Transmittal

Carson Dorn, Inc.

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Juneau, Alaska 99801

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DATE: December 9, 2009

TO: Bruce Wanstall, ADEC Contaminated Sites
Gareth Jones, ADOA, Divison of General Services

FROM: Steve Haavig, Environmental Professional

RE: Governor's House UST

Attached are the following items:

ITEM	DESCRIPTION
1	Dec. 9, 2009 report on follow-up sampling at UST

This data is submitted:

☐ At your request ☐ For your information ☐ For your files

Hardcopy put into the mail today.

Carson Dorn, Inc.
712 West 12th Street, Suite 1 Juneau, Alaska 99801

Mr. Bruce Wanstall
Field Operations Project Manager
ADEC Contaminated Sites Program
410 Willoughby Suite 302
Juneau AK, 99803

December 9, 2009

Re: Governor's House UST Change-in-Service Site Assessment

A site assessment for change-in-service of an underground storage tank (UST) located at the Juneau Governor's House, Juneau, Alaska was conducted by Carson Dorn, Inc. (CDI) on September 4, 2008. The change of service was required when an interior above ground tank was installed to serve an emergency power generator located in the Governor's House basement. The ADEC Facility Summary Report for UST described the UST as Facility ID# 3282, Owner ID# 9623, Tank 1, 500 gallon, fiberglass tank, installed in 1983 with safe suction copper lines. Heating oil fill records show the UST as having a 1,000 gallon capacity. Soil samples were collected during the site assessment at four boreholes (BH-1, BH-2, BH-4 and BH-5) and analyzed for gasoline range organics (GRO), benzene, toluene, ethylbenzene, and xylene (BTEX), diesel range organics (DRO), residual range organics (RRO), and polynuclear aromatic hydrocarbons (PAH). A site assessment and release investigation report was submitted to ADEC in September 2008.

On December 23, 2008 ADEC Division of Spill Prevention and Response Industry Preparedness Program approved a permanent change-in-service status from dual purpose to heating oil only. On May 6, 2009 ADEC Division of Spill Prevention and Response Contaminated Site Program sent a letter indicating that after a review of the site assessment report they concluded that soil samples were not properly collected at the site. Specifically, ADEC requested a that second soil sample along the side and below the bottom of the UST be obtained. ADEC also requested that another sample be collected beneath the piping area where a sample result met the cleanup level but the diesel range constituent was reported as primarily due to overlap from a heavier oil range product.

Follow-up site assessment work was conducted by CDI on November 2, 2009. CDI was assisted by Jason Ginter, Principal, Juneau Technical Manager, NORTECH Environmental Engineering, Health & Safety. An 8½ foot deep, 2 inch diameter borehole (BH-6) was driven into gravelly sand next to the UST using an electric jack hammer and geoprobe boring rods and sample spoon. A 42 inch deep borehole (BH-7) was dug with a post hole digger into red silty

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gravel beneath the piping next to the foundation. See the attached Figure 1 and site photographs showing the location of the September 4, 2008 and November 2, 2009 boreholes.

Soil samples BH-6, BH-7 and BH-Dup (duplicate of BH-7) were collected and analyzed for DRO/RRO using Method AK102-103 and GRO/BTEX using Methods AK101 and 8260B. All the samples were non-detect for all the parameters. See the attached pictures showing the location of the boreholes.

Enclosed are the TestAmerica-Tacoma laboratory report 580-16400-1 and a completed laboratory date review checklist for the November 2, 2009 sampling. No significant laboratory issues or negative effects on data usability were noted.

Two soil samples have now been collected within two feet of bottom from two different positions around the UST in compliance with in-place assessment regulations. All the sample results from the September 4, 2008 and November 2, 2009 site assessments meet the ADEC cleanup levels. We recommend that no further action be taken in regards to the change-in-service site assessment.

Sincerely,

Steven Haavig
Environmental Professional
Carson Dorn, Inc.

Attachments:
- Figure 1
- Site photographs
- TestAmerica-Tacoma laboratory report
- Laboratory date review checklist

