SITE INVESTIGATION REPORT

Tenakee Springs Tank Farm

ADEC Site - 1527.38.010

Hazard ID - 4251

Tenakee Springs, Alaska

Prepared for:

City of Tenakee Springs

P.O. Box 52
Tenakee Springs, Alaska 99841

Submitted to:

Alaska Department of Environmental Conservation

Division of Spill Prevention and Response

Contaminated Sites Program

410 Willoughby Ave., Ste. 303

P.O. Box 111800

Juneau, AK 99811

October 2014

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TABLE OF CONTENTS

1 Introduction

This Preliminary Site Investigation Report presents the results of site investigation activities for the Tenakee Springs Tank Farm in Tenakee Springs, Alaska. Carson Dorn, Inc. (CDI) has been contracted by the City of Tenakee Springs to provide environmental services in support of characterization of the site. The general purpose of the site investigation activities was to delineate the extent of potential contaminant impacts in onsite soils and groundwater.

2 Background

The Tenakee Springs tank farm has been in operation prior to 1951 when the facility was upgraded to three vertical diesel tanks of 20,000 gallon capacity and a single gasoline 12,000 gallon tank. These tanks were atop a foundation constructed from creosoted timbers in four layers, two above and two below ground inside an unlined earthen dike. The tanks were welded steel construction and pipes ran downhill without secondary containment to a marine header. The tank farm was unsecure with no fence or locks on the valves.

In 2003, the City of Tenakee Springs hired CDI to investigate the contamination at the tank farm which the City had purchased from Kadashan Bay Corporation, operated by the Snyder Mercantile Company. Sixteen text holes were dug throughout the tank farm and the perimeter to identify the presence and extent of any contamination. The following results were reported:

- Two test holes were dug across the road from the tank farm property in beach sediments. In one of the holes a sheen and an elevated photo-ionization detector (PID) reading were noted.
- Contamination was also detected in front of the old generator shed and the existing generator tank. In these areas, some of the test holes appeared black and oily and local residents said that the former generator tank had leaked chronically and may have caused the contamination found in the upper beach area. A fitting connecting the generator tank to a distribution line from the tank farm was noted by CDI to be leaking.
- Within the tank farm containment, four test holes were dug and PID readings indicated significant petroleum contamination.

- PID readings from test holes on the hillside below the tank farm had elevated PID readings.
- A test hole dug immediately behind a cabin owned by Snyder Mercantile had no indication of contamination.
- Of two test holes just downslope from the tank farm, one indicated significant contamination while the other did not.
- CDI recommended additional soil and water testing and the report was submitted to ADEC.

A new tank farm was designed and constructed by the Alaska Energy Authority (AEA) in 2006. Construction started in March 2006 and was completed late in the summer. The new tank farm is located uphill of the old tank farm. The new tanks are double wall and consist of two diesel tanks of 22,000 gallon capacity, one gasoline tank of 15,000 gallon capacity, and one gasoline dispensing tank of 8,000 thousand gallon capacity. The old tanks (which remain in place) were drained, cleaned, and all piping removed was by AEA.

In 2006, a Tenakee Springs citizen reported to the Alaska Department of Environmental Conservation (ADEC) that the AEA and the city were moving contaminated soil from the tank farm area and spreading it on the main road along the beach and side streets adjacent to gardens, drinking water wells, and the marine intertidal. Evidence from laborers indicated that they had seen and smelled oily material being spread. The citizen collected soil and water samples which indicated diesel range organics (DRO) was present in the soil at a concentration of 3,100 mg/kg and the tap water had a concentration of 0.54 mg/L DRO. ADEC Southeast Area Response Team staff visited the site on May 11, 2006 and collected soil samples from four locations where the soil was reportedly transported. The laboratory data indicated that the contaminated soil was transported from the tank farm site to the road right-of-was (as fill) adjacent to residential drinking water wells.

In February 2007, at the request of ADEC a Corrective Action Plan (CAP) was submitted by the city and approved by ADEC. Work began to transport the contaminated soil from the public right-of-way to an approved upland city property for treatment. In addition, ADEC requested that the drinking water well in the area be sampled.

3 Description of Current Sampling Activities

The soil and groundwater sampling activities were performed in general accordance with ADEC's *Draft Field Sampling Guidance*, May 2010. The planned scope of work conducted under the SAP (approved by ADEC on June 17, 2014) consisted of the collection and analysis of two soil samples (plus one field duplicate) from the biocell, thirteen soil samples from the tank farm, two groundwater samples from onsite monitoring wells, one groundwater sample from the newly installed Snyder Mercantile drinking water well (downstream of the tank farm), and one groundwater sample (plus one field duplicate) from Tuck Harry's drinking water well.

4 Constituents of Concern

The following are the soil and groundwater constituents of concern (COCs):

- Diesel Range Organics (DRO)
- Residual Range Organics (RRO)
- Gasoline Range Organics (GRO)
- Benzene, Toluene, Ethylbenzene, and Xylene (BTEX)
- Polyaromatic Hydrocarbons (PAHs)

5 ADEC Cleanup Levels

For the purposes of this investigation, analytical data will be compared to ADEC cleanup levels in 18 AAC 75.341 Tables B1, B2 and C. Table 1, Summary of Soil Analytical Results – August 2014 in Attachment A summarizes the soil sampling results relative to ADEC soil cleanup levels. Table 2, Summary of Groundwater Analytical Results – August 2014 in Attachment A summarizes the groundwater sampling results relative to ADEC soil cleanup levels.

