Carson Dorn, Inc.

712 West 12th Street Juneau, Alaska 99801

February 19, 2013

Ms. Denise Elston, Environmental Program Specialist Alaska Department of Environmental Conservation Regulatory Development and Implementation Section 410 Willoughby Avenue, Suite 303 Juneau, Alaska 99811

Re: Eaglecrest Ski Area Maintenance Shop Site - Groundwater Monitoring

Dear Ms. Elston,

This letter summarizes the results of groundwater well installation and sampling conducted by Carson Dorn, Inc. (CDI) at the Eaglecrest Ski Area Maintenance Shop Site in Juneau, Alaska.

In 1991, soil and groundwater contamination was discovered during a routine site assessment of four underground storage tanks (USTs) at the maintenance shop. In 1997, soil and groundwater contamination was discovered during removal of nine USTs. Two of the USTs were 5,000 gallon and 500 gallon USTs located at the Ski Lodge, the third was a 1,500 gallon diesel UST located at the Platter Pull Lift Terminal, the fourth was a 10,000 diesel UST located at the Ptarmigan Lift Terminal, four of the diesel USTs (2 - 2,000 gallon USTs) and 2 - 10,000 gallon USTs) were located at the east end of the Maintenance Building, and the ninth tank was a 6,000 gallon diesel UST located at the Hooter Lift Terminal. As part of the removal, approximately 500 cubic yards of material was stockpiled off-site and later remediated but contaminated soil remains on-site. Four groundwater wells were installed and sampled in 1998; all groundwater samples had elevated diesel contamination (9.3 mg/L in MW-1, 28 mg/L in MW-2, 8.3 mg/L in MW-3, and 7.4 mg/L in MW-4). All groundwater samples were non-detect for total BTEX. Two additional water samples were collected in 1998. One from the monitoring well port at the old tanks and one from about 100 feet downstream from the work area in Fish Creek. Both samples were non-detect for DRO and total BTEX.

The results of site assessment and removal actions to date are presented in the following documents:

- Montgomery Watson. UST Site Assessment Eaglecrest Ski Area. March 1998.
- Smith Bayliss LeResche, Inc. *Test Wells, Soils/Water Sampling at Eaglecrest Maintenance Shop.* October 22, 1998.

In order to determine the extent of groundwater contamination and evaluate potential impacts to the adjacent Fish Creek, Denali Drilling was subcontracted to install three



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new permanent groundwater monitoring wells. Efforts to locate the four wells installed in 1998 were unsuccessful or the wells were damaged and unable to be sampled.

On October 25, 2012, two permanent groundwater monitoring wells (MW-1 and MW-2) were installed. The monitoring wells are 10 feet in depth with 5 feet PVC screens. From the bottom of the wells, there is about 1 to 2 feet of existing gravel and sand material, then 5 to 6 feet of silica sand topped by 2 feet bentonite seals. The flush mounted well covers are on top of the bentonite seals. Depth to groundwater was 8 feet in both MW-1 and MW-2 during installation.

The planned monitoring well nearest Fish Creek was not installed due to repeated refusal due to cobbles and large boulders. Edmon Cruz of R&M Engineering, instructed the driller to move the well location several times, on the fourth location the drill hit an underground culvert pipe and a decision was made to discontinue drilling.

Groundwater sampling for diesel range organics (DRO), residual range organics (RRO), and benzene, toluene, ethylbenzene, and xylenes (BTEX) was conducted at MW-1 and MW-2 on January 4, 2013. DRO was detected at a concentration of 0.85 mg/L in MW-1 (0.754 mg/L in MW-1 and 0.959 mg/L in MW-D) and 1.07 mg/L in MW-2 which is below the ADEC groundwater cleanup level of 1.5 mg/L. RRO was detected at a concentration of 0.54 mg/L in MW-1 (0.545 mg/L in MW-1 and 0.542 mg/L in MW-D) and 0.638 mg/L in MW-2 which is below the ADEC groundwater cleanup level of 1.1 mg/L. BTEX were not detected in the samples.

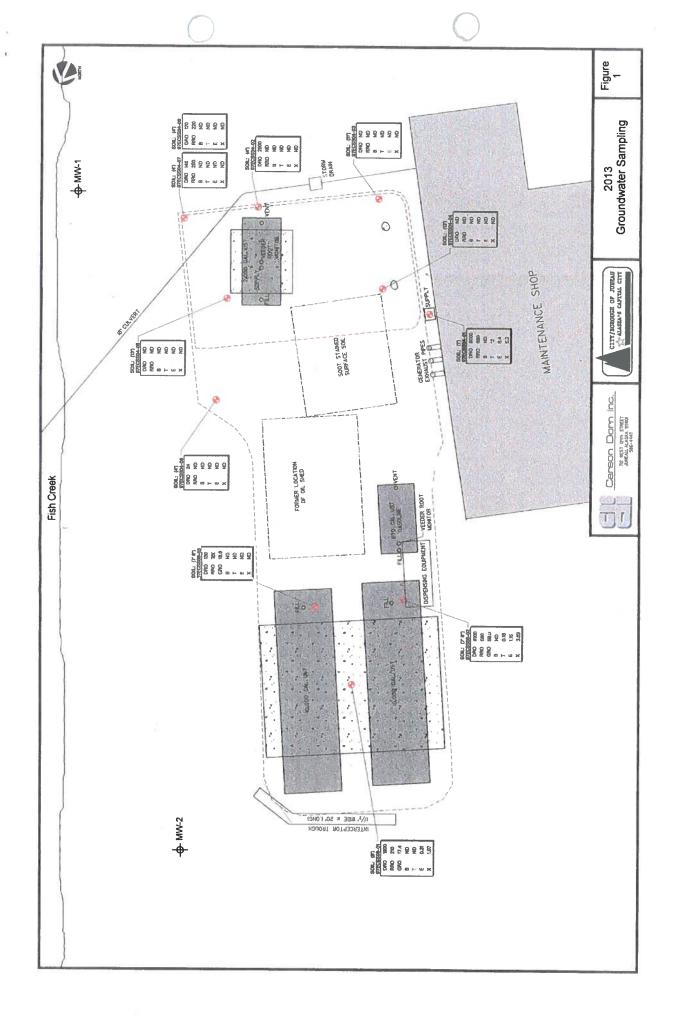
The locations of the removed tanks along with limits of the historical excavation and the new monitoring wells are depicted on Figure 1. The laboratory analytical report, and laboratory data review checklist are included as Attachment A.

The groundwater sampling of MW-1 and MW-2 indicates existing residual contamination is below ADEC groundwater cleanup levels and contaminated groundwater does not appear likely to be impacting Fish Creek. CDI requests a "closure determination" for the site.

Please don't hesitate to contact me at 586-4447 if you have any questions.