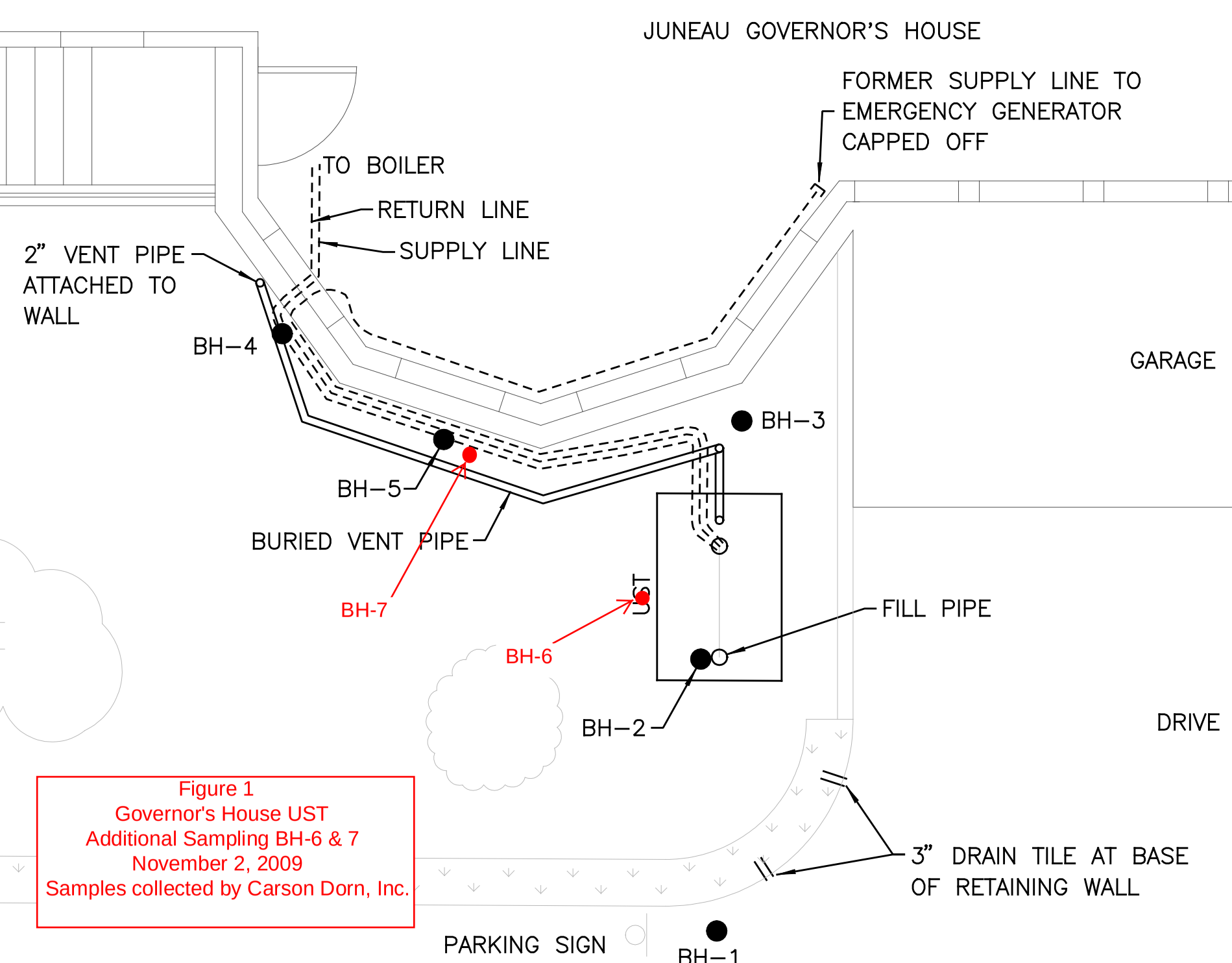

Figure 1
Governor's House UST
Additional Sampling BH-6 & 7
November 2, 2009
Samples collected by Carson Dorn, Inc.

Governor's House. September 4, 2008.
West side of house showing vent pipe (black arrow) and top of fill pipe (red arrow)

Governor's House. November 2, 2009.
BH-6 collected along side of tank at 8½ feet depth. Jacket over fill pipe.

BH-7 collected near Governor's House foundation
at depth of 42 inches.

BH-6 filled in and grass patch (black arrow) reinstalled.

ANALYTICAL REPORT

Job Number: 580-16400-1

Job Description: Gov house resample

For:
Carson Dorn, Inc
712 West 12th Street
Juneau, AK 99801

Attention: Steve Haavig

Approved for release.
Heather Curbow
Project Manager I
11/23/2009 3:12 PM

Heather Curbow
Project Manager I
heather.curbow@testamericainc.com
11/23/2009
Revision: 1

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method(s) 5035: AK101/NWTPH_GX/8260B: Due to percent moisture values greater than 10%, the final volumes for all associated samples were corrected for the solvent/water dilution effect.

Corrected FV = ((g of samples * % moisture/100) + ml of MeOH) * 40 (dilution factor)

Method(s) 5035: Due to percent moisture values greater than 10%, the final volumes for samples BH - 7 (580-16400-2), BH - Dup (580-16400-3) were corrected for the solvent/water dilution effect.

