

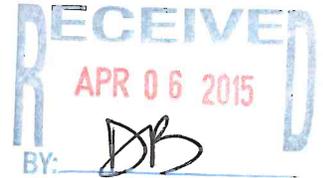


The Complete Solution

Seneca Companies, Inc.
7241 Gaines St. Court
Davenport, IA 52806
Phone: (563) 332- 8000
Toll-Free: (800) 728-6900
Fax: (563) 332-9465

March 10, 2015

City of West Branch
110 N. Poplar Street
PO Box 218
West Branch, IA 52358



**Re: Assessment for Petroleum and Road Salt Parameters
Dave's Welding & Repair
348 Cookson Dr.
West Branch, IA**

Dear Sir or Madam:

In accordance with change order to 20140048 dated November 11, 2014, Seneca Companies Inc., (Seneca), conducted additional soil sampling and analysis at the referenced property on February 11, 2015. Samples were collected with a Geoprobe sampler that advanced core sampling to ten feet below ground surface (BGS). Soil samples were collected in eight locations in the western portion of the site in a grid pattern at depths ranging from 5 to 7 feet below ground surface (BGS). Samples were analyzed for Iowa petroleum indicator parameters OA1 and OA2. Additionally, sample were also analyzed for indicator of road salt contamination: potassium (K), magnesium (Mg), calcium (Ca), sodium (Na), pH, cation exchange capacity (CEC) and soluble salts (SS). Samples were collected from the BGS location that had the greatest indication of potential contamination or in the absence of indications, were collected at the groundwater surface.

Background samples, for comparison purposes, were collected during the previous assessment at a location in the eastern portion of the site from the same soil type as determined by the National Resource Conservation Service. Maps indicating the sampling locations are attached, Attachment 1. The indicator parameter analysis results are tabulated in Attachment 2.

Discussion and Conclusions

Crushed stone was encountered to about 2 feet BGS in all sampling locations except C4. Beneath the crushed stone were clay soils of varying colors. Groundwater was observed at approximately 7 feet BGS. Soil boring logs are found as Attachment 3.

When compared to background concentrations, the concentrations of potassium (K) in the boring samples are consistent with the near surface samples and slightly higher then the background

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samples. Magnesium (Mg) appears to be much higher than background and the near surface samples collected during the previous assessment. Calcium (Ca) appears to be moderately higher and consistent with the previous samples. Sodium (Na) is substantially lower than the surface samples. The pH in the deeper samples is then background samples but the absence of crushed stone and the generally higher organic content may be the cause. The cation exchange capacity (CEC) appears to be moderately lower than the near surface samples and higher than the background samples. The concentration of soluble salts (SS) is substantially lower than at depth than the near surface samples and slightly higher than the background samples.

Analysis for Iowa Petroleum contaminant parameters produced three samples with slightly elevated OA2 detections but were not above Iowa DNR action levels for OA2.

Where soil was sampled at 18 inches depth at location C4, the result for K and Mg are not. Concentrations of select parameters according to MVTL: Nutrients Analysis Guide¹ are listed below in Table 2.

Table 2

Parameter	Concentrations (parts per million)				
	Very Low	Low	Medium	High	Very High
Potassium	0-40	41-80	81-120	121-160	161+
Calcium	0-250	251-500	501-2000	2000-4500	4500+
Magnesium		0-50	51-100	100+	
Soluble Salts ²	0-.25	.25-.50	.50-1.0	1.0-1.5	>1.5
Sodium	0-40	41-80	81-120	121-160	161+

¹ <http://www.mvtl.com/PDF/Soil%20Nutrient%20Guide.pdf>

² Measured on a 1:1 soil:water suspension

When compared to concentrations as found in the MVTL guide, for agricultural crop production purposes, the concentrations of potassium (K) in the samples from the near surface of the site are generally in the medium to high range. Magnesium (Mg) concentrations are in the high range. Calcium (Ca) is in the high range and sodium (Na) is in the very high range. The soluble salts (SS) are in the high to very high ranges. Values of Na and Ca appear to diminish significantly at depth.

Sampling has determined that soil in a large portion of the property west of the buildings exhibits elevated concentrations of some tested parameters when compared to background and when compared to the MVTL nutrient guide, particularly sodium and soluble salts. However, because fill materials have been placed in this area, a direct comparison of these soils to background soil or the nutrient guide ranges may not be valid. Elevated concentrations may be in part caused by the fill. Those parameters that are most likely to be affected by crushed stone fill are magnesium, from dolomitic crushed stone, and calcium from limestone and dolomitic crushed

fill. However, given the diminished values of Na and Ca and that Na is a primary component of road salt, it is possible that the near surface soils at the western portion of the property have been affected by the stockpiled road salt located to the west and in close proximity to the referenced property.

The information contained in this report is based on a limited number of samples and a limited analytical suite. Failure to discover all hazardous substances or conditions at the time of this report through appropriate techniques does not guarantee that hazardous materials or conditions do not exist at the site. We make no warranty, expressed or implied, for this property nor make certification of the suitability of future use of the property based on the results of this assessment, except that our services were performed in accordance with the level of care and skill ordinarily practiced by members of the profession in this area at this time under similar budget and time constraints.

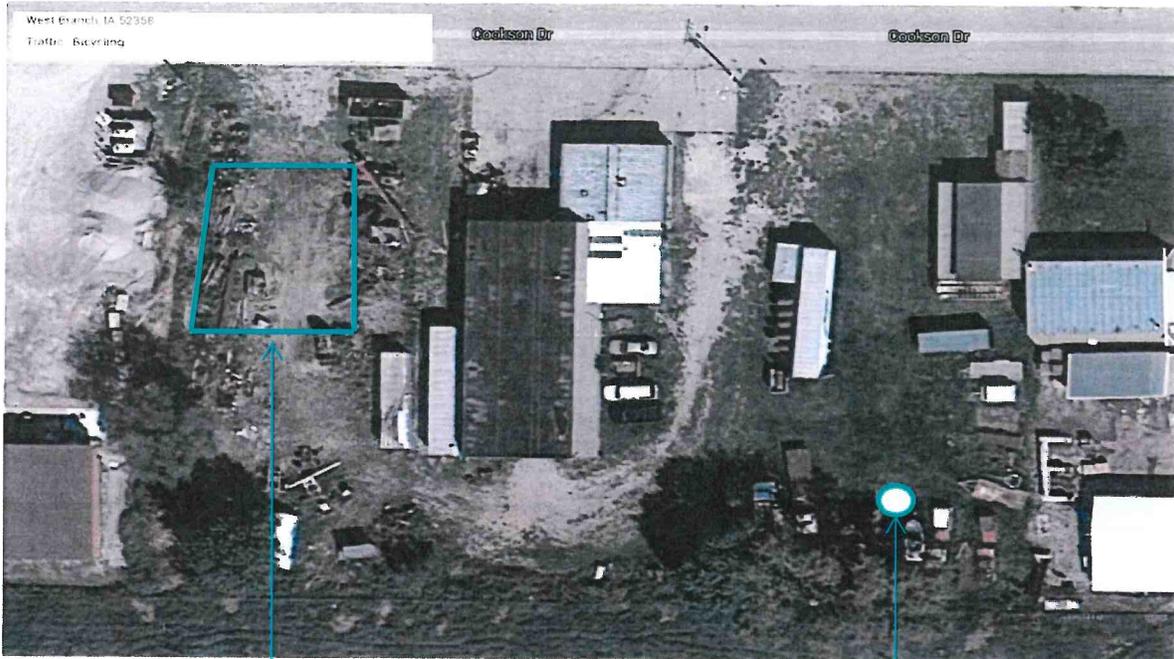
This report has been prepared on behalf of and exclusively for the use of the City of West Branch. This report and the findings contained herein shall not, in whole or part, be disseminated or conveyed to any other party or be used or relied upon by any other party, in whole or in part, without the consultant's prior written consent.