6 Biocell Soil Investigation

The biocell soil investigation included the collection of two soil samples (plus one field duplicate). The biocell is approximately 10 feet by 6 feet by 30 inches deep and is located on the west side of the City Hall and Library Building. Soil at various depths from each location was field-screened using visual and olfactory indications and a photo-ionization detector. Samples submitted for analysis were determined based on these results. Soil samples were analyzed

by our contract laboratory, TestAmerica, Inc. for DRO using Alaska Method AK102, RRO using Alaska Method AK103, GRO using Alaska Method AK101, BTEX using USEPA Method 8260B, and PAHs using USEPA Method 8270C. The laboratory analytical reports are presented in Attachment B. Table 1, Summary of Soil Analytical Results – August 2014 in Attachment A summarizes the soil sampling results relative to ADEC soil cleanup levels. The locations of the samples are shown on the *Biocell Site Sketch* (Attachment A).

7 Biocell Soil Analytical Results

Test hole 1 and test hole 2 were excavated a depth of 30 inches below ground surface (bgs). DRO, RRO, GRO, and BTEX were not detected in S-1 (12 inches) or S-2 (26 inches). Low levels of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, and pyrene were detected in S-1, all of the detected PAHs were well below ADEC soil cleanup levels. Low levels of anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, chrysene, fluoranthene, ideno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene were also detected in S-2, all of the detected PAHs were well below ADEC soil cleanup levels.

8 Tank Farm Soil Investigation

The tank farm soil investigation included the collection of thirteen oil samples. Soil at various depths from each location was field-screened using visual and olfactory indications and a photo-ionization detector. Samples submitted for analysis were determined based on these results. Soil samples were analyzed by our contract laboratory, TestAmerica, Inc. for DRO using Alaska Method AK102 and RRO using Alaska Method AK103. The laboratory analytical reports are presented in Attachment B. Table 1, Summary of Soil Analytical Results – August 2014 in Attachment A summarizes the soil sampling results relative to ADEC soil cleanup levels. The locations of the samples are shown on the *Tank Farm Site Sketch* (Attachment A).

9 Tank Farm Soil Analytical Results

Test holes 3, 4, 5, and 6 were excavated in front of the old tanks and valves inside the tank farm containment. Test hole 3 was excavated to a depth of 20 inches bgs, test hole 4 was excavated to a depth of 8 inches bgs, test hole 5 was excavated to a depth of 18 inches bgs, and test hole 6 was excavated to a depth of 14 inches bgs. The soils were wet organic with blue clay at the bottom of test hole 3. The test holes had strong odor and filled rapidly with water with a heavy sheen. DRO was detected at a concentration of 30 mg/kg in S-3 (8 inches). RRO was not detected in S-3. DRO

was detected at a concentration of 1,000 mg/kg and RRO was detected at a concentration of 110 mg/kg in S-4 (8 inches). DRO was detected at a concentration of 120 mg/kg in S-5 (12 inches). RRO was not detected in S-5. DRO was detected at a concentration of 450 mg/kg in S-6 (10 inches). RRO was not detected in S-10.

Test hole 7 (below the old containment drain) was excavated to a depth of 24 inches bgs. The soils were organic with blue clay at 24 inches bgs. The test hole had odor and water with sheen was encountered at 20 inches. DRO was detected at a concentration of 2,900 mg/kg and RRO was detected at a concentration of 110 mg/kg in S-7 (20 inches).

Test hole 8 (downgradient of the tank farm below the discarded tanks) was excavated to a depth of 28 inches bgs. No odor was noted in the test hole. The soils were very dry organic and no groundwater was encountered. DRO was detected at a concentration of 180 mg/kg and RRO was detected at a concentration of 200 mg/kg in S-8 (24 inches).

Test hole 9 (4 feet behind tank #4 inside containment) was excavated to a depth of 18 inches bgs. No odor was noted in the test hole. The soils were organic then blue clay from 4 inches to the bottom. Groundwater with no sheen was encountered at 8 inches. DRO and RRO were not detected in S-9 (8 inches).

Test hole 10 (west of the tank farm containment near the steps) was excavated to a depth of 32 inches bgs. No odor was noted in the test hole. The soils were organic and groundwater with no sheen was encountered at 24 inches. DRO and RRO were not detected in S-10 (24 inches).

Test hole 11 (drainage below east side containment) was excavated to a depth of 40 inches bgs. The soils were organic then blue clay and rock at 40 inches. Low odor was noted in the test hole. Groundwater with no sheen was encountered at the bottom. DRO was detected at a concentration of 450 mg/kg in S-11 (38 inches). RRO was not detected in S-11.

Test hole 12 (west of the Snyder Cabin) was excavated to a depth of 38 inches bgs. Strong odor was noted in the hole and groundwater was encountered at 36 inches. The blue clay layer was at 38 inches. DRO was detected at a concentration of 1,300 mg/kg in S-12 (34 inches). RRO was not detected in S-12.

Test hole 13 (west side of drainage near old distribution lines) was excavated to a depth of 24 inches bgs. Heavy odor was noted in the test hole. Groundwater with slight sheen was encountered at 22 inches. DRO was detected at a concentration of 5,300 mg/kg and RRO was detected at a concentration of 1,200 mg/kg in S-13 (22 inches).