Corrected FV = ((g of samples * % moisture/100) + ml of MeOH) * 40 (dilution factor)

Method(s) 8260B: 8260B/5035: The surrogate Trifluorotoluene is outside the control limit of 125% at 126% on sample 16401-MS. All spike analytes were in control in the analysis and the original sample and sample duplicate had surrogate recoveries within QC limits.

No other analytical or quality issues were noted.

GC Semi VOA
Method(s) AK102 & 103: The continuing calibration verification (CCV) for analytical batch 53720 exceeded control criteria for C25-C36 and n-Triacontane-d62. The data have been qualified, set to acceptable status, and the samples are being re-analyzed with passing CCV's for the affected analytes.

Method(s) AK102 & 103: The matrix spike / matrix spike duplicate (MS/MSD) precision for batch 53433 was outside control limits for C25-C36. Non-homogeneity of the sample matrix is suspected. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision met acceptance ciriteria.

Method(s) AK102 & 103: The n-Triacontane-d62 surrogate recovery was below control limits for the following samples: 580-16391-B-1-A, 580-16391-B-2-A, 580-16391-B-3-A, and 580-16391-B-4-A. This is most likely due to the low bias of the instrument, as all CCV's failed low for the affected surrogate. All samples are being re-analyzed with passing CCV's.

No other analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

METHOD SUMMARY

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds (GC/MS)	TAL TAC	SW846 8260B	
Closed System Purge and Trap	TAL TAC		SW846 5035
Alaska - Gasoline Range Organics (GC)	TAL TAC	ADEC AK101	
Closed System Purge and Trap	TAL TAC		SW846 5035
Alaska - Diesel Range Organics & Residual Range Organics (GC)	TAL TAC	ADEC AK102 & 103	
Ultrasonic Extraction	TAL TAC		SW846 3550B
Percent Moisture	TAL TAC	EPA Moisture	

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

ADEC = Alaska Department of Environmental Conservation

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-16400-1	BH - 6	Solid	11/02/2009 0920	11/04/2009 1415
580-16400-2	BH - 7	Solid	11/02/2009 0940	11/04/2009 1415
580-16400-3	BH - Dup	Solid	11/02/2009 0950	11/04/2009 1415

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Client Sample ID: **BH - 6**

Lab Sample ID: 580-16400-1

Client Matrix: Solid

% Moisture: 7.1

Date Sampled: 11/02/2009 0920

Date Received: 11/04/2009 1415

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-53511		Instrument ID:	TAC003
Preparation:	5035	Prep Batch: 580-53497		Lab File ID:	MS183844.D
Dilution:	1.0			Initial Weight/Volume:	33.83 g
Date Analyzed:	11/06/2009 0805			Final Weight/Volume:	1000 mL
Date Prepared:	11/05/2009 1623				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		13
Toluene		ND		32
Ethylbenzene		ND		32
m-Xylene & p-Xylene		ND		32
o-Xylene		ND		32

Surrogate	%Rec	Qualifier	Acceptance Limits
Fluorobenzene (Surr)	101		75 - 125
Toluene-d8 (Surr)	101		85 - 115
Ethylbenzene-d10	99		75 - 125
Trifluorotoluene (Surr)	96		75 - 125
4-Bromofluorobenzene (Surr)	98		85 - 120

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Client Sample ID: **BH - 7**

Lab Sample ID: 580-16400-2

Client Matrix: Solid

% Moisture: 24.0

Date Sampled: 11/02/2009 0940

Date Received: 11/04/2009 1415

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-53511		Instrument ID:	TAC003
Preparation:	5035	Prep Batch: 580-53497		Lab File ID:	MS183847.D
Dilution:	1.0			Initial Weight/Volume:	33.59 g
Date Analyzed:	11/06/2009 0912			Final Weight/Volume:	1322 mL
Date Prepared:	11/05/2009 1623				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		21
Toluene		ND		52
Ethylbenzene		ND		52
m-Xylene & p-Xylene		ND		52
o-Xylene		ND		52

Surrogate	%Rec	Qualifier	Acceptance Limits
Fluorobenzene (Surr)	101		75 - 125
Toluene-d8 (Surr)	101		85 - 115
Ethylbenzene-d10	99		75 - 125
Trifluorotoluene (Surr)	111		75 - 125
4-Bromofluorobenzene (Surr)	96		85 - 120

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Client Sample ID: **BH - Dup**