Please contact our Davenport office at 563-332-8000 or contact me at skillip@senecaco.com should you have any questions. We appreciate this opportunity to work with you on this project.

Sincerely,
Seneca Companies



Scott E. Killip
Senior Project manager



Sampling Area

Background Sample

Map data © 2014 Google

<https://www.google.com/maps/place/West+Branch,+IA+52358/@41.6671657,-91.341671...> 5/21/2014



Seneca Companies Inc.	Seneca Job#6360850	Date: February 2015
Daves Welding 348 Cooksen Drive West Branch, IA		Sample Locations



Sampling Area



Seneca Companies Inc.	Seneca Job#6360850	Date: February 2015
Daves Welding 348 Cooksen Drive West Branch, IA		Sample Locations

DAVES WELDING - ANALYSIS RESULTS FROM 2/11/15 SAMPLING EVENT

ID	Benzene (mg/kg)	Toluene (mg/kg)	EB (mg/kg)	Xylenes (mg/kg)	Diesel (mg/kg)	WO (mg/kg)	T.E.H (mg/kg)	K ppm	Mg ppm	Ca ppm	Na ppm	pH	CEC	SS
A-1	<0.0933	<0.0933	<0.0933	<0.280	<9.59	<9.59	<14.4	191	791	3095	219	7.7	24	0.53
A-2	<0.0983	<0.0983	<0.0983	<0.295	<9.71	<9.71	40.2	156	716	3065	497	7.7	24	0.8
A-3	<0.0930	<0.0930	<0.0930	<0.279	<9.84	<9.84	57.6	118	658	658	483	7.5	20	0.58
A-4	<0.0985	<0.0985	<0.0985	<0.296	<9.81	13.6	<14.7	138	617	2847	579	8.2	22	0.86
B-3	<0.0974	<0.0974	<0.0974	<0.292	<9.83	<9.83	<14.8	137	773	2994	494	7.6	24	0.77
B-4	<0.0942	<0.0942	<0.0942	<0.283	<9.94	<9.94	<14.9	145	785	3286	464	7.7	25	0.64
C-3	<0.0937	<0.0937	<0.0937	<0.281	<9.77	<9.77	<14.7	91	722	3884	367	7.8	27	0.76
C-4	<0.0942	<0.0942	<0.0942	<0.283	<9.89	<9.89	<14.8	149	779	2749	368	7.7	22	0.67
BG 6**	NA	NA	NA	NA	NA	NA	NA	89	305	2833	31	6.7	17	0.2
BG12**	NA	NA	NA	NA	NA	NA	NA	100	354	2568	39	6.5	16	0.29

RESULTS FROM PREVIOUS ASSESSMENT

ID	K	Mg	Ca	Na	pH	CEC	SS
A1 4"	101	138	4814	807	8.3	29	1.2
A1 12"	127	349	4268	1356	7.7	30	1.06
A2 6"	137	179	3730	1562	7.9	27	1.28
A2 12"	125	196	3565	1746	7.7	27	1.45
A3 6"	102	145	4416	910	8.2	28	1.29
A3 12"	104	177	4694	1167	8.1	30	1.33
A4 2"	81	88	3822	581	8.8	23	0.73
A4 12"	145	207	4648	1405	8.2	31	1.53
B3 6"	97	120	4063	1406	8.1	28	2.52
B3 12"	149	283	4286	2238	7.4	34	2.71
B4 6"	34	38	4597	451	8	25	1.61
B4 12"	144	119	3454	1727	8.1	16	1.77
C3 2"	55	58	3760	805	8.6	23	1.23
C3 12"	124	238	4665	1909	7.9	34	2.04
C4 3"	49	54	3537	785	8.7	22	1.23
C4 12"	177	126	3459	3236	8.4	33	2.81
C4 18"	174	128	2484	2857	7.9	26	2.23
BG	89	305	2833	31	7	17	0.2
BG12"	100	354	2568	39	7	16	0.29

Client: Seneca Companies
Project: Dave's Welding
Project # 6360850
Sampled: 5/20/2014
Lab: TestAmerica Cedar Falls

Soil Boring Log And Monitoring Well Construction Diagram for: **A1** Seneca Companies

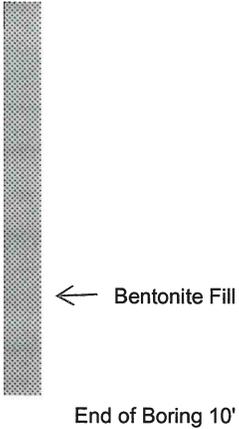
Facility Name: **Dave's Welding** UST Registration No.: **n/a** LUST No.: **n/a**

Well Contractor Name: **Soil Essentials** Drilling Method**: **GP**

Well Contractor Registration Number: **4443** Boring Depth (ft) x Diameter (in): **10' x 2"**

Logged by: **RV** Ground Surface Elevation (ASL): **NA**

Start Date: **02/11/15** Finish Date: **02/11/15** Top of Casing Elevation (ASL): **NA**

Depth (feet)	Well Construction Details (No. Well Set)	Sample		PID / FID PPM	USCS	Sample Descriptions: soil, color, classification, observation Example: Silty clay, dark gray, hard, moist, strong odor	
		No.	Type*				
0				0		Snow/Gravel	
1				0	GP	1'-2' Gravel	
2				0	CL	2'-4' Dark Brown Silty Clay	
3				0			
4				0	CL	4'-7' Brown Silty Clay	
5				0			
6			1	GP	0		Water @ 6'
7					0	CL	7'-10' Grey Silty Clay
8					0		
9					0		
10					0		BOH @ 10'
11							
12							
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* Sample Types: Split Spoon (SS) Continuous Core (CC)	** Drilling Method Options: Rotary Auger, Push Probe, Hand Auger, Geo Probe, Air drilling, Hollow Stem Auger, Other (Describe)	Symbols to Use: v – Static Water Level s – sample collected
Observation Date:		
Time		
Static Water Level (ASL)		

Soil Boring Log And Monitoring Well Construction Diagram for: A2 **Seneca Companies**

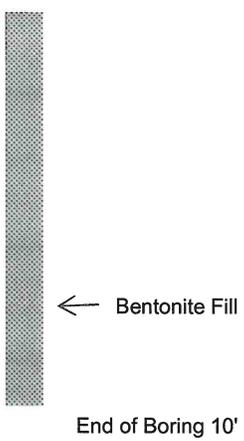
Facility Name: Dave's Welding UST Registration No.: n/a LUST No.: n/a

Well Contractor Name: Soil Essentials Drilling Method**: GP

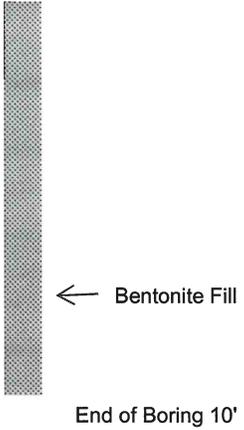
Well Contractor Registration Number: 4443 Boring Depth (ft) x Diameter (in): 10' x 2"