Sincerely

Jolene M Cox, Environmental Professional





THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Anchorage 2000 West International Airport Road Suite A10 Anchorage, AK 99502-1119 Tel: (907) 563-9200

TestAmerica Job ID: AWA0005

Client Project/Site: [none] Client Project Description: Eaglecrest Maint. Bldg

For:

Carson Dorn, Inc. 712 W. 12th Street Juneau, AK/USA 99801

Attn: Jolene Cox

Johanna Dreher

Authorized for release by: 1/23/2013 11:26:08 AM

Johanna L Dreher Client Services Manager johanna.dreher@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

..... LINKS **Review your project** results through Total Access **Have a Question?** Ask The Expert Visit us at: www.testamericainc.com

TestAmerica Job ID: AWA0005

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Detection Summary	5
Client Sample Results	6
Surrogate Summary	8
QC Sample Results	10
QC Association Summary	13
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18

Definitions/Glossary

Client: Carson Dorn, Inc. Project/Site: [none]

TestAmerica Job ID: AWA0005

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Project/Site: [r		2
Qualifiers		3
Fuels		4
Qualifier	Qualifier Description	1.40
Q4	The hydrocarbons present are a complex mixture of diesel range and heavy oil range organics.	B
GC Volatiles		9
Qualifier	Qualifier Description	B
R4	Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.	
Glossary		
Abbreviation	These commonly used abbreviations may or may not be present in this report.	8
¢	Listed under the "D" column to designate that the result is reported on a dry weight basis	9
%R	Percent Recovery	3
CNF	Contains no Free Liquid	40
DER	Duplicate error ratio (normalized absolute difference)	10
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC S	Decision level concentration	
EDL	Estimated Detection Limit	15-18-5
EPA	United States Environmental Protection Agency	12
MDA	Minimum detectable activity	I South
MDC	Minimum detectable concentration	13
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	14
ND	Not detected at the reporting limit (or MDL or EDL if shown)	

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¢	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC S	Decision level concentration
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
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)

TestAmerica Anchorage

Client: Carson Dorn, Inc. Project/Site: [none]

TestAmerica Job ID: AWA0005

Job ID: AWA0005

Laboratory: TestAmerica Anchorage

Narrative Receipt

All samples were received in good condition within temperature requirements.

Detection Summary

Client: Carson Dorn, Inc. Project/Site: [none]

TestAmerica Job ID: AWA0005

					Lab	Sample ID:	AWA0005-01
Result	Qualifier	RL	MDL	Unit	Dil Fac	Method	Ргер Туре
0.754	Q4	0.400		mg/l	1.00	AK102/103	Total
0.545	Q4	0.400		mg/l	1.00	AK102/103	Total
					Lab	Sample ID:	AWA0005-02
Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
0.959	Q4	0.391	<u>6</u>	mg/l	1.00	AK102/103	Total
0.542	Q4	0.391		mg/l	1.00	AK102/103	Total
					Lab	Sample ID:	AWA0005-03
			MDI	Unit	Dil Fac D	Method	Ргер Туре
Result	Qualifier	RL	MDL	onne	Dil Fac D	methou	Lich Likhe
Result 1.07		0.391	MDL	mg/l	1.00	AK102/103	Total
	Q4		mDL				
1.07	Q4	0.391	MDL	mg/l	1.00	AK102/103	Total
1.07	Q4	0.391	MDL	mg/l	1.00	AK102/103	Total
1.07	Q4	0.391		mg/l	1.00	AK102/103	Total
	0.754 0.545 Result 0.959	ResultQualifier0.754Q40.545Q4ResultQualifier0.959Q40.542Q4	0.754 Q4 0.400 0.545 Q4 0.400 Result Qualifier RL 0.959 Q4 0.391	0.754 Q4 0.400 0.545 Q4 0.400 Result Qualifier RL MDL 0.959 Q4 0.391 1	0.754 Q4 0.400 mg/l 0.545 Q4 0.400 mg/l Result Qualifier RL MDL Unit 0.959 Q4 0.391 mg/l	Result Qualifier RL MDL Unit Dil Fac Dil 0.754 Q4 0.400 mg/l 1.00 1.00 0.545 Q4 0.400 mg/l 1.00 1.00 Lab Result Qualifier RL MDL Unit Dil Fac Dil 0.959 Q4 0.391 mg/l 1.00	0.754 Q4 0.400 mg/l 1.00 AK102/103 0.545 Q4 0.400 mg/l 1.00 AK102/103 Lab Sample ID: Result Qualifier RL MDL Unit Dil Fac D Method 0.959 Q4 0.391 mg/l 1.00 AK102/103

Analyte	Result	Qualifier	RL	MUL UNIT	Dil Fac	D	Method	Prép Type	
Diesel Range Organics	1.07	Q4	0.391	mg/l	1.00		AK102/103	Total	adra -
Residual Range Organics	0.638	Q4	0.391	mg/l	1.00		AK102/103	Total	

This Detection Summary does not include radiochemical test results.

Client Sample Results

TestAmerica Job ID: AWA0005

Client:	Carson	Dorn,	Inc
Project	/Site: [r	none]	

Client Sample ID: MW-1

Lab Sample ID: AWA0005-01

Date Collected: 01/04/13 11:00 Date Received: 01/09/13 08:20

Matrix: Water		Matrix:	Water
---------------	--	---------	-------

	Q4 Qualifier	0.400 0.400 <u>Limits</u> 50 - 150 50 - 150		mg/l mg/l		01/16/13 08:04 01/16/13 08:04 Prepared 01/16/13 08:04 01/16/13 08:04	01/17/13 12:55 01/17/13 12:55 Analyzed 01/17/13 12:55 01/17/13 12:55	1.00 1.00 <i>Dil Fac</i> 1.00 1.00
%Recovery 110 109 PA Method 800 Result	Qualifier 21B	Limits 50 - 150 50 - 150		mg/l		Prepared 01/16/13 08:04	Analyzed 01/17/13 12:55	Dil Fac 1.00
110 109 PA Method 802 Result	21B	50 - 150 50 - 150				01/16/13 08:04	01/17/13 12:55	1.00
109 PA Method 802 Result		50 - 150						
PA Method 802 Result						01/16/13 08:04	01/17/13 12:55	1.00
Result		Di						
	Qualifier	DI						
		RL.	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ND		0.500		ug/l		01/10/13 10:27	01/10/13 16:11	1.00
ND		0.500		ug/l		01/10/13 10:27	01/10/13 16:11	1.00
ND		0.500		ug/i		01/10/13 10:27	01/10/13 16:11	1.00
ND		1.50		ug/l		01/10/13 10:27	01/10/13 16:11	1.00
%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
98.6		50 - 150				01/10/13 10:27	01/10/13 16:11	1.00
97.1		50 - 150				01/10/13 10:27	01/10/13 16:11	1.00
						Lab Samp	le ID: AWA0	005-02
	ND ND %Recovery 98.6	ND ND %Recovery Qualifier 98.6	ND 0.500 ND 1.50 %Recovery Qualifier Limits 98.6 50 - 150	ND 0.500 ND 1.50 %Recovery Qualifier Limits 98.6 50 - 150	ND 0.500 ug/i ND 1.50 ug/i %Recovery Qualifier Limits 98.6 50 - 150	ND 0.500 ug/l ND 1.50 ug/l %Recovery Qualifier Limits 98.6 50 - 150	ND 0.500 ug/i 01/10/13 10:27 ND 1.50 ug/i 01/10/13 10:27 %Recovery Qualifier Limits Prepared 98.6 50 - 150 01/10/13 10:27 97.1 50 - 150 01/10/13 10:27	ND 0.500 ug/l 01/10/13 10:27 01/10/13 16:11 ND 1.50 ug/l 01/10/13 10:27 01/10/13 16:11 %Recovery Qualifier Limits Prepared Analyzed 98.6 50 - 150 01/10/13 10:27 01/10/13 10:11

Date Received: 01/09/13 08:20

Analyte	Result	Qualifier	RL	MDL.	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	0.959	Q4	0.391		mg/l		01/16/13 08:04	01/17/13 13:28	1.00
Residual Range Organics	0.542	Q4	0.391		mg/l		01/16/13 08:04	01/17/13 13:28	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	106		50 - 150				01/16/13 08:04	01/17/13 13:28	1.00
Triacontane	104		50 - 150				01/16/13 08:04	01/17/13 13:28	1.00
Method: EPA 8021B - BTEX b Analyte	* · · · · · · · · · · · · · · · · · · ·	21B Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	ND		0.500		ug/l		01/10/13 10:27	01/10/13 16:38	1.00
Toluene	ND		0.500		ug/l		01/10/13 10:27	01/10/13 16:38	1.00
Ethylbenzene	ND		0.500		ug/l		01/10/13 10:27	01/10/13 16:38	1.00
Xylenes (total)	ND		1.50		ug/l		01/10/13 10:27	01/10/13 16:38	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
	104		50 - 150				01/10/13 10:27	01/10/13 16:38	1.00
4-BFB (PID)	101								