Lab Sample ID: 580-16400-3

Client Matrix: Solid

% Moisture: 26.1

Date Sampled: 11/02/2009 0950

Date Received: 11/04/2009 1415

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 580-53511		Instrument ID:	TAC003
Preparation:	5035	Prep Batch: 580-53497		Lab File ID:	MS183850.D
Dilution:	1.0			Initial Weight/Volume:	36.12 g
Date Analyzed:	11/06/2009 1019			Final Weight/Volume:	1376 mL
Date Prepared:	11/05/2009 1623				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Benzene		ND		21
Toluene		ND		52
Ethylbenzene		ND		52
m-Xylene & p-Xylene		ND		52
o-Xylene		ND		52

Surrogate	%Rec	Qualifier	Acceptance Limits
Fluorobenzene (Surr)	101		75 - 125
Toluene-d8 (Surr)	101		85 - 115
Ethylbenzene-d10	100		75 - 125
Trifluorotoluene (Surr)	108		75 - 125
4-Bromofluorobenzene (Surr)	98		85 - 120

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Client Sample ID: **BH - 6**

Lab Sample ID: 580-16400-1

Date Sampled: 11/02/2009 0920

Client Matrix: Solid

% Moisture: 7.1

Date Received: 11/04/2009 1415

AK101 Alaska - Gasoline Range Organics (GC)

Method:	AK101	Analysis Batch: 580-54092		Instrument ID:	SEA008
Preparation:	5035	Prep Batch: 580-54016		Initial Weight/Volume:	33.83 g
Dilution:	1.0			Final Weight/Volume:	1000 mL
Date Analyzed:	11/13/2009 2007			Injection Volume:	
Date Prepared:	11/13/2009 1715			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Gasoline Range Organics (GRO)-C6-C10		ND		3.2

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	75		60 - 120
4-Bromofluorobenzene (Surr)	87		60 - 120

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Client Sample ID: **BH - 7**

Lab Sample ID: 580-16400-2

Client Matrix: Solid

% Moisture: 24.0

Date Sampled: 11/02/2009 0940

Date Received: 11/04/2009 1415

AK101 Alaska - Gasoline Range Organics (GC)

Method:	AK101	Analysis Batch: 580-54092		Instrument ID:	SEA008
Preparation:	5035	Prep Batch: 580-54016		Initial Weight/Volume:	35.39 g
Dilution:	1.0			Final Weight/Volume:	1340 mL
Date Analyzed:	11/13/2009 2127			Injection Volume:	
Date Prepared:	11/13/2009 1715			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Gasoline Range Organics (GRO)-C6-C10		ND		5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	94		60 - 120
4-Bromofluorobenzene (Surr)	89		60 - 120

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Client Sample ID: **BH - Dup**

Lab Sample ID: 580-16400-3

Client Matrix: Solid

% Moisture: 26.1

Date Sampled: 11/02/2009 0950

Date Received: 11/04/2009 1415

AK101 Alaska - Gasoline Range Organics (GC)

Method:	AK101	Analysis Batch: 580-54092		Instrument ID:	SEA008
Preparation:	5035	Prep Batch: 580-54016		Initial Weight/Volume:	36.12 g
Dilution:	1.0			Final Weight/Volume:	1376 mL
Date Analyzed:	11/13/2009 2154			Injection Volume:	
Date Prepared:	11/13/2009 1715			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Gasoline Range Organics (GRO)-C6-C10		ND		5.2

Surrogate	%Rec	Qualifier	Acceptance Limits
Trifluorotoluene (Surr)	97		60 - 120
4-Bromofluorobenzene (Surr)	88		60 - 120

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Client Sample ID: **BH - 6**

Lab Sample ID: 580-16400-1

Client Matrix: Solid

% Moisture: 7.1

Date Sampled: 11/02/2009 0920

Date Received: 11/04/2009 1415

AK102 & 103 Alaska - Diesel Range Organics & Residual Range Organics (GC)

Method:	AK102 & 103	Analysis Batch: 580-53720		Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-53433		Lab File ID:	PL403643.D
Dilution:	1.0			Initial Weight/Volume:	10.4383 g
Date Analyzed:	11/10/2009 2031			Final Weight/Volume:	10 mL
Date Prepared:	11/05/2009 1015			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
DRO (nC10-<nC25)		ND		21

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	87		60 - 120

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Client Sample ID: **BH - 6**

Lab Sample ID: 580-16400-1

Date Sampled: 11/02/2009 0920

Client Matrix: Solid

% Moisture: 7.1

Date Received: 11/04/2009 1415

AK102 & 103 Alaska - Diesel Range Organics & Residual Range Organics (GC)