Logged by: RV Ground Surface Elevation (ASL): NA

Start Date: 02/11/15 Finish Date: 02/11/15 Top of Casing Elevation (ASL): NA

Depth (feet)	Well Construction Details (No. Well Set)	Sample		PID / FID	USCS	Sample Descriptions: soil, color, classification, observation Example: Silty clay, dark gray, hard, moist, strong odor	
		No.	Type*	PPM			
0				0		Snow/Gravel	
1				0	GP	1'-2' Gravel	
2				0	CL	2'-6' Dark Brown Silty Clay	
3				0			
4				0			
5				0			
6			1	GP	0	CL	6'-10' Grey Silty Clay - Water @ 6'
7					0		
8					0		
9					0		
10					0		BOH @ 10'
11							
12							
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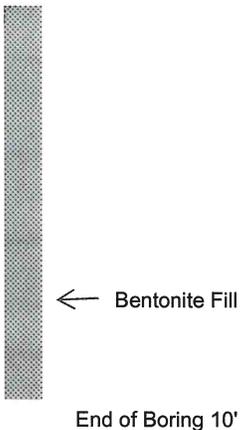
* Sample Types: Split Spoon (SS) Continuous Core (CC)	** Drilling Method Options: Rotary Auger, Push Probe, Hand Auger, Geo Probe, Air drilling, Hollow Stem Auger, Other (Describe)	Symbols to Use: v – Static Water Level s – sample collected
Observation Date:		
Time		
Static Water Level (ASL)		

Soil Boring Log And Monitoring Well Construction Diagram for: A3					Seneca Companies		
Facility Name: Dave's Welding			UST Registration No.: n/a		LUST No.: n/a		
Well Contractor Name: Soil Essentials			Drilling Method**: GP				
Well Contractor Registration Number: 4443			Boring Depth (ft) x Diameter (in): 10' x 2"				
Logged by: RV			Ground Surface Elevation (ASL): NA				
Start Date: 02/11/15		Finish Date: 02/11/15		Top of Casing Elevation (ASL): NA			
Depth (feet)	Well Construction Details (No Well Set)	Sample		PID / FID	USCS	Sample Descriptions: soil, color, classification, observation Example: Silty clay, dark gray, hard, moist, strong odor	
		No.	Type*	PPM			
0				0		Snow/Gravel	
1				0	GP	1'-2' Gravel	
2				0	CL	2'-6' Dark Brown Silty Clay	
3				0			
4				0			
5				0			
6			1	GP	0	CL	6'-10' Grey Silty Clay - Water @ 6'
7					0		
8					0		
9					0		
10					0		BOH @ 10'
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* Sample Types: Split Spoon (SS) Continuous Core (CC)	** Drilling Method Options: Rotary Auger, Push Probe, Hand Auger, Geo Probe, Air drilling, Hollow Stem Auger, Other (Describe)	Symbols to Use: v – Static Water Level s – sample collected
Observation Date:		
Time		
Static Water Level (ASL)		

Soil Boring Log And Monitoring Well Construction Diagram for: A4					Seneca Companies		
Facility Name: Dave's Welding			UST Registration No.: n/a		LUST No.: n/a		
Well Contractor Name: Soil Essentials			Drilling Method**: GP				
Well Contractor Registration Number: 4443			Boring Depth (ft) x Diameter (in): 10' x 2"				
Logged by: RV			Ground Surface Elevation (ASL): NA				
Start Date: 02/11/15		Finish Date: 02/11/15		Top of Casing Elevation (ASL): NA			
Depth (feet)	Well Construction Details (No Well Set)	Sample		PID / FID	USCS	Sample Descriptions: soil, color, classification, observation Example: Silty clay, dark gray, hard, moist, strong odor	
		No.	Type*	PPM			
0				0		Snow/Gravel	
1				0	GP	1'-2' Gravel	
2				0	CL	2'-6' Dark Brown Silty Clay	
3				0			
4				0			
5				0			
6			1	GP	0	CL	6'-10' Grey Silty Clay - Water @ 6'
7					0		
8					0		
9					0		
10					0		BOH @ 10'
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* Sample Types: Split Spoon (SS) Continuous Core (CC)		** Drilling Method Options: Rotary Auger, Push Probe, Hand Auger, Geo Probe, Air drilling, Hollow Stem Auger, Other (Describe)		Symbols to Use: v – Static Water Level s – sample collected	
Observation Date:					
Time					
Static Water Level (ASL)					

Soil Boring Log And Monitoring Well Construction Diagram for: B3					Seneca Companies		
Facility Name: Dave's Welding			UST Registration No.: n/a		LUST No.: n/a		
Well Contractor Name: Soil Essentials			Drilling Method**: GP				
Well Contractor Registration Number: 4443			Boring Depth (ft) x Diameter (in): 10' x 2"				
Logged by: RV			Ground Surface Elevation (ASL): NA				
Start Date: 02/11/15		Finish Date: 02/11/15		Top of Casing Elevation (ASL): NA			
Depth (feet)	Well Construction Details (No Well Set)	Sample		PID / FID	USCS	Sample Descriptions: soil, color, classification, observation Example: Silty clay, dark gray, hard, moist, strong odor	
		No.	Type*	PPM			
0				0		Snow/Gravel	
1				0	GP	1'-2' Gravel	
2				0	CL	2'-6' Dark Brown Silty Clay	
3				0			
4				0			
5				0			
6			1	GP	0	CL	6'-10' Grey Silty Clay - Water @ 6'
7					0		
8					0		
9					0		
10					0		BOH @ 10'
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* Sample Types: Split Spoon (SS) Continuous Core (CC)		** Drilling Method Options: Rotary Auger, Push Probe, Hand Auger, Geo Probe, Air drilling, Hollow Stem Auger, Other (Describe)			Symbols to Use: v – Static Water Level s – sample collected		
Observation Date:							
Time							
Static Water Level (ASL)							

Soil Boring Log And Monitoring Well Construction Diagram for: B4 Seneca Companies

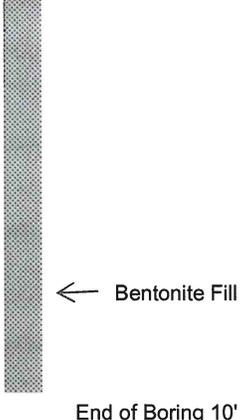
Facility Name: Dave's Welding UST Registration No.: n/a LUST No.: n/a

Well Contractor Name: Soil Essentials Drilling Method**: GP

Well Contractor Registration Number: 4443 Boring Depth (ft) x Diameter (in): 10' x 2"

Logged by: RV Ground Surface Elevation (ASL): NA

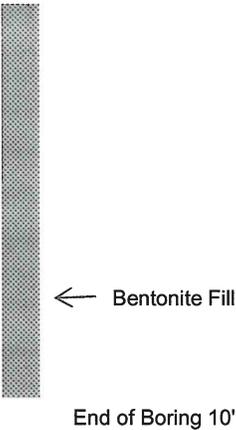
Start Date: 02/11/15 Finish Date: 02/11/15 Top of Casing Elevation (ASL): NA

Depth (feet)	Well Construction Details (No Well Set)	Sample		PID / FID	USCS	Sample Descriptions: soil, color, classification, observation Example: Silty clay, dark gray, hard, moist, strong odor	
		No.	Type*	PPM			
0				0		Snow/Gravel/Asphalt	
1				0	GP	1'-2' Gravel/Asphalt	
2				0	CL	2'-4' Dark Brown Silty Clay	
3				0			
4				0	CL	4'-8' Brown Silty Clay	
5			1	GP	0		Water @ 5'
6					0	CL	
7					0		
8					0		8'-10' Grey Silty Clay
9					0		
10				0		BOH @ 10'	
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* Sample Types: Split Spoon (SS) Continuous Core (CC)	** Drilling Method Options: Rotary Auger, Push Probe, Hand Auger, Geo Probe, Air drilling, Hollow Stem Auger, Other (Describe)	Symbols to Use: v – Static Water Level s – sample collected
Observation Date:		
Time		
Static Water Level (ASL)		

