.0				9.0	10.0		
AVG value of quantified hits:				#DIV/0!	#DIV/0!	6	#DIV/0!	11.5	#DIV/0!	5							
Maximum value:				0	0	6	0	12.0	0	5							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
ARSENIC

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Arsenic CAS = 7440-38-2 GPS = 10 (MCL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<9.0	<9.0		<9.0	<9.0	<9.0	<9.0					9.0	10.0	
	7/28/2011	AWS	<9.0	<9.0		<9.0	<9.0	<9.0	<9.0					9.0	10.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<9.0	<9.0		<9.0	<9.0	<9.0	<9.0					9.0	10.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<9.0	<9.0		<9.0	<9.0	<9.0	<9.0					9.0	10.0	
	2/7/2013	AWS	<9.0	<9.0		<9.0	<9.0	<9.0	<9.0	<9.0	<9.0			9.0	10.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<9.0	<9.0		<9.0	<9.0	<9.0	<9.0	n/a	<9.0			9.0	10.0	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<9.0		9.0	10.0	
	2/13/2014	AWS	<9.0	<9.0		<9.0	<9.0	<9.0	<9.0	n/a	<9.0	<9.0		9.0	10.0	
	7/9/2014	AWS		<3.0				<3.0	<3.0		<3.0	<3.0		3.0	5.0	
	2/6/2015	AWS	<3.0	<3.0		<3.0	<5.0	<3.0	<3.0		<3.0	<3.0		3.0	5.0	
	7/14/2015	AWS		<3.0				<3.0	<3.0		<3.0	<3.0		3.0	5.0	
	1/20/2016	AWS	<1.0	<1.0		7.2	2.6(j)	<1.0	<1.0		<1.0	2.8(j)		1.0	5.0	
	7/13/2016	AWS		<1.0				<1.0	<1.0		<1.0	2.0 J		1.0	5.0	
	1/25/2017	AWS	<1.0	<1.0		5.5	4.0 J	<1.0	<1.0		<1.0	1.5 J		1.0	5.0	
	7/25/2017	AWS		1.1 J				<1.0	<1.0		<1.0	2.2 J		1.0	5.0	
Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
0.044648	1-Oct-07															
0.044648	27-Jan-09															
0.044822	31-Jan-11															
0.044822	1-Feb-12															
0.045	01-Jul-13															
0.045	01-Mar-14															
0.052	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	6	6.35	11.5	#DIV/0!	5.00	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	6	7.2	12.0	0	5.00	0	0	0				

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Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC				
Barium		09/19/95	ETSI	560	420	3370		830	1730												
		12/13/95	ETSI	790	<400	1770		1290	400												
		03/07/96	ETSI	470	<400	850		880	<400												
		07/26/96	ETSI	491	137	2920		1230	385												
CAS = 7440-39-3		10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	1830											
		11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	438											
GPS = 2000 (MCL)		12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	1050											
		02/11/97	ETSI	545	119	1270		1350	484	457											
BACK = 998 (SPL)		04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	132											
		05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	114											
		07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	330											
		07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	500											
		08/13/97	ETSI	550	130	1980		1090	230	310											
		02/24/98	Lab Corp	590	110	1100		240	162	490											
		08/14/98	Lab Corp	725	113	1450		595	955	61.9											
		02/10/99	Lab Corp	200	94	300		110	140	110											
		07/13/99	Lab Corp	205	105	204		113	104	325											
		02/09/00	Lab Corp	235	86.5	251		97	208	512											
		08/09/00	Analytics	725	134	235		122	206	171											
		02/13/01	Analytics	205	75.3	223		82	104	52.1											
		08/23/01	Analytics	252	95.8	271		118	320	644						0.3	40				
		Approved 12-19-01		02/19/02	Analytics	412	105	603		125	615	256						1.0	40		
				08/15/02	Analytics	741	131	232		89.9	1060	123							0.3	40	
				02/06/03	Analytics	998	84.8	246		532	131	94.5							0.3	40	
				04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							n/a	n/a	
				05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a							n/a	n/a	
				08/26/03	Analytics	338	109		382	228	476	79							0.7	50	
				01/22/04	ProChem	350	144		240	127	128	69.1							0.12	1	
07/14/04	ProChem			225	148		249	175	116	121							0.13	1	ic, cc		
01/20/05	ProChem			191	110		272	117	109	62							0.13	1			
07/28/05	AWS			300(tb)	120(tb)		290(tb)	180(tb)	120(tb)	150(tb)					79	2	10	tb			
02/01/06	AWS			210	96		324	103	94	73						2	10				
07/25/06	AWS			193(tb)	107(tb)		388(tb)	133(tb)	99(tb)	68(tb)						2	10				
ACL Changes				01/23/07	AWS	253	98		330	115	94	51				82	2	10	tb		
ACL	Effective Date			01/23/07	AWS	253	98		330	115	94	51				82	2	10	tb		
3130	1-Oct-07			07/17/07	AWS	262	129														

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
BARIUM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Barium CAS = 7440-39-3 GPS = 2000 (MCL) BACK = 998 (SPL)	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	605.2	124.7		1060	165.1	185.4	330.8					2.0	10.0	
	7/28/2011	AWS	530.0	102.0		2670	150.0	227.0	210.0					2.0	10.0	
	8/29/2011	AWS	n/a	n/a		653.0	n/a	n/a	n/a					2.0	10.0	
	1/17/2012	AWS	719.5	93.2		1430	160.2	183.4	3010					2.0	10.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	56.3					2.0	10.0	
	7/11/2012	AWS	347.1	102.9		624.1	174.2	144.9	335.1					2.0	10.0	
	2/7/2013	AWS	565.0	99.3		1060	250.2	635.3	360.3	62.4	382.9			2.0	10.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	253	112		635	197	159	328	n/a	287			2.0	10.0	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	31.4		2.0	10.0	
	2/13/2014	AWS	375	89.3		1040	212	206	214	n/a	247	394		2.0	10.0	
	7/9/2014	AWS		122				159	74.4		288	227		2.0	10.0	
	2/6/2015	AWS	244	148		402	273	168	122		256	345		2.0	10.0	
	7/14/2015	AWS		137				152	111		257	230		2.0	10.0	
	1/20/2016	AWS	155	100		1140	130	152	87.4		295	445		2.0	10.0	
	7/13/2016	AWS		123				157	77.6		312	357		2.0	10.0	
	1/25/2017	AWS	152	121		754	171	170	109		276	307		2.0	10.0	
	7/25/2017	AWS		129				167	134		277	349		2.0	10.0	
Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
3130	1-Oct-07															
3130	27-Jan-09															
3120	31-Jan-11															
3120	1-Feb-12															
2900	01-Jul-13															
2900	01-Mar-14															
3800	15-Feb-15															
AVG value of quantified hits:			404.3	118.5	1016.2	737.0	318.0	282.8	331.9	62.4	287.8	298.4				
Maximum value:			998	420	3370	2670	1350.0	1730	3010	62.4	382.9	445				

CLIENT: GOOCHLAND COUNTY
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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
BERYLLIUM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Beryllium CAS = 7440-41-7 GPS = 4 (MCL) BACK = 9.2 (SPL)	09/19/95	ETSI	2.1	1.9	7.6		1.6	1.7								
	12/13/95	ETSI	2.3	0.5	4.2		4.2	1.2								
	03/07/96	ETSI	2.1	0.2	3.8		4.3	0.6								
	07/26/96	ETSI	<3	<3	9		3	<3								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	8							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	4							
	02/11/97	ETSI	<2	<2	2		5	5	<2							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	<2							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	4							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	<1							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	3							
	08/13/97	ETSI	2	<1	8		4	<1	2							
	02/24/98	Lab Corp	<4	<4	<4		<4	<4	<4							
	08/14/98	Lab Corp	<4	<4	18.3		<4	<4	<4							
	02/10/99	Lab Corp	<2	<2	<2		<2	<2	<2							
	07/13/99	Lab Corp	<2	<2	<2		<2	<2	<2							
	02/09/00	Lab Corp	<2	<2	<2		<2	<2	<2							
	08/09/00	Analytics	2.9	<2	<2		<2	<2	<2							
	02/13/01	Analytics	<2	<2	<2		<2	<2	<2							
Approved 12-19-01	08/23/01	Analytics	<0.04	<0.04	<0.04		<0.04	4.6	2.0					0.04	2	
ACL Changes	02/19/02	Analytics	2.5	<0.04	<0.04		<0.04	2.5	<0.04					0.04	2	
	08/15/02	Analytics	<0.04	<0.04	<0.04		<0.04	<0.04	<0.04					0.04	2	
	02/06/03	Analytics	9.2	32.6	<0.04		<0.04	<0.04	<0.04					0.04	2	
	04/08/03	Analytics	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.04	<0.04		<0.04	<0.04	<0.04	<0.04					0.04	2	
	01/22/04	ProChem	<1	<0.06		<0.06	<0.06	<0.06	<0.06					0.04	2	
	07/14/04	ProChem	<1	<1		<0.11	<0.11	<1	<1					0.06	1	
	01/20/05	ProChem	<1	<0.11		<0.11	<0.11	<0.11	<0.11					0.11	1	
	07/28/05	AWS	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5					0.11	1	
	02/01/06	AWS	<0.5	<0.1		<0.1	<0.1	<0.1	<0.1					0.1	0.5	
	07/25/06	AWS	<0.5(tb)	<0.1		<0.5(tb)	<0.1	<0.1	<0.1				<0.5	0.1	0.5	tb
	01/23/07	AWS	<0.5	<0.1		<0.1	<0.1	<0.1	<0.1					0.1	0.5	
	07/17/07	AWS	0.4	<0.3		0.4	<0.3	<0.3	<0.3					0.1	0.3	
	01/24/08	AWS	0.6	<0.1		0.3	<0.1	<0.1	<0.3					0.1	0.3	
31.3	1-Oct-07	07/17/07	AWS	0.4	<0.3		0.4	<0.3	<0.3					0.1	0.3	
31.3	27-Jan-09	01/24/08	AWS	0.6	<0.1		0.3	<0.1	<0.1	<0.3				0.1	0.3	
31.2	31-Jan-11	7/30/2008	AWS	0.4	<0.1		0.5	<0.1	<0.1	<0.1				0.1	0.3	
31.2	1-Feb-12	1/20/2009	AWS	1.1	<0.1		<0.3	<0.1	<0.1	<0.1				0.1	0.3	
16	01-Jul-13	7/9/2009	AWS	<2	<2		<2	<2	<2	<2				2	4	
25	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a	v
		1/6/2010	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0				2.0	4.0	
		7/8/2010	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0				2.0	4.0	
AVG value of quantified hits:			2.3	8.8	7.6	0.4	3.7	2.6	3.8							
Maximum value:			9.2	32.6	18.3	0.5	5.0	5	8.0							

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
CADMIUM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Cadmium CAS = 7440-43-9 GPS = 5 (MCL) BACK = 8.0 (SPL)	09/19/95	ETSI	1.6	<0.5	2.3		1	<0.5								
	12/13/95	ETSI	1.5	<0.5	1.2		0.5	<0.5								
	03/07/96	ETSI	1.4	<0.5	0.8		<0.5	<0.5								
	07/26/96	ETSI	0.9	<0.5	2.2		1.2	<0.5								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	0.5	<0.5	0.6		<0.5	<0.5	<0.5							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<1	<1	1		3	<1	<1							
	02/24/98	Lab Corp	1	<0.5	<0.5		<0.5	<0.5	<0.5							
	08/14/98	Lab Corp	1.2	<0.5	0.5		1.5	2.4	2.4							
	02/10/99	Lab Corp	<1	<1	<1		<1	<1	<1							
	07/13/99	Lab Corp	<1	<1	<1		<1	<1	<1							
	02/09/00	Lab Corp	<1	<1	<1		<1	<1	<1							
	08/09/00	Analytics	<1	<1	<1		<1	<1	<1							
Approved 12-19-01	02/13/01	Analytics	<1	<1	<1		<1	<1	<1							
	08/23/01	Analytics	<0.06	<0.06	<0.06		<0.06	<0.06	<0.06					0.06	1.0	
	02/19/02	Analytics	<0.06	<0.06	<0.06		<0.06	<0.06	<0.06					0.06	1.0	
	08/15/02	Analytics	<0.06	<0.06	<0.06		<0.06	<0.06	<0.06					0.06	1.0	
	02/06/03	Analytics	<0.06	<0.06	<0.06		<0.06	<0.06	<0.06					0.06	1.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.06	<0.06		<0.06	<0.06	<0.06	<0.06					0.06	1.0	
	01/22/04	ProChem	<0.33	<0.33		<0.33	<0.33	<0.33	<0.33					0.33	1	
	07/14/04	ProChem	<0.28	<0.28		<0.28	<0.28	<0.28	<0.28					0.28	1	
	01/20/05	ProChem	<0.28	<0.28		<0.28	<1	<0.28	<0.28					0.28	1	
	07/28/05	AWS	<0.5(tb)	<0.1		<0.1	<0.1	<0.1	<0.1				<0.5	0.1	0.5	tb
	02/01/06	AWS	<0.5	<0.1		<0.1	<0.1	<0.1	<0.1					0.1	0.5	
	07/25/06	AWS	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1					0.1	0.5	
	ACL	Effective Date	01/23/07	AWS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				0.1	0.5	
	7.825	1-Oct-07	07/17/07	AWS	<0.1	<0.1	0.9	<0.1	<0.3	<0.1				0.1	0.3	
	7.825	27-Jan-09	01/24/08	AWS	0.3	<0.1	<0.1	<0.1	0.8	<0.1				0.1	0.3	
	7.8	31-Jan-11	7/30/2008	AWS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				0.1	0.3	
	7.8	1-Feb-12	1/20/2009	AWS	0.3	<0.1	<0.1	<0.1	<0.1	<0.1				0.1	0.3	
	6.9	01-Jul-13	7/9/2009	AWS	<2	<2		<2	7	<2				2	5	
	9.2	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	5.8	n/a	n/a			2.0	5.0	v
			1/6/2010	AWS	<5.0	<2.0		<5.0	10.4	<5.0	8.0			2.0	5.0	
			7/8/2010	AWS	<2.0	<2.0		<5.0	11.0	<2.0	<2.0			2.0	5.0	
AVG value of quantified hits:			0.97	#DIV/0!	1.2	0.9	4.6	1.6	5.2							
Maximum value:			1.6	0	2.3	0.9	11.0	2.4	8.0							

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
CADMIUM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Cadmium CAS = 7440-43-9 GPS = 5 (MCL) BACK = 8	12/29/2010	AWS	n/a	n/a		n/a	5.8	n/a	n/a					2.0	5.0	v
	1/13/2011	AWS	<2.0	<2.0		<5.0	<5.0	<2.0	<2.0					2.0	5.0	
	7/28/2011	AWS	<2.0	<2.0		10.1	5.4	<2.0	<2.0					2.0	5.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<5.0	<2.0		8.3	14.5	<2.0	21.1					2.0	5.0	
	3/1/2012	AWS	n/a	n/a		<2.0	11.6	n/a	<2.0					2.0	5.0	
	7/11/2012	AWS	<5.0	<5.0		<5.0	7.8	<2.0	<5.0					2.0	5.0	
	2/7/2013	AWS	<5.0	<2.0		<5.0	10.0	<5.0	<5.0	<5.0	<2.0			2.0	5.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<2.0	20.3		<4.0	9.1	<2.0	<4.0	n/a	<2.0			2.0	4.0	
	8/20/2013	AWS	n/a	<2.0		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	<2.0		n/a	n/a	n/a	n/a	n/a	n/a	<4.0		2.0	4.0	
	2/13/2014	AWS	<2.0	<2.0		5.7	14.5	<2.0	<4.0	n/a	<2.0	5.0		2.0	4.0	
	7/9/2014	AWS		<2.0				<2.0	<2.0		<2.0	<4.0		2.0	4.0	
	2/6/2015	AWS	<2.0	<4.0		<4.0	11.4	<2.0	<2.0		<2.0	<4.0		2.0	4.0	
	7/14/2015	AWS		<2.0				<2.0	<2.0		<2.0	<2.0		2.0	4.0	
	1/20/2016	AWS	<2.0	<2.0		8.6	11.7	<2.0	<2.0		<2.0	3.7 J		2.0	4.0	
	7/13/2016	AWS		<2.0				<2.0	<2.0		<2.0	2.4 J		2.0	4.0	
	1/25/2017	AWS	<2.0	<2.0		4.7	9.9	<2.0	<2.0		<2.0	<2.0		2.0	4.0	
	7/25/2017	AWS		<2.0				<2.0	<2.0		<2.0	2.8 J		2.0	4.0	
Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
7.825	1-Oct-07															
7.825	27-Jan-09															
7.8	31-Jan-11															
7.8	1-Feb-12															
6.9	01-Jul-13															
6.9	01-Mar-14															
9.2	15-Feb-15															
AVG value of quantified hits:			0.97	20.3	1.2	6.38	7.75	1.6	10.5	#DIV/0!	#DIV/0!	5.00				
Maximum value:			1.6	20.3	2.3	10.1	14.5	2.4	21.1	0	0	5.00				

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
CHROMIUM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Chromium CAS = 7440-47-3 GPS = 100 (MCL) BACK = 50.9 (SPL)	09/19/95	ETSI	40	88	252		77	94								
	12/13/95	ETSI	35.7	19	460		184	78								
	03/07/96	ETSI	35.8	9	266		232	30.3								
	07/26/96	ETSI	36	4.2	638		307	101								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	314							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	38							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	130							
	02/11/97	ETSI	25	<15	198		264	106	62							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	<15							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	173							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	43							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	76							
	08/13/97	ETSI	31	<10	310		180	40	43							
	02/24/98	Lab Corp	<80	<80	100		<80	<80	<80							
	08/14/98	Lab Corp	50.9	<20	244		95.6	268	<20							
	02/10/99	Lab Corp	<40	<40	<40		<40	<40	<40							
	07/13/99	Lab Corp	<40	<40	<40		<40	<40	<40							
	02/09/00	Lab Corp	<40	<40	<40		<40	<40	<40							
	08/09/00	Analytics	<40	<40	<40		<40	<40	<40							
	02/13/01	Analytics	<40	<40	<40		<40	<40	<40							
Approved 12-19-01	08/23/01	Analytics	<0.8	<0.8	<0.8		<0.8	<0.8	<0.8					0.8	40	
ACL Changes	02/19/02	Analytics	<0.8	<0.8	<0.8		<0.8	<0.8	<0.8					0.8	40	
	08/15/02	Analytics	<0.8	<0.8	<0.8		<0.8	196	<0.8					0.8	40	
	02/06/03	Analytics	<0.8	<0.8	<0.8		<0.8	<0.8	<0.8					0.8	40	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.5	<0.5		<0.5	<0.5	50.5	<0.5					0.8	50	
	01/22/04	ProChem	8.76	11		<5	<0.80	5.95	<5					0.8	5	
	07/14/04	ProChem	<1.12	11.7		<1.12	9.99	8.91	7.21					1.12	5	
	01/20/05	ProChem	<1.12	<5		<5	<1.12	7	<5					1.12	5	
	07/28/05	AWS	<10	<10		<10	34	11	14					1	10	
	02/01/06	AWS	<10	<10		<10	31	<10	<10					1	10	
	07/25/06	AWS	<10	<1		14	24	<10	<1					1	10	
	ACL	Effective Date	01/23/07	AWS	<10	<1	<10	15	<1	<1				1	10	
	46.95	1-Oct-07	07/17/07	AWS	<10	<10	11	40	<10	<10				1	10	
	46.95	27-Jan-09	01/24/08	AWS	<10	<1	11	13	<10	<10				1	10	
	0	31-Jan-11	7/30/2008	AWS	<1	<1	<10	12	<1	<1				1	10	
	0	1-Feb-12	1/20/2009	AWS	<10	<1	<10	14	<1	<1				1	10	
	0	01-Jul-13	7/9/2009	AWS	<1	<1	<10	13	<1	<10				1	10	
	0	15-Feb-15	10/12/2009	AWS	n/a	n/a	n/a	n/a	n/a	n/a				n/a	n/a	v
			1/6/2010	AWS	<10.0	<1.0	25.2	17.4	<1.0	166.7				1.0	10.0	
			7/8/2010	AWS	<10.0	<1.0	<10.0	10.4	<10.0	<1.0				1.0	10.0	
AVG value of quantified hits:			32.9	23.8	309	15	82.8	76.7	97.0							
Maximum value:			50.9	88	638	25.2	307	268	314							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
CHROMIUM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Chromium CAS = 7440-47-3 GPS = 100 (MCL) BACK = 50.9 (SPL)	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	18.9	<10.0		90.6	13.0	14.2	37.7					1.0	10.0	
	7/28/2011	AWS	17.4	<10.0		376.0	12.5	29.3	23.5					1.0	10.0	
	8/29/2011	AWS	n/a	n/a		26.7	n/a	n/a	n/a					1.0	10.0	
	1/17/2012	AWS	37.6	<1.0		185.0	14.1	13.1	290.2					1.0	10.0	
	3/1/2012	AWS	n/a	n/a		10.5	n/a	n/a	<1.0					1.0	10.0	
	7/11/2012	AWS	<10.0	<1.0		30.8	11.3	<10.0	29.7					1.0	10.0	
	2/7/2013	AWS	31.1	11.9		78.8	42.3	103.0	39.7	10.1	<10.0			1.0	10.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	25.5	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<10.0	<10.0		42.2	28.7	10.6	32.7	n/a	<1.0			1.0	10.0	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	54.1		1.0	10.0	
	2/13/2014	AWS	21.3	<10.0		100	27.9	22.3	22.0	n/a	<1.0	74.8		1.0	10.0	
	7/9/2014	AWS		<1.0				<10.0	<10.0		<1.0	<10.0		1.0	10.0	
	2/6/2015	AWS	<10.0	24.1		13	37.2	21.0	<10.0		<1.0	35.7		1.0	10.0	
	7/14/2015	AWS		12.3				<10.0	<10.0		<1.0	<10.0		1.0	10.0	
	1/20/2016	AWS	4.6(j)	3.7(j)		121	7.4	6.5(j)	4.8(j)		<1.0	47.4		1.0	10.0	
	7/13/2016	AWS		2.6 J				5.1 J	3.1 J		<1.0	28.9		1.0	10.0	
	1/25/2017	AWS	5.0 J	10.5		50.0	13.1	8.4 J	5.5 J		<1.0	21.0		1.0	10.0	
	7/25/2017	AWS		9.0 J				16.4	7.9 J		<1.0	26.3		1.0	10.0	
Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
46.95	1-Oct-07															
46.95	27-Jan-09															
0	31-Jan-11															
0	1-Feb-12															
0	01-Jul-13															
0	01-Mar-14															
0	15-Feb-15															
AVG value of quantified hits:			30.0	20.2	308.5	74.1	61.4	56.9	85.7	10.1	#DIV/0!	41.2				
Maximum value:			50.9	88	638	376	307	268	314	10.1	0	74.8				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
COBALT