Method:	AK102 & 103	Analysis Batch: 580-53873		Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-53433		Lab File ID:	PL03735.D
Dilution:	1.0			Initial Weight/Volume:	10.4383 g
Date Analyzed:	11/12/2009 1705			Final Weight/Volume:	10 mL
Date Prepared:	11/05/2009 1015			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
RRO (nC25-nC36)		ND		52

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	86		60 - 120
n-Triacontane-d62	85		60 - 120

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Client Sample ID: **BH - 7**

Lab Sample ID: 580-16400-2

Client Matrix: Solid

% Moisture: 24.0

Date Sampled: 11/02/2009 0940

Date Received: 11/04/2009 1415

AK102 & 103 Alaska - Diesel Range Organics & Residual Range Organics (GC)

Method:	AK102 & 103	Analysis Batch: 580-53720		Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-53433		Lab File ID:	PL403645.D
Dilution:	1.0			Initial Weight/Volume:	10.3660 g
Date Analyzed:	11/10/2009 2053			Final Weight/Volume:	10 mL
Date Prepared:	11/05/2009 1015			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
DRO (nC10-<nC25)		ND		25

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	86		60 - 120

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Client Sample ID: **BH - 7**

Lab Sample ID: 580-16400-2

Client Matrix: Solid

% Moisture: 24.0

Date Sampled: 11/02/2009 0940

Date Received: 11/04/2009 1415

AK102 & 103 Alaska - Diesel Range Organics & Residual Range Organics (GC)

Method:	AK102 & 103	Analysis Batch: 580-53873		Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-53433		Lab File ID:	PL03737.D
Dilution:	1.0			Initial Weight/Volume:	10.3660 g
Date Analyzed:	11/12/2009 1727			Final Weight/Volume:	10 mL
Date Prepared:	11/05/2009 1015			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
RRO (nC25-nC36)		ND		63

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	85		60 - 120
n-Triacontane-d62	88		60 - 120

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Client Sample ID: **BH - Dup**

Lab Sample ID: 580-16400-3

Client Matrix: Solid

% Moisture: 26.1

Date Sampled: 11/02/2009 0950

Date Received: 11/04/2009 1415

AK102 & 103 Alaska - Diesel Range Organics & Residual Range Organics (GC)

Method:	AK102 & 103	Analysis Batch: 580-53720		Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-53433		Lab File ID:	PL403647.D
Dilution:	1.0			Initial Weight/Volume:	10.2113 g
Date Analyzed:	11/10/2009 2115			Final Weight/Volume:	10 mL
Date Prepared:	11/05/2009 1015			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
DRO (nC10-<nC25)		ND		26

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	84		60 - 120

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Client Sample ID: **BH - Dup**

Lab Sample ID: 580-16400-3

Client Matrix: Solid

% Moisture: 26.1

Date Sampled: 11/02/2009 0950

Date Received: 11/04/2009 1415

AK102 & 103 Alaska - Diesel Range Organics & Residual Range Organics (GC)

Method:	AK102 & 103	Analysis Batch: 580-53873		Instrument ID:	TAC015
Preparation:	3550B	Prep Batch: 580-53433		Lab File ID:	PL03739.D
Dilution:	1.0			Initial Weight/Volume:	10.2113 g
Date Analyzed:	11/12/2009 1748			Final Weight/Volume:	10 mL
Date Prepared:	11/05/2009 1015			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
RRO (nC25-nC36)		ND		66

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	84		60 - 120
n-Triacontane-d62	84		60 - 120

General Chemistry

Client Sample ID: **BH - 6**

Lab Sample ID: 580-16400-1

Client Matrix: Solid

Date Sampled: 11/02/2009 0920

Date Received: 11/04/2009 1415

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	93		%	0.10	1.0	Moisture
Analysis Batch: 580-53430	Date Analyzed: 11/05/2009 1009					DryWt Corrected: N
Percent Moisture	7.1		%	0.10	1.0	Moisture
Analysis Batch: 580-53430	Date Analyzed: 11/05/2009 1009					DryWt Corrected: N

General Chemistry

Client Sample ID: **BH - 7**

Lab Sample ID: 580-16400-2

Client Matrix: Solid

Date Sampled: 11/02/2009 0940

Date Received: 11/04/2009 1415

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	76		%	0.10	1.0	Moisture
Analysis Batch: 580-53430	Date Analyzed: 11/05/2009 1009					DryWt Corrected: N
Percent Moisture	24		%	0.10	1.0	Moisture
Analysis Batch: 580-53430	Date Analyzed: 11/05/2009 1009					DryWt Corrected: N