Soil Boring Log And Monitoring Well Construction Diagram for: C3					Seneca Companies		
Facility Name: Dave's Welding			UST Registration No.: n/a		LUST No.: n/a		
Well Contractor Name: Soil Essentials			Drilling Method**: GP				
Well Contractor Registration Number: 4443			Boring Depth (ft) x Diameter (in): 10' x 2"				
Logged by: RV			Ground Surface Elevation (ASL): NA				
Start Date: 02/11/15		Finish Date: 02/11/15		Top of Casing Elevation (ASL): NA			
Depth (feet)	Well Construction Details Well Set)	(No)	Sample		PID / FID	Sample Descriptions: soil, color, classification, observation Example: Silty clay, dark gray, hard, moist, strong odor	
			No.	Type*	PPM		USCS
0				0		Snow/Gravel	
1				0	GP	1'-2' Gravel	
2				0	CL	2'-4' Dark Brown Silty Clay	
3				0			
4				0	CL	4'-6' Brown Silty Clay	
5				0			
6			1	GP	0	CL	6'-10' Grey Silty Clay - Water @ 6'
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* Sample Types: Split Spoon (SS) Continuous Core (CC)	** Drilling Method Options: Rotary Auger, Push Probe, Hand Auger, Geo Probe, Air drilling, Hollow Stem Auger, Other (Describe)	Symbols to Use: v – Static Water Level s – sample collected
Observation Date:		
Time		
Static Water Level (ASL)		

Soil Boring Log And Monitoring Well Construction Diagram for: C4					Seneca Companies		
Facility Name: Dave's Welding			UST Registration No.: n/a		LUST No.: n/a		
Well Contractor Name: Soil Essentials			Drilling Method**: GP				
Well Contractor Registration Number: 4443			Boring Depth (ft) x Diameter (in): 10' x 2"				
Logged by: RV			Ground Surface Elevation (ASL): NA				
Start Date: 02/11/15		Finish Date: 02/11/15		Top of Casing Elevation (ASL): NA			
Depth (feet)	Well Construction Details (No Well Set)	Sample		PID / FID	USCS	Sample Descriptions: soil, color, classification, observation Example: Silty clay, dark gray, hard, moist, strong odor	
		No.	Type*	PPM			
0				0		Snow/Dirt	
1				1	CL	1'-6' Dark Brown Silty Clay	
2				1			
3				1			
4				0			
5				1			
6				0	CL	6'-10' Grey Silty Clay	
7			1	GP	2		Water @ 7'
8					1		
9					2		
10				1		BOH @ 10'	
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* Sample Types: Split Spoon (SS) Continuous Core (CC)		** Drilling Method Options: Rotary Auger, Push Probe, Hand Auger, Geo Probe, Air drilling, Hollow Stem Auger, Other (Describe)		Symbols to Use: v – Static Water Level s – sample collected	
Observation Date:					
Time					
Static Water Level (ASL)					

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319)277-2401

TestAmerica Job ID: 310-49145-1

TestAmerica Sample Delivery Group: 6360850
Client Project/Site: Daves Welding & Repair

For:

Seneca Companies
7241 Gaines Street Court
Davenport, Iowa 52806

Attn: Scott Killip

Angela Muehling

Authorized for release by:
2/23/2015 12:10:03 PM

Angela Muehling, Project Manager I
(319)277-2401

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LINKS

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Seneca Companies
Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
SDG: 6360850

Job ID: 310-49145-1

Laboratory: TestAmerica Cedar Falls

Narrative

Job Narrative
310-49145-1

Comments

No additional comments.

Receipt

The samples were received on 2/13/2015 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2° C.

GC VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Narrative

Job Narrative
310-49145-2

Comments

No additional comments.

Receipt

The samples were received on 2/13/2015 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2° C.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Seneca Companies
Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
SDG: 6360850

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-49145-1	A-1	Soil	02/11/15 10:30	02/13/15 08:50
310-49145-2	A-2	Soil	02/11/15 10:15	02/13/15 08:50
310-49145-3	A-3	Soil	02/11/15 09:30	02/13/15 08:50
310-49145-4	A-4	Soil	02/11/15 09:15	02/13/15 08:50
310-49145-5	B-3	Soil	02/11/15 09:45	02/13/15 08:50
310-49145-6	B-4	Soil	02/11/15 09:00	02/13/15 08:50
310-49145-7	C-3	Soil	02/11/15 10:05	02/13/15 08:50
310-49145-8	C-4	Soil	02/11/15 08:45	02/13/15 08:50



Client Sample Results

Client: Seneca Companies
 Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
 SDG: 6360850

Client Sample ID: A-1

Lab Sample ID: 310-49145-1

Date Collected: 02/11/15 10:30

Matrix: Soil

Date Received: 02/13/15 08:50

Method: OA-1 (GC) - Volatile Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0933		0.0933		mg/Kg		02/13/15 12:52	02/13/15 20:08	1
Toluene	<0.0933		0.0933		mg/Kg		02/13/15 12:52	02/13/15 20:08	1
Ethylbenzene	<0.0933		0.0933		mg/Kg		02/13/15 12:52	02/13/15 20:08	1
Xylenes, Total	<0.280		0.280		mg/Kg		02/13/15 12:52	02/13/15 20:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		60 - 145	02/13/15 12:52	02/13/15 20:08	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.59		9.59		mg/Kg		02/13/15 15:00	02/17/15 19:39	1
Diesel	<9.59		9.59		mg/Kg		02/13/15 15:00	02/17/15 19:39	1
Waste Oil	<9.59		9.59		mg/Kg		02/13/15 15:00	02/17/15 19:39	1
Total Extractable Hydrocarbons	<14.4		14.4		mg/Kg		02/13/15 15:00	02/17/15 19:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	87		60 - 150	02/13/15 15:00	02/17/15 19:39	1

Client Sample Results

Client: Seneca Companies
 Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
 SDG: 6360850

Client Sample ID: A-2

Lab Sample ID: 310-49145-2

Date Collected: 02/11/15 10:15

Matrix: Soil

Date Received: 02/13/15 08:50

Method: OA-1 (GC) - Volatile Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0983		0.0983		mg/Kg		02/13/15 12:52	02/13/15 20:37	1
Toluene	<0.0983		0.0983		mg/Kg		02/13/15 12:52	02/13/15 20:37	1
Ethylbenzene	<0.0983		0.0983		mg/Kg		02/13/15 12:52	02/13/15 20:37	1
Xylenes, Total	<0.295		0.295		mg/Kg		02/13/15 12:52	02/13/15 20:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		60 - 145				02/13/15 12:52	02/13/15 20:37	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.71		9.71		mg/Kg		02/13/15 15:00	02/17/15 20:32	1
Diesel	<9.71		9.71		mg/Kg		02/13/15 15:00	02/17/15 20:32	1
Waste Oil	<9.71		9.71		mg/Kg		02/13/15 15:00	02/17/15 20:32	1
Total Extractable Hydrocarbons	40.2	Z	14.6		mg/Kg		02/13/15 15:00	02/17/15 20:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	90		60 - 150				02/13/15 15:00	02/17/15 20:32	1

Client Sample Results

Client: Seneca Companies
 Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
 SDG: 6360850

Client Sample ID: A-3

Lab Sample ID: 310-49145-3

Date Collected: 02/11/15 09:30

Matrix: Soil

Date Received: 02/13/15 08:50

Method: OA-1 (GC) - Volatile Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0930		0.0930		mg/Kg		02/13/15 12:52	02/13/15 21:05	1
Toluene	<0.0930		0.0930		mg/Kg		02/13/15 12:52	02/13/15 21:05	1
Ethylbenzene	<0.0930		0.0930		mg/Kg		02/13/15 12:52	02/13/15 21:05	1
Xylenes, Total	<0.279		0.279		mg/Kg		02/13/15 12:52	02/13/15 21:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		60 - 145				02/13/15 12:52	02/13/15 21:05	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.84		9.84		mg/Kg		02/13/15 15:00	02/17/15 21:24	1
Diesel	<9.84		9.84		mg/Kg		02/13/15 15:00	02/17/15 21:24	1
Waste Oil	<9.84		9.84		mg/Kg		02/13/15 15:00	02/17/15 21:24	1
Total Extractable Hydrocarbons	57.6	Z	14.8		mg/Kg		02/13/15 15:00	02/17/15 21:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	99		60 - 150				02/13/15 15:00	02/17/15 21:24	1