Test hole 14 (across the road from tank farm) was excavated to a depth of 18 inches bgs. The gravel beach sediment has a strong odor and was coated with black oily residue. The hole filled rapidly with water with a heavy sheen. DRO was detected at a concentration of 4,000 mg/kg and RRO was detected at a concentration of 2,600 mg/kg in S-14 (18 inches).

Tet hole 15 (area of the former generator tank) was excavated to a depth of 18 inches bgs. Heavy odor was noted in the test hole and groundwater with slight sheen was encountered at the bottom. DRO was detected at a concentration of 2,000 mg/kg and RRO was detected at a concentration of 4,000 mg/kg in S-15 (18 inches).

10 Groundwater Investigation

The groundwater investigation included the collection of two groundwater samples from onsite monitoring wells (MW-1 and MW-2), one groundwater sample from the newly installed Snyder Mercantile drinking water well (downstream of the tank farm), and one groundwater sample (plus one field duplicate) from Tuck Harry's drinking water well. Groundwater samples were analyzed by our contract laboratory, TestAmerica, Inc. for DRO using Alaska Method AK102, RRO using Alaska Method AK103, GRO using Alaska Method AK101, BTEX using USEPA Method 8260B, and PAHs using USEPA Method 8270C. The laboratory analytical reports are presented in Attachment B. Table 2, Summary of Groundwater Analytical Results – August 2014 in Attachment A summarizes the groundwater sampling results relative to ADEC groundwater cleanup levels. The locations of the wells are shown on the *Groundwater Wells Locations Sketch* (Attachment A).

11 Groundwater Analytical Results

DRO, RRO, and GRO were not detected in MW-1. DRO was detected at a concentration of 0.57 mg/L in MW-2. RRO was detected at a concentration of 2.7 mg/L in MW-2 which exceeds the ADEC method 2 groundwater cleanup level of 1.1 mg/L . GRO was not detected in MW-2. DRO,

RRO, and GRO were not detected in the Snyder Mercantile drinking water well. DRO, RRO, GRO, BTEX, and PAHs were not detected in Tuck Harry's drinking water well.

12 Summary

This Site Investigation Report presents the results of site investigation activities at the Tenakee Springs Tank Farm site in Tenakee Springs, Alaska. The general purpose of the site investigation activities was to delineate the extent of contaminant impacts in soils and groundwater.

The biocell soil investigation confirmed that the soil is remediated. DRO, RRO, GRO, and BTEX were not detected in S-1 or S-2. Low levels of PAHs were detected in S-2, all of which were well below ADEC soil cleanup levels.

The tank farm soil investigation confirmed that soils at the tank farm site and offsite in the upper beach area downslope of the tank farm are impacted by DRO. DRO was detected in 11 out of 13 samples at concentrations ranging from 30 mg/kg in S-3 to 5,300 mg/kg in S-13. The detected concentrations of DRO exceeded the ADEC Method Two Soil Cleanup Level for migration to groundwater in S-4, S-6, S-7, S-11, S-12, S-13, S-14, and S-15. The detected concentrations of DRO are below the ADEC Method Two Soil Cleanup Level for ingestion and inhalation.

All detected concentrations of RRO (detected in 6 out of 13 samples at concentrations ranging from 110 mg/kg in S-4 to 4,000 mg/kg in S-15) were below the ADEC Method Two Soil Cleanup Level for ingestion, inhalation, and migration to groundwater.

The groundwater investigation indicates that onsite groundwater is impacted by RRO (2.7 mg/L) in exceedance of the ADEC method 2 groundwater cleanup level of 1.1 mg/L. The maximum detection for RRO in soil in test hole 15 (S-15) is near the location of MW-2. DRO was also detected in MW-2 at a concentration of 0.57 mg/L which is below the ADEC method 2 groundwater cleanup level of 1.5 mg/L. The offsite groundwater investigation indicates drinking water wells are not impacted by offsite migration.

Attachment A

Table 1. Summary of Soil Analytical Results -August 2014
Tenakee Springs Tank Farm - Tenakee Springs, Alaska

Analyte	Units	Over 40-inch Zone		Migration to Groundwater (mg/kg)	Sample & Depth									
					Biocell Investigation			Tank Farm Investigation						
		Ingestion (mg/kg)	Inhalation (mg/kg)		S-1 (12 in) 8/18/2014	S-2 (26 in) 8/18/2014	S-D (dup S-2) (26 in) 8/18/2014	S-3 (6 in) 8/18/2014	S-4 (8 in) 8/18/2014	S-5 (12 in) 8/18/2014	S-6 (10 in) 8/18/2014	S-7 (20 in) 8/18/2014	S-8 (24 in) 8/18/2014	S-9 (8 in) 8/18/2014
AK Method 102- Diesel Range Organics														
DRO (nC10-<nC25)	mg/Kg	8250	12500	230	<24	<23	<24	30	**1000**	120	**450**	**2900**	180	<23
AK Method 103- Residual Range Organics														
RRO (nC25-<nC36)	mg/Kg	8300	22000	9700	<60	<59	<60	<63	110	<63	<65	110	200	<57
AK Method 101- Gasoline Range Organics														
GRO (nC6-<nC10)	mg/Kg	1400	1400	260	<2.4*	<2.5*	<2.3*	NA	NA	NA	NA	NA	NA	NA
USEPA Method 8260B- BTEX														
Benzene	mg/Kg	120	8.5	0.025	<0.010	<0.010	<0.0093	NA	NA	NA	NA	NA	NA	NA
Toluene	mg/Kg	6600	220	6.5	<0.025	<0.025	<0.023	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	mg/Kg	8300	81	6.9	<0.025	<0.025	<0.023	NA	NA	NA	NA	NA	NA	NA
Xylenes	mg/Kg	16600	63	63	<0.075	<0.075	<0.070	NA	NA	NA	NA	NA	NA	NA
USEPA Method 8270C - PAHs														
Acenaphthene	mg/Kg	2300		180	<0.024	<0.024	<0.024	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	mg/Kg	2300		180	<0.024	<0.024	<0.024	NA	NA	NA	NA	NA	NA	NA
Anthracene	mg/Kg	16800		3000	<0.024	0.054	0.034	NA	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	mg/Kg	4		3.6	0.039	0.12	0.13	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	mg/Kg	0.4		2.1	0.048	0.097	0.093	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	mg/Kg	4		12	0.069	0.16	0.15	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	mg/Kg	40		120	<0.030	0.079	0.06	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	mg/Kg	1100		38700	<0.030	0.047	0.041	NA	NA	NA	NA	NA	NA	NA
Chrysene	mg/Kg	400		360	0.047	0.22	0.16	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	mg/Kg	0.4		4	<0.048	<0.048	<0.048	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	mg/Kg	1500		1400	0.063	0.17	0.27	NA	NA	NA	NA	NA	NA	NA
Fluorene	mg/Kg	1900		220	<0.024	<0.024	<0.024	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	mg/Kg	4		41	<0.048	0.067	0.063	NA	NA	NA	NA	NA	NA	NA
Naphthalene	mg/Kg	1100	21	20	<0.024	0.031	<0.024	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	mg/Kg	16800		3000	<0.024	0.098	0.098	NA	NA	NA	NA	NA	NA	NA
Pyrene	mg/Kg	1100		1000	0.076	0.18	0.25	NA	NA	NA	NA	NA	NA	NA

Notes:
Results in **bold** above ADEC Method 2 Soil Cleanup Level.
< - non detect at reporting limit.
NA Not analyzed.
* Laboratory Control Sample and/or Laboratory Control Sample Duplicate exceeds the control limits.

Table 1. Summary of Soil Analytical Results -August 2014
Tenakee Springs Tank Farm - Tenakee Springs, Alaska

Analyte	Units	Over 40-inch Zone		Migration to Groundwater (mg/kg)	Sample & Depth					
					Tank Farm Investigation					
		Ingestion (mg/kg)	Inhalation (mg/kg)		S-10 (24 in) 8/18/2014	S-11 (38 in) 8/18/2014	S-12 (34 in) 8/18/2014	S-13 (22 in) 8/18/2014	S-14 (18 in) 8/18/2014	S-15 (18 in) 8/18/2014
AK Method 102- Diesel Range Organics										
DRO (nC10-<nC25)	mg/Kg	8250	12500	230	<26	**450**	**1300**	**5300**	**4000**	**2000**
AK Method 103- Residual Range Organics										
RRO (nC25-<nC36)	mg/Kg	8300	22000	9700	<66	<140	<150	1200	2600	4000
AK Method 101- Gasoline Range Organics										
GRO (nC6-<nC10)	mg/Kg	1400	1400	260	NA	NA	NA	NA	NA	NA
USEPA Method 8260B- BTEX										
Benzene	mg/Kg	120	8.5	0.025	NA	NA	NA	NA	NA	NA
Toluene	mg/Kg	6600	220	6.5	NA	NA	NA	NA	NA	NA
Ethylbenzene	mg/Kg	8300	81	6.9	NA	NA	NA	NA	NA	NA
Xylenes	mg/Kg	16600	63	63	NA	NA	NA	NA	NA	NA
USEPA Method 8270C - PAHs										
Acenaphthene	mg/Kg	2300		180	NA	NA	NA	NA	NA	NA
Acenaphthylene	mg/Kg	2300		180	NA	NA	NA	NA	NA	NA
Anthracene	mg/Kg	16800		3000	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	mg/Kg	4		3.6	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	mg/Kg	0.4		2.1	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	mg/Kg	4		12	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	mg/Kg	40		120	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	mg/Kg	1100		38700	NA	NA	NA	NA	NA	NA
Chrysene	mg/Kg	400		360	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	mg/Kg	0.4		4	NA	NA	NA	NA	NA	NA
Fluoranthene	mg/Kg	1500		1400	NA	NA	NA	NA	NA	NA
Fluorene	mg/Kg	1900		220	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	mg/Kg	4		41	NA	NA	NA	NA	NA	NA
Naphthalene	mg/Kg	1100	21	20	NA	NA	NA	NA	NA	NA
Phenanthrene	mg/Kg	16800		3000	NA	NA	NA	NA	NA	NA
Pyrene	mg/Kg	1100		1000	NA	NA	NA	NA	NA	NA

Notes:
Results in **bold** above ADEC Method 2 Soil Cleanup Level.
< - non detect at reporting limit.
NA Not analyzed.
* Laboratory Control Sample and/or Laboratory Control Sample Duplicate exceeds the control limits.

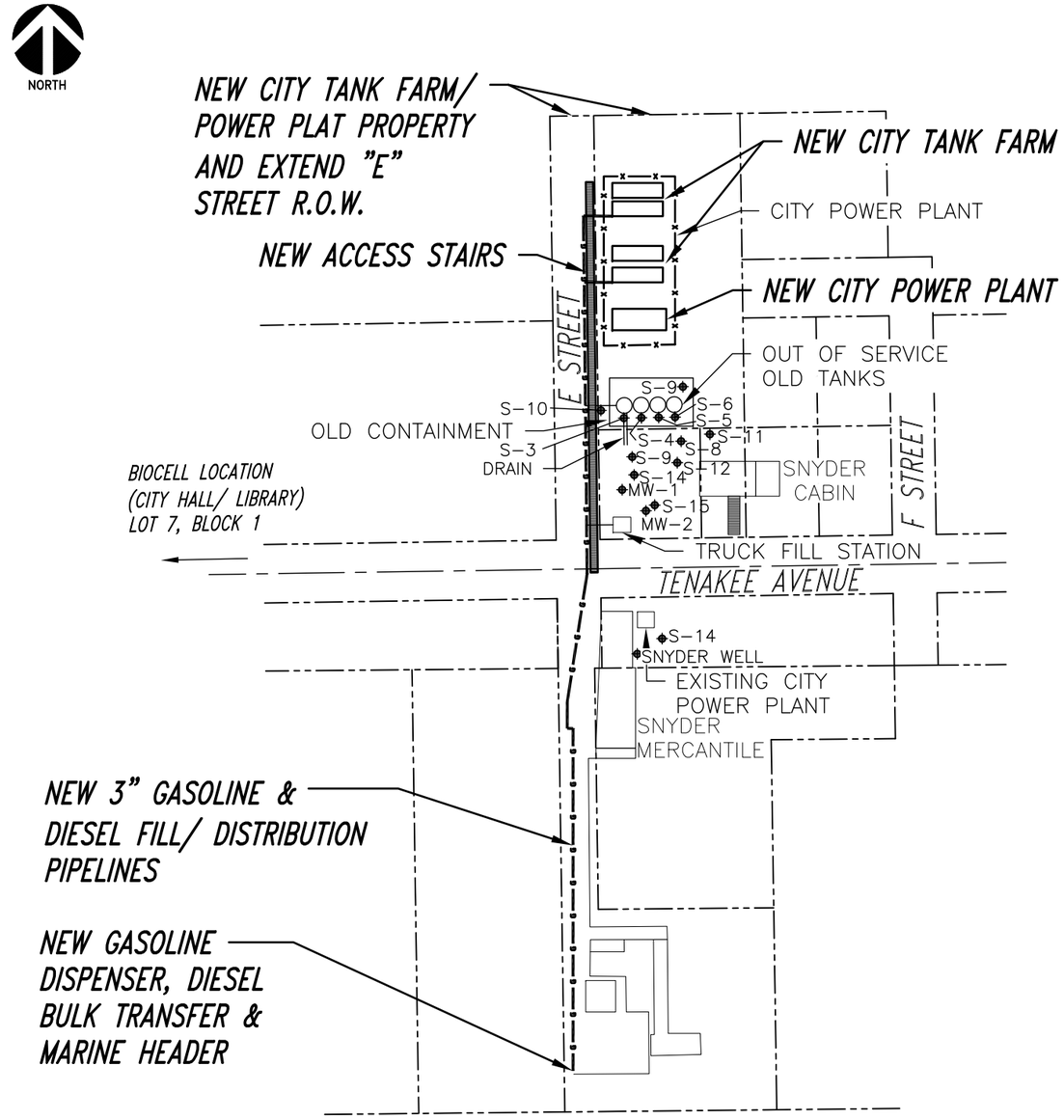
Table 2. Summary of Groundwater Analytical Results -August 2014
Tenakee Springs Tank Farm - Tenakee Springs, Alaska

Analyte	Units	ADEC Method 2 Groundwater Cleanup Level	MW1 8/18/2014	MW2 8/18/2014	Snyder Well 8/18/2014	Tuck Harry Well 8/18/2014
AK Method 102- Diesel Range Organics						
DRO (nC10-<nC25)	mg/L	1.5	<0.40	0.57	<0.38	<0.38
AK Method 103- Residual Range Organics						
RRO (nC25-<nC36)	mg/L	1.1	<0.40	2.7	<0.38	<0.38
AK Method 101- Gasoline Range Organics						
GRO (nC6-<nC10)	mg/L	2.2	<0.05	<0.05	<0.05	<0.05
USEPA Method 8260B- BTEX						
Benzene	mg/L	0.005	NA	NA	NA	<0.0005
Toluene	mg/L	1	NA	NA	NA	<0.001
Ethylbenzene	mg/L	0.7	NA	NA	NA	<0.001
Xylenes	mg/L	10	NA	NA	NA	<0.001
USEPA Method 8270C - PAHs						
Acenaphthene	mg/L	2.2	NA	NA	NA	<0.000109
Acenaphthylene	mg/L	2.2	NA	NA	NA	<0.000109
Anthracene	mg/L	11	NA	NA	NA	<0.000109
Benz(a)anthracene	mg/L	0.0012	NA	NA	NA	<0.000109
Benzo(a)pyrene	mg/L	0.0002	NA	NA	NA	<0.000109
Benzo(b)fluoranthene	mg/L	0.0012	NA	NA	NA	<0.000109
Benzo(k)fluoranthene	mg/L	0.012	NA	NA	NA	<0.000109
Benzo(g,h,i)perylene	mg/L	1.1	NA	NA	NA	<0.000109
Chrysene	mg/L	0.12	NA	NA	NA	<0.000109
Dibenz(a,h)anthracene	mg/L	0.00012	NA	NA	NA	<0.000109
Fluoranthene	mg/L	1.5	NA	NA	NA	<0.000109
Fluorene	mg/L	1.5	NA	NA	NA	<0.000109
Indeno(1,2,3-cd)pyrene	mg/L	0.0012	NA	NA	NA	<0.000109
Naphthalene	mg/L	0.73	NA	NA	NA	<0.000109
Phenanthrene	mg/L	11	NA	NA	NA	<0.000109
Pyrene	mg/L	1.1	NA	NA	NA	<0.000109

Notes:
Results in **bold** above ADEC Groundwater Cleanup Level.
< - non detect at reporting limit.
NA Not analyzed.