General Chemistry

Client Sample ID: **BH - Dup**

Lab Sample ID: 580-16400-3

Client Matrix: Solid

Date Sampled: 11/02/2009 0950

Date Received: 11/04/2009 1415

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	74		%	0.10	1.0	Moisture
Analysis Batch: 580-53430	Date Analyzed: 11/05/2009 1009					DryWt Corrected: N
Percent Moisture	26		%	0.10	1.0	Moisture
Analysis Batch: 580-53430	Date Analyzed: 11/05/2009 1009					DryWt Corrected: N

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Method Blank - Batch: 580-53497

Method: 8260B
Preparation: 5035

Lab Sample ID: MB 580-53497/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/06/2009 0144
Date Prepared: 11/05/2009 1623

Analysis Batch: 580-53511
Prep Batch: 580-53497
Units: ug/Kg

Instrument ID: TAC003
Lab File ID: MS183827.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Result	Qual	RL
Benzene	ND		16
Toluene	ND		40
Ethylbenzene	ND		40
m-Xylene & p-Xylene	ND		40
o-Xylene	ND		40

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	101	75 - 125
Toluene-d8 (Surr)	100	85 - 115
Ethylbenzene-d10	98	75 - 125
Trifluorotoluene (Surr)	105	75 - 125
4-Bromofluorobenzene (Surr)	96	85 - 120

Lab Control Sample - Batch: 580-53497

Method: 8260B
Preparation: 5035

Lab Sample ID: LCS 580-53497/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/06/2009 0229
Date Prepared: 11/05/2009 1623

Analysis Batch: 580-53511
Prep Batch: 580-53497
Units: ug/Kg

Instrument ID: TAC003
Lab File ID: MS183829.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	800	846	106	75 - 125	
Toluene	800	809	101	70 - 125	
Ethylbenzene	800	800	100	75 - 125	
m-Xylene & p-Xylene	1600	1680	105	80 - 125	
o-Xylene	800	841	105	75 - 125	

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	101	75 - 125
Toluene-d8 (Surr)	100	85 - 115
Ethylbenzene-d10	98	75 - 125
Trifluorotoluene (Surr)	104	75 - 125
4-Bromofluorobenzene (Surr)	96	85 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-53497

Method: 8260B
Preparation: 5035

MS Lab Sample ID:	580-16400-2	Analysis Batch:	580-53511	Instrument ID:	TAC003
Client Matrix:	Solid	Prep Batch:	580-53497	Lab File ID:	MS183848.D
Dilution:	1.0			Initial Weight/Volume:	33.59 g
Date Analyzed:	11/06/2009 0934			Final Weight/Volume:	1322 mL
Date Prepared:	11/05/2009 1623				

MSD Lab Sample ID:	580-16400-2	Analysis Batch:	580-53511	Instrument ID:	TAC003
Client Matrix:	Solid	Prep Batch:	580-53497	Lab File ID:	MS183849.D
Dilution:	1.0			Initial Weight/Volume:	33.59 g
Date Analyzed:	11/06/2009 0957			Final Weight/Volume:	1322 mL
Date Prepared:	11/05/2009 1623				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	107	108	75 - 125	0	30		
Toluene	101	103	70 - 125	1	30		
Ethylbenzene	102	104	75 - 125	2	30		
m-Xylene & p-Xylene	106	107	80 - 125	1	30		
o-Xylene	107	108	75 - 125	1	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	101	100	75 - 125
Toluene-d8 (Surr)	100	101	85 - 115
Ethylbenzene-d10	99	99	75 - 125
Trifluorotoluene (Surr)	110	111	75 - 125
4-Bromofluorobenzene (Surr)	97	98	85 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Method Blank - Batch: 580-54016

Method: AK101
Preparation: 5035

Lab Sample ID: MB 580-54016/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/13/2009 1846
Date Prepared: 11/13/2009 1715

Analysis Batch: 580-54092
Prep Batch: 580-54016
Units: mg/Kg

Instrument ID: SEA008
Lab File ID: Copy of Copy of K1309004.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL
Gasoline Range Organics (GRO)-C6-C10	ND		4.0

Surrogate	% Rec	Acceptance Limits
Trifluorotoluene (Surr)	114	60 - 120
4-Bromofluorobenzene (Surr)	89	60 - 120

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch:

Method: AK101
Preparation: 5035

LCS Lab Sample ID: LCS 580-54016/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/13/2009 1913
Date Prepared: 11/13/2009 1715

Analysis Batch: 580-54092
Prep Batch: 580-54016
Units: mg/Kg

Instrument ID: SEA008
Lab File ID: Copy of Copy of K1309005.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-54016/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/13/2009 1940
Date Prepared: 11/13/2009 1715