Client Sample Results

Client: Seneca Companies
 Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
 SDG: 6360850

Client Sample ID: A-4
Date Collected: 02/11/15 09:15
Date Received: 02/13/15 08:50

Lab Sample ID: 310-49145-4
Matrix: Soil

Method: OA-1 (GC) - Volatile Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0985		0.0985		mg/Kg		02/13/15 12:52	02/13/15 21:33	1
Toluene	<0.0985		0.0985		mg/Kg		02/13/15 12:52	02/13/15 21:33	1
Ethylbenzene	<0.0985		0.0985		mg/Kg		02/13/15 12:52	02/13/15 21:33	1
Xylenes, Total	<0.296		0.296		mg/Kg		02/13/15 12:52	02/13/15 21:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		60 - 145				02/13/15 12:52	02/13/15 21:33	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.81		9.81		mg/Kg		02/13/15 15:00	02/18/15 01:48	1
Diesel	<9.81		9.81		mg/Kg		02/13/15 15:00	02/18/15 01:48	1
Waste Oil	13.6		9.81		mg/Kg		02/13/15 15:00	02/18/15 01:48	1
Total Extractable Hydrocarbons	<14.7		14.7		mg/Kg		02/13/15 15:00	02/18/15 01:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	81		60 - 150				02/13/15 15:00	02/18/15 01:48	1

Client Sample Results

Client: Seneca Companies
 Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
 SDG: 6360850

Client Sample ID: B-3

Lab Sample ID: 310-49145-5

Date Collected: 02/11/15 09:45

Matrix: Soil

Date Received: 02/13/15 08:50

Method: OA-1 (GC) - Volatile Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0974		0.0974		mg/Kg		02/13/15 12:52	02/13/15 22:01	1
Toluene	<0.0974		0.0974		mg/Kg		02/13/15 12:52	02/13/15 22:01	1
Ethylbenzene	<0.0974		0.0974		mg/Kg		02/13/15 12:52	02/13/15 22:01	1
Xylenes, Total	<0.292		0.292		mg/Kg		02/13/15 12:52	02/13/15 22:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		60 - 145				02/13/15 12:52	02/13/15 22:01	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.83		9.83		mg/Kg		02/13/15 15:00	02/17/15 22:17	1
Diesel	<9.83		9.83		mg/Kg		02/13/15 15:00	02/17/15 22:17	1
Waste Oil	<9.83		9.83		mg/Kg		02/13/15 15:00	02/17/15 22:17	1
Total Extractable Hydrocarbons	<14.8		14.8		mg/Kg		02/13/15 15:00	02/17/15 22:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	83		60 - 150				02/13/15 15:00	02/17/15 22:17	1

Client Sample Results

Client: Seneca Companies
 Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
 SDG: 6360850

Client Sample ID: B-4
Date Collected: 02/11/15 09:00
Date Received: 02/13/15 08:50

Lab Sample ID: 310-49145-6
Matrix: Soil

Method: OA-1 (GC) - Volatile Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0942		0.0942		mg/Kg		02/13/15 12:52	02/13/15 22:30	1
Toluene	<0.0942		0.0942		mg/Kg		02/13/15 12:52	02/13/15 22:30	1
Ethylbenzene	<0.0942		0.0942		mg/Kg		02/13/15 12:52	02/13/15 22:30	1
Xylenes, Total	<0.283		0.283		mg/Kg		02/13/15 12:52	02/13/15 22:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		60 - 145				02/13/15 12:52	02/13/15 22:30	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.94		9.94		mg/Kg		02/13/15 15:00	02/17/15 23:09	1
Diesel	<9.94		9.94		mg/Kg		02/13/15 15:00	02/17/15 23:09	1
Waste Oil	<9.94		9.94		mg/Kg		02/13/15 15:00	02/17/15 23:09	1
Total Extractable Hydrocarbons	<14.9		14.9		mg/Kg		02/13/15 15:00	02/17/15 23:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	75		60 - 150				02/13/15 15:00	02/17/15 23:09	1

Client Sample Results

Client: Seneca Companies
 Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
 SDG: 6360850

Client Sample ID: C-3

Lab Sample ID: 310-49145-7

Date Collected: 02/11/15 10:05

Matrix: Soil

Date Received: 02/13/15 08:50

Method: OA-1 (GC) - Volatile Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0937		0.0937		mg/Kg		02/13/15 12:52	02/13/15 22:58	1
Toluene	<0.0937		0.0937		mg/Kg		02/13/15 12:52	02/13/15 22:58	1
Ethylbenzene	<0.0937		0.0937		mg/Kg		02/13/15 12:52	02/13/15 22:58	1
Xylenes, Total	<0.281		0.281		mg/Kg		02/13/15 12:52	02/13/15 22:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		60 - 145	02/13/15 12:52	02/13/15 22:58	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.77		9.77		mg/Kg		02/13/15 15:00	02/18/15 00:02	1
Diesel	<9.77		9.77		mg/Kg		02/13/15 15:00	02/18/15 00:02	1
Waste Oil	<9.77		9.77		mg/Kg		02/13/15 15:00	02/18/15 00:02	1
Total Extractable Hydrocarbons	<14.7		14.7		mg/Kg		02/13/15 15:00	02/18/15 00:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	81		60 - 150	02/13/15 15:00	02/18/15 00:02	1

Client Sample Results

Client: Seneca Companies
 Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
 SDG: 6360850

Client Sample ID: C-4

Lab Sample ID: 310-49145-8

Date Collected: 02/11/15 08:45

Matrix: Soil

Date Received: 02/13/15 08:50

Method: OA-1 (GC) - Volatile Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0942		0.0942		mg/Kg		02/13/15 12:52	02/13/15 23:27	1
Toluene	<0.0942		0.0942		mg/Kg		02/13/15 12:52	02/13/15 23:27	1
Ethylbenzene	<0.0942		0.0942		mg/Kg		02/13/15 12:52	02/13/15 23:27	1
Xylenes, Total	<0.283		0.283		mg/Kg		02/13/15 12:52	02/13/15 23:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		60 - 145	02/13/15 12:52	02/13/15 23:27	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.89		9.89		mg/Kg		02/13/15 15:00	02/18/15 00:55	1
Diesel	<9.89		9.89		mg/Kg		02/13/15 15:00	02/18/15 00:55	1
Waste Oil	<9.89		9.89		mg/Kg		02/13/15 15:00	02/18/15 00:55	1
Total Extractable Hydrocarbons	<14.8		14.8		mg/Kg		02/13/15 15:00	02/18/15 00:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	76		60 - 150	02/13/15 15:00	02/18/15 00:55	1

Lab Chronicle

Client: Seneca Companies
Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
SDG: 6360850

Client Sample ID: A-1

Lab Sample ID: 310-49145-1

Date Collected: 02/11/15 10:30

Matrix: Soil

Date Received: 02/13/15 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			77190	02/13/15 12:52	CMM	TAL CF
Total/NA	Analysis	OA-1 (GC)		1	77216	02/13/15 20:08	DLK	TAL CF
Total/NA	Prep	3546			77215	02/13/15 15:00	LLS	TAL CF
Total/NA	Analysis	OA-2		1	77212	02/17/15 19:39	BKT	TAL CF

Client Sample ID: A-2

Lab Sample ID: 310-49145-2

Date Collected: 02/11/15 10:15

Matrix: Soil

Date Received: 02/13/15 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			77190	02/13/15 12:52	CMM	TAL CF
Total/NA	Analysis	OA-1 (GC)		1	77216	02/13/15 20:37	DLK	TAL CF
Total/NA	Prep	3546			77215	02/13/15 15:00	LLS	TAL CF
Total/NA	Analysis	OA-2		1	77212	02/17/15 20:32	BKT	TAL CF

Client Sample ID: A-3

Lab Sample ID: 310-49145-3

Date Collected: 02/11/15 09:30

Matrix: Soil

Date Received: 02/13/15 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			77190	02/13/15 12:52	CMM	TAL CF
Total/NA	Analysis	OA-1 (GC)		1	77216	02/13/15 21:05	DLK	TAL CF
Total/NA	Prep	3546			77215	02/13/15 15:00	LLS	TAL CF
Total/NA	Analysis	OA-2		1	77212	02/17/15 21:24	BKT	TAL CF

Client Sample ID: A-4

Lab Sample ID: 310-49145-4

Date Collected: 02/11/15 09:15

Matrix: Soil

Date Received: 02/13/15 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			77190	02/13/15 12:52	CMM	TAL CF
Total/NA	Analysis	OA-1 (GC)		1	77216	02/13/15 21:33	DLK	TAL CF
Total/NA	Prep	3546			77215	02/13/15 15:00	LLS	TAL CF
Total/NA	Analysis	OA-2		1	77212	02/18/15 01:48	BKT	TAL CF

Client Sample ID: B-3

Lab Sample ID: 310-49145-5

Date Collected: 02/11/15 09:45

Matrix: Soil

Date Received: 02/13/15 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			77190	02/13/15 12:52	CMM	TAL CF
Total/NA	Analysis	OA-1 (GC)		1	77216	02/13/15 22:01	DLK	TAL CF
Total/NA	Prep	3546			77215	02/13/15 15:00	LLS	TAL CF

TestAmerica Cedar Falls



Lab Chronicle

Client: Seneca Companies
Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
SDG: 6360850

Client Sample ID: B-3

Lab Sample ID: 310-49145-5

Date Collected: 02/11/15 09:45

Matrix: Soil

Date Received: 02/13/15 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OA-2		1	77212	02/17/15 22:17	BKT	TAL CF

Client Sample ID: B-4

Lab Sample ID: 310-49145-6

Date Collected: 02/11/15 09:00

Matrix: Soil

Date Received: 02/13/15 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			77190	02/13/15 12:52	CMM	TAL CF
Total/NA	Analysis	OA-1 (GC)		1	77216	02/13/15 22:30	DLK	TAL CF
Total/NA	Prep	3546			77215	02/13/15 15:00	LLS	TAL CF
Total/NA	Analysis	OA-2		1	77212	02/17/15 23:09	BKT	TAL CF

Client Sample ID: C-3

Lab Sample ID: 310-49145-7

Date Collected: 02/11/15 10:05

Matrix: Soil

Date Received: 02/13/15 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			77190	02/13/15 12:52	CMM	TAL CF
Total/NA	Analysis	OA-1 (GC)		1	77216	02/13/15 22:58	DLK	TAL CF
Total/NA	Prep	3546			77215	02/13/15 15:00	LLS	TAL CF
Total/NA	Analysis	OA-2		1	77212	02/18/15 00:02	BKT	TAL CF

Client Sample ID: C-4

Lab Sample ID: 310-49145-8

Date Collected: 02/11/15 08:45

Matrix: Soil

Date Received: 02/13/15 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			77190	02/13/15 12:52	CMM	TAL CF
Total/NA	Analysis	OA-1 (GC)		1	77216	02/13/15 23:27	DLK	TAL CF
Total/NA	Prep	3546			77215	02/13/15 15:00	LLS	TAL CF
Total/NA	Analysis	OA-2		1	77212	02/18/15 00:55	BKT	TAL CF

Laboratory References:

Servitech = Servitech Labs, 1602 Park West Drive, Hastings, NE 68901, TEL (402)463-3522
TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

Definitions/Glossary

Client: Seneca Companies
Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
SDG: 6360850

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
Z	The chromatographic response does not resemble a typical fuel pattern.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Seneca Companies
Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
SDG: 6360850

Laboratory: TestAmerica Cedar Falls

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-16
Georgia	State Program	4	N/A	09-29-15
Illinois	NELAP	5	200024	11-29-15
Iowa	State Program	7	007	12-01-15
Kansas	NELAP	7	E-10341	01-31-15 *
Minnesota	NELAP	5	019-999-319	12-31-15
North Dakota	State Program	8	R-186	09-29-15
Oregon	NELAP	10	IA100001	09-29-15
Wisconsin	State Program	5	999917270	08-31-15

* Certification renewal pending - certification considered valid.

TestAmerica Cedar Falls



Method Summary

Client: Seneca Companies
Project/Site: Daves Welding & Repair

TestAmerica Job ID: 310-49145-1
SDG: 6360850

Method	Method Description	Protocol	Laboratory
OA-1 (GC)	Volatile Petroleum Hydrocarbons (GC)	Iowa DNR	TAL CF
OA-2	Iowa - Extractable Petroleum Hydrocarbons (GC)	Iowa DNR	TAL CF
Local Method	General Sub Contract Method	NONE	Servitech

Protocol References:

Iowa DNR = Iowa Department of Natural Resources
NONE = NONE

Laboratory References:

Servitech = Servitech Labs, 1602 Park West Drive, Hastings, NE 68901, TEL (402)463-3522
TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401





SOIL ANALYSIS REPORT

CLIENT:
21450

TEST AMERICA
704 ENTERPRISE DR
CEDAR FALLS, IA 50613



1602 Park West Dr.
PO Box 169
Hastings, NE 68902
800.557.7509
402.463.3522
Fax 402.463.8132

LAB NO: 78339
INVOICE NO: 604343
DATE RECEIVED: 02/19/2015
DATE REPORTED: 02/23/2015

SOIL ANALYSIS RESULTS FOR: TEST AMERICA

METHOD USED: 1.1 Water-Sol, 1.1 Water-Sol, 1.1 Buffer, 1.1 % Organic Matter, 1.1 Excess Lime, 1.1 Cd Reduction, 1.1 Molybdenum, 1.1 Phosphorus, 1.1 Potassium, 1.1 Sulfur, 1.1 Calcium, 1.1 Magnesium, 1.1 Sodium, 1.1 Zinc, 1.1 Iron, 1.1 Manganese, 1.1 Copper, 1.1 Boron

Lab Number	78339	Sample ID	310-49145-1	Sample Depth	0 - 6	Soil pH	7.7	Buffer pH		Water-Sol	0.53	Excess Lime	L0	% Organic Matter	0.8	Cd Reduction	<2	Molybdenum	17	Phosphorus	191	Potassium	18	Sulfur	32	Calcium	3095	Magnesium	791	Sodium	219	Zinc		Iron		Manganese		Copper		Boron	
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FERTILIZER RECOMMENDATIONS:

Yield Goal: _____

Crop To Be Grown: _____

Lime, ECC Tons/A to raise pH to: 6.0, 6.5, 7.0

POUNDS ACTUAL NUTRIENT PER ACRE

N	P ₂ O ₅	K ₂ O	Zn	S	Mn	Cu	MgO	B	Ca	Cl

Cation Exchange Capacity

CEC	%H	%Ca	%Mg	%Na
24	0	2	66	28

SPECIAL COMMENTS AND SUGGESTIONS:

Lab Number(s): 78339
Serv-Tech Laboratory fertilizer recommendations were not requested.