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Cobalt CAS = 7440-48-4 GPS = 4.7 (ACL) BACK = 32.1 (SPL)	09/19/95	ETSI	20	10	44		12	10								
	12/13/95	ETSI	18	7	59		27	9								
	03/07/96	ETSI	18	8	38		27	6								
	07/26/96	ETSI	<25	<25	95		35	<25								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	169							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<25							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	60							
	02/11/97	ETSI	<25	<25	42		60	<25	<25							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	<25							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	73							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	8							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	32							
	08/13/97	ETSI	19	<5	62		49	6	19							
	02/24/98	Lab Corp	<80	<80	<80		<80	<80	<80							
	08/14/98	Lab Corp	32.1	<20	38.9		21.9	<20	<20							
	02/10/99	Lab Corp	<40	<40	<40		<40	<40	<40							
	07/13/99	Lab Corp	<40	<40	<40		<40	<40	<40							
	02/09/00	Lab Corp	<40	<40	<40		<40	<40	<40							
	08/09/00	Analytics	<40	<40	<40		41.8	<40	<40							
	02/13/01	Analytics	<40	<40	<40		<40	<40	<40							
Approved 12-19-01	08/23/01	Analytics	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	40	
ACL Changes	02/19/02	Analytics	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	40	
	08/15/02	Analytics	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	40	
	02/06/03	Analytics	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	40	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<1.5	<1.5		<1.5	49.6	<1.5	<1.5					1.5	50	
	01/22/04	ProChem	12.8	<5		14.7	17.9	<5	<0.55					0.55	5	
	07/14/04	ProChem	17.9	<5		13.6	21.7	<5	<5					1.01	5	
	01/20/05	ProChem	17.4	<5		13.3	16.2	<5	<1.01					1.01	5	
	07/28/05	AWS	22(tb)	<2		15(tb)	21(tb)	<10(tb)	<10(tb)				<10	2	10	tb
	02/01/06	AWS	14	<2		15	21	<2	<2					2	10	
	07/25/06	AWS	15(tb)	<2		17(tb)	14(tb)	<2	<2				<10	2	10	tb
	ACL	Effective Date	01/23/07	AWS	10	<2		15	25	<2	<2			2	10	
	156.5	1-Oct-07	07/17/07	AWS	16	<2		15	24	<10	<2			2	10	
	4.695	27-Jan-09	01/24/08	AWS	11	<2		22	15	<2	<10			2	10	
	4.68	31-Jan-11	7/30/2008	AWS	<10	<2		16	<10	<2	<2			2	10	
	4.68	1-Feb-12	1/20/2009	AWS	12	<2		19	16	<2	<2			2	10	
	4.7	01-Jul-13	7/9/2009	AWS	8.5	<2.0		16.1	13.8	<2.0	<2.0			2.0	4.0	
	6	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a			n/a	n/a	v
			1/6/2010	AWS	10.5	<2.0		21.9	13.4	<2.0	77.6			2.0	4.0	
			7/8/2010	AWS	<4.0	<2.0		14.3	8.0	<2.0	<2.0			2.0	4.0	
AVG value of quantified hits:			15.8	8.3	54.1	16.3	25.8	7.8	62.7							
Maximum value:			32.1	10	95.0	22.0	60.0	10	169							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
COBALT

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Cobalt CAS = 7440-48-4 GPS = 6 (ACL) BACK = 77.60	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	14.2	<4.0		34.7	30.6	<4.0	15.2					2.0	4.0	
	7/28/2011	AWS	13.8	<2.0		85.1	20.1	6.0	9.7					2.0	4.0	
	8/29/2011	AWS	n/a	n/a		27.2	n/a	n/a	n/a					2.0	4.0	
	1/17/2012	AWS	17.1	<2.0		50.8	32.7	<4.0	157.1					2.0	4.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	<2.0					2.0	4.0	v
	7/11/2012	AWS	7.1	<2.0		23.5	30.0	<2.0	11.8					2.0	4.0	
	2/7/2013	AWS	13.8	<4.0		38.6	43.0	20.0	18.3	<4.0	4.5			2.0	4.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	6.1	<2.0		26.0	42.9	<4.0	16.5	n/a	<2.0			2.0	4.0	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	60.1		2.0	4.0	
	2/13/2014	AWS	7.0	<2.0		34.4	40.0	4.6	10.9	n/a	<2.0	52.1		2.0	4.0	
	7/9/2014	AWS		<2.0				<4.0	<4.0		<4.0	32.3		2.0	4.0	
	2/6/2015	AWS	<4.0	4.9		18.0	45.4	<2.0	4.5		<4.0	44.8		2.0	4.0	
	7/14/2015	AWS		<4.0				<2.0	4.0		<2.0	28.4		2.0	4.0	
	1/20/2016	AWS	<2.0	2.0(j)		37.0	13.8	<2.0	2.4(i)		<2.0	40.1		2.0	4.0	
	7/13/2016	AWS		<2.0				<2.0	<2.0		<2.0	36.7		2.0	4.0	
	1/25/2017	AWS	3.0 J	4.1		26.1	22.3	<2.0	2.7 J		2.4 J	35.8		2.0	4.0	
	7/25/2017	AWS		3.1 J				<2.0	4.0 J		<2.1	35.1		2.0	4.0	
Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
156.5	1-Oct-07															
4.695	27-Jan-09															
4.68	31-Jan-11															
4.68	1-Feb-12															
4.7	01-Jul-13															
4.7	01-Mar-14															
6	15-Feb-15															
AVG value of quantified hits:			14.4	6.8	54.1	26.0	27.9	8.8	42.9	#DIV/0!	4.5	40.6				
Maximum value:			32.1	10	95	85.1	60	20	169	0	4.5	60.1				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
COPPER

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Copper CAS = 7440-50-8 GPS = 800 (ACL) BACK = 15.6 (SPL)	09/19/95	ETSI	14	48	36		15	12								
	12/13/95	ETSI	14	15	40		25	10								
	03/07/96	ETSI	12	7	34		24	5								
	07/26/96	ETSI	<20	<20	73		32	<20								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	233							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	32							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	100							
	02/11/97	ETSI	<20	<20	23		32	<20	44							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	<20							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	134							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	34							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	59							
	08/13/97	ETSI	11	6	59		27	6	37							
	02/24/98	Lab Corp	<40	<40	<40		<40	<40	41							
	08/14/98	Lab Corp	15.6	<10	52.8		<10	26.9	<10							
	02/10/99	Lab Corp	<20	<20	<20		<20	<20	<20							
	07/13/99	Lab Corp	<20	<20	<20		<20	<20	<20							
	02/09/00	Lab Corp	<20	<20	<20		<20	<20	<20							
	08/09/00	Analytics	<20	<20	<20		<20	<20	<20							
	02/13/01	Analytics	<20	<20	<20		<20	<20	<20							
Approved 12-19-01	08/23/01	Analytics	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5					0.5	20	
	02/19/02	Analytics	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5					0.5	20	
	08/15/02	Analytics	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5					0.5	20	
	02/06/03	Analytics	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5					0.5	20	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<3.5	<3.5		<3.5	<3.5	<3.5	<3.5				<20	3.5	20	tb
	01/22/04	ProChem	<5	7.13		<1.16	<1.16	<1.16	<1.16					1.16	5	
	07/14/04	ProChem	<0.95	8.4		<0.95	<0.95	<0.95	<5					0.95	5	
	01/20/05	ProChem	<0.95	<0.95		<0.95	<0.95	<0.95	<0.95					0.95	5	
	07/28/05	AWS	<2	<2		<2	<2	<2	<10					2	10	
	02/01/06	AWS	<3	<3		<3	<3	<3	<3					3	10	
	07/25/06	AWS	<3	<3		<3	<3	<3	<3					3	10	
	ACL	Effective Date	01/23/07	AWS	<10	<3	<3	<3	<3					3	10	
	626	1-Oct-07	07/17/07	AWS	<3	<10	<3	<3	<3					3	10	
	626	27-Jan-09	01/24/08	AWS	<3	<3	<10	<3	<3					3	10	
	624	31-Jan-11	7/30/2008	AWS	<3	<3	<3	<3	<3					3	10	
	624	1-Feb-12	1/20/2009	AWS	<3	<3	<3	<10	<3					3	10	
	620	01-Jul-13	7/9/2009	AWS	<3	<3	<3	<3	<3					3	10	
	800	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a				n/a	n/a	v
			1/6/2010	AWS	<3.0	<3.0	<3.0	<3.0	<3.0	92.6				3.0	10.0	
			7/8/2010	AWS	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0				3.0	10.0	
AVG value of quantified hits:			13.3	15.3	45.4	#DIV/0!	25.8	12.0	80.7							
Maximum value:			15.6	48.0	73.0	0	32.0	26.9	233							

CLIENT: GOOCHLAND COUNTY
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LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
COPPER

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Copper CAS = 7440-50-8 GPS = 800 (ACL) BACK = 15.6 (SPL)	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<3.0	<10.0		<3.0	<3.0	<3.0	19.3					3.0	10.0	
	7/28/2011	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	12.3					3.0	10.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<10.0	<3.0		10.4	<3.0	<3.0	212.0					3.0	10.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	22.8					3.0	10.0	
	2/7/2013	AWS	<10.0	<10.0		<3.0	<3.0	<10.0	29.0	<3.0	<3.0			3.0	10.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<10.0	<10.0		<10.0	<10.0	<10.0	30.1	n/a	<3.0			3.0	10.0	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	60.6		3.0	10.0	
	2/13/2014	AWS	<10.0	<3.0		<3.0	<3.0	<3.0	16.5	n/a	<3.0	71.5		3.0	10.0	
	7/9/2014	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	<3.0		<3.0	<10.0		3.0	10.0	
	2/6/2015	AWS	<3.0	10		<3.0	<3.0	<3.0	<10.0		<3.0	61.2		3.0	10.0	
	7/14/2015	AWS		<10.0				<3.0	<10.0		<3.0	<10.0		3.0	10.0	
	1/20/2016	AWS	<3.0	<3.0		<3.0	<3.0	<3.0	<3.0		<3.0	64.6		3.0	10.0	
	7/13/2016	AWS		<3.0				<3.0	<3.0		<3.0	44.2		3.0	10.0	
	1/25/2017	AWS	<3.1	5.1 J		<3.0	<3.0	<3.0	<3.0		<3.0	32.9		3.0	10.0	
	7/25/2017	AWS		5.2 J				<3.0	5.6 J		<3.0	57.6		3.0	10.0	
Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
626	1-Oct-07															
626	27-Jan-09															
624	31-Jan-11															
624	1-Feb-12															
620	01-Jul-13															
620	01-Mar-14															
800	15-Feb-15															
AVG value of quantified hits:			13.3	14.5	45.4	10.4	25.8	12.0	67.6	#DIV/0!	#DIV/0!	56.1				
Maximum value:			15.6	48	73	10.4	32	26.9	233	0	0	71.5				

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
LEAD

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Lead CAS = 7439-92-1 GPS = 15 (EPA action Level) BACK = 30 (SPL)	09/19/95	ETSI	30	26	34		9	5								
	12/13/95	ETSI	22	8	45		20	5								
	03/07/96	ETSI	14	<5	24		15	<5								
	07/26/96	ETSI	25	<5	48		14	<5								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	99							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	23							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	31							
	02/11/97	ETSI	11	<5	24		21	9	14							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	29							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	10							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	08/13/97	ETSI	7	6	<5		25	<5	<5							
	02/24/98	Lab Corp	8.2	<2.5	18.2		3.9	<2.5	15.3							
	08/14/98	Lab Corp	17	<2.5	28		6.5	14	<2.5							
	02/10/99	Lab Corp	<10	<10	<10		<10	<10	<10				12			tb
	07/13/99	Lab Corp	<10	<10	<10		<10	<10	<10							
	02/09/00	Lab Corp	<10	<10	<10		<10	<10	<10							
	08/09/00	Analytics	17.7	<10	<10		<10	<10	<10							
	02/13/01	Analytics	<10	<10	<10		<10	<10	<10							
Approved 12-19-01	08/23/01	Analytics	<0.5	<0.5	<0.5		<0.5	<0.5	12(tb)				<0.5	0.5	10	tb
ACL Changes ACL Effective Date	02/19/02	Analytics	16	<0.5	<0.5		<0.5	<0.5	<0.5					0.5	10	
	08/15/02	Analytics	11.5	12.9	<0.5		<0.5	11.1	<0.5					0.5	10	
	02/06/03	Analytics	<2	<2	<2		<2	<2	<2					2.0	10	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.6	<0.6		<0.6	<0.6	<0.6	<0.6					0.6	10	
	01/22/04	ProChem	<5	<5		<5	<5	<1.01	<5					1.01	5	
	07/14/04	ProChem	<1.37	<5		<5	<5	<1.37	<5					1.37	5	
	01/20/05	ProChem	10.3	<5		<5	13.4	<5	<1.37					1.37	5	
	07/28/05	AWS	<6	<6		<6	<10	<6	<10					6	10	
	02/01/06	AWS	<6	<6		<6	<6	<6	<6					6	10	
	07/25/06	AWS	<6	<6		<6	<6	<6	<6					6	10	
	01/23/07	AWS	<6	<6		<6	<10	<6	<6					6	10	
	07/17/07	AWS	<6	<6		<6	<10	<6	<6					6	10	
	01/24/08	AWS	<6	<6		<6	<6	<6	<6					6	10	
7.879 N/A 0 0 0 0	31-Jan-11	AWS	<6	<6		<6	<10	<6	<6					6	10	
	1-Feb-12	1/20/2009	AWS	<6	<6		<6	<10	<6					6	10	
	01-Jul-13	7/9/2009	AWS	<6	<6		<6	<6	<6					6	10	
	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a					n/a	n/a	v
		1/6/2010	AWS	<6.0	<6.0		<6.0	<10.0	<6.0	23.2				6.0	10.0	
AVG value of quantified hits:			15.8	13.2	31.6	#DIV/0!	14.0	8.8	30.6							
Maximum value:			30.0	26.0	48.0	0	25.0	14	99							

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
LEAD

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Lead CAS = 7439-92-1 GPS = 15 (EPA action Level) BACK = 30 (SPL)	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	12.1	<6.0		13.6	<10.0	<6.0	<10.0					6.0	10.0	
	7/28/2011	AWS	<10.0	<6.0		25.5	<10.0	<6.0	<6.0					6.0	10.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	17.1	<6.0		22.1	<10.0	<6.0	71.5					6.0	10.0	
	3/1/2012	AWS	n/a	n/a		<6.0	n/a	n/a	<6.0					6.0	10.0	
	7/11/2012	AWS	<10.0	<6.0		<6.0	11.3	<6.0	<10.0					6.0	10.0	
	2/7/2013	AWS	13.8	<6.0		<10.0	<10.0	<6.0	<10.0	<6.0	<6.0			6.0	10.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<6.0	<6.0		<6.0	<6.0	<6.0	<6.0	n/a	<6.0			6.0	10.0	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<6.0		6.0	10.0	
	2/13/2014	AWS	11.7	<6.0		12.9	<6.0	<6.0	<6.0	n/a	<6.0	<10.0		6.0	10.0	
	7/9/2014	AWS		<6.0				<6.0	<6.0		<6.0	<6.0		6.0	10.0	
	2/6/2015	AWS	<6.0	12.1		<6.0	<6.0	<6.0	<6.0		<6.0	16.9		6.0	10.0	
	7/14/2015	AWS		<10.0				<6.0	<6.0		<6.0	<6.0		6.0	10.0	
	1/20/2016	AWS	<6.0	<6.0		16.7	7.2(j)	<6.0	<6.0		<6.0	<6.0		6.0	10.0	
	7/13/2016	AWS		<6.0				<6.0	<6.0		<6.0	<10.0		6.0	10.0	
	1/25/2017	AWS	<6.0	<6.0		<6.0	<6.0	<6.0	<6.0		<6.0	<6.0		6.0	10.0	
	7/25/2017	AWS		<6.0				<6.0	<6.0		<6.0	8.5 J		6.0	10.0	
Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
7.879	1-Oct-07															
N/A	27-Jan-09															
0	31-Jan-11															
0	1-Feb-12															
0	01-Jul-13															
0	01-Mar-14															
0	15-Feb-15															
AVG value of quantified hits:			15.3	13.0	31.6	18.2	13.8	8.8	35.1	#DIV/0!	#DIV/0!	2.02				
Maximum value:			30	26	48	25.5	25	14	99	0	0	2.35				

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
MERCURY

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Mercury CAS = 7439-97-6 GPS = 2 (MCL) BACK = 0.54 (SPL)	09/19/95	ETSI	<0.2	<0.2	<0.2		0.3	0.7								
	12/13/95	ETSI	<0.2	<0.2	<0.2		0.3	<0.2								
	03/07/96	ETSI	<0.2	<0.2	<0.2		<0.2	<0.2								
	07/26/96	ETSI	<0.2	<0.2	<0.2		0.3	0.4								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<0.2							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<0.2							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<0.2							
	02/11/97	ETSI	<0.2	<0.2	0.2		<0.2	0.3	<0.2							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	<0.2							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	<0.2							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	<0.2							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	<0.2							
	08/13/97	ETSI	<0.2	<0.2	0.3		<0.2	<0.2	<0.2							
	02/24/98	Lab Corp	0.54	0.77	<0.5		<0.5	0.93	<0.5							
	08/14/98	Lab Corp	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5							
	02/10/99	Lab Corp	<2	<2	<2		<2	<2	<2							
	07/13/99	Lab Corp	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5							
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/09/00	Analytics	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5							
	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
	08/23/01	Analytics	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1					0.1	0.5	
S Approved 12-19-01	02/19/02	Analytics	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1					0.1	0.5	
	08/15/02	Analytics	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1					0.1	0.5	
	02/06/03	Analytics	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1					0.1	0.5	
	04/08/03	Analytics	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.1	n/a		<0.1	<0.1	n/a	n/a					0.1	0.5	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	<0.2	n/a		<0.2	<0.2	<0.2	n/a					0.05	0.2	
	01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/28/05	AWS	<0.2	n/a		<0.2	<0.2	<0.2	n/a					0.2	0.2	
	02/01/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/25/06	AWS	<0.2	n/a		<0.2	<0.2	<0.2	n/a					0.2	0.2	
	ACL Changes															
	ACL	Effective Date	01/23/07	AWS	n/a	n/a	n/a	n/a	n/a					n/a	n/a	
	1.3459	1-Oct-07	07/17/07	AWS	<0.2	n/a	<0.2	<0.2	<0.2	n/a				0.2	0.2	
	0.191632653	27-Jan-09	01/24/08	AWS	n/a	n/a	n/a	n/a	n/a					n/a	n/a	
	0.50057062	31-Jan-11	7/30/2008	AWS	<0.2	<0.2	<0.2	0.3	<0.2	<0.2				0.2	0.2	
	0.624	1-Feb-12	1/20/2009	AWS	n/a	n/a	n/a	n/a	n/a					n/a	n/a	
	0.63	01-Jul-13	7/9/2009	AWS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2				0.2	0.2	
	0.63	15-Feb-15	10/12/2009	AWS	n/a	n/a	n/a	n/a	n/a					n/a	n/a	v
			1/6/2010	AWS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2				0.2	0.2	
			7/8/2010	AWS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2				0.2	0.2	
AVG value of quantified hits:			0.54	0.77	0.3	#DIV/0!	0.3	0.58	#DIV/0!							
Maximum value:			0.54	0.77	0.3	0	0.3	0.93	0.0							

Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC	
Mercury		12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v	
CAS = 7439-97-6		1/13/2011	AWS	<0.2	<0.2		<0.2	<0.2	0.2	<0.2					0.2	0.2		
		7/28/2011	AWS	<0.2	<0.2		<0.2	<0.2	0.2	<0.2						0.2	0.2	
		8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a						n/a	n/a	
GPS = 2 (MCL)		1/17/2012	AWS	<0.2	<0.2		<0.2	<0.2	0.2	<0.2					0.2	0.2		
BACK = 0.54 (SPL)		3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a		
		7/11/2012	AWS	<0.2	<0.2		<0.2	<0.2	0.2	<0.2						0.2	0.2	
		2/7/2013	AWS	<0.2	<0.2		<0.2	<0.2	1.0	<0.2	<0.2	<0.2				0.2	0.2	
		3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a				n/a	n/a	
		7/25/2013	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2	n/a	<0.2				0.2	0.2	
		8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a				n/a	n/a	v
		10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
		2/13/2014	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2	n/a	<0.2	<0.2			0.2	0.2	
		7/9/2014	AWS		<0.2				<0.2	<0.2		<0.2	<0.2			0.2	0.2	
		2/6/2015	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2		<0.2	<0.2			0.2	0.2	
		7/14/2015	AWS		<0.2				<0.2	<0.2		<0.2	<0.2			0.2	0.2	
1/20/2016		AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2		<0.2	<0.2			0.2	0.2		
7/13/2016		AWS		<0.2				<0.2	<0.2		<0.2	<0.2			0.2	0.2		
1/25/2017		AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2		<0.2	<0.2			0.2	0.2		
7/25/2017		AWS		<0.2				<0.2	<0.2			<0.2	<0.2		0.2	0.2		
S Approved 12-19-01																		
ACL Changes																		
ACL	Effective Date																	
1.3459	1-Oct-07																	
0.191632653	27-Jan-09																	
0.50057062	31-Jan-11																	
0.624	1-Feb-12				</													

CLIENT: GOOCHLAND COUNTY
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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
NICKEL

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Nickel CAS = 7440-02-0 GPS = 390 (ACL) BACK = 144 (SPL)	09/19/95	ETSI	31	30	70		24	22								
	12/13/95	ETSI	24	10	109		44	22								
	03/07/96	ETSI	144	7	61		53	15								
	07/26/96	ETSI	33	<5	94		58	14								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	200							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	45							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	73							
	02/11/97	ETSI	23	5	57		69	31	29							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	7							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	80							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	25							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	45							
	08/13/97	ETSI	28	9	76		53	14	24							
	02/24/98	Lab Corp	<80	<80			<80	<80	<80							
	08/14/98	Lab Corp	39.5	<20	64.6		31.1	56.5	<20							
	02/10/99	Lab Corp	<40	<40	<40		<40	<40	<40							
	07/13/99	Lab Corp	<40	<40	<40		<40	<40	<40							
	02/09/00	Lab Corp	<40	<40	<40		<40	<40	<40							
	08/09/00	Analytics	<40	<40	<40		<40	<40	<40							
	02/13/01	Analytics	<40	<40	<40		<40	<40	<40							
Approved 12-19-01	08/23/01	Analytics	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5					0.5	40	
ACL Changes	02/19/02	Analytics	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5					0.5	40	
	08/15/02	Analytics	<0.5	<0.5	<0.5		<0.5	47.6	<0.5					0.5	40	
	02/06/03	Analytics	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5					0.5	40	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<1.9	<1.9		<1.9	<1.9	<1.9	<1.9					1.9	50	
	01/22/04	ProChem	17.9	5.97		10.9	6.01	8.02	<5					0.9	5	
	07/14/04	ProChem	17.9	5.59		7.54	10.6	7.1	<5					0.8	5	
	01/20/05	ProChem	17.1	<5		9.04	<5	6.52	<0.8					0.8	5	
	07/28/05	AWS	21	<10		<10	15	<10	<10					2	10	
	02/01/06	AWS	17	<10		12	12	<10	<10					2	10	
	07/25/06	AWS	18	<2		13	<10	<10	<2					2	10	
	ACL Effective Date	01/23/07	AWS	<2		<10	<10	<10	<2					2	10	
	313 1-Oct-07	07/17/07	AWS	25	<10		<10	10	<10	<2				2	10	
	313 27-Jan-09	01/24/08	AWS	16	<2		14	<10	<10	<10				2	10	
	312 31-Jan-11	7/30/2008	AWS	15	<2		10	<10	<10	<2				2	10	
	312 1-Feb-12	1/20/2009	AWS	17	<2		12	<10	<10	<2				2	10	
	300 01-Jul-13	7/9/2009	AWS	14	<2		<10	<10	<10	<2				2	10	
	390 15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a					n/a	n/a	v
		1/6/2010	AWS	15.7	<2.0		15.6	<10.0	<10.0	81.0				2.0	10.0	
		7/8/2010	AWS	<10.0	<2.0		<10.0	<10.0	<2.0					2.0	10.0	
AVG value of quantified hits:			27.5	10.4	75.9	11.6	32.1	22.2	60.9							
Maximum value:			144	30	109	15.6	69	56.5	200							

CLIENT: GOOCHLAND COUNTY
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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
NICKEL

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Nickel CAS = 7440-02-0 GPS = 390 (ACL) BACK = 144 (SPL)	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	22.4	<10.0		36.8	13.7	<10.0	18.9					2.0	10.0	
	7/28/2011	AWS	19.2	<2.0		101.0	<10.0	11.8	11.6					2.0	10.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	24.8	<2.0		49.4	<10.0	<10.0	164.2					2.0	10.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	11.1	<2.0		17.1	13.2	<10.0	14.6					2.0	10.0	
	2/7/2013	AWS	21.3	<10.0		32.3	18.6	25.0	20.3	<10.0	<10.0			2.0	10.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	10.2	29.8		18.8	18.2	<10.0	17.2	n/a	<10.0			2.0	10.0	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	25.0		2.0	10.0	
	2/13/2014	AWS	12.6	<10.0		29.9	15.4	12.4	13.3	n/a	<10.0	30.9		2.0	10.0	
	7/9/2014	AWS		<10.0				<10.0	<10.0		<10.0	13.8		2.0	10.0	
	2/6/2015	AWS	<10.0	<10.0		<10.0	19.6	<10.0	<10.0		<10.0	26.6		2.0	10.0	
	7/14/2015	AWS		<10.0				<10.0	<10.0		<10.0	13.3		2.0	10.0	
	1/20/2015	AWS	4.1(j)	2.5(j)		33.4	3.8(j)	6.9(j)	3.7(j)		6.6(j)	26.2		2.0	10.0	
	7/13/2016	AWS		2.0 J				7.8 J	<2.0		7.8 J	20.5		2.0	10.0	
	1/25/2017	AWS	7.9 J	4.8 J		17.5	4.8 J	8.5 J	3.9 J		7.6 J	15.8		2.0	10.0	
	7/25/2017	AWS		4.0 J				6.6 J	4.5 J		6.1 J	19.2		2.0	10.0	
Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
313	1-Oct-07															
313	27-Jan-09															
312	31-Jan-11															
312	1-Feb-12															
300	01-Jul-13															
300	01-Mar-14															
390	15-Feb-15															
AVG value of quantified hits:			24.84	12.8	75.9	24.5	26.9	20.9	51.1	#DIV/0!	#DIV/0!	21.3				
Maximum value:			144	30	109	101	69	56.5	200	0	0	30.9				

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
SELENIUM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Selenium CAS = 7782-49-2 GPS = 50 (MCL) BACK = LOQ	09/19/95	ETSI	<5	<5	<20		<20	<5								
	12/13/95	ETSI	<10	<10	<10		10	<10								
	03/07/96	ETSI	<5	<5	<5		<5	<10								
	07/26/96	ETSI	<5	<5	<5		<5	<5								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	02/11/97	ETSI	<5	<5	<5		<5	<5	<5							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	08/13/97	ETSI	<10	<10	<10		<10	<10	<10							
	02/24/98	Lab Corp	<50	<50	<50		<50	<50	<50							
	08/14/98	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/10/99	Lab Corp	<40	<40	<40		<40	<40	<40							
	07/13/99	Lab Corp	<20	<20	<20		<20	<20	<20							
	02/09/00	Lab Corp	<20	<20	<20		<20	<20	<20							
	08/09/00	Analytics	<20	<20	<20		<20	<20	<20							
	02/13/01	Analytics	<20	<20	<20		<20	<20	<20							
Approved 12-19-01	08/23/01	Analytics	<1.68	<1.68	<1.68		<1.68	<1.68	<1.68					1.68	20	
ACL Changes	02/19/02	Analytics	<1.68	<1.68	<1.68		<1.68	<1.68	<1.68					1.68	20	
	08/15/02	Analytics	<1.68	<1.68	<1.68		<1.68	<1.68	<1.68					1.68	20	
	02/06/03	Analytics	<1.68	<1.68	<1.68		<1.68	<1.68	<1.68					1.68	20	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<1.8	<1.8		<1.8	<1.8	<1.8	<1.8					1.8	20	
	01/22/04	ProChem	<1.58	<1.58		<1.58	<1.58	<1.58	<1.58					1.58	5	
	07/14/04	ProChem	<0.92	<0.92		<0.92	<0.92	<0.92	<0.92					0.92	5	
	01/20/05	ProChem	<0.92	<0.92		<0.92	<0.92	<0.92	<0.92					0.92	5	
	07/28/05	AWS	<1	<1		<1	<1	<1	<1					1	5	
	02/01/06	AWS	<2	<2		<2	<2	<2	<2					2	5	
	07/25/06	AWS	<2	<2		<2	<2	<2	<2					2	5	
	ACL Effective Date	01/23/07	AWS	<2	<2		<2	<2	<2					2	5	
	78.25	1-Oct-07	07/17/07	AWS	<2	<2		<2	<2					2	5	
	78.25	27-Jan-09	01/24/08	AWS	<2	<2		<2	<2					2	5	
	78	31-Jan-11	7/30/2008	AWS	<2	<2		<2	<2					2	5	
	78	1-Feb-12	1/20/2009	AWS	<0.2	<2		<2	<2					2	5	
	78	01-Jul-13	7/9/2009	AWS	<8	<8		<8	<8					8	50	
	100	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a					n/a	n/a	v
			1/6/2010	AWS	<8.0	<8.0		<50.0	<8.0	<50.0				8.0	50.0	
			7/8/2010	AWS	<8.0	<8.0		<50.0	<8.0	<8.0				8.0	50.0	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	10	#DIV/0!	#DIV/0!							
Maximum value:			0	0	0	0	10	0	0.00							

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
SILVER

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Silver CAS = 7440-22-4 GPS = 94 (ACL) BACK = LOQ	09/19/95	ETSI	<0.5	<0.5	<0.5		0.6	0.6								
	12/13/95	ETSI	<0.5	<0.5	<0.5		<0.5	<0.5								
	03/07/96	ETSI	<0.5	<0.5	<0.5		<0.5	<0.5								
	07/26/96	ETSI	<0.5	<0.5	<0.5		0.6	<0.5								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<0.5							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<0.5							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<0.5							
	02/11/97	ETSI	<10	<10	<10		<10	<10	<10							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	<0.5							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	<0.5							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	<0.5							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	<0.5							
	08/13/97	ETSI	<2	<2	<2		3	<2	<2							
	02/24/98	Lab Corp	<50	<50	<50		<50	<50	<50							
	08/14/98	Lab Corp	<10	<10	<10		<10	<10	<10							
	02/10/99	Lab Corp	<20	<20	<20		<20	<20	<20							
	07/13/99	Lab Corp	<10	<10	<10		<10	<10	<10							
	02/09/00	Lab Corp	<10	<10	<10		<10	<10	<10							
	08/09/00	Analytics	<10	<10	<10		<10	<10	11							
	02/13/01	Analytics	<10	<10	<10		<10	<10	<10							
Approved 12-19-01	08/23/01	Analytics	<1	<1	<1		<1	<1	<1					1.0	10	
ACL Changes	02/19/02	Analytics	<1	<1	<1		<1	<1	<1					1.0	10	
	08/15/02	Analytics	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01					0.01	10	
	02/06/03	Analytics	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01					0.01	50	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.16	<0.16		<0.16	<0.16	<0.16	70.5					0.16	10	
	01/22/04	ProChem	<0.56	<0.56		<0.56	<0.56	<0.56	<0.56					0.56	2	
	07/14/04	ProChem	<0.48	<0.48		<0.48	<0.48	<0.48	<0.48					0.48	2	
	01/20/05	ProChem	<0.48	<0.48		<2	2.71	<0.48	<0.48					0.48	2	
	07/28/05	AWS	<2	<2		<2	<2	<2	<2					2	10	
	02/01/06	AWS	<2	<2		<2	<2	<2	<2					2	10	
	07/25/06	AWS	<2	<2		<2	<2	<2	<2					2	10	
	ACL Effective Date	01/23/07	AWS	<2	<2		<2	<2	<2					2	10	
	78.25	1-Oct-07	07/17/07	AWS	<2	<2		<2	<2					2	10	
	78.25	27-Jan-09	01/24/08	AWS	<2	<2		<2	<10	<2				2	10	
	78	31-Jan-11	7/30/2008	AWS	<2	<2		<2	<2	<2				2	10	
	78	1-Feb-12	1/20/2009	AWS	<2	<2		<2	<2	<2				2	10	
	71	01-Jul-13	7/9/2009	AWS	<2	<2		<10	<10	<2				2	10	
	94	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a				n/a	n/a	v
			1/6/2010	AWS	<2.0	<2.0		<2.0	<10.0	<2.0				2.0	10.0	
			7/8/2010	AWS	<2.0	<2.0		<2.0	<2.0	<2.0				2.0	10.0	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.73	0.6	40.8							
Maximum value:			0	0	0	0	3	0.6	70.5							

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
SILVER

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Silver CAS = 7440-22-4 GPS = 94 (ACL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0					2.0	10.0	
	7/28/2011	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0					2.0	10.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0					2.0	10.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0					2.0	10.0	
	2/7/2013	AWS	<2.0	<2.0		<10.0	<10.0	<2.0	<2.0	<2.0	<2.0			2.0	10.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<2.0	<2.0		<10.0	<10.0	<2.0	<2.0	n/a	<2.0			2.0	10.0	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<10.0		2.0	10.0	
	2/13/2014	AWS	<2.0	<2.0		<10.0	<10.0	<2.0	<2.0	n/a	<2.0	<10.0		2.0	10.0	
	7/9/2014	AWS		<2.0				<2.0	<2.0			<10.0		2.0	10.0	
	2/6/2015	AWS	<2.0	<2.0		<2.0	<10.0	<2.0	<2.0		<10.0	<10.0		2.0	10.0	
	7/14/2015	AWS		<2.0				<2.0	<2.0		<2.0	<10.0		2.0	10.0	
	1/20/2016	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0		<2.0	<2.0		2.0	10.0	
	7/13/2016	AWS		<2.0				<2.0	<2.0		<2.0	<2.0		2.0	10.0	
	1/25/2017	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0		<2.0	<2.0		2.0	10.0	
	7/25/2017	AWS		<2.0				<2.0	<2.0		<2.0	<2.0		2.0	10.0	
Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
78.25	1-Oct-07															
78.25	27-Jan-09															
78	31-Jan-11															
78	1-Feb-12															
71	01-Jul-13															
71	01-Mar-14															
94	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.7	0.60	40.8	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	0	0	3.0	0.60	70.5	0	0	0				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
THALLIUM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Thallium CAS = 7440-28-0 GPS = 2 (MCL) BACK = LOQ	09/19/95	ETSI	<2	<2	<2		<2	<2								
	12/13/95	ETSI	<2	<2	<2		<2	<2								
	03/07/96	ETSI	<2	<2	<2		<2	<2								
	07/26/96	ETSI	<2	<2	<2		<2	<2								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	<2	<2	<2		<2	<2	<5							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	<5							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	<2							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	<2							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	<2							
	08/13/97	ETSI	<2	<2	n/a		<2	<2	<2							
	02/24/98	Lab Corp	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0							
	08/14/98	Lab Corp	<2.0	<2.0	<2.0		2	2	<2.0							
	02/10/99	Lab Corp	<2	<2	<2		<2	<2	<2							
	07/13/99	Lab Corp	<2	<2	<2		<2	<2	<2							
	02/09/00	Lab Corp	<2	<2	<2		<2	<2	<2							
	08/09/00	Analytics	<2	<2	<2		<2	<2	<2							
	02/13/01	Analytics	<2	<2	<2		<2	<2	<2							
Approved 12-19-01	08/23/01	Analytics	<1.68	<1.68	<1.68		<1.68	<1.68	<1.68					1.68	5.0	
ACL Changes	02/19/02	Analytics	<1.68	<1.68	<1.68		<1.68	<1.68	<1.68					1.68	5.0	
	08/15/02	Analytics	<1.68	<1.68	<1.68		<1.68	<1.68	<1.68					1.68	5.0	
	02/06/03	Analytics	<1.68	<1.68	<1.68		<1.68	<1.68	<1.68					1.68	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<1.68	<1.68		<1.68	<1.68	<1.68	<1.68					1.68	5.0	
	01/22/04	ProChem	<2(ib)	<1		<1	<2(ib)	<1	<1					1	2	ib
	07/14/04	ProChem	<1	<1		<1	<1	<1	<1					1	2	
	01/20/05	ProChem	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5					0.5	2	
	07/28/05	AWS	<2	<2		<2	<2	<2	<2					2	2	
	02/01/06	AWS	<2	<2		<2	<2	<2	<2					2	2	
	07/25/06	AWS	<2	<2		<2	<2	<2	<2					2	2	
	01/23/07	AWS	<2	<2		<2	<2	<2	<2					2	2	
	07/17/07	AWS	<2	<2		<2	<2	<2	<2					2	2	
1.0955 1.01725 0 0.156 0.16 0.2	1-Oct-07	07/17/07	AWS	<2	<2		<2	<2	<2					2	2	
	27-Jan-09	01/24/08	AWS	<2	<2		<2	<2	<2					2	2	
	31-Jan-11	7/30/2008	AWS	<2	<2		<2	<2	<2					2	2	
	1-Feb-12	1/20/2009	AWS	<2	<2		<2	<2	<2					2	2	
	01-Jul-13	7/9/2009	AWS	<2	<2		<2	<2	<2					2	2	
	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a					n/a	n/a	v
		1/6/2010	AWS	<2.0	<2.0		<2.0	<2.0	<2.0					2.0	2.0	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2	2	#DIV/0!							
Maximum value:			0	0	0	0.00	2	2	0.00							

CLIENT: GOOCHLAND COUNTY
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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
THALLIUM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Thallium CAS = 7440-28-0 GPS = 2 (MCL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<2.0	<2.0		2.0	2.9	<2.0	2.2					2.0	2.0	
	7/28/2011	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0					2.0	2.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0					2.0	2.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0					2.0	2.0	
	2/7/2013	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0			2.0	2.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0	n/a	<2.0			2.0	2.0	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<2.0		2.0	2.0	
	2/13/2014	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0	n/a	<2.0	<2.0		2.0	2.0	
	7/9/2014	AWS		<2.0				2.1	<2.0		<2.0	<2.0		2.0	2.0	
	2/6/2015	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0		<2.0	<2.0		2.0	2.0	
	7/14/2015	AWS		<2.0				<2.0	<2.0		<2.0	<2.0		2.0	2.0	
	1/20/2016	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0		<2.0	<2.0		2.0	2.0	
	7/13/2016	AWS		<2.0				<2.0	<2.0		<2.0	<2.0		2.0	2.0	
	1/25/2017	AWS	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0		<2.0	<2.0		2.0	2.0	
	7/25/2017	AWS		<2.0				<2.0	<2.0		<2.0	<2.0		2.0	2.0	
Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
1.0955	1-Oct-07															
1.01725	27-Jan-09															
0	31-Jan-11															
0.156	1-Feb-12															
0.16	01-Jul-13															
0.16	01-Mar-14															
0.2	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	2.0	2.5	2.05	2.2	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	0	2.0	2.9	2.1	2.2	0	0	0				

CLIENT: GOOCHLAND COUNTY
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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
TIN

Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC	
Tin CAS = 7440-31-5 GPS = 12000 (ACL) BACK = 579 (SPL)		09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a									
		12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a									
		03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a									
		07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a									
		10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a								
		08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a								
		02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a								
		07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a								
		02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a								
		Approved 12-19-01		08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a						
02/13/01	Analytics			n/a	n/a	n/a		n/a	n/a	n/a								
08/23/01	Analytics			579	n/a	453		5838	n/a	n/a				<16	16	80	ib	
02/19/02	Analytics			n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a		
08/15/02	Analytics			<16	n/a	<16		<16	n/a	n/a					16	80		
ACL Changes		02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a		
		04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a		
		05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a		
		08/26/03	Analytics	<22.3	n/a		<22.3	<22.3	n/a	n/a					22.3	80		
		01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a		
		07/14/04	ProChem	<5.00	n/a		<1.67	<1.67	<5.00	n/a					1.67	5		
		01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a		
		07/28/05	AWS	<50	n/a		<50	<50	<50	n/a					50	150		
		02/01/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a		
		07/25/06	AWS	<2	n/a		<2	<2	<2	n/a					2	20		
		ACL	Effective Date	01/23/07	AWS	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
		9390	1-Oct-07	07/17/07	AWS	<2	n/a		<2	<2	<2	n/a				2	20	
		9390	27-Jan-09	01/24/08	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a	
		9360	31-Jan-11	7/30/2008	AWS	<2	<2		<2	<2	<2	<2				2	20	
		9360	1-Feb-12	1/20/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a	
		9300	01-Jul-13	7/9/2009	AWS	<20	<20		<20	<20	<20	<20				20	20	
		12000	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a	v
				1/6/2010	AWS	<20.0	<20.0		<20.0	<20.0	<20.0	<20.0				20.0	20.0	
				7/8/2010	AWS	<20.0	<20.0		<20.0	<20.0	<20.0	<20.0				20.0	20.0	
AVG value of quantified hits:			579	#DIV/0!	453	#DIV/0!	5838	#DIV/0!	#DIV/0!									
Maximum value:			579	0	453	0	5838	0	0.00									

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CLIENT: GOOCHLAND COUNTY
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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
VANADIUM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Vanadium CAS = 7440-62-2 GPS = 86 (ACL) BACK = 512 (SPL)	09/19/95	ETSI	97	152	376		93	156								
	12/13/95	ETSI	85	39	395		288	92								
	03/07/96	ETSI	75	22	327		297	60								
	07/26/96	ETSI	94	<50	785		347	109								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	570							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	60							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	240							
	02/11/97	ETSI	512	<50	251		380	140	92							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	<50							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	280							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	76							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	130							
	08/13/97	ETSI	62	7	460		230	38	70							
	02/24/98	Lab Corp	<80	<80	<80		<80	<80	<80							
	08/14/98	Lab Corp	103	<20	316		118	304	<20							
	02/10/99	Lab Corp	<40	<40	<40		<40	<40	<40							
	07/13/99	Lab Corp	<40	<40	<40		<40	<40	<40							
	02/09/00	Lab Corp	<40	<40	<40		<40	<40	<40							
	08/09/00	Analytics	68.5	<40	<40		<40	43	<40							
	02/13/01	Analytics	<40	<40	<40		<40	<40	<40							
Approved 12-19-01	08/23/01	Analytics	<0.8	<0.8	<0.8		<0.8	42.7(tb)	<0.8				<0.8	0.8	40	ib, tb
ACL Changes	02/19/02	Analytics	<0.8	<0.8	63.1		<0.8	99	<0.8					0.8	40	
	08/15/02	Analytics	<0.8	54	<0.8		<0.8	282	<0.8					0.8	40	
	02/06/03	Analytics	41.5	<0.8	<0.8		<0.8	<0.8	<0.8					0.8	40	
	04/08/03	Analytics	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<3	<3		58	<3	116	<3					3.0	50	
	01/22/04	ProChem	21.2	18.9		9.21	14.1	13.1	<5					0.71	5	
	07/14/04	ProChem	5.83	20		<5	18.4	16.6	13					1.03	5	
	01/20/05	ProChem	<5	<5		7.77	5.7	11.7	<5					1.03	5	
	07/28/05	AWS	16	<10		<10	12	14	23					2	10	
	02/01/06	AWS	<2	<10		<2	<2	<10	<10					2	10	
	07/25/06	AWS	<10	<2		14	<2	<10	<2					2	10	
	ACL Effective Date	01/23/07	AWS	<10	<2		<2	<10	<2					2	10	
	15.65	1-Oct-07	07/17/07	AWS	<2	<10		<10	12	<2				2	10	
	109.55	27-Jan-09	01/24/08	AWS	11	<2		<10	<2	<2				2	10	
	1.092	31-Jan-11	7/30/2008	AWS	<2	<2		<10	<2	<2				2	10	
	78	1-Feb-12	1/20/2009	AWS	25	<2		<10	<2	<2				2	10	
	78	01-Jul-13	7/9/2009	AWS	<10	<2		<2	<2	<10				2	10	
	86	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a				n/a	n/a	v
			1/6/2010	AWS	13.3	<2.0		19.5	<2.0	<2.0	260.8			2.0	10.0	
			7/8/2010	AWS	<10.0	<2.0		<10.0	<2.0	<10.0	<2.0			2.0	10.0	
AVG value of quantified hits:			82.0	44.7	372	21.7	151	94.1	165							
Maximum value:			512	152	785	58	380	304	570							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
VANADIUM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Vanadium CAS = 7440-62-2 GPS = 86 (ACL) BACK = 92	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	50.5	13.7		116.8	10.6	19.4	64.7					2.0	10.0	
	7/28/2011	AWS	38.9	<10.0		403.0	<10.0	35.6	37.1					2.0	10.0	
	8/29/2011	AWS	n/a	n/a		31.3	n/a	n/a	n/a					2.0	10.0	
	1/17/2012	AWS	86.2	<10.0		213.7	16.0	17.1	364.0					2.0	10.0	
	3/1/2012	AWS	n/a	n/a		<10.0	n/a	n/a	<2.0					2.0	10.0	
	7/11/2012	AWS	22.9	<2.0		36.1	11.5	<10.0	49.6					2.0	10.0	
	2/7/2013	AWS	77.1	22.4		93.8	30.2	153.3	66.8	12.6	18.8			2.0	10.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	31.6	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	13.0	<10.0		46.4	36.3	12.0	57.8	n/a	<2.0			2.0	10.0	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	85.1		2.0	10.0	
	2/13/2014	AWS	51.8	<10.0		126	35.8	25.0	39.1	n/a	<2.0	117		2.0	10.0	
	7/9/2014	AWS		<2.0				<10.0	<10.0		<2.0	<10.0		2.0	10.0	
	2/6/2015	AWS	14.9	51.4		16	54.4	<10.0	15.2		<2.0	64.8		2.0	10.0	
	7/14/2015	AWS		31.6				<10.0	14.2		<2.0	11.3		2.0	10.0	
	1/20/2016	AWS	14.1	8.3(j)		187	30.0	4.2(j)	8.9(j)		<2.0	82.9		2.0	10.0	
	7/13/2016	AWS		5.5 J				4.9 J	5.5 J		<2.0	47.3		2.0	10.0	
	1/25/2017	AWS	13.8	19.2		77.6	29.8	8.3 J	9.1 J		<2.0	33.5		2.0	10.0	
	7/25/2017	AWS		21.4				11.1	16.5		<2.0	44.4		2.0	10.0	
Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
15.65	1-Oct-07															
109.55	27-Jan-09															
1.092	31-Jan-11															
78	1-Feb-12															
78	01-Jul-13															
63	01-Mar-14															
86	15-Feb-15															
AVG value of quantified hits:			64.5	36.4	371.6	91.0	99	75.4	121	13	19	61				
Maximum value:			512	152	785	403	380	304	570	12.6	18.8	117				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
ZINC

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Zinc CAS = 7440-66-6 GPS = 6000 (ACL) BACK = 502 (SPL)	09/19/95	ETSI	80	100	510		170	440								
	12/13/95	ETSI	105	36	157		165	63								
	03/07/96	ETSI	70	30	110		165	30								
	07/26/96	ETSI	61	<20	421		178	56								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	796							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	137							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	340							
	02/11/97	ETSI	64	32	159		184	100	183							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	46							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	445							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	120							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	200							
	08/13/97	ETSI	70(tb)	20(tb)	230(tb)		130(tb)	50(tb)	110(tb)				14			tb
	02/24/98	Lab Corp	<80	<80	95		<80	<80	150							
	08/14/98	Lab Corp	159(tb)	157(tb)	280(tb)		107(tb)	215(tb)	63.3(tb)				65.3			tb
	02/10/99	Lab Corp	<40	<40	<40		<40	<40	<40							
	07/13/99	Lab Corp	<40	<40	<40		<40	<40	<40							
	02/09/00	Lab Corp	<40	<40	<40		<40	<40	43.2							
	08/09/00	Analytics	65	<40	<40		<40	56.1	59.3							
	02/13/01	Analytics	<40	<40	<40		<40	<40	<40							
Approved 12-19-01	08/23/01	Analytics	<1	<1	<1		<1	<1	<1					1	40	
ACL Changes	02/19/02	Analytics	41.4	<1	<1		<1	<1	<1					1	40	
	08/15/02	Analytics	408	<1	<1		<1	527	<1					1	40	
	02/06/03	Analytics	502	<1	<1		182	<1	<1					1	40	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<46.4	<46.4		<46.4	<46.4	54.3	<46.4					46.4	50	
	01/22/04	ProChem	29.3	14		5.6	<5	7.25	7.51					0.42	5	
	07/14/04	ProChem	25.8(tb)	27.5(tb)		9.53(tb)	16.6(tb)	25.2(tb)	31.8(tb)				5.72	0.42	5	tb
	01/20/05	ProChem	17.3	<5		<5	<5	7.67	<5					0.42	5	
	07/28/05	AWS	32	<10		<20	<20	<20	42					10	20	
	02/01/06	AWS	14	<10		<10	<10	<10	<10					10	10	
	07/25/06	AWS	18	<10		12	<10	<10	11					10	10	
	ACL	Effective Date	01/23/07	AWS	30	<10	12	10	<10	<10				10	10	
	4695	1-Oct-07	07/17/07	AWS	27	13	16	16	<10	<10				10	10	
	4695	27-Jan-09	01/24/08	AWS	29	<10	12	<10	<10	20				10	10	
	4680	31-Jan-11	7/30/2008	AWS	20	<10	<10	<10	<10	<10				10	10	
	4680	1-Feb-12	1/20/2009	AWS	49	<10	<10	<10	<10	<10				10	10	
	4700	01-Jul-13	7/9/2009	AWS	24	<10	<10	<10	<10	<10				10	10	
	6000	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a				n/a	n/a	v
			1/6/2010	AWS	33.0	<10.0		19.5	<10.0	<10.0	420.4			10.0	10.0	
			7/8/2010	AWS	15.4	<10.0		<10.0	<10.0	<10.0				10.0	10.0	
AVG value of quantified hits:			78.8	37.5	242	12.9	134	134	189							
Maximum value:			502	100	510	19.5	184	527	796							