Analysis Batch: 580-54092
Prep Batch: 580-54016
Units: mg/Kg

Instrument ID: SEA008
Lab File ID: Copy of Copy of K1309006.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 400 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline Range Organics (GRO)-C6-C10	89	98	60 - 120	10	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Trifluorotoluene (Surr)	108	111	60 - 120
4-Bromofluorobenzene (Surr)	94	94	60 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-54016

Method: AK101
Preparation: 5035

MS Lab Sample ID:	580-16400-1	Analysis Batch:	580-54092	Instrument ID:	SEA008
Client Matrix:	Solid	Prep Batch:	580-54016	Lab File ID:	Copy of Copy of K1309008.D
Dilution:	1.0			Initial Weight/Volume:	33.83 g
Date Analyzed:	11/13/2009 2033			Final Weight/Volume:	1000 mL
Date Prepared:	11/13/2009 1715			Injection Volume:	
				Column ID:	PRIMARY

MSD Lab Sample ID:	580-16400-1	Analysis Batch:	580-54092	Instrument ID:	SEA008
Client Matrix:	Solid	Prep Batch:	580-54016	Lab File ID:	Copy of Copy of K1309009.D
Dilution:	1.0			Initial Weight/Volume:	33.83 g
Date Analyzed:	11/13/2009 2100			Final Weight/Volume:	1000 mL
Date Prepared:	11/13/2009 1715			Injection Volume:	
				Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Gasoline Range Organics (GRO)-C6-C10	97	98	50 - 150	1	50		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Trifluorotoluene (Surr)	77	74	60 - 120
4-Bromofluorobenzene (Surr)	94	95	60 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Method Blank - Batch: 580-53433

Method: AK102 & 103
Preparation: 3550B

Lab Sample ID:	MB 580-53433/1-A	Analysis Batch:	580-53720	Instrument ID:	TAC015
Client Matrix:	Solid	Prep Batch:	580-53433	Lab File ID:	PL403615.D
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	11/10/2009 1523			Final Weight/Volume:	10 mL
Date Prepared:	11/05/2009 1015			Injection Volume:	1 uL

Analyte	Result	Qual	RL
DRO (nC10-<nC25)	ND		20

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	82	60 - 120

Method Blank - Batch: 580-53433

Method: AK102 & 103
Preparation: 3550B

Lab Sample ID:	MB 580-53433/1-A	Analysis Batch:	580-53873	Instrument ID:	TAC015
Client Matrix:	Solid	Prep Batch:	580-53433	Lab File ID:	PL03727.D
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	11/12/2009 1537			Final Weight/Volume:	10 mL
Date Prepared:	11/05/2009 1015			Injection Volume:	1 uL

Analyte	Result	Qual	RL
RRO (nC25-nC36)	ND		50

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	86	60 - 120
n-Triacontane-d62	89	60 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch:

Method: AK102 & 103
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-53433/2-A	Analysis Batch:	580-53720	Instrument ID:	TAC015
Client Matrix:	Solid	Prep Batch:	580-53433	Lab File ID:	PL403617.D
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	11/10/2009 1545			Final Weight/Volume:	10 mL
Date Prepared:	11/05/2009 1015			Injection Volume:	1 uL

LCSD Lab Sample ID:	LCSD 580-53433/3-A	Analysis Batch:	580-53720	Instrument ID:	TAC015
Client Matrix:	Solid	Prep Batch:	580-53433	Lab File ID:	PL403619.D
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	11/10/2009 1607			Final Weight/Volume:	10 mL
Date Prepared:	11/05/2009 1015			Injection Volume:	1 uL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
DRO (nC10-<nC25)	102	104	75 - 125	2	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	91	91	60 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch:

Method: AK102 & 103
Preparation: 3550B

LCS Lab Sample ID:	LCS 580-53433/2-A	Analysis Batch:	580-53873	Instrument ID:	TAC015
Client Matrix:	Solid	Prep Batch:	580-53433	Lab File ID:	PL03729.D
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	11/12/2009 1559			Final Weight/Volume:	10 mL
Date Prepared:	11/05/2009 1015			Injection Volume:	1 uL

LCSD Lab Sample ID:	LCSD 580-53433/3-A	Analysis Batch:	580-53873	Instrument ID:	TAC015
Client Matrix:	Solid	Prep Batch:	580-53433	Lab File ID:	PL03709.D
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	10 g
Date Analyzed:	11/12/2009 1220			Final Weight/Volume:	10 mL
Date Prepared:	11/05/2009 1015			Injection Volume:	1 uL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
RRO (nC25-nC36)	111	110	60 - 120	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	97	93	60 - 120
n-Triacontane-d62	93	91	60 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Duplicate - Batch: 580-53430

Method: Moisture
Preparation: N/A

Lab Sample ID: 580-16400-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/05/2009 1009
Date Prepared: N/A