Analyses are representative of the samples submitted
 Samples are retained 30 days after report of analysis
 Explanations of soil analysis terms are available upon request

Reviewed and Approved By: Hans Burken
 Agronomist

Hans Burken

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SOIL ANALYSIS REPORT

CLIENT:
 TEST AMERICA
 704 ENTERPRISE DR
 CEDAR FALLS, IA 50613

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LAB NO: 78340
INVOICE NO: 604343
DATE RECEIVED: 02/19/2015
DATE REPORTED: 02/23/2015

SOIL ANALYSIS RESULTS FOR: TEST AMERICA										FIELD IDENTIFICATION: DAVES WELDING A2												
METHOD USED:										Ammonium Acetate												
Lab Number	Sample ID	Sample Depth	Water-Soil pH	Soil pH	Water-Soil mmoles/cm	Soil Salts	Excess Lime	LO(f)	Ca Reduction	Mehlich 3 Phosphorus	Ammonium	Potassium	Sulfur	Calcium	Magnesium	Sodium	Zinc	Copper	Iron	Manganese	Barium	
78340	310-49145-2	0 - 6	7.7	7.7	0.80	Lo	0.9	<1	<2	19	156	11	20	3065	716	497						

FERTILIZER RECOMMENDATIONS:

Lab Number	Sample ID	Crop To Be Grown	Yield Goal	Lime, ECC Tons/A to raise pH to	N	P ₂ O ₅	K ₂ O	Zn	S	Min	Cu	MgO	B	Ca	Cl
78340	310-49145-2			6.0	6.5	7.0									

SPECIAL COMMENTS AND SUGGESTIONS:
 Lab Number(s): 78340
 Servi-Tech Laboratory fertilizer recommendations were not requested.
 Lab Number(s): 78340
WARNING: Soil sodium (% Na) is high. Typical symptoms of a sodium problem are soil sealing, crusting, and poor water penetration. Applying gypsum may be beneficial, but additional soil analysis may be required to determine the rate. If irrigated, water analysis can help identify the sodium source. Contact the laboratory for more information.

Analyses are representative of the samples submitted
 Samples are retained 30 days after report of analysis
 Explanations of soil analysis terms are available upon request

Reviewed and Approved By: Hans Burken
 Agronomist

Hans Burken

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SOIL ANALYSIS REPORT

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CLIENT:
21450

LAB NO:
78341
INVOICE NO:
604343
DATE RECEIVED:
02/19/2015
DATE REPORTED:
02/23/2015

**Servi-Tech
Laboratories**
www.servitechlabs.com

SOIL ANALYSIS RESULTS FOR: TEST AMERICA										FIELD IDENTIFICATION: DAVES WELDING A3															
METHOD USED:										Ammonium Acetate															
Lab Number	Sample ID	Sample Depth	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol	Wet/Sol					
78341	310-49145-3	0 - 6	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5					
FERTILIZER RECOMMENDATIONS:										POUNDS ACTUAL NUTRIENT PER ACRE															
Lab Number	Sample ID	Crop To Be Grown	Yield Goal	Lime, ECC Tons/A to raise pH to	6.0	6.5	7.0	N	P2O5	K2O	Zn	S	Min	Cu	MgO	B	Ca	Cl	Cation Exchange Capacity						
78341	310-49145-3			6.0	6.5	7.0														CEC	%H	%K	%Ca	%Mg	%Na
																				20	0	1	61	27	10

SPECIAL COMMENTS AND SUGGESTIONS:
 Lab Number(s): 78341
 Servi-Tech Laboratory fertilizer recommendations were not requested.
 Lab Number(s): 78341
WARNING: Soil sodium (% Na) is high. Typical symptoms of a sodium problem are soil sealing, crusting, and poor water penetration. Applying gypsum may be beneficial, but additional soil analysis may be required to determine the rate. If irrigated, water analysis can help identify the sodium source. Contact the laboratory for more information.

Analyses are representative of the samples submitted
 Samples are retained 30 days after report of analysis
 Explanations of soil analysis terms are available upon request
 Reviewed and Approved By: Hans Burken
 Agronomist
Hans Burken
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SOIL ANALYSIS REPORT

CLIENT:
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LAB NO: 78342
INVOICE NO: 604343
DATE RECEIVED: 02/19/2015
DATE REPORTED: 02/23/2015

SOIL ANALYSIS RESULTS FOR: TEST AMERICA										FIELD IDENTIFICATION: DAVES WELDING A4																			
METHOD USED:					Ammonium Acetate					Ammonium Acetate					Ammonium Acetate														
Lab Number	Sample ID	Sample Depth	Water: Soil pH	Soil pH	Water: Soil pH	Soil pH	Water: Soil pH	Soil pH	Water: Soil pH	Soil pH	Water: Soil pH	Soil pH	Water: Soil pH	Soil pH	Water: Soil pH	Soil pH	Water: Soil pH	Soil pH	Water: Soil pH	Soil pH									
78342	310-49145-4	0 - 6	8.2	8.2	0.86	Lo	0.5	<1	29	<2	29	138	16	29	2847	617	579												
FERTILIZER RECOMMENDATIONS:																													
Crop To Be Grown										Yield Goal																			
Lime, ECC Tens/A to raise pH to										Lime, ECC Tens/A to raise pH to																			
6.0										6.5										7.0									
N										P2O5										K2O									
S										Zn										Cu									
Mn										B										MgO									
Cl										Ca										Mg									
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SOIL ANALYSIS REPORT

CLIENT:
21450
TEST AMERICA
704 ENTERPRISE DR
CEDAR FALLS, IA 50613



1602 Park West Dr.
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Fax 402.463.8132

LAB NO: 78343
INVOICE NO: 604343
DATE RECEIVED: 02/19/2015
DATE REPORTED: 02/23/2015

SOIL ANALYSIS RESULTS FOR: TEST AMERICA

FIELD IDENTIFICATION: DAVES WELDING B3

Lab Number	Sample ID	Sample Depth	Water-Sol Soil pH	Soil pH	Buffer pH	Water-Sol Soil Nitrate-Nitrogen ppm	CO ₂ Reductor Nitrate-Nitrogen ppm	Mehlich 3 Phosphorus ppm P	Ammonium Acetate Sulfur ppm	Calcium ppm Ca	Magnesium ppm Mg	Sodium ppm Na	Zinc ppm Zn	Iron ppm Fe	Manganese ppm Mn	Copper ppm Cu	Boron ppm B	Cation Exchange Capacity					
																		CEC %H	%K	%Ca	%Na		
78343	310-49145-5	0 - 6	7.6	7.6	<1	<2	30	137	10	18	2994	773	494					24	0	1	63	27	9

FERTILIZER RECOMMENDATIONS:

Lab Number(s): 78343
Serv-Tech Laboratory fertilizer recommendations were not requested.

Lab Number(s): 78343
WARNING: Soil sodium (% Na) is high. Typical symptoms of a sodium problem are soil sealing, crusting, and poor water penetration. Applying gypsum may be beneficial, but additional soil analysis may be required to determine the rate. If irrigated, water analysis can help identify the sodium source. Contact the laboratory for more information.