Client Sample ID: MW-2

Date Collected: 01/04/13 13:15 Date Received: 01/09/13 08:20

Lab Sample ID: AWA0005-03 Matrix: Water

Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed **Dil Fac Diesel Range Organics** 1.07 Q4 0.391 mg/l 01/16/13 08:04 01/17/13 14:00 1.00 **Residual Range Organics** 0.638 Q4 0.391 01/16/13 08:04 01/17/13 14:00 mg/l 1.00

TestAmerica Anchorage

Client Sample Results

Client: Carson Dorn, Inc. Project/Site: [none]

Client Sample ID: MW-2

Date Collected: 01/04/13 13:15 Date Received: 01/09/13 08:20

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	107		50 - 150				01/16/13 08:04	01/17/13 14:00	1.00
Triacontane	112		50 - 150				01/16/13 08:04	01/17/13 14:00	1.00
Method: EPA 8021B - BTEX by	EPA Method 80	21B							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND	*******	0.500		ug/l		01/10/13 10:27	01/10/13 17:05	1.00
Toluene	ND		0.500		ug/l		01/10/13 10:27	01/10/13 17:05	1.00
Ethylbenzene	ND		0.500		ug/I		01/10/13 10:27	01/10/13 17:05	1.00
Xylenes (total)	ND		1.50		ug/l		01/10/13 10:27	01/10/13 17:05	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (PID)	105		50 - 150				01/10/13 10:27	01/10/13 17:05	1.00
a,a,a-TFT (PID)	102		50 - 150				01/10/13 10:27	01/10/13 17:05	1.00

 TestAmerica Job ID: AWA0005
 2

 Lab Sample ID: AWA0005-03
 3

 Matrix: Water
 3

 Prepared
 Analyzed
 Dil Fac

 01/16/13 08:04
 01/17/13 14:00
 1.00

 01/16/13 08:04
 01/17/13 14:00
 1.00

 Prepared
 Analyzed
 Dil Fac

 01/16/13 08:04
 01/17/13 14:00
 1.00

 01/16/13 08:04
 01/17/13 14:00
 1.00

 01/16/13 08:04
 01/17/13 14:00
 1.00

 01/16/13 08:04
 01/17/13 14:00
 1.00

 01/16/13 08:04
 01/17/13 14:00
 1.00

 01/16/13 08:04
 01/17/13 14:00
 1.00

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Surrogate Summary

Client: Carson Dorn, Inc. Project/Site: [none]

Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Matrix: Water

per AK102/RRO Matrix: Water				Prep Type: Total	4
				Percent Surrogate Recovery (Acceptance Limits)	5
		1COD	TC		
Lab Sample ID	Client Sample ID	(50-150)	(50-150)		6
13A0012-BLK1	Method Blank	103	103		
13A0012-DUP1	MW-1	94.1	97.4		7
AWA0005-01	MW-1	110	109		
AWA0005-02	MW-D	106	104		•
AWA0005-03	MW-2	107	112		8
Surrogate Legend					9
1COD = 1-Chlorooct	tadecane				
TC = Triacontane					10
	103 - Diesel Range Orgar	nics (C10-C25)	and Re	sidual Range Organics (C25-C36)	
per AK102/RRO					1 Piers
Matrix: Water				Prep Type: Total	12
				Percent Surrogate Recovery (Acceptance Limits)	13
		1COD	TC		10

Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36)

per AK102/RRO

Matrix: Water				Prep Type: Total
				Percent Surrogate Recovery (Acceptance Limits)
		1COD	TC	
Lab Sample ID	Client Sample ID	(60-120)	(60-120)	
13A0012-BS1	Lab Control Sample	104	109	
13A0012-BSD1	Lab Control Sample Dup	91.4	98.6	

Surrogate Legend

1COD = 1-Chlorooctadecane

TC = Triacontane

Method: EPA 8021B = BTEX by EPA Method 8021B

Matrix: Water

				Percent Surrogate Recovery (Acceptance Limits)
		4-BFB (PID)	a,a-TFT (PII	
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	
13A0011-BLK1	Method Blank	107	109	
13A0011-DUP1	MW-1	98.4	101	
AWA0005-01	MW-1	98.6	97.1	
AWA0005-02	MW-D	104	100	
AWA0005-03	MW-2	105	102	
Surrogate Legend				
4-8FB (PID) = 4-8FB	(PID)			
a,a,a-TFT (PID) = a,a	a,a-TFT (PID)			

Method: EPA 8021B - BTEX by EPA Method 8021B

Matrix: Water

		Percent Surrogate Recovery (Acceptance Limits)							
		4-BFB (PID)	a,a-TFT (Pli						
Lab Sample ID	Client Sample ID	(60-120)	(60-120)						
13A0011-BS1	Lab Control Sample	102	111						
13A0011-BSD1	Lab Control Sample Dup	98.0	102						

TestAmerica Anchorage

TestAmerica Job ID: AWA0005

Prep Type: Total

Prep Type: Total

Client: Carson Dorn, Inc. Project/Site: [none]

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Surrogate Legend

4-BFB (PID) = 4-BFB (PID) a,a,a-TFT (PID) = a,a,a-TFT (PID) TestAmerica Job ID: AWA0005

TestAmerica Anchorage

QC Sample Results

Client: Carson Dorn, Inc. Project/Site: [none]