Analysis Batch: 580-53430
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	74	75	1	20	
Percent Moisture	26	25	4	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Tacoma
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Chain of Custody Record

Client: Carson Dorn Inc	Project Manager: shaavig@carsondorn.com	Date: 11/2/09	Chain of Custody Number: [redacted]
Address: 712 W 12th St	Telephone Number (Area Code)/Fax Number: 907-586-4447	Lab Number: 16400	Page 1 of 1
City: Juneau; State: AK; Zip Code: 99801	Site Contact:	Lab Contact:	
Project Name and Location (State): Gov. House Resample	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.:			

Analysis (Attach list if more space is needed): GRO/BTEX AK101; DRO/RRO AK102/103

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	meth	GRO/BTEX AK101	DRO/RRO AK102/103	Special Instructions/ Conditions of Receipt
BH-6	11/2/09	0920				✓	✓						✓	✓	✓	2 jars -1
BH-7	11/2/09	0940				✓	✓						✓	✓	✓	2 jars -2
BH-dup	11/2/09	0950				✓	✓						✓	✓	✓	2 jars -3

@ Lab w/o 1415 Temp 3.0°C TB 1.7°C
Cooler Dsc Sm Grey/~~White~~ White Wet/Packs
Packing Bubble Wrap

Cooler: ☒ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☒ Other Standard

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: Shawn Haavig	11/2/09	1200	1. Received By: [signature]	11/4/09	1415
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TAL-8274-580 (0508)

Login Sample Receipt Check List

Client: Carson Dorn, Inc

Job Number: 580-16400-1

Login Number: 16400

List Source: TestAmerica Tacoma

Creator: Luna, Francisco

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
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	
There are no discrepancies between the sample IDs on the containers 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	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	N/A	

Laboratory Data Review Checklist

Completed by: Steven Haavig

Title: Environmental Professional

Date: December 8, 2009

CS Report Name: Closure of UST Facility #3282 Governor's House

Report Date: December 9, 2009

Consultant Firm: Carson Dorn, Inc.

Laboratory Name: TestAmerica Tacoma

Laboratory Report Number: 580-16400-1

ADEC File Number:

ADEC RecKey Number:

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

      ☒ Yes ☐ N Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

      ☐ Yes ☐ N Comments:

      NA

2. Chain of Custody (COC)

   a. COC information completed, signed, and dated (including released/received by)?

      ☒ Yes ☐ N Comments:

   b. Correct analyses requested?

      ☒ Yes ☐ N Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

☒ Yes ☐ N Comments:

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

☒ Yes ☐ N Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

☒ Yes ☐ N Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

☐ Yes ☐ N Comments:

NA Login Sample Receipt Check List complete

e. Data quality or usability affected? Explain.

Comments:

NA

4. Case Narrative

a. Present and understandable?

☒ Yes ☐ N Comments:

b. Discrepancies, errors or QC failures identified by the lab?

☒ Yes ☐ N Comments:

c. Were all corrective actions documented?

☒ Yes ☐ N Comments:

d. What is the effect on data quality/usability according to the case narrative?

Comments:

No effect on data usability

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

☒ Yes ☐ N Comments:

b. All applicable holding times met?

☒ Yes ☐ N Comments:

c. All soils reported on a dry weight basis?

☒ Yes ☐ N Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☒ Yes ☐ N Comments:

e. Data quality or usability affected?

Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☒ Yes ☐ N Comments:

Method Blank - Batch: 580-53497 for 8260B, Batch: 580-54016 for AK10, Batch 580-53433 for AK102-103

ii. All method blank results less than PQL?

☒ Yes ☐ N Comments:

iii. If above PQL, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☒ N Comments:

v. Data quality or usability affected? Explain.

Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☒ Yes ☐ N Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐ Yes ☐ N Comments:

NA

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)

☒ Yes ☐ N Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☒ Yes ☐ N Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

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

☐ Yes ☒ N Comments:

vii. Data quality or usability affected? (Use comment box to explain)

Comments:

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☒ Yes ☐ N Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☒ Yes ☐ N Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐ Yes ☒ N Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (if not, enter explanation below.)

☐ Yes ☒ N Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☒ Yes ☐ N Comments:

iii. All results less than PQL?

☐ Yes ☐ N Comments:

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? Explain.

Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☒ Yes ☐ N Comments:

BH-Dup (duplicated of BH-7)

ii. Submitted blind to lab?

☒ Yes ☐ N Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☒ Yes ☐ N Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

☐ Yes ☒ N ☐ Not Applicable

i. All results less than PQL?

☐ Yes ☐ N Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? Explain.

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☒ Yes ☐ N Comments: