State of New York
County of Broome Government Offices

Department of Public Works-Division of Solid Waste Management
Jason T. Garnar, County Executive · Leslie G. Boulton, P.E., Acting Commissioner

January 31, 2017

Payson Long, P.E.
NYS Dept. of Environmental Conservation
Division of Environmental Remediation, 11th Floor
625 Broadway
Albany, NY 12233

Re: Colesville Landfill, Site No. 704010
Periodic Review Report 2016

Dear Payson,

Enclosed is the 2016 Periodic Review Report for the Colesville Landfill. I believe it is complete, but please let me know if you have any suggested revisions.

I hope to have Arcadis submit an annual monitoring report next month. The last sampling event for seeps, sediment and surface water was in December and they are in the process of validating and evaluating the data. The 5th quarter well monitoring event is scheduled for the 1st quarter of 2017.

As always, thanks for your help.

Sincerely,

Laurie Haskell

Laurie Haskell, Solid Waste Management Specialist

CC: Leslie G. Boulton, P.E., Acting Commissioner of Public Works

Enclosure

COLESVILLE LANDFILL
SITE NO. 704010
PREIODIC REVIEW REPORT
BROOME COUNTY
DIVISION OF SOLID WASTE MANAGEMENT
JANUARY 2017

I. Executive Summary

A. History

The Colesville Landfill (hereinafter referred to as the "Site") is listed as Site No. 704010 and was remediated in accordance with State Assistance Contract (SAC) # C093001, and Order on Consent Index #T010687, which was executed on April 13, 1987. The Site is about 35-acres. The primary pollutants are VOC's and are confined to the upper aquifer. Concentrations in the mid-plume area (within the landfill parcel) currently average about 120 ppb and decline significantly as the plume extends to adjacent parcels. The landfill parcel has an environmental easement that prohibits the development or use of the property in any way that could interfere with the remedy and it prohibits the installation of drinking water wells. Also with this institutional control, are other adjacent parcels with Tax ID#s 118.02-1-5, 118.04-2-24 and 118.04-2-25.

Remedial activities to-date include placing a geomembrane cover system on the landfill (1995), installing subsurface passive treatment systems for springs SP-5 (2003) and SP-4 (2004), and installation and startup in September 2002 of an in-situ reactive zone (IRZ) consisting of 17 molasses injection wells with an automated system and 3 downgradient groundwater extraction

wells with air stripper. In October 2012, the injection and pumping well systems were shut down as part of the IRZ Discontinuation Pilot Test.

The Site is currently in a plume monitoring phase to determine if natural attenuation characteristics are indicative of natural degradation processes for contaminates. Passive treatment systems currently operating are the carbon filtration of the seep at SP-5 and the subsurface stone trenches upgradient of SP-4.

A Remedial System Optimization Report is being prepared by Arcadis Engineers for submittal to the NYSDEC in early 2017.

B. Effectiveness

Ten years of active site remediation significantly reduced the level of contamination. The 5-year review report issued by the EPA in May of 2015 found that "the remedy protects human health and the environment in the short term because unacceptable exposure to contaminated media has been interrupted by the implementation of the remedial actions and institutional controls are in place."

The Site is currently being evaluated to determine if natural attenuation parameters indicate that natural attenuation is occurring. The last 5th quarter sampling event occurred in December 2015. A report was prepared and submitted by Arcadis in May of 2016. Conclusions from that report include:

- The concentration of VOCs generally decreased or remained stable during the reporting period when compared with historical data.

- Enhanced and/or natural attenuation mechanisms (e.g., reductive dechlorination completed through a biologically mediated pathway) continue to degrade chlorinated VOCs within the former IRZ area despite the discontinuation of carbon injections, as evidenced by stable VOC concentrations. The data indicate that shutdown of the groundwater extraction and treatment and automated injection systems have not resulted in an adverse impact to groundwater quality.

- The concentration of methane in mid-plume monitoring wells GMMW-2 and GMMW-5 decreased in the December 2015 event, but remained elevated when compared to baseline conditions. In addition, the presence of elevated concentrations of reduced forms of other species of alternate electron acceptors (e.g., dissolved iron, nitrite), in mid-plume monitoring well GMMW-5, for example, indicate that the groundwater geochemistry remained moderate to strongly anaerobic within the area of the anaerobic IRZ.

- The presence of persistent methane concentrations in the vicinity of East Windsor Road (i.e., GMPW-4, PW-3 and PW-4) provides an additional line of evidence that strongly reducing conditions are present to support reductive dechlorination.

- The concentration of TOC within most samples collected in December 2015 increased when compared to the samples collected since 2013. TOC concentrations ranged from 3.1 mg/L (PW-7) to 10.2 mg/L (GMMW-2) during the December 2015 sampling event. The concentration of TOC is below recommended levels to support active remediation via enhanced reductive dechlorination (20 mg/L), but is still at levels conductive to support natural attenuation processes.

- Overall, the data indicate that the plume extent is stable as a result of degradation processes primarily occurring in the strongly anaerobic portion of the site (i.e., approximate area of the former anaerobic IRZ).

- There have not been any discernible changes in the relative appearance of spring areas thus far since the discontinuation pilot test.

- VOC and metals concentrations in surface water continue to be low or non-detect and consistent with historical data, despite the presence of VOCs and metals in the spring water.

- Concentrations of many metals increased in sediment samples collected from location SP-3-SED during the reporting period; with detected concentrations of arsenic, barium, cadmium, calcium, iron, and lead higher than the background sediment sample (SP-1-SED [upstream of the SP-3]) and arsenic, cadmium, iron, and lead also exceeding the NYSDEC Freshwater Sediment Screening Value. The results indicate that the sediment is categorized as Class B (slightly to moderately contaminated and additional testing is required to evaluate the potential risks to aquatic life) for lead and as Class C (sediments are considered to be highly contaminated and likely to pose a risk to aquatic life) for arsenic and cadmium. However, a positive bias in these data is suspected due to the very high percent moisture content (approximately 82%).

C. Compliance

There are no areas of non-compliance. The SMP is being fully implemented.

D. Recommendations

Recommended changes to the SMP include:

- Incorporation of the recommendations of IRZ report to the SMP text
- Update of the O&M section to include landfill cap maintenance
- Revision of the inspection checklist (Appendix N) to include the treatment building
- Revise the monitoring schedule to include semiannual monitoring of surface water and SP-5; and include MNA parameters

These revisions will be made in February 2017.

Site management is to be ongoing.

II. Site Overview

Attached is a Site Plan figure. The Site location, boundaries, etc. are well documented in the SMP. The plume has not changed significantly in size or location since remediation; however the concentrations at most monitoring well locations have declined significantly after the active remediation process.

The main features of the Site's current remediation include:

- A geomembrane capping system
- Fenced perimeter
- Institutional controls to restrict site development and the use of groundwater
- Passive treatment systems on SP-4 and SP-5 springs

Active remediation systems previously implemented and available for startup if necessary include:

- A Pump and Treat system for 3-downgradient wells, and
- An Automated Reagent Injection system that includes seventeen carbon source (molasses or mol-whey solution) injection wells.

To achieve Site closure the groundwater must be restored to drinking water standards. Based on years of remediation at this and multiple other documented Superfund sites, it could take decades to reach this goal. Very often once a site has reached a plateau of contamination in the 50 -100 parts per billion range, active remediation becomes less effective. Natural attenuation of contaminates appears to be occurring at the Site and such processes are expected to continue to degrade the plume and restore clean water in a similar time frame as, and at less cost than, active remediation.

III. Evaluate Remedy Performance, Effectiveness and Protectiveness

Remedy performance has been well documented in the In-Situ Reactive Zone Discontinuation Pilot Test Report by Arcadis, September 2015. This document summarizes monitoring results since 2012 and concludes that:

- The concentrations of VOCs decreased or remained stable when compared with historical data
- Enhanced and/or natural attenuation mechanisms continue to degrade chlorinated VOCs within the discontinuation pilot test area despite the discontinuation of carbon injections as evidenced by stable VOC concentrations and elevated ethene and/or ethane.
- The concentration of methane decreased but remained elevated when compared to baseline conditions within discontinuation pilot test evaluation monitoring wells. In addition, the presence of elevated concentrations of reduced forms of other species of alternate electron acceptors indicates that the groundwater geochemistry remained moderate to strongly anaerobic downgradient of injection wells. The results corroborate that enhanced attenuation continues to occur since discontinuation of injections.
- The concentration of TOC generally decreased to below recommended levels to support ERD but to the approximate levels observed during baseline conditions. Some locations

remained slightly elevated, which likely represents the endogenous decay of the microbial population.

- There have not been any discernable changes in the appearance of the springs.
- VOCs and metals concentrations in surface water remain low to non-detect and consistent with historical data, despite the presence of VOCs and metals in the spring water at concentrations above NYSDEC WQS.
- The sediment results for SP-3-SED indicate that impacts are mostly limited to the surface and that limited excavation of the surficial sediment is a viable interim measure.

Recommendations from the report include conducting natural attenuation plume monitoring for residual VOCs via groundwater/surface water/spring water monitoring according to the SMP, along with sampling of additional natural attenuation parameters in the downgradient monitoring wells. Also continue to inspect springs and monitor and remove surficial spring sediment.
The Site is in compliance with the Site Management Plan (SMP).

IV. IC/EC Plan Compliance

The landfill cap and perimeter fence was inspected on November 10, 2016 by Laurie Haskell, Broome County Solid Waste Mgmt. Specialist. The cap system was found to be well maintained and functioning as intended. A check list form and pictures are attached.

The landfill and adjacent properties with environmental easements were observed for any prohibited activity such as residential or groundwater use. There was no such activity.

Overall, the institutional and engineering controls are working as intended and in compliance with the SMP.

V. Monitoring Plan Compliance

Below is Table 2 from the SMP that lists the monitoring requirements for the site. All monitoring was done in compliance with the SMP, as well as additional monitoring of PW-7 and SP-3 sediments. NYSDEC has requested that the surface water be sampled semi-annually at the same time as the seeps, so this Table is being changed to reflect that and will be updated to include natural attenuation parameters for some wells.

Monitoring/Inspection Schedule

Sample ID	VOCs	Metals	Water Level	pH, temperature, conductivity	Frequency
GMMW-2	L		X	F	5th quarter
GMMW-5	L		X	F	5th quarter
GMMW-6	L		X	F	5th quarter
GMMW-7	L		X	F	5th quarter

PW-4	L		X	F	5th quarter
PW-3	L		X	F	5th quarter
PW-5	L		X	F	5th quarter
W-7	L		X	F	5th quarter
W-16S	L		X	F	5th quarter
W-18	L		X	F	5th quarter
PW-7	L		X	F	5th quarter
W-17S	L		X	F	5th quarter
W-20S	L		X	F	5th quarter
GMPW-5	L		X	F	5th quarter
Spring/Surface Water Monitoring					
SP-2	L	L		F	semiannual
SP-3	L	L		F	semiannual
SP-4	L	L		F	semiannual
SP-5 influent	L	L		F	semiannual
SP-5 effluent	L	L		F	semiannual
All springs visual monitoring					semiannual
F-6	L	L		F	5th quarter*
SW-2	L	L		F	5th quarter*
SW-3	L	L		F	5th quarter*
SW-4	L	L		F	5th quarter*
Sediment Sampling					
SP-3-Sed		L			semiannual
Cover System Monitoring					annual

L = Laboratory analysis
F = Field analysis
* sampled in the 4th quarter and being revised to semiannual

The full monitoring report for the last groundwater sampling event of December 2015 was prepared and submitted by Arcadis on May 13, 2016. The 5th quarter monitoring event will be conducted in March of 2017 and reported in the next PRR.

Testing completed in 2016 included:

March 9, 2016:	SP-3 sediments at the seep daylight point and mid-channel point
	PW-7 VOCs upper screen and lower screen well sections
June 3, 2016	PW-7 VOCs upper screen and lower screen well sections
	Seeps and SP-3 sediment

December 13, 2016 Seeps, surface water, and SP-3 sediments at daylight pt. and towards the end of the channel

The raw data from these sampling events are attached to this report. A full evaluation of the results will be prepared and submitted by Arcadis next month.

Well PW-7 was flagged for elevated VOCs during the EPA 5-year review and further testing of that well has been conducted through the June 2016 event. The results of these special sampling events have shown that the well's VOC levels have remained consistently below 60 ppb and will be returned to the 5th quarter sampling schedule.

Preliminary results from the December 2015 monitoring event show that VOCs remain undetectable in GMPW-5, a well previously used in the pump and treat network and downgradient of the IRZ. Perhaps, during future events, GMPW-3 could be alternated with this well to provide additional coverage in the monitoring plan.

The monitoring program is well-designed to provide the data necessary for overall site evaluation. Additional monitoring is conducted on an as-needed basis, as requested by the DEC or EPA. The current monitoring results and evaluations demonstrate the overall effectiveness of the Site remediation processes.

VI. O&M Plan Compliance

The Operation and Maintenance portion of the SMP, contained in Section 4, primarily covers O&M aspect for the Automated Reagent Injection System and the Groundwater Pump and Treat System should either of those be placed in operation. Since these are currently not operating they will not be addressed in this PRR. Other maintenance items included in Section 4 are:

- Operational performance monitoring of the SP-5 spring remedy is conducted on a semiannual basis and includes routine visual inspection, recording system field parameters, and maintenance on system equipment (as necessary, such as clearing deposited material from the discharge pipe, carbon media change-out).
- During semi-annual maintenance events the springs along the North Stream, in particular SP-3 and SP-4, will be checked for iron oxide staining on the ground and in the shore line sediments. If present, the top layer of soil/sediment will be collected and taken to the Broome County Landfill for disposal.

Maintenance performed this year:

- The landfill cap was mowed two times; in the late spring and early fall.
- A tree was removed from the perimeter fence on the north side of the landfill and the fence was straightened in November 2016. A bend in the fence from a fallen tree had been noted during the annual inspection.
- The surface sediment was removed in the areas of SP-3 and SP-4 in March, June and November 2016. During the November 10th event sediment at SP-3 was removed to rock

and a bucket of upstream sand was collected and placed there to facilitate future scrapings.

- SP-3 has formed a channel along the streambank that was sampled at its midpoint in March and towards the end of the channel in December. Extra sampling along the channel was done to evaluate the extent of necessary sediment removal. During the next spring event, samples will be taken prior to and then immediately following the cleanup to evaluate the effectiveness of the scraping.
- Deposited material was cleaned out of the SP-5 drainage pipe during monitoring.

Maintenance required for next year:

- Mow landfill cap
- Snake and clean SP-5 drainage pipe and remove deposited material at the outfall
- Remove surface sediment by SP-3

O&M activities were successfully completed on the Site and in compliance with the SMP.

VII. Overall PRR Conclusions and Recommendations

A. Compliance with SMP
   a. IC/EC – institutional and engineering controls are in place and functioning as intended and in full compliance with the SMP
   b. Monitoring – is being performed as specified in the SMP, meeting the requirements of the Plan. The SMP will be revised to include additional monitoring requirements.
   c. O&M – operational and maintenance activities were performed in compliance with the SMP.
   d. Recordkeeping – is in compliance with the SMP

B. Performance and Effectiveness of the Remedy

The landfill cap is preventing infiltration of water into the waste, thereby limiting the dissipation of contaminates to the ground water. The fence is intact and the property is secured. Some seeps continue to contain low levels of VOCs, SP-4 reported 23.6-36 ppb, and SP-3 was reported at 33-97 ppb. Iron and manganese remains at high levels in these two springs and will be closely examined in future monitoring. This could be indicative of continued reducing conditions in the plume. The surface water locations were sampled one time in 2016 but going forward they will be tested twice per year. The December 2016 sampling event showed that the presence of VOCs in the stream water is essentially nondetectable and well below reportable limits.

Natural degradation of contaminates in groundwater via the natural attenuation process is believed to be occurring and is still being evaluated. There have been no observed negative impacts from the discontinuation of the active treatment systems.

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **704010**

Site Name **Colesville Landfill**
1538 East Windsor Road
Site Address: ~~East River Road~~ Zip Code: 13787
City/Town: Colesville
County: Broome
Site Acreage: 30.0

Reporting Period: January 01, ~~2015~~ 2016 to December 31, ~~2015~~ 2016

	YES	NO
1. Is the information above correct?	☐	☒
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

SITE NO. 704010

Description of Institutional Controls

Parcel	Owner	Institutional Control
01000048S100X0000000	BROOME COUNTY DPW	Ground Water Use Restriction Landuse Restriction Site Management Plan

ICs for the site include a groundwater use and land use restriction and adherence to a site management plan

Description of Engineering Controls

Parcel	Engineering Control
01000048S100X0000000	Cover System Fencing/Access Control

ECs for the site include Cap/Cover system and Fence/ access control and passive treatment on SP-5 and SP-4

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. 704010

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Leslie G. Boulton (print name) at 60 Hawley Street, 5th Floor (print business address),

am certifying as Owner, Broome County (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Leslie G. Boulton
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

01-31-17
Date

IC/EC CERTIFICATIONS

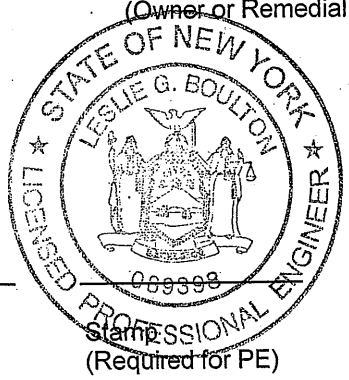
Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Leslie G. Boulton. at 60 Hawley St, 5th Floor
print name print business address

am certifying as a Professional Engineer for the Owner, Broome County
(Owner or Remedial Party)



Leslie G. Boulton 01-31-17.

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

Date

Colesville Inspection Checklist

Date: 11/10/2016 **Time:** 9:30

Inspected by: Laurie Haskell

Engineering Controls

No.	Landfill Property and Cap:	Yes	No
1	Is the access road stable and free of erosion?	x	
2	Are the culverts and drainage ditches free from sediment and debris?	x	
3	Any visible debris, litter, and/or waste on the site?		x
4	Are the gates and fences in good condition, operational and with locks?	x	
5	Is the vegetation providing adequate protection from erosion?	x	
6	Are there any woody plants growing on the cap?		x
7	Was the cap vegetation mowed this year?	x	
8	Is there any settlement, ponding, or animal burrows?		x
9	Are the gas venting pipes in good condition?	x	
10	Is the SP-5 remedy functioning as intended?	x	
11	Is the SP-4 remedy intact (no stream bed erosion)?	x	
12	Was the SP-3 iron-stained area cleaned this year?	x	
13	Is the rip rap armored bank above Sp-3 stable and free of erosion?	x	
14	Is the treatment building secure and in good condition?	x	
15	Locks on wells?	x	

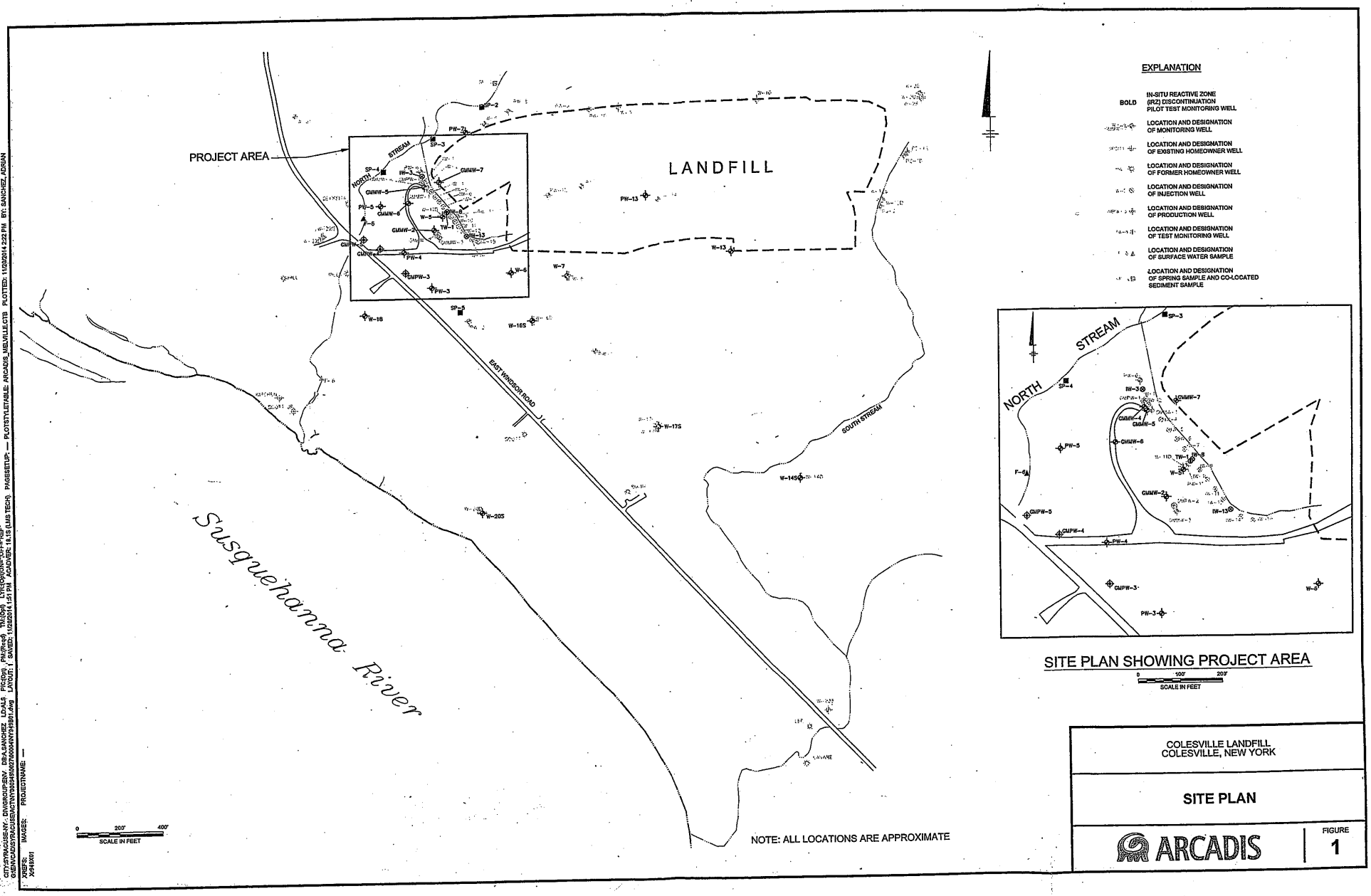
Institutional Controls

Yes	No
	x

Are there any new or inhabited buildings on any easement properties? (includes County and Tom Scott properties)

If problems are noted, describe them below and attach a picture and location sketch

There is a tree down on the north fence that caused some slight bending of the fence. It will be removed and fixed.



FROM: INSITU REACTIVE ZONE DISCONTINUATION/ PILOT TEST REPORT 2015

Colesville Annual Inspection 2016

Pictures

Front gate

Settlement ditch outflow

Looking northeast

Looking west

Tree on north fence

Settlement ditch looking east

SP-4

Armored Slope

SP-3 Channel

SP-5 Outfall

SP-3

12/13/16

SAMPLE DETECTION SUMMARY

CLIENT ID: SP-3 SED	Lab ID: R1613069-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Total Solids	72.4				Percent	ALS SOP
Aluminum, Total	10500		11	13	mg/Kg	6010C
Arsenic, Total	11.2		0.4	1.3	mg/Kg	6010C
Barium, Total	46.1		0.2	2.7	mg/Kg	6010C
Beryllium, Total	0.42		0.03	0.40	mg/Kg	6010C
Calcium, Total	630		20	130	mg/Kg	6010C
Chromium, Total	14.6		0.2	1.3	mg/Kg	6010C
Cobalt, Total	11.5		0.07	6.6	mg/Kg	6010C
Copper, Total	20.5		0.2	2.7	mg/Kg	6010C
Iron, Total	28100		20	130	mg/Kg	6010C
Lead, Total	17.3		0.37	0.66	mg/Kg	6010C
Magnesium, Total	3910		2	130	mg/Kg	6010C
Manganese, Total	630		0.10	1.3	mg/Kg	6010C
Nickel, Total	20.8		0.2	5.3	mg/Kg	6010C
Potassium, Total	1050		7	270	mg/Kg	6010C
Selenium, Total	1.8		0.8	1.3	mg/Kg	6010C
Vanadium, Total	15.6		0.2	6.6	mg/Kg	6010C
Zinc, Total	60.6		0.2	2.7	mg/Kg	6010C

CLIENT ID: SP-3 DOWN SED	Lab ID: R1613069-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Total Solids	16.7				Percent	ALS SOP
Aluminum, Total	3260		47	59	mg/Kg	6010C
Arsenic, Total	169		1.4	5.9	mg/Kg	6010C
Barium, Total	339		0.7	12	mg/Kg	6010C
Calcium, Total	3740		80	590	mg/Kg	6010C
Iron, Total	132000		50	590	mg/Kg	6010C
Lead, Total	11.1		1.7	2.9	mg/Kg	6010C
Magnesium, Total	1290		9	590	mg/Kg	6010C
Manganese, Total	49800		5	59	mg/Kg	6010C
Selenium, Total	24.8		3.5	5.9	mg/Kg	6010C
Zinc, Total	41		0.8	12	mg/Kg	6010C

12/13/16

SAMPLE DETECTION SUMMARY

CLIENT ID: F-6	Lab ID: R1613070-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	165				uMHOS/c	120.1
pH, Field	7.20				pH Units	SM 4500-H+
Temperature, Field	2.8				deg C	SM 2550 B
Calcium, Total	14000		200	1000	ug/L	6010C
Magnesium, Total	3200		10	1000	ug/L	6010C
Manganese, Total	42		1.0	10	ug/L	6010C
Sodium, Total	6400		90	1000	ug/L	6010C
1,1-Dichloroethane (1,1-DCA)	0.28	J	0.20	5.0	ug/L	8260C

CLIENT ID: SP-4	Lab ID: R1613070-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	433				uMHOS/c	120.1
pH, Field	6.58				pH Units	SM 4500-H+
Temperature, Field	4.6				deg C	SM 2550 B
Arsenic, Total	74		5	10	ug/L	6010C
Barium, Total	87		2	20	ug/L	6010C
Calcium, Total	54000		700	5000	ug/L	6010C
Iron, Total	24400		9	100	ug/L	6010C
Magnesium, Total	11200		10	1000	ug/L	6010C
Manganese, Total	4630		1.0	10	ug/L	6010C
Sodium, Total	6200		90	1000	ug/L	6010C
1,1-Dichloroethane (1,1-DCA)	8.6		0.20	5.0	ug/L	8260C
1,2-Dichloroethane	0.58	J	0.36	5.0	ug/L	8260C
Benzene	0.40	J	0.20	5.0	ug/L	8260C
Chlorobenzene	4.6	J	0.29	5.0	ug/L	8260C
Chloroethane	15		0.24	5.0	ug/L	8260C
Trichloroethene (TCE)	0.33	J	0.22	5.0	ug/L	8260C
Vinyl Chloride	0.38	J	0.32	5.0	ug/L	8260C
cis-1,2-Dichloroethene	0.72	J	0.30	5.0	ug/L	8260C

CLIENT ID: SW-4	Lab ID: R1613070-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	136				uMHOS/c	120.1
pH, Field	7.19				pH Units	SM 4500-H+
Temperature, Field	3.1				deg C	SM 2550 B
Calcium, Total	11800		200	1000	ug/L	6010C
Magnesium, Total	2900		10	1000	ug/L	6010C
Manganese, Total	42		1.0	10	ug/L	6010C
Sodium, Total	6100		90	1000	ug/L	6010C
1,1-Dichloroethane (1,1-DCA)	0.44	J	0.20	5.0	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: SP-3	Lab ID: R1613070-004					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	298				uMHOS/c	120.1
pH, Field	6.49				pH Units	SM 4500-H+
Temperature, Field	6.6				deg C	SM 2550 B
Arsenic, Total	24		5	10	ug/L	6010C
Barium, Total	38		2	20	ug/L	6010C
Calcium, Total	28200		200	1000	ug/L	6010C
Iron, Total	19300		9	100	ug/L	6010C
Magnesium, Total	6000		10	1000	ug/L	6010C
Manganese, Total	3770		1.0	10	ug/L	6010C
Sodium, Total	3800		90	1000	ug/L	6010C
1,1-Dichloroethane (1,1-DCA)	43		0.20	5.0	ug/L	8260C
1,2-Dichlorobenzene	0.33	J	0.21	5.0	ug/L	8260C
1,2-Dichloroethane	0.37	J	0.36	5.0	ug/L	8260C
Benzene	0.64	J	0.20	5.0	ug/L	8260C
Bromomethane	0.42	BJ	0.29	5.0	ug/L	8260C
Chlorobenzene	22		0.29	5.0	ug/L	8260C
Chloroethane	12		0.24	5.0	ug/L	8260C
Trichloroethene (TCE)	4.0	J	0.22	5.0	ug/L	8260C
Vinyl Chloride	5.6		0.32	5.0	ug/L	8260C
cis-1,2-Dichloroethene	14		0.30	5.0	ug/L	8260C

CLIENT ID: SW-3	Lab ID: R1613070-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	128				uMHOS/c	120.1
pH, Field	7.25				pH Units	SM 4500-H+
Temperature, Field	2.9				deg C	SM 2550 B
Calcium, Total	10700		200	1000	ug/L	6010C
Magnesium, Total	2700		10	1000	ug/L	6010C
Manganese, Total	13		1.0	10	ug/L	6010C
Sodium, Total	6100		90	1000	ug/L	6010C
1,1-Dichloroethane (1,1-DCA)	0.43	J	0.20	5.0	ug/L	8260C

CLIENT ID: SP-2	Lab ID: R1613070-006					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	130				uMHOS/c	120.1
pH, Field	6.74				pH Units	SM 4500-H+
Temperature, Field	2.9				deg C	SM 2550 B
Calcium, Total	10900		200	1000	ug/L	6010C
Iron, Total	2840		9	100	ug/L	6010C
Magnesium, Total	2800		10	1000	ug/L	6010C
Manganese, Total	5070		1.0	10	ug/L	6010C
Sodium, Total	4500		90	1000	ug/L	6010C

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SAMPLE DETECTION SUMMARY

CLIENT ID: SP-2	Lab ID: R1613070-006					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.6	J	1.3	10	ug/L	8260C
Trichloroethene (TCE)	0.52	J	0.22	5.0	ug/L	8260C

CLIENT ID: SW-2	Lab ID: R1613070-007					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	87				uMHOS/c	120.1
pH, Field	7.18				pH Units	SM 4500-H+
Temperature, Field	2.1				deg C	SM 2550 B
Calcium, Total	5600		200	1000	ug/L	6010C
Magnesium, Total	1900		10	1000	ug/L	6010C
Sodium, Total	5600		90	1000	ug/L	6010C
Bromomethane	0.33	BJ	0.29	5.0	ug/L	8260C

CLIENT ID: SP-5 Influent	Lab ID: R1613070-008					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	447				uMHOS/c	120.1
pH, Field	6.26				pH Units	SM 4500-H+
Temperature, Field	7.2				deg C	SM 2550 B
Arsenic, Total	128		5	10	ug/L	6010C
Barium, Total	121		2	20	ug/L	6010C
Calcium, Total	37300		200	1000	ug/L	6010C
Iron, Total	22000		9	100	ug/L	6010C
Lead, Total	19.0		4.2	5.0	ug/L	6010C
Magnesium, Total	8700		10	1000	ug/L	6010C
Manganese, Total	5360		1.0	10	ug/L	6010C
Potassium, Total	2400		50	2000	ug/L	6010C
Sodium, Total	6300		90	1000	ug/L	6010C
Zinc, Total	5080		40	100	ug/L	6010C
1,1-Dichloroethane (1,1-DCA)	6.4		0.20	5.0	ug/L	8260C
1,2-Dichloroethane	0.38	J	0.36	5.0	ug/L	8260C
Acetone	1.3	J	1.3	10	ug/L	8260C
Benzene	0.78	J	0.20	5.0	ug/L	8260C
Carbon Disulfide	0.29	J	0.22	10	ug/L	8260C
Chlorobenzene	8.3		0.29	5.0	ug/L	8260C
Chloroethane	1.1	J	0.24	5.0	ug/L	8260C
Trichloroethene (TCE)	1.6	J	0.22	5.0	ug/L	8260C
cis-1,2-Dichloroethene	1.0	J	0.30	5.0	ug/L	8260C

CLIENT ID: SP-5 Effluent	Lab ID: R1613070-009					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	433				uMHOS/c	120.1
pH, Field	6.55				pH Units	SM 4500-H+
Temperature, Field	6.7				deg C	SM 2550 B

SAMPLE DETECTION SUMMARY

CLIENT ID: SP-5 Effluent	Lab ID: R1613070-009					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Arsenic, Total	79		5	10	ug/L	6010C
Barium, Total	142		2	20	ug/L	6010C
Calcium, Total	41600		200	1000	ug/L	6010C
Iron, Total	24100		9	100	ug/L	6010C
Magnesium, Total	9900		10	1000	ug/L	6010C
Manganese, Total	6090		1.0	10	ug/L	6010C
Potassium, Total	2600		50	2000	ug/L	6010C
Sodium, Total	7100		90	1000	ug/L	6010C
1,1-Dichloroethane (1,1-DCA)	0.60	J	0.20	5.0	ug/L	8260C
Chloroethane	0.86	J	0.24	5.0	ug/L	8260C

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METALS

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

SP-3 SED

Contract: R1613069

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: SP-3 SED

Matrix (soil/water): SOIL Lab Sample ID: R1613069-001

Level (low/med): LOW Date Received: 12/13/2016

% Solids: 72.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10500			P
7440-36-0	Antimony	8.0	U		P
7440-38-2	Arsenic	11.2			P
7440-39-3	Barium	46.1			P
7440-41-7	Beryllium	0.425			P
7440-43-9	Cadmium	0.664	U		P
7439-97-6	Mercury	0.045	U		CV
7440-70-2	Calcium	628			P
7440-47-3	Chromium	14.6			P
7440-48-4	Cobalt	11.5			P
7782-49-2	Selenium	1.8			P
7440-50-8	Copper	20.5			P
7439-89-6	Iron	28100			P
7439-92-1	Lead	17.3			P
7439-95-4	Magnesium	3910			P
7439-96-5	Manganese	630			P
7440-02-0	Nickel	20.8			P
7440-09-7	Potassium	1050			P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	133	U		P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	15.6			P
7440-66-6	Zinc	60.6			P

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments: _____

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METALS

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

SP-3 DOWN SED (towards outlet of channel)

Contract: R1613069

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: SP-3 SED

Matrix (soil/water): SOIL Lab Sample ID: R1613069-002

Level (low/med): LOW Date Received: 12/13/2016

% Solids: 16.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3260			P
7440-36-0	Antimony	35.2	U		P
7440-38-2	Arsenic	169			P
7440-39-3	Barium	339			P
7440-41-7	Beryllium	1.8	U		P
7440-43-9	Cadmium	2.9	U		P
7439-97-6	Mercury	0.187	U		CV
7440-70-2	Calcium	3740			P
7440-47-3	Chromium	5.9	U		P
7440-48-4	Cobalt	29.4	U		P
7782-49-2	Selenium	24.8			P
7440-50-8	Copper	11.7	U		P
7439-89-6	Iron	132000			P
7439-92-1	Lead	29.4	U		P
7439-95-4	Magnesium	1290			P
7439-96-5	Manganese	49800			P
7440-02-0	Nickel	23.5	U		P
7440-09-7	Potassium	1170	U		P
7440-22-4	Silver	5.9	U		P
7440-23-5	Sodium	587	U		P
7440-28-0	Thallium	5.9	U		P
7440-62-2	Vanadium	29.4	U		P
7440-66-6	Zinc	41.2			P

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments: _____

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SAMPLE DETECTION SUMMARY

CLIENT ID: SP-3-SED	Lab ID: R1605863-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Total Solids	56.7				Percent	ALS SOP
Aluminum, Total	11700		14	17	mg/Kg	6010C
Arsenic, Total	52.2		0.4	1.7	mg/Kg	6010C
Barium, Total	53.2		0.2	3.4	mg/Kg	6010C
Calcium, Total	550		30	170	mg/Kg	6010C
Chromium, Total	15.7		0.3	1.7	mg/Kg	6010C
Cobalt, Total	11.7		0.09	8.4	mg/Kg	6010C
Copper, Total	21.8		0.3	3.4	mg/Kg	6010C
Iron, Total	55400		80	840	mg/Kg	6010C
Lead, Total	56.2		0.47	0.84	mg/Kg	6010C
Magnesium, Total	3800		3	170	mg/Kg	6010C
Manganese, Total	721		0.2	1.7	mg/Kg	6010C
Nickel, Total	25.4		0.3	6.7	mg/Kg	6010C
Potassium, Total	840		8	340	mg/Kg	6010C
Vanadium, Total	15.0		0.3	8.4	mg/Kg	6010C
Zinc, Total	70.7		0.3	3.4	mg/Kg	6010C

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SAMPLE DETECTION SUMMARY

CLIENT ID: SP-4	Lab ID: R1605862-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
pH, Field	6.86				pH Units	SM 4500-H+
Temperature, Field	15.4				deg C	SM 2550 B
Aluminum, Total	1250		10	100	ug/L	6010C
Arsenic, Total	129		5	10	ug/L	6010C
Barium, Total	132		2	20	ug/L	6010C
Calcium, Total	51700		700	5000	ug/L	6010C
Iron, Total	46400		9	100	ug/L	6010C
Magnesium, Total	10700		10	1000	ug/L	6010C
Manganese, Total	5430		1.0	10	ug/L	6010C
Potassium, Total	2100		50	2000	ug/L	6010C
Sodium, Total	7300		90	1000	ug/L	6010C
1,1-Dichloroethane (1,1-DCA)	13		0.20	5.0	ug/L	8260C
1,2-Dichloroethane	0.61	J	0.36	5.0	ug/L	8260C
Acetone	1.4	J	1.3	10	ug/L	8260C
Benzene	0.37	J	0.20	5.0	ug/L	8260C
Chlorobenzene	5.0		0.29	5.0	ug/L	8260C
Chloroethane	18		0.24	5.0	ug/L	8260C
Trichloroethene (TCE)	1.2	J	0.22	5.0	ug/L	8260C
cis-1,2-Dichloroethene	1.6	J	0.30	5.0	ug/L	8260C

CLIENT ID: SP-3	Lab ID: R1605862-004					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	226				uMHOS/c	120.1
pH, Field	6.79				pH Units	SM 4500-H+
Temperature, Field	16.1				deg C	SM 2550 B
Arsenic, Total	14		5	10	ug/L	6010C
Barium, Total	32		2	20	ug/L	6010C
Calcium, Total	25600		200	1000	ug/L	6010C
Iron, Total	13200		9	100	ug/L	6010C
Magnesium, Total	5500		10	1000	ug/L	6010C
Manganese, Total	2440		1.0	10	ug/L	6010C
Sodium, Total	4000		90	1000	ug/L	6010C
1,1-Dichloroethane (1,1-DCA)	20		0.20	5.0	ug/L	8260C
Benzene	0.22	J	0.20	5.0	ug/L	8260C
Chlorobenzene	7.5		0.29	5.0	ug/L	8260C
Chloroethane	3.8	J	0.24	5.0	ug/L	8260C
Trichloroethene (TCE)	2.0	J	0.22	5.0	ug/L	8260C
Vinyl Chloride	1.2	J	0.32	5.0	ug/L	8260C
cis-1,2-Dichloroethene	5.2		0.30	5.0	ug/L	8260C

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SAMPLE DETECTION SUMMARY

CLIENT ID: SP-5 INFLUENT	Lab ID: R1605862-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	417				uMHOS/c	120.1
pH, Field	6.33				pH Units	SM 4500-H+
Temperature, Field	13.2				deg C	SM 2550 B
Aluminum, Total	110		10	100	ug/L	6010C
Arsenic, Total	225		5	10	ug/L	6010C
Barium, Total	142		2	20	ug/L	6010C
Calcium, Total	40800		200	1000	ug/L	6010C
Iron, Total	33300		9	100	ug/L	6010C
Lead, Total	50.5		4.2	5.0	ug/L	6010C
Magnesium, Total	9400		10	1000	ug/L	6010C
Manganese, Total	5580		1.0	10	ug/L	6010C
Potassium, Total	2800		50	2000	ug/L	6010C
Sodium, Total	7100		90	1000	ug/L	6010C
Zinc, Total	9460		40	100	ug/L	6010C
1,1-Dichloroethane (1,1-DCA)	8.9		0.20	5.0	ug/L	8260C
1,2-Dichloropropane	0.21	J	0.20	5.0	ug/L	8260C
Benzene	0.87	J	0.20	5.0	ug/L	8260C
Carbon Disulfide	2.1	J	0.22	10	ug/L	8260C
Chlorobenzene	8.6		0.29	5.0	ug/L	8260C
Trichloroethene (TCE)	1.5	J	0.22	5.0	ug/L	8260C
Vinyl Chloride	0.34	J	0.32	5.0	ug/L	8260C
cis-1,2-Dichloroethene	1.2	J	0.30	5.0	ug/L	8260C

CLIENT ID: SP-5 EFFLUENT	Lab ID: R1605862-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	395				uMHOS/c	120.1
pH, Field	6.69				pH Units	SM 4500-H+
Temperature, Field	13.4				deg C	SM 2550 B
Arsenic, Total	127		5	10	ug/L	6010C
Barium, Total	141		2	20	ug/L	6010C
Calcium, Total	40000		200	1000	ug/L	6010C
Iron, Total	26100		9	100	ug/L	6010C
Magnesium, Total	9400		10	1000	ug/L	6010C
Manganese, Total	5500		1.0	10	ug/L	6010C
Potassium, Total	2800		50	2000	ug/L	6010C
Sodium, Total	7000		90	1000	ug/L	6010C
1,1-Dichloroethane (1,1-DCA)	1.1	J	0.20	5.0	ug/L	8260C
Chlorobenzene	0.46	J	0.29	5.0	ug/L	8260C

CLIENT ID: SP-4	Lab ID: R1605862-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	387				uMHOS/c	120.1

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SAMPLE DETECTION SUMMARY

CLIENT ID: SP-2	Lab ID: R1605862-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	113				uMHOS/c	120.1
pH, Field	6.95				pH Units	SM 4500-H+
Temperature, Field	6.94				deg C	SM 2550 B
Arsenic, Total	15		5	10	ug/L	6010C
Barium, Total	27		2	20	ug/L	6010C
Calcium, Total	9400		200	1000	ug/L	6010C
Iron, Total	3050		9	100	ug/L	6010C
Magnesium, Total	2200		10	1000	ug/L	6010C
Manganese, Total	2630		1.0	10	ug/L	6010C
Sodium, Total	5600		90	1000	ug/L	6010C
Acetone	2.4	J	1.3	10	ug/L	8260C
Trichloroethene (TCE)	0.59	J	0.22	5.0	ug/L	8260C

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SAMPLE DETECTION SUMMARY

CLIENT ID: PW-7 Upper	Lab ID: R1605864-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	141				uMHOS/c	120.1
pH, Field	7.59				pH Units	SM 4500-H+
Temperature, Field	13.7				deg C	SM 2550 B
1,1-Dichloroethane (1,1-DCA)	16		0.20	5.0	ug/L	8260C
Trichloroethene (TCE)	6.0		0.22	5.0	ug/L	8260C
cis-1,2-Dichloroethene	6.7		0.30	5.0	ug/L	8260C

CLIENT ID: PW-7 Lower	Lab ID: R1605864-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Conductivity, Field	150				uMHOS/c	120.1
pH, Field	7.06				pH Units	SM 4500-H+
Temperature, Field	12.8				deg C	SM 2550 B
1,1-Dichloroethane (1,1-DCA)	32		0.20	5.0	ug/L	8260C
Chloroethane	7.0		0.24	5.0	ug/L	8260C
Trichloroethene (TCE)	5.2		0.22	5.0	ug/L	8260C
cis-1,2-Dichloroethene	13		0.30	5.0	ug/L	8260C

Analytical Report

Client:	Broome County Division of Solid Waste Management	**Service Request:**	R1602119
Project:	Colesville/Colesville Well PW-7	**Date Collected:**	03/09/16 08:45
Sample Matrix:	Water	**Date Received:**	03/09/16 15:25
Sample Name:	Upper Sample	**Units:**	ug/L
Lab Code:	R1602119-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	5.0 U	5.0	0.22	1	03/18/16 14:22	
1,1,1-Trichloroethane (TCA)	**0.46 J**	5.0	0.36	1	03/18/16 14:22	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	0.25	1	03/18/16 14:22	
1,1,2-Trichloroethane	5.0 U	5.0	0.34	1	03/18/16 14:22	
1,1-Dichloroethane (1,1-DCA)	**7.5**	5.0	0.20	1	03/18/16 14:22	
1,1-Dichloroethene (1,1-DCE)	5.0 U	5.0	0.57	1	03/18/16 14:22	
1,2,3-Trichloropropane	5.0 U	5.0	0.70	1	03/18/16 14:22	
1,2-Dibromo-3-chloropropane (DBCP)	5.0 U	5.0	0.74	1	03/18/16 14:22	
1,2-Dibromoethane	5.0 U	5.0	0.24	1	03/18/16 14:22	
1,2-Dichlorobenzene	5.0 U	5.0	0.21	1	03/18/16 14:22	
1,2-Dichloroethane	5.0 U	5.0	0.36	1	03/18/16 14:22	
1,2-Dichloropropane	5.0 U	5.0	0.20	1	03/18/16 14:22	
1,4-Dichlorobenzene	5.0 U	5.0	0.20	1	03/18/16 14:22	
2-Butanone (MEK)	10 U	10	0.81	1	03/18/16 14:22	
2-Hexanone	10 U	10	1.7	1	03/18/16 14:22	
4-Methyl-2-pentanone	10 U	10	0.67	1	03/18/16 14:22	
Acetone	10 U	10	1.3	1	03/18/16 14:22	
Acrylonitrile	100 U	100	1.4	1	03/18/16 14:22	
Benzene	5.0 U	5.0	0.20	1	03/18/16 14:22	
Bromochloromethane	5.0 U	5.0	0.32	1	03/18/16 14:22	
Bromodichloromethane	5.0 U	5.0	0.32	1	03/18/16 14:22	
Bromoform	5.0 U	5.0	0.42	1	03/18/16 14:22	
Bromomethane	5.0 U	5.0	0.29	1	03/18/16 14:22	
Carbon Disulfide	10 U	10	0.22	1	03/18/16 14:22	
Carbon Tetrachloride	5.0 U	5.0	0.45	1	03/18/16 14:22	
Chlorobenzene	5.0 U	5.0	0.29	1	03/18/16 14:22	
Chloroethane	**0.68 J**	5.0	0.24	1	03/18/16 14:22	
Chloroform	5.0 U	5.0	0.25	1	03/18/16 14:22	
Chloromethane	5.0 U	5.0	0.21	1	03/18/16 14:22	
Dibromochloromethane	5.0 U	5.0	0.31	1	03/18/16 14:22	
Dibromomethane	5.0 U	5.0	0.32	1	03/18/16 14:22	
Methylene Chloride	5.0 U	5.0	0.60	1	03/18/16 14:22	
Ethylbenzene	5.0 U	5.0	0.20	1	03/18/16 14:22	
Iodomethane	10 U	10	0.98	1	03/18/16 14:22	
Styrene	5.0 U	5.0	0.20	1	03/18/16 14:22	
Tetrachloroethene (PCE)	5.0 U	5.0	0.30	1	03/18/16 14:22	
Toluene	5.0 U	5.0	0.20	1	03/18/16 14:22	
Trichloroethene (TCE)	**3.9 J**	5.0	0.22	1	03/18/16 14:22	
Trichlorofluoromethane (CFC 11)	5.0 U	5.0	0.20	1	03/18/16 14:22	
Vinyl Acetate	10 U	10	1.1	1	03/18/16 14:22	
Vinyl Chloride	5.0 U	5.0	0.32	1	03/18/16 14:22	
cis-1,2-Dichloroethene	**2.0 J**	5.0	0.30	1	03/18/16 14:22	
cis-1,3-Dichloropropene	5.0 U	5.0	0.24	1	03/18/16 14:22	

Analytical Report

Client:	Broome County Division of Solid Waste Management	**Service Request:**	R1602119
Project:	Colesville/Colesville Well PW-7	**Date Collected:**	03/09/16 08:45
Sample Matrix:	Water	**Date Received:**	03/09/16 15:25
Sample Name:	Upper Sample	**Units:**	ug/L
Lab Code:	R1602119-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
m,p-Xylenes	5.0 U	5.0	0.33	1	03/18/16 14:22	
o-Xylene	5.0 U	5.0	0.20	1	03/18/16 14:22	
trans-1,2-Dichloroethene	5.0 U	5.0	0.33	1	03/18/16 14:22	
trans-1,3-Dichloropropene	5.0 U	5.0	0.20	1	03/18/16 14:22	
trans-1,4-Dichloro-2-butene	5.0 U	5.0	0.70	1	03/18/16 14:22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	107	85 - 122	03/18/16 14:22	
Dibromofluoromethane	108	89 - 119	03/18/16 14:22	
Toluene-d8	96	87 - 121	03/18/16 14:22	

Analytical Report

Client:	Broome County Division of Solid Waste Management	**Service Request:**	R1602119
Project:	Colesville/Colesville Well PW-7	**Date Collected:**	03/09/16 08:49
Sample Matrix:	Water	**Date Received:**	03/09/16 15:25
Sample Name:	Lower Sample	**Units:**	ug/L
Lab Code:	R1602119-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	5.0 U	5.0	0.22	1	03/18/16 14:53	
1,1,1-Trichloroethane (TCA)	**0.61 J**	5.0	0.36	1	03/18/16 14:53	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	0.25	1	03/18/16 14:53	
1,1,2-Trichloroethane	5.0 U	5.0	0.34	1	03/18/16 14:53	
1,1-Dichloroethane (1,1-DCA)	**10**	5.0	0.20	1	03/18/16 14:53	
1,1-Dichloroethene (1,1-DCE)	5.0 U	5.0	0.57	1	03/18/16 14:53	
1,2,3-Trichloropropane	5.0 U	5.0	0.70	1	03/18/16 14:53	
1,2-Dibromo-3-chloropropane (DBCP)	5.0 U	5.0	0.74	1	03/18/16 14:53	
1,2-Dibromoethane	5.0 U	5.0	0.24	1	03/18/16 14:53	
1,2-Dichlorobenzene	5.0 U	5.0	0.21	1	03/18/16 14:53	
1,2-Dichloroethane	5.0 U	5.0	0.36	1	03/18/16 14:53	
1,2-Dichloropropane	5.0 U	5.0	0.20	1	03/18/16 14:53	
1,4-Dichlorobenzene	5.0 U	5.0	0.20	1	03/18/16 14:53	
2-Butanone (MEK)	10 U	10	0.81	1	03/18/16 14:53	
2-Hexanone	10 U	10	1.7	1	03/18/16 14:53	
4-Methyl-2-pentanone	10 U	10	0.67	1	03/18/16 14:53	
Acetone	10 U	10	1.3	1	03/18/16 14:53	
Acrylonitrile	100 U	100	1.4	1	03/18/16 14:53	
Benzene	5.0 U	5.0	0.20	1	03/18/16 14:53	
Bromochloromethane	5.0 U	5.0	0.32	1	03/18/16 14:53	
Bromodichloromethane	5.0 U	5.0	0.32	1	03/18/16 14:53	
Bromoform	5.0 U	5.0	0.42	1	03/18/16 14:53	
Bromomethane	5.0 U	5.0	0.29	1	03/18/16 14:53	
Carbon Disulfide	10 U	10	0.22	1	03/18/16 14:53	
Carbon Tetrachloride	5.0 U	5.0	0.45	1	03/18/16 14:53	
Chlorobenzene	5.0 U	5.0	0.29	1	03/18/16 14:53	
Chloroethane	**0.92 J**	5.0	0.24	1	03/18/16 14:53	
Chloroform	5.0 U	5.0	0.25	1	03/18/16 14:53	
Chloromethane	5.0 U	5.0	0.21	1	03/18/16 14:53	
Dibromochloromethane	5.0 U	5.0	0.31	1	03/18/16 14:53	
Dibromomethane	5.0 U	5.0	0.32	1	03/18/16 14:53	
Methylene Chloride	5.0 U	5.0	0.60	1	03/18/16 14:53	
Ethylbenzene	5.0 U	5.0	0.20	1	03/18/16 14:53	
Iodomethane	10 U	10	0.98	1	03/18/16 14:53	
Styrene	5.0 U	5.0	0.20	1	03/18/16 14:53	
Tetrachloroethene (PCE)	5.0 U	5.0	0.30	1	03/18/16 14:53	
Toluene	5.0 U	5.0	0.20	1	03/18/16 14:53	
Trichloroethene (TCE)	**3.3 J**	5.0	0.22	1	03/18/16 14:53	
Trichlorofluoromethane (CFC 11)	5.0 U	5.0	0.20	1	03/18/16 14:53	
Vinyl Acetate	10 U	10	1.1	1	03/18/16 14:53	
Vinyl Chloride	5.0 U	5.0	0.32	1	03/18/16 14:53	
cis-1,2-Dichloroethene	**2.9 J**	5.0	0.30	1	03/18/16 14:53	
cis-1,3-Dichloropropene	5.0 U	5.0	0.24	1	03/18/16 14:53	

Analytical Report

Client:	Broome County Division of Solid Waste Management	**Service Request:**	R1602119
Project:	Colesville/Colesville Well PW-7	**Date Collected:**	03/09/16 08:49
Sample Matrix:	Water	**Date Received:**	03/09/16 15:25
Sample Name:	Lower Sample	**Units:**	ug/L
Lab Code:	R1602119-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
m,p-Xylenes	5.0 U	5.0	0.33	1	03/18/16 14:53	
o-Xylene	5.0 U	5.0	0.20	1	03/18/16 14:53	
trans-1,2-Dichloroethene	5.0 U	5.0	0.33	1	03/18/16 14:53	
trans-1,3-Dichloropropene	5.0 U	5.0	0.20	1	03/18/16 14:53	
trans-1,4-Dichloro-2-butene	5.0 U	5.0	0.70	1	03/18/16 14:53	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	108	85 - 122	03/18/16 14:53	
Dibromofluoromethane	111	89 - 119	03/18/16 14:53	
Toluene-d8	92	87 - 121	03/18/16 14:53	

METALS

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

mid Channel Sediment

Contract: R1602117

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: mid Channel S

Matrix (soil/water): SOIL Lab Sample ID: R1602117-001

Level (low/med): LOW Date Received: 3/9/2016

% Solids: 77.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1160			P
7440-36-0	Antimony	7.4	U		P
7440-38-2	Arsenic	35.3			P
7440-39-3	Barium	152			P
7440-41-7	Beryllium	0.371	U		P
7440-43-9	Cadmium	0.618	U		P
7439-97-6	Mercury	0.043	U		CV
7440-70-2	Calcium	1440			P
7440-47-3	Chromium	1.2	U		P
7440-48-4	Cobalt	14.2			P
7440-50-8	Copper	2.7			P
7439-89-6	Iron	39600			P
7439-92-1	Lead	4.6			P
7439-95-4	Magnesium	387			P
7439-96-5	Manganese	23000			P
7440-02-0	Nickel	7.8			P
7440-09-7	Potassium	302			P
7782-49-2	Selenium	7.0			P
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	124	U		P
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium	6.2	U		P
7440-66-6	Zinc	11.4			P

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments: _____

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SP-3-SED

Contract: R1602117

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: mid Channel S

Matrix (soil/water): SOIL Lab Sample ID: R1602117-002

Level (low/med): LOW Date Received: 3/9/2016

% Solids: 36.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17800			P
7440-36-0	Antimony	16.0	U		P
7440-38-2	Arsenic	128			P
7440-39-3	Barium	182			P
7440-41-7	Beryllium	0.799	U		P
7440-43-9	Cadmium	1.3	U		P
7439-97-6	Mercury	0.116			CV
7440-70-2	Calcium	939			P
7440-47-3	Chromium	25.5			P
7440-48-4	Cobalt	17.5			P
7440-50-8	Copper	36.8			P
7439-89-6	Iron	99100			P
7439-92-1	Lead	207			P
7439-95-4	Magnesium	5790			P
7439-96-5	Manganese	667			P
7440-02-0	Nickel	40.5			P
7440-09-7	Potassium	1590			P
7782-49-2	Selenium	2.7	U		P
7440-22-4	Silver	2.7	U		P
7440-23-5	Sodium	266	U		P
7440-28-0	Thallium	2.7	U		P
7440-62-2	Vanadium	25.6			P
7440-66-6	Zinc	107			P

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments: _____

Analytical Report

Client:	Broome County Division of Solid Waste Management	**Service Request:**	R1602117
Project:	Colesville/LF Sediment	**Date Collected:**	3/ 9/16 0805
Sample Matrix:	Soil	**Date Received:**	3/ 9/16
Sample Name:	mid Channel Sediment		
Lab Code:	R1602117-001	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Total Solids	ALS SOP	77.0		Percent		1	NA	3/16/16 11:05	

Analytical Report

Client:	Broome County Division of Solid Waste Management	**Service Request:**	R1602117
Project:	Colesville/LF Sediment	**Date Collected:**	3/ 9/16 0745
Sample Matrix:	Soil	**Date Received:**	3/ 9/16
Sample Name:	SP-3-SED		
Lab Code:	R1602117-002	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Total Solids	ALS SOP	36.1		Percent		1	NA	3/16/16 11:05	