TestAmerica Job ID: AWA0005

Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Matrix: Water											Chent S	Sample ID:		
													ер Туре	
Analysis Batch: W000017		lank	Blank									Prep Batc	h: 13A	0012_P
Analyte			Qualifier		RL	MDL	[]m]4		D			A		
Diesel Range Organics	R	ND	Quaimer	0.5		MDL					repared	Analyz		Dil Fac
Residual Range Organics		ND					mg/l				6/13 08:04			1.00
Residual Range Organics		ND		0.5	00		mg/l			01/1	6/13 08:04	01/17/13	10:46	1.00
	B	Blank	Blank											
Surrogate	%Reco	very	Qualifier	Limits						PI	repared	Analyz	ed	Dil Fac
1-Chlorooctadecane		103		50 - 15	0					01/1	6/13 08:04	01/17/13	10:46	1.00
Triacontane		103		50 - 15	0					01/1	6/13 08:04	01/17/13	10:46	1.00
Lab Sample ID: 13A0012-BS1									С	lient	Sample	ID: Lab Co	ontrol S	Sample
Matrix: Water												Pre	ер Туре	: Total
Analysis Batch: W000017												Prep Batc		
				Spike	LCS	LCS						%Rec.		
Analyte				Added	Result	Qual	ifier	Unit		D	%Rec	Limits		
Diesel Range Organics	11 - Yww	art o month Aut		10.2	9.78			mg/l			95.8	75 - 125		
Residual Range Organics				10.4	11.3			mg/l			108	60 - 120		
	LCS	LCS												
Surrogate	%Recovery	Qua	lifier	Limits										
1-Chlorooctadecane	104			60 - 120										
Triacontane	109			60 - 120										
Lab Sample ID: 13A0012-BSD1														
Lab Sample ID. 15A0012-DOD1								С	lient	Sam	ple ID: I	Lab Contro	I Samp	le Dup
Matrix: Water								С	lient	Sam	ple ID: I			
· · · · · · · · · · · · · · · · · · ·								С	lient	Sam	ple ID: I		ер Туре	: Total
Matrix: Water				Spike	LCS Dup	LCS	Dup	С	lient	Sam	ple ID: I	Pre	ер Туре	: Total
Matrix: Water				Spike Added	LCS Dup Result		•	C Unit	lient	Sam D	ple ID: I %Rec	Pre Prep Batc	ер Туре	e: Total 0012_P
Matrix: Water Analysis Batch: W000017					•		•		lient			Prep Batc %Rec.	ep Type h: 13A0	e: Total 0012_P RPD
Matrix: Water Analysis Batch: W000017 Analyte				Added	Result		•	Unit	lient		%Rec	Pre Prep Batc %Rec. Limits	ep Type h: 13A0 RPD	e: Total 0012_P RPD Limit
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics	LCS Duo	LCS	Duo	Added 10.2	Result 8.63		•	Unit mg/l	lient		%Rec 84.6	Prep Batc %Rec. Limits 75 - 125	ep Type h: 13A0 RPD 12.5	e: Total 0012_P RPD Limit
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics	LCS Dup %Recovery		•	Added 10.2	Result 8.63		•	Unit mg/l	lient		%Rec 84.6	Prep Batc %Rec. Limits 75 - 125	ep Type h: 13A0 RPD 12.5	e: Total 0012_P RPD Limit
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics	%Recovery		•	Added 10.2 10.4 Limits	Result 8.63		•	Unit mg/l	lient		%Rec 84.6	Prep Batc %Rec. Limits 75 - 125	ep Type h: 13A0 RPD 12.5	e: Total 0012_P RPD Limit
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics Surrogate	-		•	Added 10.2 10.4	Result 8.63		•	Unit mg/l	lient		%Rec 84.6	Prep Batc %Rec. Limits 75 - 125	ep Type h: 13A0 RPD 12.5	e: Total 0012_P RPD Limit
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics Surrogate 1-Chlorooctadecane	%Recovery 91.4		•	Added 10.2 10.4 <i>Limits</i> 60 - 120	Result 8.63		•	Unit mg/l	lient		%Rec 84.6	Prep Batc %Rec. Limits 75 - 125	ep Type h: 13A(<u>RPD</u> 12.5 11.1	e: Total 0012_P RPD Limit 20 20
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics Surrogate 1-Chlorooctadecane Triacontane	%Recovery 91.4		•	Added 10.2 10.4 <i>Limits</i> 60 - 120	Result 8.63		•	Unit mg/l	lient		%Rec 84.6	Prep Batc %Rec. Limits 75 - 125 60 - 120	ep Type h: 13A(<u>RPD</u> 12.5 11.1	e: Total 0012_P RPD Limit 20 20
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics Surrogate 1-Chlorooctadecane Triacontane Lab Sample ID: 13A0012-DUP1	%Recovery 91.4		•	Added 10.2 10.4 <i>Limits</i> 60 - 120	Result 8.63		•	Unit mg/l	lient		%Rec 84.6	Prep Batc %Rec. Limits 75 - 125 60 - 120 Client San Pre	ep Type h: 13A0 12.5 11.1	e: Total 0012_P RPD Limit 20 20 : MW-1 e: Total
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics Surrogate 1-Chlorooctadecane Triacontane Lab Sample ID: 13A0012-DUP1 Matrix: Water	%Recovery 91.4	Qua	lifier	Added 10.2 10.4 <i>Limits</i> 60 - 120	Result 8.63	Qual	ifier	Unit mg/l	lient		%Rec 84.6	Prep Batc %Rec. Limits 75 - 125 60 - 120	ep Type h: 13A0 12.5 11.1	e: Total 0012_P RPD Limit 20 20 : MW-1 e: Total
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics Surrogate 1-Chlorooctadecane Triacontane Lab Sample ID: 13A0012-DUP1 Matrix: Water	%Recovery 91.4 98.6	Qua	lifier	Added 10.2 10.4 <i>Limits</i> 60 - 120	Result 8.63 10.1	Qual	ifier	Unit mg/l	lient		%Rec 84.6	Prep Batc %Rec. Limits 75 - 125 60 - 120 Client San Pre	ep Type h: 13A0 12.5 11.1	e: Total 0012_P RPD Limit 20 20 : MW-1 e: Total 0012_P
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics Surrogate 1-Chlorooctadecane Triacontane Lab Sample ID: 13A0012-DUP1 Matrix: Water Analysis Batch: W000017	%Recovery 91.4 98.6 Sample	<i>Qua</i> Sam Qua	lifier	Added 10.2 10.4 <i>Limits</i> 60 - 120	Result 8.63 10.1	Qual	ifier	Unit mg/l mg/l	lient	D	%Rec 84.6	Prep Batc %Rec. Limits 75 - 125 60 - 120 Client San Pre	ep Type h: 13A(12.5 11.1 nple ID ep Type h: 13A(e: Total 0012_P RPD Limit 20 20 : MW-1 e: Total 0012_P RPD
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics Surrogate 1-Chlorooctadecane Triacontane Lab Sample ID: 13A0012-DUP1 Matrix: Water Analysis Batch: W000017 Analyte	%Recovery 91.4 98.6 Sample Result	Qua Sam Qua Q4	lifier	Added 10.2 10.4 <i>Limits</i> 60 - 120	Result 8.63 10.1 Duplicate Result	Qual	ifier	Unit mg/i mg/i	lient	D	%Rec 84.6	Prep Batc %Rec. Limits 75 - 125 60 - 120 Client San Pre	ep Type h: 13A0 12.5 11.1 nple ID ep Type h: 13A0 RPD	e: Total 0012_P RPD Limit 20 20 20 : MW-1 e: Total 0012_P RPD Limit
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics Surrogate 1-Chlorooctadecane Triacontane Lab Sample ID: 13A0012-DUP1 Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics	%Recovery 91.4 98.6 Sample Result 0.754	Qua Sam Qua Q4 Q4	ple lifier	Added 10.2 10.4 <i>Limits</i> 60 - 120	Result 8.63 10.1 Duplicate Result 0.719	Qual	ifier	Unit mg/l Unit mg/l	lient	D	%Rec 84.6	Prep Batc %Rec. Limits 75 - 125 60 - 120 Client San Pre	ep Type h: 13A(12.5 11.1 nple ID ep Type h: 13A(<u>RPD</u> 4.78	e: Total 0012_P RPD Limit 20 20 20 : MW-1 e: Total 0012_P RPD Limit 20 20 20
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics Surrogate 1-Chlorooctadecane Triacontane Lab Sample ID: 13A0012-DUP1 Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics	%Recovery 91.4 98.6 Sample Result 0.754 0.545	Qua Sam Qua Q4 Q4 Dup	lifier ple lifier	Added 10.2 10.4 <i>Limits</i> 60 - 120	Result 8.63 10.1 Duplicate Result 0.719	Qual	ifier	Unit mg/l Unit mg/l	lient	D	%Rec 84.6	Prep Batc %Rec. Limits 75 - 125 60 - 120 Client San Pre	ep Type h: 13A(12.5 11.1 nple ID ep Type h: 13A(<u>RPD</u> 4.78	e: Total 0012_P RPD Limit 20 20 20 : MW-1 e: Total 0012_P RPD Limit 20 20 20
Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics Surrogate 1-Chlorooctadecane Triacontane Lab Sample ID: 13A0012-DUP1 Matrix: Water Analysis Batch: W000017 Analyte Diesel Range Organics Residual Range Organics	%Recovery 91.4 98.6 Sample Result 0.754 0.545 Duplicate	Qua Sam Qua Q4 Q4 Dup	lifier ple lifier	Added 10.2 10.4 <i>Limits</i> 60 - 120 60 - 120	Result 8.63 10.1 Duplicate Result 0.719	Qual	ifier	Unit mg/l Unit mg/l	lient	D	%Rec 84.6	Prep Batc %Rec. Limits 75 - 125 60 - 120 Client San Pre	ep Type h: 13A(12.5 11.1 nple ID ep Type h: 13A(<u>RPD</u> 4.78	e: Total 0012_P RPD Limit 20 20 20 : MW-1 e: Total 0012_P RPD Limit 20 20 20

Client: Carson Dorn, Inc. Project/Site: [none]

Method: EPA 8021B - BTEX by EPA Method 8021B

Lab Sample ID: 13A0011-BLK1 Matrix: Water							Client Sa	mple ID: Metho Prep Typ	
Analysis Batch: W000013							F	Prep Batch: 134	
	Blank	Blank							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.500		ug/l		01/10/13 10:27	01/10/13 14:17	1.00
Toluene	ND		0.500		ug/l		01/10/13 10:27	01/10/13 14:17	1.00
Ethylbenzene	ND		0.500		ug/l		01/10/13 10:27	01/10/13 14:17	1.00
Xylenes (total)	ND		1.50		ug/l		01/10/13 10:27	01/10/13 14:17	1.00
	Dia at	Direct							
	Blank	Blank							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits
4-BFB (PID)	107		50 - 150
a,a,a-TFT (PID)	109		50 - 150

Lab Sample ID: 13A0011-BS1 Matrix: Water

Analysis Batch: W000013

·······	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	7.30	6.09		ug/l		83.4	70 - 130
Toluene	53.4	43.1		ug/l		80.7	70 - 130
Ethylbenzene	12.6	9.90		ug/l		78.6	70 - 130
Xylenes (total)	63.9	48.5		ug/l		76.0	70 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-BFB (PID)	102		60 - 120
a,a,a-TFT (PID)	111		60 - 120

Lab Sample ID: 13A0011-BSD1

Matrix: Water Analysis Batch: W000013

Client Sample ID: Lab Control Sample Dup Prep Type: Total Dren Detah, 4240044 D

01/10/13 10:27

01/10/13 10:27

TestAmerica Job ID: AWA0005

01/10/13 14:17

01/10/13 14:17

Client Sample ID: Lab Control Sample

3 4 5

8

1.00

1.00

Prep Type: Total

Prep Batch: 13A0011_P

Analysis Batch: wuuuuu13							Prep Bato	n: 13AU	SAU011_P	
	Spike	LCS Dup	LCS Dup				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	7.30	6.09		ug/l		83.4	70 - 130	0.016 4	20	
Toluene	53.4	43.1		ug/l		80.7	70 - 130	0.065 0	20	
Ethylbenzene	12.6	9.82		ug/l		78.0	70 - 130	0.771	20	
Xylenes (total)	63.9	48.4		ug/l		75.8	70 - 130	0.194	20	
100.0	(00 0									

	LCS Dup	LCS Dup	
Surrogate	%Recovery	Qualifier	Limits
4-BFB (PID)	98.0		60 - 120
a,a,a-TFT (PID)	102		60 - 120

Lab Sample ID: 13A0011-DUP1 Matrix: Water

Analysis Batch: W000013							Prep Batch: 13A0	011_P
	Sample	Sample	Duplicate	Duplicate				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Benzene	ND		ND		ug/l			20
Toluene	0.131		0.192	R4	ug/l		37.8	20
Ethylbenzene	ND		ND		ug/i			20
Xylenes (total)	ND		ND		ug/l			20

TestAmerica Anchorage

Client Sample ID: MW-1

Prep Type: Total

QC Sample Results

Client: Carson Dorn, Inc. Project/Site: [none]

TestAmerica Job ID: AWA0005

Method: EPA 8021B - BTEX by EPA Method 8021B (Continued)

Lab Sample ID: 13A0011-DUP1 Matrix: Water Analysis Batch: W000013

	Duplicate	Duplicate	
Surrogate	%Recovery	Qualifier	Limits
4-BFB (PID)	98.4		50 - 150
a,a,a-TFT (PID)	101		50 1 150

Client Sample ID: MW-1 Prep Type: Total Prep Batch: 13A0011_P

QC Association Summary

Client: Carson Dorn, Inc. Project/Site: [none]

Fuels

Analysis Batch: W000017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13A0012-BLK1	Method Blank	Total	Water	AK102/103	13A0012_P
13A0012-BS1	Lab Control Sample	Total	Water	AK102/103	13A0012_P
13A0012-BSD1	Lab Control Sample Dup	Total	Water	AK102/103	13A0012_P
13A0012-DUP1	MW-1	Total	Water	AK102/103	13A0012_P
AWA0005-01	MW-1	Total	Water	AK102/103	13A0012_P
AWA0005-02	MW-D	Total	Water	AK102/103	13A0012_P
AWA0005-03	MW-2	Total	Water	AK102/103	13A0012_P
rep Batch: 13A001	2_P				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13A0012-BLK1	Method Blank	Total	Water	EPA 3510	
13A0012-BS1	Lab Control Sample	Total	Water	EPA 3510	
13A0012-BSD1	Lab Control Sample Dup	Total	Water	EPA 3510	

Total

Total

Total

Total

Water

Water

Water

Water

EPA 3510

EPA 3510

EPA 3510

EPA 3510

GC Volatiles

13A0012-DUP1

AWA0005-01

AWA0005-02

AWA0005-03

Analysis Batch: W000013

MW-1

MW-1

MW-D

MW-2

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13A0011-BLK1	Method Blank	Total	Water	EPA 8021B	13A0011_P
13A0011-BS1	Lab Control Sample	Total	Water	EPA 8021B	13A0011_P
13A0011-BSD1	Lab Control Sample Dup	Total	Water	EPA 8021B	13A0011_P
13A0011-DUP1	MW-1	Total	Water	EPA 8021B	13A0011_P
AWA0005-01	MW-1	Total	Water	EPA 8021B	13A0011_P
AWA0005-02	MW-D	Total	Water	EPA 8021B	13A0011_P
AWA0005-03	MW-2	Total	Water	EPA 8021B	13A0011_P

Prep Batch: 13A0011_P

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
13A0011-BLK1	Method Blank	Total	Water	EPA 5030B	
13A0011-BS1	Lab Control Sample	Total	Water	EPA 5030B	
13A0011-BSD1	Lab Control Sample Dup	Total	Water	EPA 5030B	
13A0011-DUP1	MW-1	Total	Water	EPA 5030B	
AWA0005-01	MW-1	Total	Water	EPA 50308	
AWA0005-02	MW-D	Total	Water	EPA 50308	
AWA0005-03	MW-2	Total	Water	EPA 5030B	

TestAmerica Job ID: AWA0005

				Lab Ch	ronicle				
Client: Carson I Project/Site: [no								TestAmerio	a Job ID: AWA0005
Client Samp	le ID: MW-1						L	ab Sample	ID: AWA0005-01
Date Collected	: 01/04/13 11:	00							Matrix: Water
Date Received	01/09/13 08:2	20							
	Batch	Batch	_	Dilution	Batch	Prepared			
Prep Type Total	Prep	Method EPA 3510	Run	6.800	Number 13A0012 P	or Analyzed 01/16/13 08:04	Analyst KDC	Lab TAL ANC	
Total	Analysis	AK102/103		1.00	W000017	01/17/13 12:55	KDC	TAL ANC	
Total	Prep	EPA 5030B		1.00	13A0011_P	01/10/13 10:27	JPN	TAL ANC	
Total	Analysis	EPA 8021B		1.00	W000013	01/10/13 16:11	JPN	TAL ANC	
Client Samp	le ID: MW-D)					L	ab Sample	ID: AWA0005-02
Date Collected	01/04/13 11-	25							
	01/04/15 11.								Matrix: Water
Date Received									Matrix: Water
Date Received				Dilution	Batch	Prepared			Matrix: Water
Ргер Туре	01/09/13 08:2 Batch Type	20 Batch Method	Run	Factor	Number	Prepared or Analyzed	Analyst	Lab	Matrix: Water
Prep Type Total	01/09/13 08:2 Batch Type Prep	Batch Method EPA 3510	Run	Factor 0.781	Number 13A0012_P	or Analyzed 01/16/13 08:04	KDC	TAL ANC	Matrix: Water
Prep Type Total Total	Batch Type Prep Analysis	Batch Method EPA 3510 AK102/103	Run	Factor 0.781 1.00	Number 13A0012_P W000017	or Analyzed 01/16/13 08:04 01/17/13 13:28	KDC KDC	TAL ANC TAL ANC	Matrix: Water
Prep Type Total Total Total	01/09/13 08:2 Batch Type Prep Analysis Prep	20 Batch Method EPA 3510 AK102/103 EPA 5030B	Run	Factor 0.781 1.00 1.00	Number 13A0012_P W000017 13A0011_P	or Analyzed 01/16/13 08:04 01/17/13 13:28 01/10/13 10:27	KDC KDC JPN	TAL ANC TAL ANC TAL ANC	Matrix: Water
Prep Type Total Total	Batch Type Prep Analysis	Batch Method EPA 3510 AK102/103	Run	Factor 0.781 1.00	Number 13A0012_P W000017	or Analyzed 01/16/13 08:04 01/17/13 13:28	KDC KDC	TAL ANC TAL ANC	Matrix: Water
Prep Type Total Total Total Total	01/09/13 08:2 Batch Type Prep Analysis Prep Analysis	20 Batch Method EPA 3510 AK102/103 EPA 5030B EPA 8021B	Run	Factor 0.781 1.00 1.00	Number 13A0012_P W000017 13A0011_P	or Analyzed 01/16/13 08:04 01/17/13 13:28 01/10/13 10:27	KDC KDC JPN JPN	TAL ANC TAL ANC TAL ANC TAL ANC	
Prep Type Total Total Total Total Client Samp	01/09/13 08:2 Batch Type Prep Analysis Prep Analysis	20 Batch Method EPA 3510 AK102/103 EPA 5030B EPA 8021B	Run	Factor 0.781 1.00 1.00	Number 13A0012_P W000017 13A0011_P	or Analyzed 01/16/13 08:04 01/17/13 13:28 01/10/13 10:27	KDC KDC JPN JPN	TAL ANC TAL ANC TAL ANC TAL ANC	Matrix: Water ID: AWA0005-03 Matrix: Water
Prep Type Total Total Total Total Client Samp Date Collected	01/09/13 08:2 Batch Type Prep Analysis Prep Analysis Ie ID: MW-2 : 01/04/13 13:	20 Batch Method EPA 3510 AK102/103 EPA 5030B EPA 8021B	Run	Factor 0.781 1.00 1.00	Number 13A0012_P W000017 13A0011_P	or Analyzed 01/16/13 08:04 01/17/13 13:28 01/10/13 10:27	KDC KDC JPN JPN	TAL ANC TAL ANC TAL ANC TAL ANC	ID: AWA0005-03
Prep Type Total Total Total Total Client Samp Date Collected	01/09/13 08:2 Batch Type Prep Analysis Prep Analysis Ie ID: MW-2 : 01/04/13 13:	20 Batch Method EPA 3510 AK102/103 EPA 5030B EPA 8021B	Run	Factor 0.781 1.00 1.00	Number 13A0012_P W000017 13A0011_P	or Analyzed 01/16/13 08:04 01/17/13 13:28 01/10/13 10:27	KDC KDC JPN JPN	TAL ANC TAL ANC TAL ANC TAL ANC	ID: AWA0005-03
Prep Type Total Total Total Total Client Samp Date Collected	01/09/13 08:2 Batch Type Prep Analysis Prep Analysis Ie ID: MW-2 : 01/04/13 13:2	20 Batch Method EPA 3510 AK102/103 EPA 5030B EPA 8021B 2 15 20	Run	Factor 0.781 1.00 1.00 1.00	Number 13A0012_P W000017 13A0011_P W000013	or Analyzed 01/16/13 08:04 01/17/13 13:28 01/10/13 10:27 01/10/13 16:38	KDC KDC JPN JPN	TAL ANC TAL ANC TAL ANC TAL ANC	ID: AWA0005-03
Prep Type Total Total Total Total Client Samp Date Collected Date Received	01/09/13 08:2 Batch Type Prep Analysis Prep Analysis Ie ID: MW-2 : 01/04/13 13: 01/09/13 08:2 Batch	20 Batch Method EPA 3510 AK102/103 EPA 5030B EPA 8021B 15 20 Batch		Factor 0.781 1.00 1.00 1.00	Number 13A0012_P W000017 13A0011_P W000013 Batch	or Analyzed 01/16/13 08:04 01/17/13 13:28 01/10/13 10:27 01/10/13 16:38 Prepared	KDC KDC JPN JPN	TAL ANC TAL ANC TAL ANC TAL ANC Ab Sample	ID: AWA0005-03
Prep Type Total Total Total Total Client Samp Date Collected Date Received: Prep Type	01/09/13 08:2 Batch Type Prep Analysis Prep Analysis Ie ID: MW-2 : 01/04/13 13: 01/09/13 08:2 Batch Type	20 Batch Method EPA 3510 AK102/103 EPA 5030B EPA 8021B 15 20 Batch Method		Factor 0.781 1.00 1.00 1.00 Dilution Factor	Number 13A0012_P W000017 13A0011_P W000013 Batch Number	or Analyzed 01/16/13 08:04 01/17/13 13:28 01/10/13 10:27 01/10/13 16:38 Prepared or Analyzed	KDC KDC JPN JPN L.	TAL ANC TAL ANC TAL ANC TAL ANC Ab Sample	ID: AWA0005-03
Total Total Total Total Client Samp Date Collected Date Received Prep Type Total	01/09/13 08:2 Batch Type Prep Analysis Prep Analysis Ie ID: MW-2 : 01/04/13 13:2 : 01/09/13 08:2 Batch Type Prep	20 Batch Method EPA 3510 AK102/103 EPA 5030B EPA 8021B 15 20 Batch Method EPA 3510		Factor 0.781 1.00 1.00 1.00 1.00 5.00 Dilution Factor 0.781	Number 13A0012_P W000017 13A0011_P W000013 Batch Number 13A0012_P	or Analyzed 01/16/13 08:04 01/17/13 13:28 01/10/13 10:27 01/10/13 16:38 Prepared or Analyzed 01/16/13 08:04	KDC KDC JPN JPN L. Analyst KDC	TAL ANC TAL ANC TAL ANC TAL ANC ab Sample	ID: AWA0005-03

Laboratory References:

TAL ANC = TestAmerica Anchorage, 2000 West International Airport Road Suite A10, Anchorage, AK 99502-1119, TEL (907) 563-9200

Certification Summary

Client: Carson Dorn, Inc. Project/Site: [none]

Laboratory: TestAmerica Anchorage

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	AK00975	06-30-13
Alaska (UST)	State Program	10	UST-067	06-16-13

TestAmerica Job ID: AWA0005

Method Summary

Client: Carson Dorn, Inc. Project/Site: [none]

TestAmerica Job ID: AWA0005

Method	Method Description	Protocol	Laboratory
AK102/103	Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO		TAL ANC
EPA 8021B	BTEX by EPA Method 8021B		TAL ANC

Protocol References:

Laboratory References:

TAL ANC = TestAmerica Anchorage, 2000 West International Airport Road Suite A10, Anchorage, AK 99502-1119, TEL (907) 563-9200

Sample Summary

Client: Carson Dorn, Inc. Project/Site: [none]

TestAmerica Job ID: AWA0005

8 9 10

13

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
AWA0005-01	MW-1	Water	01/04/13 11:00	01/09/13 08:20
AWA0005-02	MW-D	Water	01/04/13 11:25	01/09/13 08:20
AWA0005-03	MW-2	Water	01/04/13 13:15	01/09/13 08:20

TestAmerica Anchorage

	14			9-5017				10	20	60									2	
	AWADDOS) Janeon Jonn Inc	712 West 12th Stroot Junoau, Alaska 99801	Talephano: 907-586-447 Fex: 907-586-5917	GROUP NO: (lab use only)	: COMMENTS:								V S	~	CUSTODY SEAL: YES COMMENTS:	CUSTODY SEAL: YES COMMENTS: NO	CUSTODY SEAL: YES COMMENTS: NO	hun	
×	쵔]		GROL												CUSTODY S	CUSTODY 6	Sturler	
9		RECORD											3 10			3 82.U	Time:	Time:	TURNARCUND TIME:	
			ANALYSIS	07	÷ بلغ	211- 211-	20H 10H	₹ × ×			,					Date: 01-01-13	Oette:	Date:	URNARO!	
			Mua yr			um.		H. D. 2-10 7-40	2							RECEIVED BY: (aignature)	REDEIVED BY: (algnewre)	AECEIVED BY: (signature)		
		STODY	PHOJECT NO:		X	GUEGNADARN. CUM		CRIPTION:			2					Time:	Time:	Time:		
		CHAIN OF CUSTODY/T	X PHOJECT NO:		OVENE CO	Coxalcur.	-	SAMPLE ID/DESCRIPTION:	CI - MINI	L-NIN		 				mature) Date:		jhature) Date:	ren: 2.6%	
		CHAIN						TIME: DATE: SAI		13:15 V	2					REWNAUISHED BY: (sigheture)	RELINCUISHED BY: (sigheture)	RELINGUISHED BY: (sighature)	TEMPERATURE RECEVED:	

1/23/2013

14

e	Test America			m		1
		y Corps. Compliant		-	-	
				: Eagle crest	<i>u</i>	
	Date / Time Cooler Arrived 01 / 09 / 13 08 : 24	Cooler signe	ed for by: <u>Joha</u>	Print name)	r	
	Preliminary Examination Phase: Date cooler opened: 🛛 same as date received or	/	e a	8 8. BP	*	4
× •	Cooler opened by (print) Johanna Drehen	(sign)loh	anna 7.	Deher		2
		INAC HEYN	IDEN LICLIENT	<u>Other</u>	5123 - 12 16	6
	2. Number of Custody Seals Signed by	NA	Date/_/_	<u>.</u>		8
ä	Were custody seals unbroken and intact on arrival?	🗌 Yes 🗸	No			
	3. Were custody papers sealed in a plastic bag?	Yes	No			9
	4. Were custody papers filled out properly (ink, signed, etc.)?	X Yes	No		e 31 - 21	10
	5. Did you sign the custody papers in the appropriate place?	MY es	□ No			E.E.
	6. Was ice used? 🔯 Yes 🛛 No Type of ice: 🗌 blue ice 🕅	gelice reali	ce <u>drvice</u> Cond	ition of Ice: Solid	5 × ,	
	Temperature 2.6 °C (corrected	d) Thermometer	#_ rcc # 5			13
	7. Packing in Cooler: X bubble wrap styrofoam cardboard	Other:		×		
	8. Did samples arrive in plastic bags?	Yes	🗌 No			. 14
	9. Did all bottles arrive unbroken, and with labels in good condition?	Yes	□ No			
	10. Are all bottle labels complete (ID, date, time, etc.)	Yes	· 🗍 No			
	11. Do bottle labels and Chain of Custody agree?	Yes	□ No			
	12. Are the containers and preservatives correct for the tests indicated?	XYes	□ No			
	13. Conoco Phillips, Alyeska, BP H2O samples only, pH <2?	Yes	No	DN/A		
	14. Is there adequate volume for the tests requested?	Yes Yes	N₀			
14	14. Is there dry weight volume provided?	Yes	ANO WO	fors	ξ.,	
	15. Were VOA vials free of bubbles?	Yes	No			
	If "NO" which containers contained "head space" or bubbles?				8	
	16. Are methanol soils immersed in methanol?	Yes	<u>No</u>	N/A		
	Log-in Phase:					
	Date of sample log-in 01 / 10 / 13			*		
	Samples logged in by (print) Jason Nutter	(sign)				
	1. Was project identifiable from custody papers?	Yes	No			
	2. Do Turn Around Times and Due Dates agree?	Yes	No	19 H K K K K		
22 2	3. Was the Project Manager notified of status?	Yes		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
	4. Was the Lab notified of status?	Yes	No			
	5. Was the COC scanned and copied?	Yes	No			

AK-FORM-SPL-005 5 October 2011

Laboratory Data Review Checklist

Comp	leted by:	Jolene Cox				
Title:		Environmental	Professional		Date:	Feb 7, 2013
CS Re	port Name:	Eaglecrest Mair	ntenance Shop S	ite	Report Date:	Jan 23, 2013
Consu	ltant Firm:	Carson Dorn, Ir	nc.			
Labora	atory Name:	TestAmerica		Laboratory Report Nu	umber: AWA00	05
ADEC	File Number:			ADEC RecKey Num	ber:	
1. <u>L</u>	aboratory					
	a. Did an	ADEC CS appro	ved laboratory r	eceive and <u>perform</u> all o	f the submitted	sample analyses?
	• Yes	C No	O NA (Plea	ase explain.)	Comments:	
		•		r "network" laboratory o g the analyses ADEC CS		d to an alternate
ſ	⊖ Yes	C No	ONA (Pleas	e explain)	Comments:	
2. <u>Ch</u>	ain of Custody	<u>(COC)</u>				
	a. COC info	mation complete	d, signed, and d	ated (including released	/received by)?	
	• Yes	() No	C NA (Pleas	se explain)	Comments:	
[
	b. Correct an	nalyses requested	!?			
Г	• Yes	C No	C NA (Plea	ase explain)	Comments:	
ا 3. <u>La</u>	• •	le Receipt Docur				
	a. Sample/co	oler temperature	documented an	d within range at receipt	$(4^{\circ} \pm 2^{\circ} C)?$	
г	• Yes	() No	C NA (Ple	ease explain)	Comments:	

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• Yes	C No	⊂ NA (Please explain)	Comments:
c. Sample con	dition docume	nted - broken, leaking (Methanol),	zero headspace (VOC vials)?
C Yes	∩ No	∩ NA (Please explain)	Comments:
		ncies, were they documented? - Fo ature outside of acceptance range, i	
O Yes	C No	ONA (Please explain)	Comments:
	y or usability a	ffected? (Please explain)	Comments:
Narrative	y or usability a	2	Comments:
Narrative		2	Comments: Comments:
Narrative a. Present and • Yes	understandabl	e?	
Narrative a. Present and Yes	understandabl	e? C NA (Please explain)	
Narrative a. Present and • Yes b. Discrepanc	understandabl	e? CNA (Please explain) OC failures identified by the lab?	Comments:

Comments:

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a correct ana	vses performed	/reported as requested on COC?	
			Commenter
• Yes	C No	C NA (Plcase explain)	Comments:
b. All applical	ble holding time	es met?	
• Yes	C No	C NA (Please explain)	Comments:
		(*	
c. All soils rep	ported on a dry	weight basis?	
CYes	G No	ONA (Please explain)	Comments:
project?	O No	C NA (Please explain)	Comments:
• Yes	() NO	(INA (Please explain)	Comments:
	, or usahility of	Conto 19 (D1 1)	
e. Data quality		fected? (Please explain)	Comments:
e. Data quality		ected? (Please explain)	Comments:
			Comments:
Samples			Comments:
Samples a. Method Blar	ık	19	
Samples a. Method Blar	ık	brted per matrix, analysis and 20 sa	
Samples a. Method Blar	nk ethod blank repo	19	
<u>Samples</u> a. Method Blar i. One mo	nk ethod blank repo	orted per matrix, analysis and 20 sa	mples?
Samples a. Method Blar i. One mo • Ye	nk ethod blank repo	orted per matrix, analysis and 20 sa	mples?
Samples a. Method Blar i. One mo • Ye	hk ethod blank repo s O No hod blank resul	orted per matrix, analysis and 20 sa	mples?

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	iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?					
	⊂ Yes	C No	⊂ NA (Please explain)	Comments:		
			······································			
	v. Data qu	ality or usabil	ity affected? (Please explain)	Comments:		
	h Laboratory	Control Samr	le/Duplicate (LCS/LCSD)			
	-					
			equired per SW846)	and 20 samples? (LCS/LCSD required		
	• Yes	C No	C NA (Please explain)	Comments:		
Γ		···· ·· ·· ·· ·· ·· ·· ·· ·· ··				
	ii. Metals/Inorganics - One LCS and one sample duplicate reported per matrix, analysis and 20 samples?					
_	O Yes	C No	∩ NA (Please explain)	Comments:		
	iii. Accuracy - All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)					
	project spe	ecified DQOs,	if applicable. (AK Petroleum meth	ods: AK101 60%-120%, AK102		
	project spe	ecified DQOs,	if applicable. (AK Petroleum meth	ods: AK101 60%-120%, AK102		
	project spe 75%-125%	ecified DQOs, %, AK103 60%	if applicable. (AK Petroleum methe 6-120%; all other analyses see the la	ods: AK101 60%-120%, AK102 aboratory QC pages)		
	project spo 75%-125% • Yes iv. Precisi limits? An	ecified DQOs, %, AK103 60% () No on - All relatived project spec	if applicable. (AK Petroleum meth 6-120%; all other analyses see the la C NA (Please explain) //e percent differences (RPD) reported ified DQOs, if applicable. RPD rep	ods: AK101 60%-120%, AK102 aboratory QC pages) Comments: ed and less than method or laboratory orted from LCS/LCSD, MS/DMSD, a		
	project spo 75%-125% Yes iv. Precisi limits? An or sample	ecified DQOs, %, AK103 60% () No on - All relatived project spec	if applicable. (AK Petroleum meth 6-120%; all other analyses see the la C NA (Please explain) //e percent differences (RPD) reported ified DQOs, if applicable. RPD rep	ods: AK101 60%-120%, AK102 aboratory QC pages)		
[project spo 75%-125% • Yes iv. Precisi limits? An or sample, pages)	ecified DQOs, %, AK103 60% C No on - All relative on project spect /sample duplic	if applicable. (AK Petroleum methe 6-120%; all other analyses see the la C NA (Please explain) // percent differences (RPD) reporte fified DQOs, if applicable. RPD rep- repeate. (AK Petroleum methods 20%; a	ods: AK101 60%-120%, AK102 aboratory QC pages) Comments: ed and less than method or laboratory orted from LCS/LCSD, MS/DMSD, a all other analyses see the laboratory Q		

vi. Do the affected samples(s	have data flags? If so,	are the data flags clearly defined?

	C No	C NA (Please explain)	Comments:
vii. Data c	quality or usab	ility affected? (Please explain)	Comments:
c. Surrogates	- Organics On	ly	
i. Are surr	ogate recoveri	es reported for organic analyses - fiel	ld, QC and laboratory samples?
• Yes	C No	CNA (Please explain)	Comments:
project sp the labora			ds 50-150 %R; all other analyses see
(• 1 es			Comments:
iii. Do the clearly de	fined?	s with failed surrogate recoveries hav	ve data flags? If so, are the data flags Comments:
iv Data o	uality or usabi	lity affected? (Use the comment boy	to explain)
iv. Data q	uality or usabi	lity affected? (Use the comment box	to explain.). Comments:
d. Trip Blank <u>Soil</u> i. One trip	- Volatile ana	lyses only (GRO, BTEX, Volatile Ch ed per matrix, analysis and for each co	Comments:
d. Trip Blank <u>Soil</u> i. One trip	- Volatile ana	lyses only (GRO, BTEX, Volatile Ch ed per matrix, analysis and for each co	Comments: hlorinated Solvents, etc.): <u>Water and</u>
d. Trip Blank <u>Soil</u> i. One trip (If not, en ○ Yes ii. Is the c	- Volatile ana blank reporte ter explanation C No ooler used to t	lyses only (GRO, BTEX, Volatile Ch ed per matrix, analysis and for each co n below.)	Comments: hlorinated Solvents, etc.): <u>Water and</u> ooler containing volatile samples? Comments:

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iii. All rest	ults less than I	PQL?	
∩ Yes	C No	∩ NA (Please explain.)	Comments:
iv. If abov	ve PQL, what	samples are affected?	
			Comments:
v. Data qu	ality or usabil	ity affected? (Please explain.)	
- 141			Comments:
Field Duplic		mitted nor metrix analysis and 10	project complex?
i. One field	i duplicate sul	omitted per matrix, analysis and 10 p	project samples?
• Yes	O No	C NA (Please explain)	Comments:
			5
	ted blind to la	b?	
ii. Submit			
ii. Submit • Yes	O No	○ NA (Please explain.)	Comments:
		O NA (Please explain.)	Comments:
		C NA (Please explain.)	Comments:
Yes iii. Precisi	O No	ve percent differences (RPD) less th	
Yes iii. Precisi	○ No on - All relati nmended: 30%	ve percent differences (RPD) less th 6 water, 50% soil)	an specified DQOs?
Yes iii. Precisi	○ No on - All relati nmended: 30%	ve percent differences (RPD) less th	an specified DQOs? $(\underline{R_2}) \ge x \ 100$
Yes iii. Precisi (Record) Where R	\bigcirc No on - All relating nmended: 30%	ve percent differences (RPD) less th % water, 50% soil) RPD (%) = Absolute Value of: $(R_1 - R_2)$ (($R_1 + R_2$) poncentration	an specified DQOs? $(\underline{R_2}) \ge x \ 100$
Yes iii. Precisi (Record) Where R	\bigcirc No on - All relating nmended: 30%	ve percent differences (RPD) less th 6 water, 50% soil) RPD (%) = Absolute Value of: <u>(R1-</u> ((R1+ R2	an specified DQOs? $(\underline{R_2}) \ge x \ 100$
Yes iii. Precisi (Record) Where R	\bigcirc No on - All relating nmended: 30%	ve percent differences (RPD) less th % water, 50% soil) RPD (%) = Absolute Value of: $(R_1 - R_2)$ (($R_1 + R_2$) poncentration	an specified DQOs? R2) x 100
 Yes iii. Precisi (Record) Where R R 	\bigcirc No on - All relati nmended: 30% $P_1 = Sample CoP_2 = Field Duple$	ve percent differences (RPD) less th 6 water, 50% soil) RPD (%) = Absolute Value of: (R_{1-}, R_{2}) (($R_{1+}, R_{2})$) poncentration licate Concentration	an specified DQOs? R_2 x 100 2)/2)
 Yes iii. Precisi (Record) Where R R Yes 	\bigcirc No on - All relating nmended: 30% $P_1 = Sample ColorP_2 = Field Duplo\bigcirc No$	ve percent differences (RPD) less th 6 water, 50% soil) RPD (%) = Absolute Value of: (R_{1-}, R_{2}) (($R_{1+}, R_{2})$) poncentration licate Concentration	tan specified DQOs? $(\underline{R_2}) \ge x \ 100$ $(\underline{2})/2)$ Comments:

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	f. Decontamin	ation or Equip		
	O Yes	O No	ONA (Please explain)	Comments:
	i. All resul	ts less than PC	QL?	
	∩ Yes	() No	⊂NA (Please explain)	Comments:
	ii. If above	e PQL, what sa	amples are affected?	Comments:
		. 1.		
			lity affected? (Please explain.)	Comments:
				17
ther	Data Flags/Q	ualifiers (ACC	DE, AFCEE, Lab Specific, etc.)	
a	. Defined and	appropriate?		
	⊂ Yes	⊂ No	○NA (Please explain)	Comments:

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