SPECIAL COMMENTS AND SUGGESTIONS:

Analyses are representative of the samples submitted
Reviewed and Approved By: Hans Burken
Agronomist

Explanations of soil analysis terms are available upon request
Page 1 of 1
02/23/2015 11:15 am

Signatures: *Hans Burken*



SOIL ANALYSIS REPORT

CLIENT: 21450	TEST AMERICA 704 ENTERPRISE DR CEDAR FALLS, IA 50613
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LAB NO: 78344
INVOICE NO: 604343
DATE RECEIVED: 02/19/2015
DATE REPORTED: 02/23/2015

METHOD USED:		FIELD IDENTIFICATION: DAVES WELDING B4																				
Lab Number	Sample ID	Water-Sol Soil pH	Water-Sol Soil Salts mmol/L	Buffer pH	Excess Lime	LOI(%) % Organic matter	Cd Reduction Nitrate-Nitrogen ppm to N/A	Mehlich 3 Phosphorus ppm P	Potassium ppm K	Sulfur ppm S/A	Calcium ppm Ca	Magnesium ppm Mg	Sodium ppm Na	Zinc ppm Zn	Iron ppm Fe	Manganese ppm Mn	Copper ppm Cu	Barium ppm B				
78344	310-49145-6	7.7	0.64		Lo	1.1	<1	28	145	11	20	3286	785	464								
FERTILIZER RECOMMENDATIONS:																						
Lab Number	Sample ID	Crop To Be Grown	Yield Goal	Lime, ECC Tons/A to raise pH to		N		P ₂ O ₅	K ₂ O	S	Mn	Cu	MgO	B	Ca	Cl	Cation Exchange Capacity					
78344	310-49145-6			6.0	6.5	7.0											CEC	%H	%Ca	%Mg	%Na	
																	25	0	1	65	26	8

SPECIAL COMMENTS AND SUGGESTIONS:

Lab Number(s): 78344
 Servi-Tech Laboratory fertilizer recommendations were not requested.
 Lab Number(s): 78344
CAUTION: Soil sodium (% Na) is higher than normal and may indicate a developing problem. If irrigated, an irrigation water analysis can help identify the sodium source. Contact the laboratory for details.
 Lab Number(s): 78344
WARNING: Soil sodium (% Na) is high. Typical symptoms of a sodium problem are soil sealing, crusting, and poor water penetration. Applying gypsum may be beneficial, but additional soil analysis may be required to determine the rate. If irrigated, water analysis can help identify the sodium source. Contact the laboratory for more information.

Analyses are representative of the samples submitted
 Samples are retained 30 days after report of analysis
 Reviewed and Approved By: Hans Burken Agronomist
 Explanations of soil analysis terms are available upon request
 Approved By: *Hans Burken*
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SOIL ANALYSIS REPORT

CLIENT:
21450

TEST AMERICA
704 ENTERPRISE DR
CEDAR FALLS, IA 50613



1602 Park West Dr.
PO Box 169
Hosfings, NE 68902
800.557.7509
402.463.3522
Fax 402.463.8132

LAB NO: 78345
INVOICE NO: 604343
DATE RECEIVED: 02/19/2015
DATE REPORTED: 02/23/2015

SOIL ANALYSIS RESULTS FOR: TEST AMERICA															
METHOD USED: 1.1 Water-Soil															
Lab Number	Sample ID	Sample Depth	Soil pH	Buffer pH	Water-Sol Sol Salts mmol/L	Excavate Lime	LO (p)	Cd Reduction	Mehlich 3 Phosphorus ppm P	Potassium ppm K	Ammonium Acetate				
78345	310-49145-7	0 - 6	7.8		0.76	Lo	1.2	<1	21	91	20				
FERTILIZER RECOMMENDATIONS:															
Lab Number	Sample ID	Crop To Be Grown	Yield Gall	Urea, ECC TomPA to raise pH to	N	P2O5	K2O	Zn	S	Mn	Cu	MgO	B	Ca	Cl
78345	310-49145-7			6.0 6.5 7.0											
FIELD IDENTIFICATION: DAVES WELDING C3															
POUNDS ACTUAL NUTRIENT PER ACRE															
Cation Exchange Capacity															
CEC	%H	%C	%Ca	%Mg	%Na										
27	0	1	71	22	6										

SPECIAL COMMENTS AND SUGGESTIONS:
 Lab Number(s): 78345
 Servi-Tech Laboratory fertilizer recommendations were not requested.
 Lab Number(s): 78345
 CAUTION: Soil sodium (% Na) is higher than normal and may indicate a developing problem. If irrigated, an irrigation water analysis can help identify the sodium source. Contact the laboratory for details.

Analyses are representative of the samples submitted
 Samples are retained 30 days after report of analysis
 Explanations of soil analysis terms are available upon request

Reviewed and Approved By: Hans Burken
 Agronomist

Hans Burken

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SOIL ANALYSIS REPORT

CLIENT: TEST AMERICA 21450 704 ENTERPRISE DR CEDAR FALLS, IA 50613	1602 Park West Dr. PO Box 169 Hastings, NE 68902 800.557.7509 402.463.3522 Fax 402.463.8132	LAB NO: 78346 INVOICE NO: 604343 DATE RECEIVED: 02/19/2015 DATE REPORTED: 02/23/2015
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SOIL ANALYSIS RESULTS FOR: TEST AMERICA										FIELD IDENTIFICATION: DAVES WELDING C4										
Lab Number	Sample ID	Sample Depth	1:1 Water:Soil pH	1:1 Soil pH	1:1 Water:Soil pH	1:1 Water:Soil Nitrogen	LOI(%)	CO Reduction	Methion S	Potassium ppm K	Sulfur to S/A ppm	Calcium ppm Ca	Magnesium ppm Mg	Sodium ppm Na	Zinc ppm Zn	Iron ppm Fe	Manganese ppm Mn	Copper ppm Cu	Boron ppm B	
78346	310-49145-8	0 - 6	7.7	7.7	0.67	0.4	<1	<2	55	149	9	16	2749	779	368					
FERTILIZER RECOMMENDATIONS: Crop To Be Grown: _____ Yield Goal: _____ Lime, ECC Tons/A to raise pH to: 6.0 - 6.5 - 7.0 N: _____ P2O5: _____ K2O: _____ S: _____ Zn: _____ Cu: _____ Mn: _____ Ca: _____ Cl: _____ POUNDS ACTUAL NUTRIENT PER ACRE: _____ Cation Exchange Capacity CEC %H: 22 %K: 0 %Ca: 2 %Mg: 29 %Na: 7																				

SPECIAL COMMENTS AND SUGGESTIONS:
 Lab Number(s): 78346
 Servi-Tech Laboratory fertilizer recommendations were not requested.
 Lab Number(s): 78346
 CAUTION: Soil sodium (% Na) is higher than normal and may indicate a developing problem. If irrigated, an irrigation water analysis can help identify the sodium source. Contact the laboratory for details.

Analyses are representative of the samples submitted
 Samples are retained 30 days after report of analysis
 Explanations of soil analysis terms are available upon request
 Reviewed and Approved By: Hans Burken
 Agronomist
Hans Burken
 02/23/2015 11:16 am





310-49145 Chain of Custody

Client: Seneca Project: Dave's Welding & Repair
 City: _____ State: _____
 Date: 2-13-15 Receiver's Initials: CH Time (Delivered): 8:50

Temperature Record:

Cooler ID# (If Applicable)
QC
 Uncorrected Temp:
0.3 °C
 Corrected Temp:
0.2 °C

Thermometer:

IR "E" - 111531506
 IR "Front" - 61854108
 IR "G" - 130195822
 IR "H" - 130195853
 Other: _____

Courier:

UPS TA Courier
 FedEx TA Field Services
 FedEx Ground Client
 US Postal Service Other: _____
 Spee-Dee _____

Temperature blank
 Temperature out of compliance

Coolant Record:

Received on ice
 Wet ice
 Blue ice
 Dry ice
 Other: _____
 NONE

Exceptions Noted:

Sample(s) not received in cooler
 Sample(s) received same day of sampling
 Evidence of chilling process
 Temp blank <0°C, samples NOT FROZEN
 Temp blank <0°C, samples FROZEN
 Temperature not taken: *(indicate reason)*

 Non-Conformance Report Started

Custody Seals:

Cooler Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Cooler Custody Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Custody Seals Intact? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A



Login Sample Receipt Checklist

Client: Seneca Companies

Job Number: 310-49145-2

SDG Number: 6360850

Login Number: 49145

List Source: TestAmerica Cedar Falls

List Number: 1

Creator: Facciani, Melene K

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	False	Sample splitting required for subcontract purposes.
Residual Chlorine Checked.	N/A	