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[illegible]

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
CYANIDE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Cyanide CAS = 57-12-5 GPS = 200 (MCL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
PS Approved 12-19-01	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
	08/23/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/15/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	7	n/a		6	9	<2	n/a					2	5	
	01/20/05	ProChem	<2	n/a		<2	<2	<2	n/a					2	5	
	07/28/05	AWS	<20	n/a		<20	<20	<20	n/a					20	20	
	02/01/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/25/06	AWS	<10	n/a		<10	<10	<10	n/a					10	10	
	01/23/07	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/17/07	AWS	<10	n/a		<10	<10	<10	n/a					10	10	
	01/24/08	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/30/2008	AWS	<10	<10		<10	<10	<10	<10					10	10	
ACL Changes	312	31-Jan-11	1/20/2009	AWS	n/a	n/a	n/a	n/a	n/a					n/a	n/a	
	312	1-Feb-12	7/9/2009	AWS	<10	<10	<10	<10	<10					10	10	
	1.4	01-Jul-13	10/12/2009	AWS	n/a	n/a	n/a	n/a	n/a					n/a	n/a	v
	1.5	15-Feb-15	1/6/2010	AWS	<10	<10	<10	<10	<10					10	10	
			7/8/2010	AWS	<10	<10	<10	<10	<10					10	10	
	AVG value of quantified hits:			7	#DIV/0!	#DIV/0!	6	9	#DIV/0!	#DIV/0!						
	Maximum value:			7	0	0	6	9	0	0.00						

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Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC		
Cyanide		12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v		
		1/13/2011	AWS	<10	<10		<10	<10	<10	<10					10	10			
		7/28/2011	AWS	<10	<10		<10	<10	<10	<10					10	10			
		8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a			
CAS = 57-12-5		1/17/2012	AWS	<10	<10		10	<10	<10	<10					10	10			
GPS = 200 (MCL)		3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a			
BACK = LOQ		7/11/2012	AWS	<10	<10		<10	<10	<10	<10					10	10			
		2/7/2013	AWS	<10	<10		<10	<10	<10	<10	<10	<10				10	10		
		3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a				n/a	n/a		
		7/25/2013	AWS	<10	<10		<10	<10	<10	<10	<10	n/a	<10			10	10		
		8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v	
		10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a		
		2/13/2014	AWS	<10	<10		<10	<10	<10	<10	<10	n/a	<10	<10		10	10		
		7/9/2014	AWS		<10				<10	<10		<10	<10			10	10		
		2/6/2015	AWS	<10	<10		<10	<10	<10	<10		<10	<10			10	10		
		7/14/2015	AWS		10(Cl)				<10	<10		<10	<10			10	10		
		1/20/2016	AWS	<10	<10		<10	<10	<10	<10		<10	<10			10	10		
		7/13/2016	AWS		<10				<10	10		<10	<10			10	10		
		1/25/2017	AWS	<10	<10		<10	<10	<10	<10		<10	<10			10	10		
		7/25/2017	AWS		<10				<10	11			<10	<10		10	10		
		PS Approved 12-19-01																	
		ACL Changes																	
ACL	Effective Date																		
313	1-Oct-07																		
313	27-Jan-09																		
312	31-Jan-11																		
312	1-Feb-12																		
1.4	01-Jul-13																		
1.4	01-Mar-14																		
1.5	15-Feb-15																		
AVG value of quantified hits:				7	#DIV/0!	#DIV/0!	8	9	#DIV/0!	10.5	#DIV/0!	#DIV/0!	#DIV/0!						

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
SULFIDE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Sulfide	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
CAS = 18496-25-8	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a								
GPS = 0 (ACL)	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
BACK = LOQ	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
Approved 12-19-01	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	3000	3000	5000		5000	<2000	3000							
	08/14/98	Lab Corp	7360	<2000	<2000		<2000	<2000	<2000							
	02/10/99	Lab Corp	<4000	<4000	<4000		<4000	<4000	<4000							
	07/13/99	Lab Corp	<4000	n/a	<4000		<4000	n/a	n/a							
	02/09/00	Lab Corp	<2000	<2000	<2000		<2000	<2000	<2000							
	08/09/00	Analytics	<4000	<2000	<4000		<4000	<2000	<2000							
	02/13/01	Analytics	<2000	3800(tb)	<2000		<2000	3200(tb)	5800(tb)				6000			tb
	08/23/01	Analytics	<4000	4800	<4000		<4000	<4000	<4000					2000	4000	
	02/19/02	Analytics	400000(SO)	640000(SO)	3200000(SO)		160000(SO)	4000000(SO)	6000000(SO)					2000	4000	SO
	08/15/02	Analytics	<2000	n/a	<2000		<2000	n/a	n/a					n/a	n/a	
	02/06/03	Analytics	<2000	<2000	<2000		<2000	<2000	<2000					2000	4000	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	ACL Changes	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a
08/26/03		Analytics	<2000	n/a		<2000	<2000	n/a	n/a					2000	4000	
01/22/04		ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
07/14/04		ProChem	<180	n/a		<180	<180	<180	n/a					180	1000	
01/20/05		ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
07/28/05		AWS	<1000	n/a		<1000	<1000	<1000	n/a					1000	1000	
02/01/06		AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
07/25/06		AWS	<1000	n/a		<1000	<1000	1100	n/a					1000	1000	
01/23/07		AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
07/17/07		AWS	<1000	n/a		<1000	7300	<1000	n/a					1000	1000	
N/A	Effective Date	01/23/07	AWS	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
N/A	1-Oct-07	07/17/07	AWS	<1000	n/a		<1000	7300	<1000	n/a				1000	1000	
N/A	27-Jan-09	01/24/08	AWS	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
0	31-Jan-11	7/30/2008	AWS	<1000	<1000		<1000	<1000	<1000					1000	1000	
0	1-Feb-12	1/20/2009	AWS	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
0	01-Jul-13	7/9/2009	AWS	<1000	<1000		<1000	<1000	<1000					1000	1000	
0	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a					n/a	n/a	v
		1/6/2010	AWS	<1000	<1000		<1000	<1000	<1000					1000	1000	
		7/8/2010	AWS	<1000	<1000		<1000	2000	<1000					1000	1000	
AVG value of quantified hits:			5180	3900.0	5000	#DIV/0!	4767	1100	3000							
Maximum value:			7360	4800	5000	0	7300	1100	3000							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
INORGANIC CONSTITUENTS
SULFIDE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Sulfide CAS = 18496-25-8 GPS = 0 (ACL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<1000	<1000		<1000	<1000	<1000	<1000					1000	1000	
	7/28/2011	AWS	<1000	<1000		<1000	<1000	<1000	<1000					1000	1000	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<1000	<1000		<1000	<1000	<1000	<1000					1000	1000	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<1000	<1000		<1000	<1000	1400	<1000					1000	1000	
	2/7/2013	AWS	<1000	<1000		<1000	<1000	<1000	<1000	<1000	<1000			1000	1000	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<1000	<1000		<1000	<1000	<1000	<1000	n/a	<1000			1000	1000	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	
	2/13/2014	AWS	<140	<140		<140	<140	<140	<140	n/a	<140	<140		140	1000	
	7/9/2014	AWS		<500				<500	<500		<500	<500		500	1000	
	2/6/2015	AWS	<500	<500		<500	<500	<500	<500		<500	<500		500	1000	
	7/14/2015	AWS		<500				<500	<500		<500	<500		500	1000	
	1/20/2016	AWS	<500	<500		<500	<500	<500	<500		<500	<500		500	1000	
	7/13/2016	AWS		<500				<500	<500		<500	<500		500	1000	
	1/25/2017	AWS	<500	<500		<500	<500	<500	<500		<500	<500		500	1000	
	7/25/2017	AWS		<500				<500	<500		<500	<500		500	1000	
Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
N/A	1-Oct-07															
N/A	27-Jan-09															
0	31-Jan-11															
0	1-Feb-12															
0	01-Jul-13															
0	01-Mar-14															
0	15-Feb-15															
AVG value of quantified hits:			5180	3900	5000	#DIV/0!	4767	1250	3000	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			7360	4800	5000	0	7300	1400	3000	0	0	0				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
1,1-DICHLOROETHANE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
1,1-Dichloroethane CAS = 75-34-3 GPS = 2.8 (ACL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
PS Approved 12-19-01	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
	08/23/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/15/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/28/05	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	02/01/06	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	07/25/06	AWS	<1.0	<0.2		<1.0	<0.2	<0.2	<0.2					0.2	1.0	
	01/23/07	AWS	<1.0	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	07/17/07	AWS	<1.0	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	01/24/08	AWS	<1.0	<0.2		<1.0	<0.2	<0.2	<0.2					0.2	1.0	
	7/30/2008	AWS	<1.0	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
ACL Changes	1-Feb-12	1/20/2009	AWS	<1.0	<0.2		<1.0	<0.2	<0.2	<0.2				0.2	1.0	
	01-Jul-13	7/9/2009	AWS	<1.0	<0.2		<1.0	<0.2	<0.2	<0.2				0.2	1.0	
	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a					n/a	n/a	v
	15-Feb-16	1/6/2010	AWS	<1.0	<0.2		<0.2	<0.2	<0.2					0.2	1.0	
		7/8/2010	AWS	<0.2	<0.2		<1.0	<0.2	<0.2	<1.0				0.2	1.0	
	AVG value of quantified hits:		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
	Maximum value:		0	0	0	0	0.00	0	0.00							
	ACL	Effective Date	01/23/07	AWS	<1.0	<0.2		<0.2	<0.2	<0.2				0.2	1.0	
	327.01493	1-Oct-07	07/17/07	AWS	<1.0	<0.2		<0.2	<0.2	<0.2				0.2	1.0	
	1.878490003	27-Jan-09	01/24/08	AWS	<1.0	<0.2		<1.0	<0.2	<0.2				0.2	1.0	
	2.41917814	31-Jan-11	7/30/2008	AWS	<1.0	<0.2		<0.2	<0.2	<0.2				0.2	1.0	
	2.41917814	1-Feb-12	1/20/2009	AWS	<1.0	<0.2		<1.0	<0.2	<0.2				0.2	1.0	
	2.4	01-Jul-13	7/9/2009	AWS	<1.0	<0.2		<1.0	<0.2	<0.2				0.2	1.0	
	2.7	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a				n/a	n/a	v
	2.8	15-Feb-16	1/6/2010	AWS	<1.0	<0.2		<0.2	<0.2	<0.2				0.2	1.0	
			7/8/2010	AWS	<0.2	<0.2		<1.0	<0.2	<0.2				0.2	1.0	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0	0	0	0	0.00	0	0.00							

Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC	
1,1-Dichloroethane		12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v	
		1/13/2011	AWS	<1.0	<0.2		<1.0	<0.2	<0.2	<0.2						0.2	1.0	
		7/28/2011	AWS	<1.0	<0.2		<1.0	<0.2	<0.2	<0.2						0.2	1.0	
CAS = 75-34-3		8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a		
GPS = 2.8 (ACL)		1/17/2012	AWS	<1.0	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0		
BACK = LOQ		3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a		
		7/11/2012	AWS	<1.0	<0.2		<0.2	<0.2	<0.2	<0.2						0.2	1.0	
		2/7/2013	AWS	<1.0	<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			0.2	1.0		
		3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a		
		7/25/2013	AWS	<1.00	<0.20		<0.20	<0.20	<0.20	<0.20	n/a	<0.20			0.20	1.00		
		8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v	
		10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<0.20		0.20	1.00		
		2/13/2014	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	n/a	<0.20	<0.20		0.20	1.00		
		7/9/2014	AWS		<0.20				<0.20	<0.20		<1.00	<0.20		0.20	1.00		
		2/6/2015	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		0.20	1.00		
		7/14/2015	AWS		<0.20				<0.20	<0.20		<1.00	<0.20		0.20	1.00		
		1/20/2016	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		0.20	1.00		
		7/13/2016	AWS		<0.20				<0.20	<0.20		0.21 J	<0.20		0.20	1.00		
		1/25/2017	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		0.24 J	<0.20		0.20	1.00		
PS Approved 12-19-01		7/25/2017	AWS		0.27 J				<0.20	<0.20		0.21 J	<0.20		0.20	1.00		
ACL Changes																		
ACL	Effective Date																	
327.01493	1-Oct-07																	
1.878490003	27-Jan-09																	
2.41917814	31-Jan-11																	
2.41917814	1-Feb-12																	
2.4	01-Jul-13			</														

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
1,2-DICHLOROBENZENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
1,2-Dichlorobenzene CAS = 95-50-1 GPS = 600 (MCL) BACK = LOQ	09/19/95	ETSI	<1.00	<1.00	<1.00		<1.00	<1.00								
	12/13/95	ETSI	<1.00	<1.00	<1.00		<1.00	<1.00								
	03/07/96	ETSI	<1.00	<1.00	<1.00		<1.00	<1.00								
	07/26/96	ETSI	2.1	<1.00	<1.00		2.3	<1.00								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1							
	02/11/97	ETSI	<1	<1	<1		<1	<1	<1							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<5	<5	<5		<5	<5	<5							
	02/24/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	08/14/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
PS Approved 12-19-01	08/23/01	Analytics	<0.17	<0.17	<0.17		<0.17	<0.17	<0.17					0.17	5.0	
ACL Changes	02/19/02	Analytics	<0.17	<0.17	<0.17		<0.17	<0.17	<0.17					0.17	5.0	
	08/15/02	Analytics	<0.17	<0.17	<0.17		<0.17	<0.17	<0.17					0.17	5.0	
	02/06/03	Analytics	<0.17	<0.17	<0.17		<0.17	<0.17	<0.17					0.17	5.0	
	04/08/03	Analytics	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.17	<0.17		<0.17	<0.17	<0.17	<0.17					0.17	5.0	
	01/22/04	ProChem	<0.17	<0.17		<0.17	<0.17	<0.17	<0.17					0.17	5.0	
	07/14/04	ProChem	<0.23	<0.23		<0.23	<0.23	<0.23	<0.23					0.23	2.0	
	01/20/05	ProChem	<0.23	<0.23		<0.23	<0.23	<0.23	<0.23					0.23	2.0	
	07/28/05	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	02/01/06	AWS	<0.2	<0.2		<1.0	<0.2	<0.2	<0.2					0.2	1.0	
	07/25/06	AWS	<0.2	<0.2		<0.5	<0.2	<0.2	<0.2					0.2	1.0	
	01/23/07	AWS	<0.2	<0.2		<1.0	<0.2	<0.2	<0.2					0.2	1.0	
	07/17/07	AWS	<0.2	<0.2		<0.5	<0.5	<0.2	<0.2					0.2	1.0	
93.137931 134.784689 321.795422 321.795422 280 300	1-Oct-07	07/17/07	AWS	<0.2	<0.2		<0.5	<0.5	<0.2	<0.2				0.2	1.0	
	27-Jan-09	01/24/08	AWS	<0.2	<0.2		<1.0	<0.2	<0.2	<0.2				0.2	1.0	
	31-Jan-11	7/30/2008	AWS	<0.2	<0.2		<1.0	<1.0	<0.2	<0.2				0.2	1.0	
	1-Feb-12	1/20/2009	AWS	<0.2	<0.2		<1.0	<1.0	<1.0	<0.2				0.2	1.0	
	01-Jul-13	7/9/2009	AWS	<0.2	<0.2		<1.0	<1.0	<0.2	<0.2				0.2	1.0	
	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a	v
		1/6/2010	AWS	<0.2	<0.2		<1.0	<0.2	<0.2	<0.2				0.2	1.0	
AVG value of quantified hits:			2.1	#DIV/0!	#DIV/0!	#DIV/0!	2.3	#DIV/0!	#DIV/0!							
Maximum value:			2.1	0	0	0	2.3	0	0.00							

[illegible]

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
1,2-DICHLOROETHANE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
1,2-Dichloroethane	09/19/95	ETSI	<2.00	<0.76	<0.76		<0.76	<0.76								
	12/13/95	ETSI	<2.00(tb)	4.2(tb)	2.9(tb)		<2.00(tb)	2.3(tb)					<2.00			tb
CAS = 107-06-2	03/07/96	ETSI	<2	<2	<2		<2	<2								
GPS = 5 (MCL)	07/26/96	ETSI	<2	<2	<2		<2	<2								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2							
BACK = LOQ	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2							
	02/11/97	ETSI	<2	<2	<2		<2	<2	<2							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<5	<5	<5		<5	<5	<5							
	02/24/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	08/14/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
PS Approved 12-19-01	08/23/01	Analytics	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	5.0	
	02/19/02	Analytics	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	5.0	
	08/15/02	Analytics	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	5.0	
	02/06/03	Analytics	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	5.0	
	01/22/04	ProChem	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	5.0	
	07/14/04	ProChem	<0.37	<0.37		<0.37	<0.37	<0.37	<0.37					0.37	5.0	
	01/20/05	ProChem	<0.37	<0.37		<0.37	<0.37	<0.37	<0.37					0.37	5.0	
	07/28/05	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	02/01/06	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	07/25/06	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
ACL Changes	01/23/07	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
ACL	Effective Date															
0.1159245	1-Oct-07	07/17/07	AWS	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	1.0	
0.115924538	27-Jan-09	01/24/08	AWS	<0.3	<0.3		<0.3	<0.3	<0.3					0.3	1.0	
0.14941037	31-Jan-11	7/30/2008	AWS	<0.3	<0.3		<0.3	<0.3	<0.3					0.3	1.0	
0.14941037	1-Feb-12	1/20/2009	AWS	<0.3	<0.3		<0.3	<0.3	<0.3					0.3	1.0	
0.15	01-Jul-13	7/9/2009	AWS	<0.3	<0.3		<0.3	<0.3	<0.3					0.3	1.0	
0.17	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a					n/a	n/a	v
		1/6/2010	AWS	<0.3	<0.3		<0.3	<0.3	<0.3					0.3	1.0	
		7/8/2010	AWS	<0.3	<0.3		<0.3	<0.3	<0.3					0.3	1.0	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0	0	0	0	0.00	0	0.00							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
1,2-DICHLOROETHANE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
1,2-Dichloroethane CAS = 107-06-2 GPS = 5 (MCL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	7/28/2011	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	2/7/2013	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3			0.3	1.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/25/2013	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30	n/a	<0.30			0.30	1.00	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<0.30		0.30	1.00	
	2/13/2014	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30	n/a	<0.30	<0.30		0.30	1.00	
	7/9/2014	AWS		<0.30				<0.30	<0.30		<0.30	<0.30		0.30	1.00	
	2/6/2015	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30		<0.30	<0.30		0.30	1.00	
	7/14/2015	AWS		<0.30				<0.30	<0.30		<0.30	<0.30		0.30	1.00	
	1/20/2016	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30		<0.30	<0.30		0.30	1.00	
	7/13/2016	AWS		<0.30				<0.30	<0.30		<0.30	<0.30		0.30	1.00	
	1/25/2017	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30		<0.30	<0.30		0.30	1.00	
	7/25/2017	AWS		<0.30				<0.30	<0.30		<0.30	<0.30		0.30	1.00	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
0.1159245	1-Oct-07															
0.115924538	27-Jan-09															
0.14941037	31-Jan-11															
0.14941037	1-Feb-12															
0.15	01-Jul-13															
0.15	01-Mar-14															
0.17	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	0	0	0	0	0	0	0	0				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
1,3-DICHLOROBENZENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
1,3-Dichlorobenzene CAS = 541-73-1 GPS = 0 (ACL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	08/14/98	Lab Corp	<2	<2	<2		5.61	<2	<2							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	n/a	<5		<5	n/a	n/a							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
	08/23/01	Analytics	<0.22	<0.22	<0.22		<0.22	<0.22	<0.22					0.22	5.0	
PS Approved 12-19-01	02/19/02	Analytics	<0.22	<0.22	<0.22		<0.22	<0.22	<0.22					0.22	5.0	
	08/15/02	Analytics	<0.22	<0.22	<0.22		<0.22	<0.22	<0.22					0.22	5.0	
	02/06/03	Analytics	<0.22	<0.22	<0.22		<0.22	<0.22	<0.22					0.22	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.22	<0.22		<0.22	<0.22	<0.22	<0.22					0.22	5.0	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	<0.19	n/a		<0.19	<0.19	<0.19	n/a					0.19	2.0	
	01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/28/05	AWS	<0.2	n/a		<0.2	<0.2	<0.2	n/a					0.2	0.5	
	02/01/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/25/06	AWS	<0.2	n/a		<0.2	<0.2	<0.2	n/a					0.2	0.5	
	01/23/07	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/17/07	AWS	<0.2	n/a		<0.2	<0.2	<0.2	n/a					0.2	0.5	
	01/24/08	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
ACL Changes	7/30/2008	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	0.5	
	1/20/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/9/2009	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/6/2010	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	7/8/2010	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	AVG value of quantified hits:		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	5.61	#DIV/0!	#DIV/0!							
	Maximum value:		0	0	0	0	5.61	0	0.00							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
1,3-DICHLOROBENZENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
1,3-Dichlorobenzene CAS = 541-73-1 GPS = 0 (ACL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	7/28/2011	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	2/7/2013	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			0.2	1.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/25/2013	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	n/a	<0.20			0.20	1.00	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	
	2/13/2014	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	n/a	<0.20	<0.20		0.20	1.00	
	7/9/2014	AWS		<0.20				<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	2/6/2015	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	7/14/2015	AWS		<0.20				<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	1/20/2016	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	7/13/2016	AWS		<0.20				<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	1/25/2017	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	7/25/2017	AWS		<0.20				<0.20	<0.20		<0.20	<0.20		0.20	1.00	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
6.7071429	1-Oct-07															
ACL Removed	27-Jan-09															
0	31-Jan-11															
0	1-Feb-12															
0	01-Jul-13															
0	01-Mar-14															
0	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	5.61	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	0	0	5.61	0	0	0	0	0				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
1,4-DICHLOROBENZENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
1,4-Dichlorobenzene CAS = 106-46-7 GPS = 75 (MCL) BACK = LOQ	09/19/95	ETSI	<2.00	<0.7(tb)	3.9(tb)		6.7(tb)	<0.7(tb)					<0.7			tb
	12/13/95	ETSI	<2.00	<2.00	4.5		2.9	<2.00								
	03/07/96	ETSI	<2.00	<2.00	2.8		<2.00	<2.00								
	07/26/96	ETSI	<2.00	<2.00	3.9		7.6	<2.00								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2.00(tb)							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2.00							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2.00							
	02/11/97	ETSI	<2.00	<2.00	<2.00		5	<2.00	<2.00							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<5	<5	<5		<5	<5	<5							
	02/24/98	Lab Corp	<2	<2	<2		3.51	<2	<2							
	08/14/98	Lab Corp	<2	<2	<2		5.37	<2	<2							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
PS Approved 12-19-01	08/23/01	Analytics	<0.22	<0.22	<0.22		<0.22	<0.22	<0.22					0.22	5.0	
ACL Changes	02/19/02	Analytics	<0.22	<0.22	<0.22		<0.22	<0.22	<0.22					0.22	5.0	
	08/15/02	Analytics	<0.22	<0.22	<0.22		<0.22	<0.22	<0.22					0.22	5.0	
	02/06/03	Analytics	<0.22	<0.22	<0.22		<0.22	<0.22	<0.22					0.22	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.22	<0.22		<0.22	<0.22	<0.22	<0.22					0.22	5.0	
	01/22/04	ProChem	<0.61	<0.61		<0.61	<0.61	<0.61	<0.61					0.61	5.0	
	07/14/04	ProChem	<0.28	<0.28		2.4	<2.0	<0.28	<0.28					0.28	5.0	
	01/20/05	ProChem	<0.28	<0.28		3.2	<2.0	<0.28	<0.28					0.28	5.0	
	07/28/05	AWS	<0.2	<0.2		3	2.2	<0.5	<0.2					0.2	0.5	
	02/01/06	AWS	<0.2	<0.2		3.6	1.8	<1.0	<0.2					0.2	1.0	
	07/25/06	AWS	<0.2	<0.2		3.6	2.3	<0.2	<0.2					0.2	1.0	
	01/23/07	AWS	<0.2	<0.2		3.9	2.2	<0.2	<0.2					0.2	1.0	
	07/17/07	AWS	<0.2	<0.2		3.5	2.6	0.8	<0.2					0.2	1.0	
0.2814621 0.316921434 0.42751777 0.42751777 0.42 0.48	1-Oct-07															
	27-Jan-09															
	31-Jan-11															
	1-Feb-12															
	01-Jul-13															
	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	3.73	3.65	3.21	1.00	#DIV/0!							
Maximum value:			0	0	4.5	4.6	7.60	1.2	0.00							

Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC		
1,4-Dichlorobenzene CAS = 106-46-7		12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v		
		1/13/2011	AWS	<0.2	<0.2		4.4	2.5	1.3	<0.2						0.2	1.0		
		7/28/2011	AWS	<0.2	<0.2		4.5	2.7	1.2	<0.2						0.2	1.0		
		8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a						n/a	n/a		
GPS = 75 (MCL)		1/17/2012	AWS	<0.2	<0.2		4.9	2.5	1.3	<0.2						0.2	1.0		
		3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a						n/a	n/a		
		7/11/2012	AWS	<0.2	<0.2		5.0(b)	2.5(b)	1.4(b)	<0.2					<1.0	0.2	1.0		
		2/7/2013	AWS	<1.0	<0.2		5.0	2.4	1.5	<0.2	<1.0	<0.2			<1.0	0.2	1.0		
BACK = LOQ		3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a				n/a	n/a		
		7/25/2013	AWS	<1.00	<0.20		4.82	2.88	1.23	<0.20	n/a	<0.20				0.20	1.00		
		8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a				n/a	n/a	v	
		10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	3.19			0.20	1.00		
		2/13/2014	AWS	<0.20	<0.20		4.00	2.21	1.22	<0.20	n/a	<0.20	2.70			0.20	1.00		
		7/9/2014	AWS		<1.00				1.40	<0.20		<0.20	3.09			0.20	1.00		
		2/6/2015	AWS	<0.20	<0.20		4.30	2.22	1.48	<0.20		<0.20	2.72			0.20	1.00		
		7/14/2015	AWS		<0.20				1.53	<0.20		<0.20	3.43			0.20	1.00		
		1/20/2016	AWS	<0.20	<0.20		4.60	2.07	1.51	<0.20		<0.20	3.12			0.20	1.00		
		7/13/2016	AWS		<0.20				1.44	<0.20		<0.20	3.35			0.20	1.00		
		1/25/2017	AWS	<0.20	<0.20		4.73	2.49	1.54	<0.20		<0.20	3.13			0.20	1.00		
		7/25/2017	AWS		<0.20				1.24	<0.20		<0.20	3.33			0.20	1.00		
		PS Approved 12-19-01																	
		ACL Changes																	
ACL Changes																			
ACL	Effective Date																		
0.2814621	1-Oct-07																		
0.316921434	27-Jan-09																		

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
2-BUTANONE (MEK)

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
2-Butanone (MEK) CAS = 78-93-3 GPS = 5600 (ACL) BACK = LOQ	09/19/95	ETSI	<13	<8.6	<8.6		<8.6	<8.6								
	12/13/95	ETSI	<13	20.7	<13		<13	<13								
	03/07/96	ETSI	<13	<13	<13		<13	<13								
	07/26/96	ETSI	<13	<13	<13		<13	<13								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<13							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<13							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<13							
	02/11/97	ETSI	<13	<13	<13		<13	<13	<13							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<10	<10	<10		<10	<10	<10							
	02/24/98	Lab Corp	<4	<4	<4		7.82	<4	<4							
	08/14/98	Lab Corp	<4	<4	<4		<4	<4	<4							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
PS Approved 12-19-01	08/23/01	Analytics	<0.92	<0.92	<0.92		<0.92	<0.92	<0.92					0.92	5.0	
ACL Changes	02/19/02	Analytics	<0.92	<0.92	<0.92		<0.92	<0.92	<0.92					0.92	5.0	
	08/15/02	Analytics	<0.92	<0.92	<0.92		<0.92	<0.92	<0.92					0.92	5.0	
	02/06/03	Analytics	<0.92	<0.92	<0.92		<0.92	<0.92	<0.92					0.92	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.92	<0.92		<0.92	<0.92	<0.92	<0.92					0.92	5.0	
	01/22/04	ProChem	<2.2	<2.2		<2.2	<2.2	<2.2	<2.2					2.2	10	
	07/14/04	ProChem	<1.11	<1.11		<1.11	<1.11	<1.11	<1.11					1.11	5.0	
	01/20/05	ProChem	<1.11	<1.11		<1.11	<1.11	<1.11	<1.11					1.11	5.0	
	07/28/05	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10	
	02/01/06	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10	
	07/25/06	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10	
	01/23/07	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10	
	07/17/07	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10	
	01/24/08	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10	
2667.613636 4939.84529 4939.84529 4900 5600	7/30/2008	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10	
	1/20/2009	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10	
	7/9/2009	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10	
	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/6/2010	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10.0	
	7/8/2010	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10.0	
AVG value of quantified hits:			#DIV/0!	20.7	#DIV/0!	#DIV/0!	7.82	#DIV/0!	#DIV/0!							
Maximum value:			0.00	20.7	0	0	7.82	0	0.00							

CLIENT: GOOCHLAND COUNTY
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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
2-BUTANONE (MEK)

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
2-Butanone (MEK) CAS = 78-93-3 GPS = 5600 (ACL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10.0	
	7/28/2011	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7					1.7	10.0	
	2/7/2013	AWS	<1.7	<1.7		<1.7	<1.7	<1.7	<1.7	<1.7	<1.7			1.7	10.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<1.70	<1.70		<1.70	<1.70	<1.70	<1.70	n/a	<1.70			1.70	5.00	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<1.70		1.70	5.00	
	2/13/2014	AWS	<1.70	<1.70		<1.70	<1.70	<1.70	<1.70	n/a	<1.70	<1.70		1.70	5.00	
	7/9/2014	AWS		<1.70				<1.70	<1.70		<1.70	<1.70		1.70	5.00	
	2/6/2015	AWS	<1.70	<1.70		<1.70	<1.70	<1.70	<1.70		<1.70	<1.70		1.70	5.00	
	7/14/2015	AWS		<1.70				<1.70	<1.70		<1.70	<1.70		1.70	5.00	
	1/20/2016	AWS	<1.70	<1.70		<1.70	<1.70	<1.70	<1.70		<1.70	<1.70		1.70	5.00	
	7/13/2016	AWS		<1.70				<1.70	<1.70		<1.70	<1.70		1.70	5.00	
	1/25/2017	AWS	<1.70	<1.70		<1.70	<1.70	<1.70	<1.70		<1.70	<1.70		1.70	5.00	
	7/25/2017	AWS		<1.70				<1.70	<1.70		<1.70	<1.70		1.70	5.00	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
2629.2	1-Oct-07															
2667.613636	27-Jan-09															
4939.84529	31-Jan-11															
4939.84529	1-Feb-12															
4900	01-Jul-13															
4900	01-Mar-14															
5600	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	20.7	#DIV/0!	#DIV/0!	7.82	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	20.7	0	0	7.82	0	0	0	0	0				

CLIENT: GOOCHLAND COUNTY
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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
ACETONE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Acetone	09/19/95	ETSI	60.4	<30.5	<30.5		<30.5	<30.5								
	12/13/95	ETSI	8.4(tb)	20.1(tb)	<7.65(tb)		<7.65(tb)	<7.65(tb)					<7.65			tb
CAS = 67-64-1	03/07/96	ETSI	<7.65	<7.65	<7.65		<7.65	<7.65								
GPS = 14,000 (ACL)	07/26/96	ETSI	<7.65	<7.65	<7.65		<7.65	12.4								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<7.65							
BACK = LOQ	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<7.65							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<7.65							
	02/11/97	ETSI	<7.65	<7.65	<7.65		8.7	<7.65	10.50							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<20	<20	<20		<20	<20	<20							
	02/24/98	Lab Corp	<10(tb)	<10(tb)	<10(tb)		12.1(tb)	<10(tb)	<10(tb)				4.36			tb
	08/14/98	Lab Corp	<10	<10	<10		<10	<10	<10							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	60.5(tb)	64.3(tb)	30.8(tb)		35.5(tb)	7.09(tb)	13.5(tb)				12.8			tb
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
PS Approved 12-19-01	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
	08/23/01	Analytics	<0.9	<0.9	<0.9		16.2	<0.9	<0.9					0.9	5.0	ic, cc
	02/19/02	Analytics	<0.9	<0.9	<0.9		<0.9	<0.9	<0.9					0.9	5.0	
	08/15/02	Analytics	<0.9	<0.9	<0.9		<0.9	<0.9	<0.9					0.9	5.0	
	02/06/03	Analytics	<0.9	<0.9	<0.9		<0.9	<0.9	<0.9					0.9	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.9	<0.9		<0.9	6.17	<0.9	<0.9					0.9	5.0	cc, ss
	01/22/04	ProChem	<6.85	<6.85		<6.85	<6.85	<6.85	<6.85					6.85	25	
	07/14/04	ProChem	<1.01	<1.01		<1.01	<1.01	<1.01	<1.01					1.01	25	
	01/20/05	ProChem	<1.01	<1.01		<1.01	<1.01	<1.01	<1.01					1.01	25	
	07/28/05	AWS	<7	<7		<7	<7	<7	<7				<10	7.0	10	tb
ACL Changes	02/01/06	AWS	<7.0	<7.0		<7.0	12	<7.0	<7.0					7.0	10	ic, cc
	07/25/06	AWS	<7.0	<7.0		<7.0	<7.0	<7.0	<7.0					7.0	10	
ACL	Effective Date	01/23/07	AWS	<7.0	<7.0		<7.0	31.6	<7.0	<7.0				7.0	10	
2012.1429	1-Oct-07	07/17/07	AWS	<7.0	<7.0		<7.0	26.2	<7.0	<7.0				7.0	10	
8750.200401	27-Jan-09	01/24/08	AWS	<7.0	<7.0		<7.0	<7.0	<7.0	<7.0				7.0	10	
11,561.2085	31-Jan-11	7/30/2008	AWS	<7.0	<7.0		<7.0	<7.0	<7.0	<7.0				7.0	10	
11,561.2085	1-Feb-12	1/20/2009	AWS	<7.0	<7.0		<7.0	<7.0	<7.0	<7.0				7.0	10	
12,000	01-Jul-13	7/9/2009	AWS	<7.0	<7.0		<7.0	<7.0	<7.0	<7.0				7.0	10	
14000	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a	v
		1/6/2010	AWS	<7.0	<7.0		<7.0	<7.0	<7.0	<7.0				7.0	10.0	
		7/8/2010	AWS	<7.0	<7.0		<7.0	<7.0	<7.0	<7.0				7.0	10.0	
AVG value of quantified hits:			60.4	#DIV/0!	#DIV/0!	#DIV/0!	16.8	12.4	10.5							
Maximum value:			60.4	0	0.00	0	31.6	12.4	10.5							

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
ACETONE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Acetone CAS = 67-64-1 GPS = 14,000 (ACL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<7.0	<7.0		<7.0	<7.0	<7.0	<7.0					7.0	10.0	
	7/28/2011	AWS	<7.0	<7.0		<7.0	<7.0	<7.0	<7.0					7.0	10.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<7.0	<7.0		<7.0	<7.0	<7.0	<7.0					7.0	10.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<7.0	<7.0		<7.0	<7.0	<7.0	<7.0					7.0	10.0	
	2/7/2013	AWS	<7.0	<7.0		<7.0	<7.0	<7.0	<7.0	<7.0	<7.0			7.0	10.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<7.00	<7.00		<7.00	<7.00	<7.00	<7.00	n/a	<7.00			7.00	10.0	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<7.00		7.00	10.0	
	2/13/2014	AWS	<7.00	<7.00		<7.00	<7.00	<7.00	<7.00	n/a	<7.00	<7.00		7.00	10.0	
	7/9/2014	AWS		<7.00				<7.00	<7.00		<7.00	<7.00		7.00	10.0	
	2/6/2015	AWS	<7.00	<7.00		<7.00	<7.00	<7.00	<7.00		<7.00	<7.00		7.00	10.0	
	7/14/2015	AWS		<7.00				<7.00	<7.00		<7.00	<7.00		7.00	10.0	
	1/20/2016	AWS	<7.00	<7.00		<7.00	<7.00	<7.00	<7.00		<7.00	<7.00		7.00	10.0	
	7/13/2016	AWS		<7.00				<7.00	<7.00		<7.00	<7.00		7.00	10.0	
	1/25/2017	AWS	<7.00	<7.00		<7.00	<7.00	<7.00	<7.00		<7.00	<7.00		7.00	10.0	
	7/25/2017	AWS		<7.00				<7.00	<7.00		<7.00	<7.00		7.00	10.0	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
2012.1429	1-Oct-07															
8750.200401	27-Jan-09															
11,561.2085	31-Jan-11															
11,561.2085	1-Feb-12															
12,000	01-Jul-13															
12,000	01-Mar-14															
14,000	15-Feb-15															
AVG value of quantified hits:			60.4	#DIV/0!	#DIV/0!	#DIV/0!	16.8	12.4	10.5	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			60.4	0	0	0	31.6	12.4	10.5	0	0	0				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
BENZENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Benzene CAS = 71-43-2 GPS = 5 (MCL) BACK = LOQ	09/19/95	ETSI	<1.00	<0.7	1.2		3.1	<0.7								
	12/13/95	ETSI	<1.00	<1.00	<1.00		2.9	<1.00								
	03/07/96	ETSI	<1.00	<1.00	<1.00		2.8	<1.00								
	07/26/96	ETSI	<1.00	<1.00	<1.00		3	<1.00								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.00							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.00							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.00							
	02/11/97	ETSI	<1.00	<1.00	2		<1.00	<1.00	<1.00							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<5	<5	<5		<5	<5	<5							
	02/24/98	Lab Corp	<2	<2	<2		2.59	<2	<2							
	08/14/98	Lab Corp	<2	<2	<2		2.43	<2	<2							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
PS Approved 12-19-01	08/23/01	Analytics	<0.18	<0.18	<0.18		<0.18	<0.18	<0.18					0.2	5.0	
	02/19/02	Analytics	<0.18	<0.18	<0.18		<0.18	<0.18	<0.18					0.2	5.0	
	08/15/02	Analytics	<0.18	<0.18	<0.18		<0.18	<0.18	<0.18					0.2	5.0	
	02/06/03	Analytics	<5	<0.18	<5		<0.18	<5	<0.18					0.2	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.18	<0.18		n/a	<0.18	<0.18	<0.18					0.2	5.0	
	01/22/04	ProChem	<0.56	<0.56		<5	<0.56	<0.56	<0.56					0.56	5.0	
	07/14/04	ProChem	<0.13	<0.13		<0.13	<0.13	<0.13	<0.13					0.13	2.0	
	01/20/05	ProChem	<0.13	<0.13		<2	<2	<0.13	<0.13					0.13	2.0	
	07/28/05	AWS	1	<0.2		<1	<1	<1	<0.2					0.2	1.0	
	02/01/06	AWS	<1.0	<0.2		<1	1.2	<1.0	<0.2					0.2	1.0	
	07/25/06	AWS	1.2	<0.2		<1	<1.0	<1.0	<0.2					0.2	1.0	
	01/23/07	AWS	1.1	<0.2		<1.0	1.0	<1.0	<0.2					0.2	1.0	
	07/17/07	AWS	<1.0	<0.2		<1.0	<1.0	<1.0	<0.2					0.2	1.0	
ACL Changes	0.3358484	1-Oct-07	01/24/08	AWS	1.3	<0.2	<1.0	<1.0	<1.0	<0.2				0.2	1.0	
	0.33316751	27-Jan-09	7/30/2008	AWS	1.1	<0.2	<1.0	<1.0	<1.0	<0.2				0.2	1.0	
	0.4132069	31-Jan-11	1/20/2009	AWS	1.1	<0.2	<1.0	1.0	<1.0	<0.2				0.2	1.0	
	0.4132069	1-Feb-12	7/9/2009	AWS	<1.0	<0.2	<1.0	<1.0	<1.0	<0.2				0.2	1.0	
	0.39	01-Jul-13	10/12/2009	AWS	n/a	n/a	n/a	n/a	n/a	n/a				n/a	n/a	v
	0.45	15-Feb-15	1/6/2010	AWS	<1.0	<0.2	<1.0	<1.0	<1.0	<0.2				0.2	1.0	
			7/8/2010	AWS	<1.0	<0.2	<1.0	<1.0	<1.0	<0.2				0.2	1.0	
AVG value of quantified hits:			1.13	#DIV/0!	1.6	#DIV/0!	2.22	#DIV/0!	#DIV/0!							
Maximum value:			1.3	0	2.0	0.0	3.10	0.0	0.00							

Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Benzene		12/29/2010	AWS	n/a	n/a			n/a	n/a	n/a					n/a	n/a	v
	CAS = 71-43-2	1/13/2011	AWS	<1.0	<0.2			<1.0	<1.0	<1.0	<0.2				0.2	1.0	
		7/28/2011	AWS	<1.0	<0.2			1.0	<1.0	1.1	<0.2				0.2	1.0	
		8/29/2011	AWS	n/a	n/a			n/a	n/a	n/a	n/a				n/a	n/a	
GPS = 5 (MCL)		1/17/2012	AWS	<1.0	<0.2			<1.0	<1.0	<1.0	<0.2				0.2	1.0	
	BACK = LOQ	3/1/2012	AWS	n/a	n/a			n/a	n/a	n/a	n/a					n/a	n/a
7/11/2012		AWS	<1.0	<0.2			<1.0	<1.0	1.0	<0.2					0.2	1.0	
2/7/2013		AWS	<0.2	<0.2			<1.0	<1.0	1.0	<0.2	<1.0	<1.0			0.2	1.0	
3/5/2013		AWS	n/a	n/a			n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
7/25/2013		AWS	<0.20	<0.20			<1.00	<1.00	<1.00	<0.20	n/a	<1.00			0.20	1.00	
8/20/2013		AWS	n/a	n/a			n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
10/8/2013		AWS	n/a	n/a			n/a	n/a	n/a	n/a	n/a	n/a	<1.00		0.20	1.00	
2/13/2014		AWS	<0.20	<0.20			<1.00	<1.00	<1.00	<0.20	n/a	<1.00	<1.00		0.20	1.00	
7/9/2014		AWS		<0.20					1.01	<0.20		<1.00	<1.00		0.20	1.00	
2/6/2015		AWS	<0.20	<0.20			1.16	<1.00	1.14	<0.20		<1.00	<1.00		0.20	1.00	
7/14/2015		AWS		<0.20					1.12	<0.20		<1.00	<1.00		0.20	1.00	
1/20/2016		AWS	<0.20	<0.20			1.03	0.80(j)	1.01	<0.20		0.32(j)	0.38(j)		0.20	1.00	
7/13/2016		AWS		<0.20					0.91 J	<0.20		0.33 J	0.48 J		0.20	1.00	
1/25/2017		AWS	<0.20	<0.20			1.04	0.83 J	0.99 J	<0.20		0.38 J	0.37 J		0.20	1.00	
7/25/2017		AWS		0.27 J					0.87 J	<0.20		0.30 J	0.45 J		0.20	1.00	
PS Approved 12-19-01																	
ACL Changes																	
ACL Changes																	
ACL	Effective Date																
0.3358484	1-Oct-07																
0.33316751	27-Jan-09																

CLIENT: GOOCHLAND COUNTY
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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
BROMOFORM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Bromoform CAS = 75-25-2 GPS = 9.2 (ACL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
PS Approved 12-19-01	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
	08/23/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/15/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
ACL Changes	01/20/05	ProChem	<5	<0.93		<0.93	<0.93	<0.93	<0.93					0.93	5.0	
	07/28/05	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	02/01/06	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	07/25/06	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	01/23/07	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	07/17/07	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	01/24/08	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	7/30/2008	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	1/20/2009	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	7/9/2009	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
8.4775287 8.477528742 8.51050633 8.51050633 7.9 9.2	01-Oct-07															
	27-Jan-09															
	31-Jan-11															
	1-Feb-12															
	01-Jul-13															
	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0	0	0.0	0.0	0.00	0.0	0.00							

[illegible]

CLIENT: GOOCHLAND COUNTY
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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
CARBON DISULFIDE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Carbon disulfide CAS = 75-15-0 GPS = 810 (ACL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
PS Approved 12-19-01	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
	08/23/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
ACL Changes	02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/15/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/08/03	Analytics	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/28/05	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	02/01/06	AWS	<1.2	<1.2		<1.2	<1.2	<1.2	<1.2					1.2	10	
	07/25/06	AWS	<1.2	<1.2		<1.2	<1.2	<1.2	<1.2					1.2	10	
	01/23/07	AWS	<1.2	<1.2		<1.2	<1.2	<1.2	<1.2					1.2	10	
	07/17/07	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	10	
	01/24/08	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	10	
391.25 391.25 755.171678 755.171678 720 810	27-Jan-09	01/24/08	AWS	<1.0	<1.0		<1.0	<1.0	<1.0					1.0	10	
	31-Jan-11	7/30/2008	AWS	<1.0	<1.0		<1.0	<1.0	<1.0					1.0	10	
	1-Feb-12	1/20/2009	AWS	<1.0	<1.0		<1.0	<1.0	<1.0					1.0	10	
	01-Jul-13	7/9/2009	AWS	<1.0	<1.0		<1.0	<1.0	<1.0					1.0	10.0	
	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a					n/a	n/a	v
		1/6/2010	AWS	<1.0	<1.0		<1.0	<1.0	<1.0					1.0	10.0	
		7/8/2010	AWS	<1.0	<1.0		<1.0	<1.0	<1.0					1.0	10.0	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0	0	0.00	0.00	0.00	0.00	0.00							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
CARBON DISULFIDE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Carbon disulfide CAS = 75-15-0 GPS = 810 (ACL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	10.0	
	7/28/2011	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	10.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	10.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	10.0	
	2/7/2013	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0			1.0	10.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<1.00	<1.00		<1.00	<1.00	<1.00	<1.00	n/a	<1.00			1.00	10.0	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<1.00		1.00	10.0	
	2/13/2014	AWS	<1.00	<1.00		<1.00	<1.00	<1.00	<1.00	n/a	<10.0	<1.00		1.00	10.0	
	7/9/2014	AWS		<1.00				<1.00	<1.00		<10.0	<1.00		1.00	10.0	
	2/6/2015	AWS	<1.00	<1.00		<1.00	<1.00	<1.00	<1.00		<10.0	<1.00		1.00	10.0	
	7/14/2015	AWS		<1.00				<1.00	<1.00		<1.00	<1.00		1.00	10.0	
	1/20/2016	AWS	<1.00	<1.00		<1.00	<1.00	<1.00	<1.00		<1.00	<1.00		1.00	10.0	
	7/13/2016	AWS		<1.00				<1.00	<1.00		<1.00	<1.00		1.00	10.0	
	1/25/2017	AWS	<1.00	<1.00		<1.00	<1.00	<1.00	<1.00		<1.00	<1.00		1.00	10.0	
	7/25/2017	AWS		<1.00				<1.00	<1.00		<1.00	<1.00		1.00	10.0	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
391.25	1-Oct-07															
391.25	27-Jan-09															
755.171678	31-Jan-11															
755.171678	1-Feb-12															
720	01-Jul-13															
720	01-Mar-14															
810	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	0	0	0	0	0	0	0	0				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
CHLOROBENZENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Chlorobenzene CAS = 108-90-7 GPS = 100 (MCL) BACK = LOQ	09/19/95	ETSI	<1.00	<120.6(tb)	<120.6(tb)		<120.6(tb)	<120.6(tb)								
	12/13/95	ETSI	<1.00	<1.00	<1.00		1.3	<1.00								
	03/07/96	ETSI	<1.00	<1.00	<1.00		1.6	<1.00								
	07/26/96	ETSI	<1.00	<1.00	<1.00		2.1	<1.00								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.00							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.00							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.00							
	02/11/97	ETSI	<1.00	<1.00	1.5		2.1	<1.00	<1.00							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<5	<5	<5		<5	<5	<5							
	02/24/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	08/14/98	Lab Corp	<2	<2	<2		2.01	<2	<2							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
PS Approved 12-19-01	08/23/01	Analytics	<0.12	<0.12	<0.12		<0.12	<0.12	<0.12					0.12	5.0	
ACL Changes	02/19/02	Analytics	<0.12	<0.12	<0.12		<0.12	<0.12	<0.12					0.12	5.0	
	08/15/02	Analytics	<0.12	<0.12	<0.12		<0.12	<0.12	<0.12					0.12	5.0	
	02/06/03	Analytics	<0.12	<0.12	<0.12		<0.12	<0.12	<0.12					0.12	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.12	<0.12		<0.12	<0.12	<0.12	<0.12					0.12	5.0	
	01/22/04	ProChem	<0.12	<0.12		<0.12	<0.12	<0.12	<0.12					0.12	5.0	
	07/14/04	ProChem	<0.14	<0.14		<0.14	<0.14	<0.14	<0.14					0.14	2.0	
	01/20/05	ProChem	<0.14	<0.14		<0.14	<0.14	<0.14	<0.14					0.14	2.0	
	07/28/05	AWS	<0.1	<0.1		<1	<1	<0.1	<0.1					0.1	1.0	
	02/01/06	AWS	<0.1	<0.1		1.1	<1	<1.0	<0.1					0.1	1.0	
	07/25/06	AWS	<1.0	<0.1		1.2	<1.0	<0.1	<0.1					0.1	1.0	
	01/23/07	AWS	<0.1	<0.1		1.0	<1.0	<0.1	<0.1					0.1	1.0	
	07/17/07	AWS	<0.1	<0.1		<1.0	<1.0	<1.0	<0.1					0.1	1.0	
32.701493 33.29787234 78.2141687 78.2141687 72 78	1-Oct-07	07/17/07	AWS	<0.1	<0.1		<1.0	<1.0	<1.0	<0.1				0.1	1.0	
	27-Jan-09	01/24/08	AWS	<1.0	<0.1		1.5	<1.0	<1.0	<0.1				0.1	1.0	
	31-Jan-11	7/30/2008	AWS	<1.0	<0.1		<1.0	<1.0	<0.1	<0.1				0.1	1.0	
	1-Feb-12	1/20/2009	AWS	<0.1	<0.1		1.4	<1.0	<1.0	<0.1				0.1	1.0	
	01-Jul-13	7/9/2009	AWS	<0.1	<0.1		1.3	<1.0	<1.0	<0.1				0.1	1.0	
	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a	v
		1/6/2010	AWS	<0.1	<0.1		1.5	<1.0	<1.0	<0.1				0.1	1.0	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	1.5	1.3	1.7	#DIV/0!	#DIV/0!							
Maximum value:			0.0	0	1.5	1.5	2.1	0.00	0.00							

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CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
CHLOROETHANE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Chloroethane CAS = 75-00-3 GPS = 21,000 (ACL) BACK = LOQ	09/19/95	ETSI	<2.7	<8.2(tb)	<8.2(tb)		<8.2(tb)	<8.2(tb)					<8.2			tb
	12/13/95	ETSI	<2.7	<2.7	<2.7		3.9	<2.7								
	03/07/96	ETSI	<2.7	<2.7	<2.7		<2.7	<2.7								
	07/26/96	ETSI	<2.7	<2.7	<2.7		<2.7	<2.7								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2.7							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2.7							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2.7							
	02/11/97	ETSI	<2.7	<2.7	<2.7		<2.7	<2.7	<2.7							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<5	<5	<5		<5	<5	<5							
	02/24/98	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/14/98	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
PS Approved 12-19-01	08/23/01	Analytics	<0.84	<0.84	<0.84		<0.84	<0.84	<0.84					0.84	5.0	
ACL Changes	02/19/02	Analytics	<0.84	<0.84	<0.84		<0.84	<0.84	<0.84					0.84	5.0	
	08/15/02	Analytics	<0.84	<0.84	<0.84		<0.84	<0.84	<0.84					0.84	5.0	
	02/06/03	Analytics	<0.84	<0.84	<0.84		<0.84	<0.84	<0.84					0.84	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.84	<0.84		<0.84	<0.84	<0.84	<0.84					0.84	5.0	
	01/22/04	ProChem	<0.93	<0.93		<0.93	<0.93	<0.93	<0.93					0.93	5.0	
	07/14/04	ProChem	<0.4	<0.4		<0.4	<0.4	<0.4	<0.4					0.4	5.0	
	01/20/05	ProChem	<0.4	<0.4		<0.4	<0.4	<0.4	<0.4					0.4	5.0	
	07/28/05	AWS	<1	<0.2		<1	<1	<0.2	<0.2					0.2	1.0	
	02/01/06	AWS	<1.0	<0.2		<1.0	1.2	<0.2	<0.2					0.2	1.0	
	07/25/06	AWS	<1.0	<0.2		<1.0	<0.2	<0.2	<0.2					0.2	1.0	
	01/23/07	AWS	<1.0	<0.2		<1.0	<1.0	<0.2	<0.2					0.2	1.0	
	07/17/07	AWS	<1.0	<0.2		<1.0	<1.0	<0.2	<0.2					0.2	1.0	
3.6376321 1293.38843 20,800 20,800 21,000 21000	1-Oct-07	07/17/07	AWS	<1.0	<0.2		<1.0	<1.0	<0.2	<0.2				0.2	1.0	
	27-Jan-09	01/24/08	AWS	<1.0	<0.2		<1.0	<1.0	<0.2	<0.2				0.2	1.0	
	31-Jan-11	7/30/2008	AWS	<0.2	<0.2		<1.0	<1.0	<0.2	<0.2				0.2	1.0	
	1-Feb-12	1/20/2009	AWS	<1.0	<0.2		<1.0	<1.0	<1.0	<0.2				0.2	1.0	
	01-Jul-13	7/9/2009	AWS	<1.0	<0.2		<1.0	<1.0	<0.2	<0.2				0.2	1.0	
	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a	v
		1/6/2010	AWS	<1.0	<0.2		<0.2	<1.0	<0.2	<0.2				0.2	1.0	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.55	#DIV/0!	#DIV/0!							
Maximum value:			0	0	0.00	0.00	3.90	0.00	0.00							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
CHLOROETHANE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Chloroethane CAS = 75-00-3 GPS = 21,000 (ACL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<1.0	<0.2		<1.0	<1.0	<1.0	<0.2					0.2	1.0	
	7/28/2011	AWS	<0.2	<0.2		<1.0	<1.0	<0.2	<0.2					0.2	1.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<0.2	<0.2		<1.0	<1.0	<1.0	<0.2					0.2	1.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<1.0	<0.2		<1.0	<1.0	<0.2	<0.2					0.2	1.0	
	2/7/2013	AWS	<0.2	<0.2		<1.0	<0.2	<0.2	<0.2	<0.2	<0.2			0.2	1.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<0.20	<0.20		<0.20	<1.00	<0.20	<0.20	n/a	<0.20			0.20	1.00	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<0.20		0.20	1.00	
	2/13/2014	AWS	<0.20	<0.20		<0.20	<1.00	<0.20	<0.20	n/a	<0.20	<1.00		0.20	1.00	
	7/9/2014	AWS		<0.20				<0.20	<0.20		<0.20	1.40		0.20	1.00	
	2/6/2015	AWS	<0.20	<0.20		<0.20	1.03	<0.20	<0.20		<0.20	1.08		0.20	1.00	
	7/14/2015	AWS		<0.20				<0.20	<0.20		<0.20	<1.00		0.20	1.00	
	1/20/2016	AWS	<0.20	<0.20		<0.20	0.40(j)	<0.20	<0.20		<0.20	0.71(j)		0.20	1.00	
	7/13/2016	AWS		<0.20				<0.20	<0.20		<0.20	0.44 J		0.20	1.00	
	1/25/2017	AWS	<0.20	<0.20		0.39 J	0.34 J	0.23 J	<0.20		<0.20	<0.20		0.20	1.00	
	7/25/2017	AWS		<0.20				<0.20	<0.20		<0.20	0.52 J		0.20	1.00	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
3.6376321	1-Oct-07															
1293.38843	27-Jan-09															
20,800	31-Jan-11															
20,800	1-Feb-12															
21,000	01-Jul-13															
21,000	01-Mar-14															
21,000	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.04	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!					
Maximum value:			0	0	0	0	3.9	0	0	0	0					

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
CHLOROFORM

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Chloroform CAS = 67-66-3 GPS = 0.22 (ACL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
S Approved 12-19-01	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/23/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/15/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/28/05	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	02/01/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/25/06	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	01/23/07	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
ACL Changes	07/17/07	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	01/24/08	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	7/30/2008	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	1/20/2009	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	7/9/2009	AWS	<0.2	0.6		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	10/12/2009	AWS	n/a	1.3		n/a	n/a	n/a	n/a					0.2	0.5	v
	1/6/2010	AWS	<0.2	<0.5		<0.2	<0.2	<0.2	<0.2					0.2	0.5	
	7/8/2010	AWS	<0.2	1.0		<0.2	<0.2	<0.2	<0.2					0.2	0.5	
AVG value of quantified hits:			#DIV/0!	0.97	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0	1.3	0.00	0.00	0.00	0.00	0.00							

Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Chloroform		12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
		1/13/2011	AWS	<0.2	0.6		<0.2	<0.2	<0.2	<0.2					0.2	0.5	
CAS = 67-66-3		7/28/2011	AWS	<0.2	1.3		<0.2	<0.2	<0.2	<0.2					0.2	0.5	
		8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
GPS = 0.22 (ACL)		1/17/2012	AWS	<0.2	<0.5		<0.2	<0.2	<0.2	<0.2					0.2	0.5	
		3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
BACK = LOQ		7/11/2012	AWS	1.1	<0.5		<0.2	<0.2	<0.2	<0.2					0.2	0.5	
		2/7/2013	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			0.2	0.5	
Note: Individual constituents of trihalomethane compounds do not have a constituent-specific MCL; Combined concentrations of THM may not exceed MCL of 80 ug/l.		3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
		7/25/2013	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	n/a	<0.20		<0.50	0.20	0.50	
		8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
		10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<0.20		0.20	0.50	
		2/13/2014	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	n/a	<0.20	<0.20		0.20	0.50	
		7/9/2014	AWS		0.51				<0.20	<0.20	n/a	<0.20	<0.20		0.20	0.50	
		2/6/2015	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	n/a	<0.20	<0.20		0.20	0.50	
		7/14/2015	AWS		<0.20				<0.20	<0.20	n/a	<0.20	<0.20		0.20	0.50	
		1/20/2016	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	n/a	<0.20	<0.20		0.20	0.50	
		7/13/2016	AWS		0.29 J				<0.20	<0.20	n/a	<0.20	<0.20		0.20	0.50	
S Approved 12-19-01		1/25/2017	AWS	<0.21	0.21 J		<0.20	<0.20	<0.20	<0.20	n/a	<0.20	<0.20		0.20	0.50	
		7/25/2017	AWS	n/a	0.81		n/a	n/a	<0.20	<0.20	n/a	<0.20	<0.20		0.20	0.50	
ACL Changes																	
ACL		Effective Date															
0.1302362		1-Oct-07															
0.145		27-Jan-09															
0.193		31-Jan-11															
0.193		1-Feb-12															
0.19		01-Jul-13															
0.19		01-Mar-14															
0.22		15-Feb-15															

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
CHLOROMETHANE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Chloromethane	09/19/95	ETSI	<3	<8.1(tb)	<8.1(tb)		<8.1(tb)	<8.1(tb)					<8.1			tb
	12/13/95	ETSI	4.5(tb)	<3	<3		<3	<3								tb
CAS = 74-87-3	03/07/96	ETSI	<3	<3	<3		<3	<3								
GPS = 190 (ACL)	07/26/96	ETSI	<3	<3	<3		<3	<3								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<3							
BACK = LOQ	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<3							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<3							
	02/11/97	ETSI	<3	<3	<3		<3	<3	<3							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<5	<5	<5		<5	<5	<5							
	02/24/98	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/14/98	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
PS Approved 12-19-01	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
	08/23/01	Analytics	<1.1	<1.1	<1.1		<1.1	<1.1	<1.1					1.1	5.0	
	02/19/02	Analytics	<1.1	<1.1	<1.1		<1.1	<1.1	<1.1					1.1	5.0	
	08/15/02	Analytics	<1.1	<1.1	<1.1		<1.1	<1.1	<1.1					1.1	5.0	
	02/06/03	Analytics	<1.1	<1.1	<1.1		<1.1	<1.1	<1.1					1.1	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<1.1	<1.1		<1.1	<1.1	<1.1	<1.1					1.1	5.0	
	01/22/04	ProChem	<1.13	<1.13		<1.13	<1.13	<1.13	<1.13					1.13	5	
	07/14/04	ProChem	<0.52	<0.52		<0.52	<0.52	<0.52	<0.52					0.52	2	
	01/20/05	ProChem	<0.52	<0.52		<0.52	<0.52	<0.52	<0.52					0.52	2	
	07/28/05	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	02/01/06	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	07/25/06	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
ACL	Effective Date	01/23/07	AWS	<0.3	<0.3		<0.3	<0.3	<0.3					0.3	1.0	
58.128571	1-Oct-07	07/17/07	AWS	<0.3	<0.3		<0.3	<0.3	<0.3					0.3	1.0	
1.434212853	27-Jan-09	01/24/08	AWS	<0.3	<0.3		<0.3	<0.3	<0.3					0.3	1.0	
187.2	31-Jan-11	7/30/2008	AWS	<0.3	<0.3		<0.3	<0.3	<1.0	<0.3				0.3	1.0	
187.2	1-Feb-12	1/20/2009	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3				0.3	1.0	
190	01-Jul-13	7/9/2009	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3				0.3	1.0	
190	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a	v
		1/6/2010	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3				0.3	1.0	
		7/8/2010	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3				0.3	1.0	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0.00	0	0.00	0.00	0.00	0.00	0.00							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
CHLOROMETHANE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Chloromethane CAS = 74-87-3 GPS = 190 (ACL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	7/28/2011	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	1.0	
	2/7/2013	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3			0.3	1.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/25/2013	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30	n/a	<0.30			0.30	1.00	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<0.30		0.30	1.00	
	2/13/2014	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30	n/a	<0.30	<0.30		0.30	1.00	
	7/9/2014	AWS		<0.30				<0.30	<0.30		<0.30	<0.30		0.30	1.00	
	2/6/2015	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30		<0.30	<0.30		0.30	1.00	
	7/14/2015	AWS		<0.30				<0.30	<0.30		<1.00	<0.30		0.30	1.00	
	1/20/2016	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30		<0.30	<0.30		0.30	1.00	
	7/13/2016	AWS		<0.30				<0.30	<0.30		<0.30	<0.30		0.30	1.00	
	1/25/2017	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30		<0.30	<0.30		0.30	1.00	
	7/25/2017	AWS		<0.30				<0.30	<0.30		<0.30	<0.30		0.30	1.00	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
58.128571	1-Oct-07															
1.434212853	27-Jan-09															
187.2	31-Jan-11															
187.2	1-Feb-12															
190	01-Jul-13															
190	01-Mar-14															
190	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	0	0	0	0	0	0	0	0				

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Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC		
cis-1,2-Dichloroethylene		09/19/95	ETSI	2.5	<0.8	21.3		5	<0.8										
CAS = 156-59-2		12/13/95	ETSI	4.3	<1.1	26.1		2.1	<1.1										
		03/07/96	ETSI	4.6	<1.1	16.4		1.7	<1.1										
GPS = 70 (MCL)		07/26/96	ETSI	4.4	<1.1	17.1		3.3	<1.1										
		10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.1									
BACK = LOQ		11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.1									
		12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.1									
		02/11/97	ETSI	<1.1	<1.1	15.9		<1.1	<1.1	<1.1									
		04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
		05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
		07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
		07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
		08/13/97	ETSI	<5	<5	14		<5	<5	<5									
		02/24/98	Lab Corp	<2	<2	8.08		<2	<2	<2									
		08/14/98	Lab Corp	<2	<2	14		<2	<2	<2									
		02/10/99	Lab Corp	<5	<5	5.11		<5	<5	<5									
		07/13/99	Lab Corp	<5	<5	16		<5	<5	<5									
		02/09/00	Lab Corp	<5	<5	6.4		<5	<5	<5								ss, ms ib	
		08/09/00	Analytics	<5	<5	8.95		<5	<5	<5									
		02/13/01	Analytics	<5	<5	5.14		<5	<5	<5									
		PS Approved 12-19-01	08/23/01	Analytics	<0.26	<0.26	12.2		<0.26	<0.26	<0.26					0.26	5.0		
			02/19/02	Analytics	<0.26	<0.26	6.12		6.42	<0.26	<0.26					0.26	5.0		
			08/15/02	Analytics	10.1	<0.26	13		<0.26	<0.26	<0.26					0.26	5.0		
			02/06/03	Analytics	7.82	<0.26	<5		<5	<5	<0.26					0.26	5.0		
			04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a		
			05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a		
			08/26/03	Analytics	<0.26	<0.26		22.1	<0.26	5.65	<0.26					0.26	5.0		ss
01/22/04	ProChem		<5	<0.59		18.9	<5	<5	<0.59					0.59	5.0				
07/14/04	ProChem		3.3	<0.12		17.9	4.2	<2	<0.12					0.12	2.0				
01/20/05	ProChem		5	<0.12		22.1	3	<2	<0.12					0.12	2.0				
07/28/05	AWS		5.4	<0.5		22	5.7	2.3	<0.2					0.2	0.5				
02/01/06	AWS		5.3	<0.2		22	3.8	2.1	<0.2					0.2	1.0				
ACL Changes	07/25/06		AWS	5.1	<1.0		23	8.4	3.1	<0.2					0.2	1.0			
ACL	Effective Date		01/23/07	AWS	6.0	<0.2		23.9	3.7	4.1	<0.2				0.2	1.0			
22.357143	1-Oct-07		07/17/07	AWS	6.0	<1.0													

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CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
DIBROMOCHLOROMETHANE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Dibromochloromethane CAS = 124-48-1 GPS = 0.17 (ACL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
PS Approved 12-19-01	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
	08/23/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/15/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/20/05	ProChem	<2	<0.15		<0.15	<0.15	<0.15	<0.15					0.15	2.0	
	07/28/05	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	02/01/06	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	07/25/06	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	01/23/07	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	07/17/07	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	01/24/08	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	7/30/2008	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	1/20/2009	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
ACL Changes	7/9/2009	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	0.5	
	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/6/2010	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	0.5	
	7/8/2010	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	0.5	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0	0	0.00	0.00	0.00	0.00	0.00							

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CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
DICHLORODIFLUOROMETHANE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Dichlorodifluoromethane CAS = 75-71-8 GPS = 200 (ACL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	08/14/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	6.90	n/a	<5		<5	n/a	<5							cc
	02/09/00	Lab Corp	13.0	<5	<5		<5	<5	<5							ic, cc
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
	02/13/01	Analytics	5.49	<5	<5		<5	<5	<5							
PS Approved 12-19-01	08/23/01	Analytics	<0.63	<0.63	<0.63		<0.63	<0.63	<0.63					0.63	5.0	
ACL Changes	02/19/02	Analytics	<0.63	<0.63	<0.63		<0.63	<0.63	<0.63					0.63	5.0	
	08/15/02	Analytics	<0.63	<0.63	<0.63		<0.63	<0.63	<0.63					0.63	5.0	
	02/06/03	Analytics	<0.63	<0.63	<0.63		<0.63	<0.63	<0.63					0.63	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.63	<0.63		<0.63	<0.63	<0.63	<0.63					0.63	5.0	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	<0.68	n/a		<0.68	<0.68	<0.68	n/a					0.68	2.0	
	01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/28/05	AWS	<0.2	n/a		<0.2	<0.2	<0.2	n/a					0.2	1.0	
	02/01/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/25/06	AWS	<0.2	n/a		<0.2	<0.2	<0.2	n/a					0.2	1.0	
	ACL	Effective Date	01/23/07	AWS	n/a	n/a	n/a	n/a	n/a					n/a	n/a	
	125.2	1-Oct-07	07/17/07	AWS	<1.0	n/a		<0.2	<0.2	<0.2	n/a			0.2	1.0	
	142.2727273	27-Jan-09	01/24/08	AWS	n/a	n/a		n/a	n/a	n/a	n/a			n/a	n/a	
	368.066567	31-Jan-11	7/30/2008	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2			0.2	1.0	
	195.53534	1-Feb-12	1/20/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a			n/a	n/a	
	190	01-Jul-13	7/9/2009	AWS	<0.2	<1.0		<0.2	<0.2	<0.2	<0.2			0.2	1.0	
	200	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a			n/a	n/a	v
			1/6/2010	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2			0.2	1.0	
			7/8/2010	AWS	<0.2	1.0		<0.2	<0.2	<0.2	<0.2			0.2	1.0	
AVG value of quantified hits:			8.5	1.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			13.0	1.0	0.00	0.00	0.00	0.00	0.00							

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CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
METHYLENE CHLORIDE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Methylene chloride CAS = 75-09-2 GPS = 5 (MCL) BACK = LOQ	09/19/95	ETSI	<2.00	<3.9(tb)	<3.9(tb)		<3.9	<3.9					<3.9			tb
	12/13/95	ETSI	2.3	<2.00	<2.00		<2.00	<2.00								
	03/07/96	ETSI	<2.00	<2.00	<2.00		<2.00	<2.00								
	07/26/96	ETSI	<2.00	<2.00	<2.00		<2.00	<2.00								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<6.04							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<6.04							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<6.04							
	02/11/97	ETSI	<6.04	<6.04	<6.04		<6.04	<6.04	<6.04							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<5	<5	<5		<5	<5	<5							
	02/24/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	08/14/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	n/a	<5		<5	n/a	n/a							
PS Approved 12-19-01	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
	08/23/01	Analytics	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	5.0	
	02/19/02	Analytics	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	5.0	
	08/15/02	Analytics	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	5.0	
	02/06/03	Analytics	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	5.0	
	04/08/03	Analytics	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	5.0	
	01/22/04	ProChem	<1.22	<1.22		<1.22	<1.22	<1.22	<1.22					1.22	5.0	
	07/14/04	ProChem	<0.39	<0.39		<0.39	<0.39	<0.39	<0.39					0.39	2.0	
	01/20/05	ProChem	<0.39	<0.39		<0.39	<0.39	<0.39	<0.39					0.39	2.0	
	07/28/05	AWS	<1(tb)	<0.3		<0.3	<0.3	<0.3	<0.3				1.6	0.3	1.0	tb
	02/01/06	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	4.0	
	07/25/06	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	4.0	
ACL Changes	ACL	Effective Date	01/23/07	AWS	<1.0	<1.0	<1.0	<1.0	<1.0					1.0	4.0	
	4.1023912	1-Oct-07	07/17/07	AWS	<4.0	<1.0	<1.0	<1.0	<1.0					1.0	4.0	
	8.928808534	27-Jan-09	01/24/08	AWS	<4.0	<1.0	<1.0	<1.0	<1.0					1.0	4.0	
	4.80500374	31-Jan-11	7/30/2008	AWS	<1.0	<1.0	<1.0	<1.0	<1.0					1.0	4.0	
	4.80500374	1-Feb-12	1/20/2009	AWS	<1.0	<1.0	<1.0	<1.0	<1.0					1.0	4.0	
	9.9	01-Jul-13	7/9/2009	AWS	<1.0	<1.0	<1.0	<1.0	<1.0					1.0	4.0	
	11	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a				n/a	n/a	v
			1/6/2010	AWS	<1.0	<1.0	<1.0	<1.0	<1.0					1.0	4.0	
			7/8/2010	AWS	<1.0	<1.0	<1.0	<1.0	<1.0					1.0	4.0	
	AVG value of quantified hits:			2.3	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
	Maximum value:			2.3	0	0.00	0.00	0.00	0.00							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
METHYLENE CHLORIDE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Methylene chloride CAS = 75-09-2 GPS = 5 (MCL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	4.0	
	7/28/2011	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	4.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	4.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	4.0	
	2/7/2013	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0			1.0	4.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a		n/a			n/a	n/a	
	7/25/2013	AWS	<1.00	<1.00		<1.00	<1.00	<1.00	<1.00	n/a	<1.00			1.00	4.00	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<1.00		1.00	4.00	
	2/13/2014	AWS	<1.00	<1.00		<1.00	<1.00	<1.00	<1.00	n/a	<1.00	<1.00		1.00	4.00	
	7/9/2014	AWS		<1.00				<1.00	<1.00		<1.00	<1.00		1.00	4.00	
	2/6/2015	AWS	<1.00	<1.00		<1.00	<1.00	<1.00	<1.00		<1.00	<1.00		1.00	4.00	
	7/14/2015	AWS		<1.00				<1.00	<1.00		<1.00	<1.00		1.00	4.00	
	1/20/2016	AWS	<1.00	<1.00		<1.00	<1.00	<1.00	<1.00		<1.00	<1.00		1.00	4.00	
	7/13/2016	AWS		<1.00				<1.00	<1.00		<1.00	<1.00	1.48 J	1.00	4.00	
	1/25/2017	AWS	<1.00	<1.00		<1.00	<1.00	<1.00	<1.00		<1.00	<1.00		1.00	4.00	
	7/25/2017	AWS		<1.00				<1.00	<1.00		<1.00	<1.00		1.00	4.00	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
4.1023912	1-Oct-07															
8.928808534	27-Jan-09															
4.80500374	31-Jan-11															
4.80500374	1-Feb-12															
9.9	01-Jul-13															
9.9	01-Mar-14															
11	15-Feb-15															
AVG value of quantified hits:			2.30	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			2.3	0	0	0	0	0	0	0	0	0				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
TETRACHLOROETHYLENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Tetrachloroethylene CAS = 127-18-4 GPS = 5 (MCL) BACK = LOQ	09/19/95	ETSI	3.4	<1.6	<1.6		<1.6	<1.6								
	12/13/95	ETSI	6.3	<1.3	<1.3		<1.3	<1.3								
	03/07/96	ETSI	6.1	<1.3	<1.3		<1.3	<1.3								
	07/26/96	ETSI	6.1	<1.3	<1.3		<1.3	<1.3								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.3							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.3							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.3							
	02/11/97	ETSI	<1.3	<1.3	<1.3		<1.3	<1.3	<1.3							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<5	<5	<5		<5	<5	<5							
	02/24/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	08/14/98	Lab Corp	4.54	<2	<2		<2	<2	<2							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
PS Approved 12-19-01	08/23/01	Analytics	<0.31	<0.31	<0.31		<0.31	<0.31	<0.31					0.31	5.0	
ACL Changes	02/19/02	Analytics	<0.31	<0.31	<0.31		<0.31	<0.31	<0.31					0.31	5.0	
	08/15/02	Analytics	<0.31	<0.31	<0.31		<0.31	<0.31	<0.31					0.31	5.0	
	02/06/03	Analytics	<5	<0.31	<0.31		<0.31	<5	<0.31					0.31	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.31	<0.31		<0.31	<0.31	<0.31	<0.31					0.31	5.0	
	01/22/04	ProChem	<5	<0.57		<0.57	<0.57	<0.57	<0.57					0.57	5.0	
	07/14/04	ProChem	<0.23	<0.23		<0.23	<0.23	<0.23	<0.23					0.23	2.0	
	01/20/05	ProChem	2.1	<0.23		<0.23	<0.23	<0.23	<0.23					0.23	2.0	
	07/28/05	AWS	1.6	<1		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	02/01/06	AWS	1.5	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	07/25/06	AWS	1.2	<1.0		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	01/23/07	AWS	1.5	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	07/17/07	AWS	1.2	<1.0		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
0.1035167 0.102963443 0.10814069 0.10814069 9.7 11	1-Oct-07															
	27-Jan-09															
	31-Jan-11															
	1-Feb-12															
	01-Jul-13															
	15-Feb-15															
AVG value of quantified hits:			2.9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			6.3	0	0.00	0.00	0.00	0.00	0.00							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
TETRACHLOROETHYLENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Tetrachloroethylene CAS = 127-18-4 GPS = 5 (MCL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<1.0	<1.0		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	7/28/2011	AWS	<1.0	<1.0		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<1.0	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<1.0	<1.0		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	2/7/2013	AWS	<1.0	<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	1.5			0.2	1.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<1.00	<0.20		<0.20	<0.20	<0.20	<0.20	n/a	2.36			0.20	1.00	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<0.20		0.20	1.00	
	2/13/2014	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	n/a	2.14	<0.20		0.20	1.00	
	7/9/2014	AWS		<1.00				<0.20	<0.20		3.11	<0.20		0.20	1.00	
	2/6/2015	AWS	<1.00	<0.20		<0.20	<0.20	<0.20	<0.20		3.24	<0.20		0.20	1.00	
	7/14/2015	AWS		<1.00				<0.20	<0.20		2.60	<0.20		0.20	1.00	
	1/20/2016	AWS	<0.20	0.22(l)		<0.20	<0.20	<0.20	<0.20		1.73	<0.20		0.20	1.00	
	7/13/2016	AWS		0.30 J				<0.20	<0.20		1.83	<0.20		0.20	1.00	
	1/25/2017	AWS	<0.21	<0.20		<0.20	<0.20	<0.20	<0.20		2.30	<0.20		0.20	1.00	
	7/25/2017	AWS		1.04				<0.20	<0.20		1.66	<0.20		0.20	1.00	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
0.1035167	1-Oct-07															
0.102963443	27-Jan-09															
0.10814069	31-Jan-11															
0.10814069	1-Feb-12															
9.7	01-Jul-13															
9.7	01-Mar-14															
11	15-Feb-15															
AVG value of quantified hits:			2.90	1.04	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.25	#DIV/0!				
Maximum value:			6.3	1.04	0	0	0	0	0	0	3.24	0				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
TRANS-1,2-DICHLOROETHYLENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
trans-1,2-Dichloroethylene CAS = 156-60-5 GPS = 100 (MCL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a						n/a	n/a	
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a						n/a	n/a	
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a						n/a	n/a	
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a						n/a	n/a	
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
PS Approved 12-19-01	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/23/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/15/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/08/03	Analytics	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a			n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
ACL 38.839416 39.125 89.3876286 89.3876286 86 86 360	01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/28/05	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	02/01/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/25/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/23/07	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/17/07	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/24/08	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/30/2008	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/9/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/6/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	7/8/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0.0	0	0.00	0.00	0.00	0.00	0.00							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
TRANS-1,2-DICHLOROETHYLENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
trans-1,2-Dichloroethylene CAS = 156-60-5 GPS = 100 (MCL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/13/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/28/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	2/7/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	
	2/13/2014	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	
	7/9/2014	AWS		<0.20				<0.20	<0.20		<1.00	<0.20		0.20	1.00	
	2/6/2015	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	7/14/2015	AWS		<0.20				<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	1/20/2016	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	7/13/2016	AWS		<0.20				<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	1/25/2017	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	7/25/2017	AWS		<0.20				<0.20	<0.20		<0.20	<0.20		0.20	1.00	
PS Approved 12-19-01																
ACL	Effective Date															
38.839416	1-Oct-07															
39.125	28-Jan-09															
89.3876286	31-Jan-11															
89.3876286	1-Feb-12															
86	01-Jul-13															
86	01-Mar-14															
360	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	0	0	0	0	0	0	0	0				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
TOLUENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Toluene CAS = 108-88-3 GPS = 1000 (MCL) BACK = LOQ	09/19/95	ETSI	<2.20	<0.6	3.3		1.7	<0.6								
	12/13/95	ETSI	<2.20	<2.20	<2.20		<2.20	<2.20								
	03/07/96	ETSI	<2.20	<2.20	<2.20		<2.20	<2.20								
	07/26/96	ETSI	<2.20	<2.20	<2.20		<2.20	<2.20								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2.20							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2.20							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<2.20							
	02/11/97	ETSI	<2.20	<2.20	<2.20		<2.20	<2.20	<2.20							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<5	<5	<5		<5	<5	<5							
	02/24/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	08/14/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
PS Approved 12-19-01	08/23/01	Analytics	<0.18	<0.18	<0.18		<0.18	<0.18	<0.18					0.18	5.0	
ACL Changes	02/19/02	Analytics	<0.18	<0.18	<0.18		<0.18	<0.18	<0.18					0.18	5.0	
	08/15/02	Analytics	<0.18	<0.18	<0.18		<0.18	<0.18	<0.18					0.18	5.0	
	02/06/03	Analytics	<0.18	<0.18	<0.18		<0.18	<0.18	<0.18					0.18	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.18	<0.18		<0.18	<0.18	<0.18	<0.18					0.18	5.0	
	01/22/04	ProChem	<0.39	<0.39		<0.39	<0.39	<0.39	<0.39					0.39	5.0	
	07/14/04	ProChem	<0.16	<0.16		<0.16	<0.16	<0.16	<0.16					0.16	2.0	
	01/20/05	ProChem	<0.16	<0.16		<0.16	<0.16	<0.16	<0.16					0.16	2.0	
	07/28/05	AWS	<1(ib)	<0.2		<1(ib)	<1(ib)	<0.2	<0.2				8.7	0.2	1.0	ib, tb
	02/01/06	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	07/25/06	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	01/23/07	AWS	<0.2	<0.2		<0.2	<1.0	<0.2	<0.2					0.2	1.0	
	07/17/07	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
932.34043 937.1257485 1117.34687 1117.34687 860 1100	1-Oct-07	07/17/07	AWS	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	1.0	
	27-Jan-09	01/24/08	AWS	<0.2	<0.2		<0.2	<0.2	<0.2					0.2	1.0	
	31-Jan-11	7/30/2008	AWS	<0.2	<0.2		<0.2	<1.0	<0.2	<0.2				0.2	1.0	
	1-Feb-12	1/20/2009	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2				0.2	1.0	
	01-Jul-13	7/9/2009	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2				0.2	1.0	
	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a	v
		1/6/2010	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2				0.2	1.0	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	3.30	#DIV/0!	1.70	#DIV/0!	#DIV/0!							
Maximum value:			0.0	0	3.30	0.00	1.70	0.0	0.00							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
TOLUENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Toluene CAS = 108-88-3 GPS = 1000 (MCL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	7/28/2011	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	2/7/2013	AWS	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			0.2	1.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/25/2013	AWS	<0.20	<0.20		<0.20	<1.00	<0.20	<0.20	n/a	<0.20			0.20	1.00	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<0.20		0.20	1.00	
	2/13/2014	AWS	<0.20	<0.20		<0.20	<1.00	<0.20	<0.20	n/a	<0.20	<0.20		0.20	1.00	
	7/9/2014	AWS		<0.20				<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	2/6/2015	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	7/14/2015	AWS		<0.20				<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	1/20/2016	AWS	<0.20	<0.20		<0.20	0.21 J	<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	7/13/2016	AWS		<0.20				<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	1/25/2017	AWS	<0.20	<0.20		<0.20	0.21 J	<0.20	<0.20		<0.20	<0.20		0.20	1.00	
	7/25/2017	AWS		<0.20				<0.20	<0.20		<0.20	<0.20		0.20	1.00	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
932.34043	1-Oct-07															
937.1257485	27-Jan-09															
1117.34687	31-Jan-11															
1117.34687	1-Feb-12															
860	01-Jul-13															
860	01-Mar-14															
1100	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	3.3	#DIV/0!	1.7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	3.3	0	1.7	0	0	0	0	0				

CLIENT: GOOCHLAND COUNTY
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LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
TRICHLOROETHYLENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Trichloroethylene CAS = 79-01-6 GPS = 5 (MCL) BACK = LOQ	09/19/95	ETSI	<1.4	<0.8	<0.8		<0.8	<0.8								
	12/13/95	ETSI	1.5	<1.4	<1.4		<1.4	<1.4								
	03/07/96	ETSI	1.8	<1.4	<1.4		<1.4	<1.4								
	07/26/96	ETSI	2	<1.4	<1.4		<1.4	<1.4								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.4							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.4							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<1.4							
	02/11/97	ETSI	<1.4	<1.4	<1.4		<1.4	<1.4	<1.4							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	<5	<5	<5		<5	<5	<5							
	02/24/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	08/14/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	02/10/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	07/13/99	Lab Corp	<5	<5	<5		<5	<5	<5							
	02/09/00	Lab Corp	<5	<5	<5		<5	<5	<5							
	08/09/00	Analytics	<5	<5	<5		<5	<5	<5							
	02/13/01	Analytics	<5	<5	<5		<5	<5	<5							
PS Approved 12-19-01	08/23/01	Analytics	<0.29	<0.29	<0.29		<0.29	<0.29	<0.29					0.29	5.0	
ACL Changes	02/19/02	Analytics	<0.29	<0.29	<0.29		<0.29	<0.29	<0.29					0.29	5.0	
	08/15/02	Analytics	<0.29	<0.29	<0.29		<0.29	<0.29	<0.29					0.29	5.0	
	02/06/03	Analytics	<5	<0.29	<0.29		<0.29	<0.29	<0.29					0.29	5.0	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<0.29	<0.29		<0.29	<0.29	<0.29	<0.29					0.29	5.0	
	01/22/04	ProChem	<0.33	<0.33		<5	<0.33	<0.33	<0.33					0.33	5.0	
	07/14/04	ProChem	<0.51	<0.51		<2	<0.51	<0.51	<0.51					0.51	2.0	
	01/20/05	ProChem	<2	<0.51		<2	<0.51	<0.51	<0.51					0.51	2.0	
	07/28/05	AWS	1.2	<0.2		1.2	<0.2	<0.2	<0.2					0.2	1.0	
	02/01/06	AWS	1.1	<0.2		<1.0	<0.2	<0.2	<0.2					0.2	1.0	
	07/25/06	AWS	1.1	<0.2		<1.0	<0.2	<0.2	<0.2					0.2	1.0	
	01/23/07	AWS	1.1	<0.2		<1.0	<0.2	<0.2	<0.2					0.2	1.0	
	07/17/07	AWS	<1.0	<0.2		<1.0	<0.2	<0.2	<0.2					0.2	1.0	
0.0263728 1.327755547 2.00611771 2.00611771 0.44 0.49	1-Oct-07															
	27-Jan-09															
	31-Jan-11															
	1-Feb-12															
	01-Jul-13															
	15-Feb-15															
AVG value of quantified hits:			1.4	#DIV/0!	#DIV/0!	1.2	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			2.0	0.00	0.00	1.2	0.00	0.00	0.00							

CLIENT: GOOCHLAND COUNTY
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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
TRICHLOROETHYLENE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Trichloroethylene CAS = 79-01-6 GPS = 5 (MCL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<1.0 fb	<0.2		<1.0 fb	<0.2	<0.2	<0.2				<1.0	0.2	1.0	
	7/28/2011	AWS	<1.0	<0.2		<1.0	<0.2	<0.2	<0.2					0.2	1.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<1.0	<0.2		<1.0	<0.2	<0.2	<0.2					0.2	1.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<1.0	<1.0		<0.2	<0.2	<0.2	<0.2					0.2	1.0	
	2/7/2013	AWS	<1.0	<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<1.0			0.2	1.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<1.00	<0.20		<0.20	<0.20	<0.20	<0.20	n/a	<1.00			0.20	1.00	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<0.20		0.20	1.00	
	2/13/2014	AWS	<1.00	<0.20		<0.20	<0.20	<0.20	<0.20	n/a	<1.00	<0.20		0.20	1.00	
	7/9/2014	AWS		<1.00				<0.20	<0.20		1.13	<0.20		0.20	1.00	
	2/6/2015	AWS	<1.00	<0.20		<0.20	<0.20	<0.20	<0.20		1.26	<0.20		0.20	1.00	
	7/14/2015	AWS		<1.00				<0.20	<0.20		1.05	<0.20		0.20	1.00	
	1/20/2016	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		0.72(j)	<0.20		0.20	1.00	
	7/13/2016	AWS		<0.20				<0.20	<0.20		0.70 J	<0.20		0.20	1.00	
	1/25/2017	AWS	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		0.77 J	<0.20	0.21 J	0.20	1.00	
	7/25/2017	AWS		0.36 J				<0.20	<0.20		0.60 J	<0.20		0.20	1.00	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
0.0263728	1-Oct-07															
1.327755547	27-Jan-09															
2.00611771	31-Jan-11															
2.00611771	1-Feb-12															
0.44	01-Jul-13															
0.44	01-Mar-14															
0.49	15-Feb-15															
AVG value of quantified hits:			1.4	#DIV/0!	#DIV/0!	1.2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.15	#DIV/0!				
Maximum value:			2.0	0	0	1.2	0	0	0	0	1.26	0				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
VINYL CHLORIDE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Vinyl chloride CAS = 75-01-4 GPS = 2 (MCL) BACK = LOQ	09/19/95	ETSI	<1.3	<1.3	3.1		5.86	<1.3								
	12/13/95	ETSI	<3.5	<1.27	4.98		6.62	<1.8								
	03/07/96	ETSI	<1.8	<1.8	2.5		3.8	<1.8								
	07/26/96	ETSI	1.3	<1.27	2.1		4.25	<1.27								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	<0.583							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	<0.583							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	<0.583							
	02/11/97	ETSI	1.1	<0.583	3.6		4.3	<0.583	<0.583							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	6.33(tb)	4.23(tb)	6.47(tb)		4.99(tb)	5.14(tb)	4.3(tb)				4.24			tb
	02/24/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	08/14/98	Lab Corp	<2	<2	<2		<2	<2	<2							
	02/10/99	Lab Corp	<2	<2	<2		<2	<2	<2							
	07/13/99	Lab Corp	1.90	<1	4.10		1.50	1.50	<1							cc
	02/09/00	Lab Corp	2.70	<1	2.27		1.80	2.31	<1							cc
	08/09/00	Analytics	<1	<1	<1		<1	<1	<1							
	02/13/01	Analytics	1.94	<1	<1		<1	1.61	<1							
PS Approved 12-19-01	08/23/01	Analytics	<0.51	<0.51	<0.51		<0.51	<0.51	<0.51					0.51	1.0	
	02/19/02	Analytics	<0.51	<0.51	<0.51		<0.51	<0.51	<0.51					0.51	1.0	
	08/15/02	Analytics	<0.51	<0.51	<0.51		<0.51	<0.51	<0.51					0.51	1.0	
	02/06/03	Analytics	2.75	<0.51	<0.51		<0.51	2.16	<0.51					0.51	1.0	
	04/08/03	Analytics	2.69	n/a	n/a		n/a	2.71	n/a					0.51	1.0	
	05/30/03	STL	1.1	n/a	n/a		n/a	1.5	n/a					n/a	1.0	
	08/26/03	Analytics	<0.51	<0.51		5.22	<0.51	4.71	<0.51					0.51	1.0	ss
	01/22/04	ProChem	<0.71	<0.71		<2	<0.71	<2	<0.71					0.71	2.0	
	07/14/04	ProChem	<0.34	<0.34		<0.34	<0.34	<0.34	<0.34					0.34	2.0	ic, cc
	01/20/05	ProChem	<2	<0.34		2.1	<0.34	<0.34	<0.34					0.34	2.0	
	07/28/05	AWS	2	<0.2		2.7	<1	<1	<0.2					0.2	1.0	
	02/01/06	AWS	2.2	<0.2		2.8	<1.0	<1.0	<0.2					0.2	1.0	
	07/25/06	AWS	2.7	<0.2		2.6	<1.0	<1.0	<0.2					0.2	1.0	
	ACL	Effective Date	01/23/07	AWS	1.8	<0.2	2.4	<1.0	1.2	<0.2				0.2	1.0	
	0.429185	1-Oct-07	07/17/07	AWS	1.5	<0.2	2.2	<1.0	1.1	<0.2				0.2	1.0	
	0.083468445	27-Jan-09	01/24/08	AWS	1.9	<0.2	2.1	<1.0	1.2	<0.2				0.2	1.0	
	0.01617721	31-Jan-11	7/30/2008	AWS	1.2	<0.2	1.5	<1.0	1.0	<0.2				0.2	1.0	
	0.01617721	1-Feb-12	1/20/2009	AWS	<1.0	<0.2	1.6	<1.0	1.1	<0.2				0.2	1.0	
	0.015	01-Jul-13	7/9/2009	AWS	0.6	<0.2	2.4	0.6	1.2	<0.2				0.2	0.5	
	0.019	15-Feb-15	10/12/2009	AWS	n/a	n/a	2.4	n/a	n/a	n/a				0.2	0.5	v
			1/6/2010	AWS	0.6	<0.2	1.8	0.5	1.2	<0.2				0.2	0.5	
			7/8/2010	AWS	<0.5	<0.2	2.0	<0.5	1.1	<0.2				0.2	0.5	
AVG value of quantified hits:			1.76	#DIV/0!	3.24	2.42	3.25	1.71	#DIV/0!							
Maximum value:			2.75	0	4.98	5.22	6.62	4.71	0.00							

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[illegible]

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
XYLENES, TOTAL

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Xylenes, Total CAS = 1330-20-7 GPS = 10000 (MCL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
PS Approved 12-19-01	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
	08/23/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/15/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/20/05	ProChem	<2	<0.44		<0.44	<0.44	<0.44	<0.44					0.44	2.0	
	07/28/05	AWS	<3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	3.0	
	02/01/06	AWS	<3.0	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	3.0	
	07/25/06	AWS	<3.0	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	3.0	
ACL Changes	ACL	Effective Date	01/23/07	<3.0	<0.3		<0.3	<0.3	<0.3					0.3	3.0	
	76.341463	1-Oct-07	07/17/07	<3.0	<0.3		<0.3	<0.3	<0.3					0.3	3.0	
	72.79069767	27-Jan-09	01/24/08	<0.3	<0.3		<0.3	<0.3	<0.3					0.3	3.0	
	195.53534	31-Jan-11	7/30/2008	<0.3	<0.3		<0.3	<0.3	<0.3					0.3	3.0	
	195.53534	1-Feb-12	1/20/2009	<3.0	<0.3		<0.3	<0.3	<0.3					0.3	3.0	
	190	01-Jul-13	7/9/2009	<0.3	<0.3		<0.3	<0.3	<0.3					0.3	3.0	
	190	15-Feb-15	10/12/2009	AWS	n/a		n/a	n/a	n/a					n/a	n/a	v
			1/6/2010	AWS	<0.3	<0.3		<0.3	<0.3					0.3	3.0	
			7/8/2010	AWS	<0.3	<0.3		<0.3	<0.3					0.3	3.0	
	AVG value of quantified hits:		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
	Maximum value:		0.00	0	0.00	0.00	0.00	0.00	0.00							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
XYLENES, TOTAL

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
Xylenes, Total CAS = 1330-20-7 GPS = 10000 (MCL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<3.0	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	3.0	
	7/28/2011	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	3.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	3.0	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3					0.3	3.0	
	2/7/2013	AWS	<0.3	<0.3		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3			0.3	3.0	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/25/2013	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30	n/a	<0.30			0.30	3.00	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	<0.30		0.30	3.00	
	2/13/2014	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30	n/a	<3.00	<0.30		0.30	3.00	
	7/9/2014	AWS		<0.30				<0.30	<0.30		<3.00	<0.30		0.30	3.00	
	2/6/2015	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30		<0.30	<0.30		0.30	3.00	
	7/14/2015	AWS		<0.30				<0.30	<0.30		<3.00	<0.30		0.30	3.00	
	1/20/2016	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30		0.13(j)	<0.30		0.30	3.00	
	7/13/2016	AWS		<0.30				<0.30	<0.30		0.18 J	<0.30		0.30	3.00	
	1/25/2017	AWS	<0.30	<0.30		<0.30	<0.30	<0.30	<0.30		<0.30	<0.30		0.30	3.00	
	7/25/2017	AWS		<0.30				<0.30	<0.30		0.17 J	<0.30		0.30	3.00	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
76.341463	1-Oct-07															
72.79069767	27-Jan-09															
195.53534	31-Jan-11															
195.53534	1-Feb-12															
190	01-Jul-13															
190	01-Mar-14															
190	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	0	0	0	0	0	0	0	0				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
BIS (2-ETHYLHEXYL) PHTHALATE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
bis (2-Ethylhexyl) phthalate CAS = 117-81-7 GPS = 6 (MCL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
PS Approved 12-19-01	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
	08/23/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/15/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	<0.13	n/a		<6	<0.13	<0.13	n/a					0.13	6.0	
	01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/28/05	AWS	<5	n/a		<1	<1	<1	n/a					1.0	5.0	
	02/01/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/25/06	AWS	<1	n/a		<1	<1	<1	n/a					1.0	5.0	
	01/23/07	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/17/07	AWS	<1.0	n/a		<1.0	<1.0	<1.0	n/a					1.0	5.0	
	01/24/08	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/30/2008	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	5.0	
	1/20/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
ACL Changes	4.783748362	1-Oct-07	7/9/2009	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0				1.0	5.0	
	4.80235714	27-Jan-09	10/12/2009	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a	v
	4.80235714	31-Jan-11	1/6/2010	<1.0	<1.0		<5.0	<5.0	<1.0	<1.0				1.0	5.0	
	4.8	01-Jul-13	7/8/2010	<1.0	<1.0		<1.0	<1.0	<1.0	<5.0				1.0	5.0	
	5.6	15-Feb-15														
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0.000	0	0.00	0.00	0	0.00	0							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
BIS (2-ETHYLHEXYL) PHTHALATE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
bis (2-Ethylhexyl) phthalate CAS = 117-81-7 GPS = 6 (MCL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<1.1	<1.1		<1.1	<1.1	<5.6	<1.1					1.1	5.6	
	7/28/2011	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	5.0	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<5.1	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	5.1	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0					1.0	5.1	
	2/7/2013	AWS	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0			1.0	5.1	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/25/2013	AWS	<1.03	<1.03		<1.03	<1.03	<1.03	<1.03	n/a	<1.03			1.03	10.3	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	
	2/13/2014	AWS	<1.02	<1.02		<1.02	<1.02	<1.02	<1.02	n/a	<1.02	<1.02		1.02	10.2	
	7/9/2014	AWS		<1.00				<1.00	<1.00		<1.00	<1.00		1.00	2.50	
	2/6/2015	AWS	<1.12	<1.12		<1.12	<1.12	<1.12	<1.12		<1.12	<1.12		1.12	2.81	
	7/14/2015	AWS		<1.14				<1.14	<1.14		<1.14	<2.84		1.14	2.84	
	1/20/2016	AWS	<1.12	<1.12		<1.12	<1.12	<1.12	<1.12		<1.12	<1.12		1.12	2.81	
	7/13/2016	AWS		<1.05				<1.05	<1.05		<1.05	<1.05		1.05	2.63	
	1/25/2017	AWS	<1.06	<1.06		<1.06	<1.06	<1.06	<1.06		<1.06	<1.06		1.06	2.06	
	7/25/2017	AWS		<1.11		<1.11	<1.11	1.31 J	1.67 J		<1.11	1.69 J		1.11	2.8	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
12520	1-Oct-07															
4.783748362	27-Jan-09															
4.80235714	31-Jan-11															
4.80235714	1-Feb-12															
4.8	01-Jul-13															
4.8	01-Mar-14															
5.6	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	0	0	0	0	0	0	0	0				

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
DI-N-BUTYL PHTHALATE

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
Di-n-butyl phthalate CAS = 84-74-2 GPS = 900 (ACL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	21.63(ib)	18.89(ib)	23.31(ib)		20.88(ib)	23.76(ib)	29.43(ib)				13.72			ib
	08/14/98	Lab Corp	<12	<12	<12		<12	<12	<12							
	02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	07/13/99	Lab Corp	<12	n/a	<12		<12	n/a	n/a							
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/09/00	Analytics	15(tb)	n/a	<12(tb)		<12(tb)	n/a	n/a				12.1			tb
	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
PS Approved 12-19-01	08/23/01	Analytics	n/a	n/a	<1.41		<1.41	n/a	n/a					1.41	12.0	
ACL Changes	02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/15/02	Analytics	<1.41	n/a	<1.41		<1.41	n/a	n/a					1.41	12.0	
	02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	<2.29	n/a		<2.29	<2.29	n/a	n/a					2.29	12.0	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	<10(ib)	n/a		<1.6	<1.6	<10(ib)	n/a					1.6	10	ib, ss
	01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/28/05	AWS	<2	n/a		<2	<2	<2	n/a					2.0	10	
	02/01/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/25/06	AWS	<2	n/a		<2	<2	<2	n/a					2.0	10	
	ACL	Effective Date	01/23/07	AWS	n/a	n/a	n/a	n/a	n/a	n/a				n/a	n/a	
	1565	1-Oct-07	07/17/07	AWS	<2.0	n/a	<2.0	<2.0	<2.0	n/a				2.0	10	
	1565	27-Jan-09	01/24/08	AWS	n/a	n/a	n/a	n/a	n/a	n/a				n/a	n/a	
	1560	31-Jan-11	7/30/2008	AWS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0				2.0	10	
	1560	1-Feb-12	1/20/2009	AWS	n/a	n/a	n/a	n/a	n/a	n/a				n/a	n/a	
	670	01-Jul-13	7/9/2009	AWS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0				2.0	10.0	
	900	15-Feb-15	10/12/2009	AWS	n/a	n/a	n/a	n/a	n/a	n/a				n/a	n/a	v
			1/6/2010	AWS	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0				2.0	10.0	
			7/8/2010	AWS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0				2.0	10.0	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0.000	0	0.00	0.00	0	0.00	0							

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CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
2,4,5-T

Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC	
2,4,5-T CAS = 93-76-5 GPS = 160 (ACL) BACK = LOQ		09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a									
		12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a									
		03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a									
		07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a									
		10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a								
		02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a								
		08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a								
		02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a								
		07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a								
		02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a								
		PS Approved 12-19-01		08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a						
02/13/01	Analytics			n/a	n/a	n/a		n/a	n/a	n/a								
08/23/01	Analytics			n/a	n/a	n/a		n/a	n/a	n/a						n/a	n/a	
02/19/02	Analytics			n/a	n/a	n/a		n/a	n/a	n/a						n/a	n/a	
08/15/02	Analytics			n/a	n/a	n/a		n/a	n/a	n/a						n/a	n/a	
02/06/03	Analytics			n/a	n/a	n/a		n/a	n/a	n/a						n/a	n/a	
04/08/03	Analytics			n/a	n/a	n/a		n/a	n/a	n/a						n/a	n/a	
05/30/03	STL			n/a	n/a	n/a		n/a	n/a	n/a						n/a	n/a	
08/26/03	Analytics			n/a	n/a		n/a	n/a	n/a	n/a						n/a	n/a	
01/22/04	ProChem			n/a	n/a		n/a	n/a	n/a	n/a						n/a	n/a	
ACL Changes		07/14/04	ProChem	<0.5	n/a		<0.5	<2	<0.5	n/a					0.5	2	cc, ms	
		01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a						n/a	n/a	
		07/28/05	AWS	<0.1	n/a		<0.1	<0.1	<0.1	n/a						0.1	0.4	
		02/01/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a						n/a	n/a	
		07/25/06	AWS	<0.1	n/a		<0.1	<0.1	<0.1	n/a						0.1	0.4	
		01/23/07	AWS	n/a	n/a		n/a	n/a	n/a	n/a						n/a	n/a	
		07/17/07	AWS	<0.11	n/a		<0.11	<0.11	<0.11	n/a						0.11	0.44	
		01/24/08	AWS	n/a	n/a		n/a	n/a	n/a	n/a						n/a	n/a	
		7/30/2008	AWS	<0.111	<0.111		<0.111	<0.111	<0.111	<0.111						0.111	0.444	
		1/20/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a						n/a	n/a	
156.5 156.5 156 156 120 160		01-Jul-13	7/9/2009	AWS	<0.111	<0.111		<0.111	<0.111	<0.111	<0.111				0.111	0.444		
		15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
		1/6/2010	AWS	<0.100	<0.100		<0.100	<0.100	<0.100	<0.100	<0.100					0.100	0.400	
		7/8/2010	AWS	<0.100	<0.100		<0.100	<0.100	<0.100	<0.100	<0.100					0.100	0.400	
		AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0.00	0	0	0	0.00	0	0.00									

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CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
2,4,5-TP/SILVEX

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
2,4,5-TP/Silvex CAS = 93-72-1 GPS = 50 (MCL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
PS Approved 12-19-01	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
	08/23/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/15/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/28/05	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	02/01/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/25/06	AWS	<0.10	n/a		<0.10	<0.10	<0.10	n/a					0.10	0.34	
	01/23/07	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/17/07	AWS	<0.11	n/a		<0.38	<0.11	<0.11	n/a					0.11	0.38	
	01/24/08	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/30/2008	AWS	<0.111	<0.111		<0.378	<0.111	<0.111	<0.111					0.111	0.378	
	1/20/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
ACL Changes	7/9/2009	AWS	<0.111	<0.111		<0.378	<0.111	<0.111	<0.111					0.111	0.378	
	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/6/2010	AWS	<0.100	<0.100		<0.340	<0.100	<0.100	<0.100					0.100	0.340	
	7/8/2010	AWS	<0.100	<0.100		<0.100	<0.100	<0.100	<0.100					0.100	0.340	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0.00	0	0	0	0.00	0	0.00							

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CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
2,4-D

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC
2,4-D CAS = 94-75-7 GPS = 70 (MCL) BACK = LOQ	09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a								
	03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a								
	10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a							
	02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a							
	08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
PS Approved 12-19-01	02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a							
	08/23/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
ACL Changes	02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/15/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
	08/26/03	Analytics	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/14/04	ProChem	<0.2	n/a		<0.2	<5	<0.2	n/a					0.2	5	cc, ms
	01/20/05	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/28/05	AWS	<0.1	n/a		<0.1	<0.1	<0.1	n/a					0.1	0.4	
	02/01/06	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/25/06	AWS	<0.1	n/a		<0.1	<0.1	<0.1	n/a					0.1	0.4	
	01/23/07	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	07/17/07	AWS	<0.11	n/a		<0.11	<0.11	<0.11	n/a					0.11	0.28	
156.5 156.5 156 156 130 170	01/24/08	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/30/2008	AWS	<0.111	<0.111		<0.111	<0.111	<0.111	<0.111					0.111	0.278	
	1/20/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/9/2009	AWS	<0.111	<0.111		<0.111	<0.111	<0.111	<0.111					0.111	0.278	
	10/12/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/6/2010	AWS	<0.100	<0.100		<0.250	<0.100	<0.100	<0.100					0.100	0.250	
	7/8/2010	AWS	<0.100	<0.100		<0.100	<0.100	<0.100	<0.100					0.100	0.250	
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!							
Maximum value:			0.00	0	0	0	0.00	0	0.00							

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
2,4-D

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
2,4-D CAS = 94-75-7 GPS = 70 (MCL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	v
	1/13/2011	AWS	<0.111	<0.111		<0.111	<0.111	<0.111	<0.111					0.111	0.278	
	7/28/2011	AWS	<0.111	<0.111		<0.111	<0.111	<0.111	<0.111					0.111	0.278	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	<0.100	<0.100		<0.100	<0.100	<0.100	<0.100					0.100	0.250	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	<0.100	<0.100		<0.100	<0.100	<0.100	<0.100					0.100	0.250	
	2/7/2013	AWS	<0.100	<0.100		<0.100	<0.100	<0.100	<0.100	<0.100	<0.100			0.100	0.250	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	7/25/2013	AWS	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	n/a	<0.1			0.1	0.5	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	
	2/13/2014	AWS	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	n/a	<0.1	<0.1		0.1	0.5	
	7/9/2014	AWS		<0.1				<0.1	<0.1		<0.1	<0.1		0.1	0.5	
	2/6/2015	AWS	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1		<0.1	<0.1		0.1	0.5	
	7/14/2015	AWS		<0.1				<0.1	<0.1		<0.1	<0.1		0.1	0.5	
	1/20/2016	AWS	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1		<0.1	<0.1		0.1	0.5	
	7/13/2016	AWS		<0.1				<0.1	<0.1		<0.1	<0.1		0.1	0.5	
	1/25/2017	AWS	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1		<0.1	<0.1		0.1	0.5	
	7/25/2017	AWS		<0.1				<0.1	<0.1		<0.1	<0.1		0.1	0.5	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
156.5	1-Oct-07															
156.5	27-Jan-09															
156	31-Jan-11															
156	1-Feb-12															
130	01-Jul-13															
130	01-Mar-14															
170	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	0	0	0	0	0	0	0	0				

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Constituent		Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA/QC		
gamma-BHC (Lindane)		09/19/95	ETSI	n/a	n/a	n/a		n/a	n/a										
		12/13/95	ETSI	n/a	n/a	n/a		n/a	n/a										
		03/07/96	ETSI	n/a	n/a	n/a		n/a	n/a										
		07/26/96	ETSI	n/a	n/a	n/a		n/a	n/a										
CAS = 58-89-9		10/24/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
GPS = 0.20 (MCL)		11/25/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
		12/30/96	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
		02/11/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
		04/14/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
BACK = LOQ		05/29/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
		07/01/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
		07/30/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
		08/13/97	ETSI	n/a	n/a	n/a		n/a	n/a	n/a									
		02/24/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a									
		08/14/98	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a									
		02/10/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a									
		07/13/99	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a									
		02/09/00	Lab Corp	n/a	n/a	n/a		n/a	n/a	n/a									
		08/09/00	Analytics	n/a	n/a	n/a		n/a	n/a	n/a									
		02/13/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a									
		08/23/01	Analytics	n/a	n/a	n/a		n/a	n/a	n/a						n/a	n/a		
		PS Approved 12-19-01		02/19/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
				08/15/02	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
				02/06/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
				04/08/03	Analytics	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
				05/30/03	STL	n/a	n/a	n/a		n/a	n/a	n/a					n/a	n/a	
				08/26/03	Analytics	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
				01/22/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
				07/14/04	ProChem	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
01/20/05	ProChem			n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a			
07/28/05	AWS			n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a			
02/01/06	AWS			n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a			
07/25/06	AWS			n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a			
ACL	Effective Date			01/23/07	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a		
0.0515173	1-Oct-07			07/17/07	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a		
0.06088407	27-Jan-09			01/24/08	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a		
0.06112091	31-Jan-11	7/30/2008	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a				
0.06112091	1-Feb-12	1/20/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a				
0.036	01-Jul-13	7/9/2009	AWS	n/a	n/a		n/a	n/a	n/a	n/a				n/a	n/a				
0.041	15-Feb-15	10/12/2009	AWS	n/a	n/a		n/a												

CLIENT: GOOCHLAND COUNTY
FACILITY: GOOCHLAND COUNTY LANDFILL, PERMIT NO. 179
LOCATION: GOOCHLAND, VIRGINIA

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HISTORICAL SUMMARY OF LABORATORY RESULTS
ORGANIC CONSTITUENTS
gamma - BHC (Lindane)

Constituent	Date	Lab	MW-1	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-13	MW-14	Blank	LOD	LOQ	QA / QC
gamma-BHC (Lindane) CAS = 58-89-9 GPS = 0.20 (MCL) BACK = LOQ	12/29/2010	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/13/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/28/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	8/29/2011	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	1/17/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	3/1/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/11/2012	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	2/7/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	
	3/5/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a					n/a	n/a	
	7/25/2013	AWS	<0.003	<0.003		<0.050	<0.003	<0.003	<0.003	n/a	<0.003			0.003	0.050	
	8/20/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a			n/a	n/a	v
	10/8/2013	AWS	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	
	2/13/2014	AWS	<0.003	<0.003		<0.003	<0.003	<0.003	<0.003	n/a	<0.003	<0.003		0.003	0.050	
	7/9/2014	AWS		<0.003				<0.003	<0.003		<0.003	<0.003		0.003	0.051	
	2/6/2015	AWS	<0.003	<0.003		<0.003	<0.003	<0.003	<0.003		<0.003	<0.003		0.003	0.050	
	7/14/2015	AWS		<0.003				<0.003	<0.003		<0.003	<0.003		0.003	0.051	
	1/20/2016	AWS	<0.003	<0.003		<0.003	<0.003	<0.003	<0.003		<0.003	<0.003		0.003	0.056	
	7/13/2016	AWS		<0.003				<0.003	<0.003		<0.003	<0.003		0.003	0.061	
	1/25/2017	AWS	<0.003	<0.003		<0.003	<0.003	<0.003	<0.003		<0.003	<0.003		0.003	0.052	
	7/25/2017	AWS		<0.003				<0.003	<0.003		<0.003	<0.003		0.003	0.054	
PS Approved 12-19-01																
ACL Changes																
ACL	Effective Date															
0.0515173	1-Oct-07															
0.06088407	27-Jan-09															
0.06112091	31-Jan-11															
0.06112091	1-Feb-12															
0.036	01-Jul-13															
0.036	01-Mar-14															
0.041	15-Feb-15															
AVG value of quantified hits:			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
Maximum value:			0	0	0	0	0	0	0	0	0	0				

APPENDIX D

Static Water Levels and Groundwater Elevations

Goochland County Landfill - Permit #179

Static Water Levels and Groundwater Elevations

Well ID		MW-01 (u)		MW-02 (d)		MW-03 (d)		MW-03R (d)		MW-04 (d)		MW-05 (d)		MW-06 (u)		MW-07 (d)		MW-08 (d)		MW-09 (d)		MW-10 (u)		MW-11 (d)		MW-13 (u)		MW-14 (d)		GW Flow Rate MW-06/MW-04 Gradient
TOC Elevation (ft.)		291.66	291.72	246.74	246.57	233.01		233.45	233.29	230.80	230.98	241.23	241.27	293.27	292.85	224.52	224.75	234.28	234.32	233.98	233.75	290.60	292.65	244.20	244.42	292.45		223.77		
		DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	
Date	12-Nov-91						225.45				217.01		227.95																	
	20-Feb-92						226.43				217.71		229.46																	
	28-May-92						226.28				218.17		230.62																	
	25-Aug-92						225.50				216.80		228.34																	
	19-Sep-95		254.98		239.83		223.26				215.10		227.69																	
	13-Dec-95		251.95		240.81		223.58				217.34		230.18																	
	7-Mar-96		252.78		241.63		223.86				217.61		231.21																	
	26-Jul-96		251.41		239.60		223.16				215.85		228.75																	
	24-Oct-96													254.34																
	25-Nov-96													254.66																
	30-Dec-96													255.59																
	11-Feb-97		254.16		242.29		224.30				218.82		231.43																	
	14-Apr-97													256.28																
	29-May-97													257.12																
	1-Jul-97													256.84																
	30-Jul-97													257.19																
	13-Aug-97		254.26		239.70		222.91				215.93		227.46																	
	24-Feb-98		254.76		242.67		224.26				220.95		231.29																	
	14-Aug-98		254.72		239.13		224.51				215.99		226.99																	
	10-Feb-99		251.91		240.37		226.46				217.48		226.41																	
	13-Jul-99		251.46		238.61		225.77				216.71		225.80																	
	9-Feb-00		251.36		239.27		226.36				220.99		228.37																	
	9-Aug-00		251.88		239.58		226.01				217.20		227.44																	
	13-Feb-01		250.46		240.45		226.19				218.18		226.69																	
	23-Aug-01		250.34		238.82		225.95				217.13		226.01																	
	19-Feb-02		249.33		239.05		225.86				216.96		223.86																	
	15-Aug-02		248.58		237.08		225.43				216.45		223.26																	
	6-Feb-03		248.94		241.22		226.02				219.58		227.77																	
	26-Aug-03		251.96		240.02			226.39			218.10		228.58																	
	22-Jan-04		252.85		241.93			226.83			219.61		230.27			219.93		225.57		228.43										
	14-Jul-04		253.06		240.72			227.60			217.94		228.19			219.09		225.80		227.00										
	20-Jan-05		253.17		242.25			226.75			219.44		229.37			220.07		225.34		228.52										
	3-May-05		253.17																			254.05								
	28-Jul-05		253.51		239.63			226.32			217.55		227.13							226.22				253.97		226.05				
	1-Feb-06		252.17		242.32			226.51			220.08		227.93			220.42		225.72		228.39				252.45		228.11				
	25-Jul-06		251.51		239.36			226.53			217.43		226.13			218.92		224.79					251.88		219.05					
	17-Jul-07	40.41	251.25	7.22	239.52			7.21	226.24	13.19	217.61	14.19	227.04	39.09	254.18															
	24-Jan-08	41.98	249.74	5.98	240.59			7.25	226.04	12.36	218.62	16.05	225.22	42.25	250.60															
	30-Jul-08	41.95	249.77	8.14	238.43			7.42	225.87	13.43	217.55	15.02	226.25	41.23	251.62															
	30-Oct-08	42.95	248.77	7.86	238.71			7.82	225.47	13.57	217.41	16.70	224.57	42.82	250.03	5.78	218.97	9.86	224.46	9.27	224.48	43.46	249.19	22.59	221.83					
	20-Jan-09	42.71	249.01	5.56	241.01			7.38	225.91	12.00	218.98	14.65	226.62	43.21	249.64															
	9-Jul-09	41.96	249.76	7.50	239.07			7.54	225.75	13.40	217.58	14.79	226.48	42.46	250.39															
	29-Sep-09	42.66	249.06	8.16	238.41			7.70	225.59	13.63	217.35	16.67	224.60	43.41	249.44	5.40	219.35	9.75	224.57	9.63	224.12	43.39	249.26	22.51	221.91					
#	12-Oct-09			8.40	238.17			7.75	225.54	13.78	217.20																			
	7-Jan-10	41.86	249.86	4.60	241.97			7.25	226.04	10.27	220.71	11.99	229.28	41.90	250.95															
	8-Jul-10	39.70	252.02	7.45	239.12			7.30	225.99	13.40	217.58	14.20	227.07	37.78	255.07															
	29-Dec-10							12.30	218.68																					
	13-Jan-11	41.33	250.39	6.34	240.23			7.52	225.77	12.48	218.50	15.18	226.09	41.35	251.50			8.68	225.64			41.94	250.71	23.55	220.87					
	28-Jul-11	41.01	250.71	7.97	238.60			7.52	225.77	13.54	217.44	15.53	225.74	41.25	251.60	6.14	218.61	dry		8.87	224.88	41.69	250.96	20.50	223.92					
	29-Aug-11							7.57	225.72																					
	17-Jan-12	41.27	250.45	4.72	241.85			6.85	226.44	10.59	220.39	12.83	228.44	41.89	250.96	4.09	220.66	dry		5.88	227.87	42.07	250.58	15.03	229.39					
	1-Mar-12							6.56	226.73	9.66	221.32			41.23	251.62	3.53	221.22													
	11-Jul-12	40.38	251.34	7.18	239.39			7.28	226.01	13.27	217.71	14.38																		