LEGEND

PROPERTY LINE
UNSURVEYED
CENTERLINE
3" GASOLINE & DIESEL FILL/ DISTRIBUTION PIPELINES



100' 0 200'

Scale 1"=100'

REV	DATE	BY	DESCRIPTION

SCALE GRAPHIC
DESIGNED JMC
DRAWN GDM
CHECKED JMC
DATE OCT 2014

CITY OF TENAKEE
TENAKEE SPRINGS, ALASKA

Carson Dorn Inc.
712 WEST 12TH STREET
JUNEAU, ALASKA 99801
(907) 586-4447

SITE PLAN
TENAKKE SPRINGS
TANK FARM SITE

DRAWING
FIG. 1

SHEET No.
1 of 1

E:\GDM\2CAD\SE_AK\TENAKEE\TANK FARM\TNK-TANK FARM.DWG 10/29/2014 1:44:08 PM AST

Attachment B

Laboratory Data Review Checklist

Completed by: Jolene Cox

Title: Environmental Professional Date: October 20, 2014

CS Report Name: Tenakee Springs Tank Farm Report Date: September 4, 2014

Consultant Firm: Carson Dorn, Inc.

Laboratory Name: Test America, Inc. Laboratory Report Number: 230-265-1

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 No NA (Please explain.) Comments:

      YES

   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 No NA (Please explain.) Comments:

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      Yes No NA (Please explain.) Comments:

      YES

   b. Correct analyses requested?
      Yes No NA (Please explain.) Comments:

      YES

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      Yes No NA (Please explain.) Comments:

      YES

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      Yes No NA (Please explain.) Comments:

      YES

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
Yes No NA (Please explain.) Comments:

YES

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 No NA (Please explain.) Comments:

NO

e. Data quality or usability affected? (Please explain.)
Comments:

4. Case Narrative
a. Present and understandable?
Yes No NA (Please explain.) Comments:

YES

b. Discrepancies, errors or QC failures identified by the lab?
Yes No NA (Please explain.) Comments:

The continuing calibration verification (CCV) associated with batch 1036 recovered outside acceptance criteria, low biased, for Acetone. The % drift was calculated at -33.0%, whereas the limit is -25.0%.

The continuing calibration verification (CCV) associated with batch 1017 recovered above the upper control limit for Gasoline Range Organics (GRO). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (LCS 230-1017/1031), (LCSD 230-1017/32), (MB 230-1017/24), T.H.WELL(230-265-16).

Method(s) AK102 & 103: The following sample(s) required a dilution due to the nature of the sample matrix: S-13 (230-265-13). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

c. Were all corrective actions documented?
Yes No NA (Please explain.) Comments:

YES

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

NONE

5. Samples Results
a. Correct analyses performed/reported as requested on COC?
Yes No NA (Please explain.) Comments:

YES

b. All applicable holding times met?

Yes No NA (Please explain.) Comments:

YES

c. All soils reported on a dry weight basis?

Yes No NA (Please explain.) Comments:

YES

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

Yes No NA (Please explain.) Comments:

YES

e. Data quality or usability affected?

Comments:

6. <u>QC Samples</u>

a. Method Blank

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

Yes No NA (Please explain.) Comments:

YES

ii. All method blank results less than PQL?

Yes No NA (Please explain.) Comments:

YES

iii. If above PQL, what samples are affected?

Comments:

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

Yes No NA (Please explain.) Comments:

v. Data quality or usability affected? (Please 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 No NA (Please explain.) Comments:

The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for batch 1017 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO). These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) AK101: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for batch 1032 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO). These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

Yes 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)

Yes No NA (Please explain.) Comments:

YES

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 No NA (Please explain.) Comments:

Method(s) AK102 & 103: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 1034 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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 No NA (Please explain.) 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 No NA (Please explain.) Comments:

YES

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 No NA (Please explain.) Comments:

YES

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?
Yes No NA (Please explain.) 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 No NA (Please explain.) Comments:

YES

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 No NA (Please explain.) Comments:

YES

iii. All results less than PQL?
Yes No NA (Please explain.) Comments:

Method(s) AK101: The Gasoline Range Organics (GRO) concentration reported for the following sample(s) is due to the presence of discrete peaks: TRIP BLANK (230-265-23). This is caused by the Methanol of the trip blank extracting a compound from the teflon lid of the container jar.

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

NO

e. Field Duplicate

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

Yes No NA (Please explain.) Comments:

YES

ii. Submitted blind to lab?

Yes No NA (Please explain.) Comments:

YES

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 No NA (Please explain.) Comments:

YES

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

Comments:

f. Decontamination or Equipment Blank (If not used explain why).

Yes No NA (Please explain.) Comments:

i. All results less than PQL?

Yes No NA (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)
   a. Defined and appropriate?
      Yes No NA (Please explain.) Comments:

TestAmerica

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: 230-265-1
Client Project/Site: TKE T.F.

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

Attn: Tom Carson

Authorized for release by:
9/4/2014 2:54:53 PM
Jonathan Bousselaire, Project Management Assistant II
jonathan.bousselaire@testamericainc.com

Designee for

Johanna Dreher, Project Manager I
(907)563-9200
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.

Table of Contents

Definitions/Glossary

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
X	Surrogate is outside control limits

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
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)

Job ID: 230-265-1

Laboratory: TestAmerica Anchorage

Narrative

Job Narrative
230-265-1

Comments
No additional comments.

Receipt
The samples were received on 8/25/2014 8:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2º C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 1036 recovered outside acceptance criteria, low biased, for Acetone. The % drift was calculated at -33.0%, whereas the limit is -25.0%.

Method(s) AK101: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for batch 1017 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO). These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) AK101: The continuing calibration verification (CCV) associated with batch 1017 recovered above the upper control limit for Gasoline Range Organics (GRO). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (LCS 230-1017/1031), (LCSD 230-1017/32), (MB 230-1017/24), T.H.WELL (230-265-16).

Method(s) AK101: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for batch 1032 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO). These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) AK101: The Gasoline Range Organics (GRO) concentration reported for the following sample(s) is due to the presence of discrete peaks: TRIP BLANK (230-265-23). This is caused by the Methanol of the trip blank extracting a compound from the teflon lid of the container jar.

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

GC Semi VOA
Method(s) AK102 & 103: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 1034 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) AK102 & 103: The following sample(s) required a dilution due to the nature of the sample matrix: S-13 (230-265-13). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

General Chemistry
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.

Detection Summary

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: S-1 — Lab Sample ID: 230-265-1

No Detections.

Client Sample ID: S-2 — Lab Sample ID: 230-265-2

No Detections.

Client Sample ID: S-3 — Lab Sample ID: 230-265-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C25	30		25		mg/Kg	1	☼	AK102 & 103	Total/NA

Client Sample ID: S-4 — Lab Sample ID: 230-265-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C25	1000		43		mg/Kg	1	☼	AK102 & 103	Total/NA
C25-C36	110		110		mg/Kg	1	☼	AK102 & 103	Total/NA

Client Sample ID: S-5 — Lab Sample ID: 230-265-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C25	120		25		mg/Kg	1	☼	AK102 & 103	Total/NA

Client Sample ID: S-6 — Lab Sample ID: 230-265-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C25	450		26		mg/Kg	1	☼	AK102 & 103	Total/NA

Client Sample ID: S-7 — Lab Sample ID: 230-265-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C25	2900		30		mg/Kg	1	☼	AK102 & 103	Total/NA
C25-C36	110		75		mg/Kg	1	☼	AK102 & 103	Total/NA

Client Sample ID: S-8 — Lab Sample ID: 230-265-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C25	180		27		mg/Kg	1	☼	AK102 & 103	Total/NA
C25-C36	200		68		mg/Kg	1	☼	AK102 & 103	Total/NA

Client Sample ID: S-9 — Lab Sample ID: 230-265-9

No Detections.

Client Sample ID: S-10 — Lab Sample ID: 230-265-10

No Detections.

Client Sample ID: S-11 — Lab Sample ID: 230-265-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C25	450		56		mg/Kg	1	☼	AK102 & 103	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: S-12 — Lab Sample ID: 230-265-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C25	1300		59		mg/Kg	1	☼	AK102 & 103	Total/NA

Client Sample ID: S-13 — Lab Sample ID: 230-265-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C25-C36	1200		65		mg/Kg	1	☼	AK102 & 103	Total/NA
C10-C25 - DL	5300		260		mg/Kg	10	☼	AK102 & 103	Total/NA

Client Sample ID: S-14 — Lab Sample ID: 230-265-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C25	4000		220		mg/Kg	10	☼	AK102 & 103	Total/NA
C25-C36	2600		560		mg/Kg	10	☼	AK102 & 103	Total/NA

Client Sample ID: S-15 — Lab Sample ID: 230-265-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C25	2000		28		mg/Kg	1	☼	AK102 & 103	Total/NA
C25-C36 - DL	4000		690		mg/Kg	10	☼	AK102 & 103	Total/NA

Client Sample ID: T.H.WELL — Lab Sample ID: 230-265-16

No Detections.

Client Sample ID: SNYDER WELL — Lab Sample ID: 230-265-17

No Detections.

Client Sample ID: D.WELL — Lab Sample ID: 230-265-18

No Detections.

Client Sample ID: MW-1 — Lab Sample ID: 230-265-19

No Detections.

Client Sample ID: MW-2 — Lab Sample ID: 230-265-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO) (C10-C25)	0.57		0.39		mg/L	1		AK102 & 103	Total/NA
Residual Range Organics (RRO) (C25-C36)	2.7		0.39		mg/L	1		AK102 & 103	Total/NA

Client Sample ID: S-D — Lab Sample ID: 230-265-21

No Detections.

Client Sample ID: TRIP BLANK — Lab Sample ID: 230-265-22

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: TRIP BLANK — Lab Sample ID: 230-265-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) -C6-C10	37	*	3.3		mg/Kg	1	☼	AK101	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: S-1

Lab Sample ID: 230-265-1
Date Collected: 08/18/14 09:00
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 82.4

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND	*	2.4		mg/Kg	☼	08/27/14 10:16	08/27/14 23:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*	*08/27/14 10:16*	*08/27/14 23:14*	*1*
Dibromofluoromethane (Surr)	*99*		*71.5 - 139*	*08/27/14 10:16*	*08/27/14 23:14*	*1*
Toluene-d8 (Surr)	*96*		*77.2 - 120*	*08/27/14 10:16*	*08/27/14 23:14*	*1*
Trifluorotoluene (Surr)	*74*		*50 - 150*	*08/27/14 10:16*	*08/27/14 23:14*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	ND		24		mg/Kg	☼	08/27/14 10:17	08/28/14 20:19	1
C25-C36	ND		60		mg/Kg	☼	08/27/14 10:17	08/28/14 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*107*		*50 - 150*	*08/27/14 10:17*	*08/28/14 20:19*	*1*
n-Triacontane (Surr)	*109*		*50 - 150*	*08/27/14 10:17*	*08/28/14 20:19*	*1*

Client Sample ID: S-2

Lab Sample ID: 230-265-2
Date Collected: 08/18/14 09:11
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 85.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010		mg/Kg	☼	08/27/14 10:16	08/28/14 01:22	1
Ethylbenzene	ND		0.025		mg/Kg	☼	08/27/14 10:16	08/28/14 01:22	1
Toluene	ND		0.025		mg/Kg	☼	08/27/14 10:16	08/28/14 01:22	1
Xylenes, Total	ND		0.075		mg/Kg	☼	08/27/14 10:16	08/28/14 01:22	1
o-Xylene	ND		0.025		mg/Kg	☼	08/27/14 10:16	08/28/14 01:22	1
m,p-Xylene	ND		0.050		mg/Kg	☼	08/27/14 10:16	08/28/14 01:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*	*08/27/14 10:16*	*08/28/14 01:22*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*	*08/27/14 10:16*	*08/28/14 01:22*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*	*08/27/14 10:16*	*08/28/14 01:22*	*1*
Trifluorotoluene (Surr)	*89*		*50 - 150*	*08/27/14 10:16*	*08/28/14 01:22*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND	*	2.5		mg/Kg	☼	08/27/14 10:16	08/28/14 01:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*	*08/27/14 10:16*	*08/28/14 01:22*	*1*
Dibromofluoromethane (Surr)	*103*		*71.5 - 139*	*08/27/14 10:16*	*08/28/14 01:22*	*1*
Toluene-d8 (Surr)	*95*		*77.2 - 120*	*08/27/14 10:16*	*08/28/14 01:22*	*1*
Trifluorotoluene (Surr)	*89*		*50 - 150*	*08/27/14 10:16*	*08/28/14 01:22*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	ND		23		mg/Kg	☼	08/27/14 10:17	08/29/14 23:07	1
C25-C36	ND		59		mg/Kg	☼	08/27/14 10:17	08/29/14 23:07	1

Client Sample ID: S-2

Lab Sample ID: 230-265-2
Date Collected: 08/18/14 09:11
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 85.1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	104		50 - 150	08/27/14 10:17	08/29/14 23:07	1
n-Triacontane (Surr)	107		50 - 150	08/27/14 10:17	08/29/14 23:07	1

Client Sample ID: S-3

Lab Sample ID: 230-265-3
Date Collected: 08/18/14 09:57
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 77.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	30		25		mg/Kg	☼	08/27/14 10:17	08/29/14 23:40	1
C25-C36	ND		63		mg/Kg	☼	08/27/14 10:17	08/29/14 23:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	105		50 - 150	08/27/14 10:17	08/29/14 23:40	1
n-Triacontane (Surr)	107		50 - 150	08/27/14 10:17	08/29/14 23:40	1

Client Sample ID: S-4

Lab Sample ID: 230-265-4
Date Collected: 08/18/14 10:05
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 45.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	1000		43		mg/Kg	☼	08/27/14 10:17	08/30/14 00:12	1
C25-C36	110		110		mg/Kg	☼	08/27/14 10:17	08/30/14 00:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	111		50 - 150	08/27/14 10:17	08/30/14 00:12	1
n-Triacontane (Surr)	103		50 - 150	08/27/14 10:17	08/30/14 00:12	1

Client Sample ID: S-5

Lab Sample ID: 230-265-5
Date Collected: 08/18/14 10:15
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 75.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	120		25		mg/Kg	☼	08/27/14 10:17	08/30/14 00:44	1
C25-C36	ND		63		mg/Kg	☼	08/27/14 10:17	08/30/14 00:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	100		50 - 150	08/27/14 10:17	08/30/14 00:44	1
n-Triacontane (Surr)	101		50 - 150	08/27/14 10:17	08/30/14 00:44	1

Client Sample ID: S-6

Lab Sample ID: 230-265-6
Date Collected: 08/18/14 10:27
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 76.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	450		26		mg/Kg	☼	08/27/14 10:17	08/30/14 01:16	1
C25-C36	ND		65		mg/Kg	☼	08/27/14 10:17	08/30/14 01:16	1

Client Sample ID: S-6 — Lab Sample ID: 230-265-6

Date Collected: 08/18/14 10:27 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 76.5**

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*107*		*50 - 150*	*08/27/14 10:17*	*08/30/14 01:16*	*1*
n-Triacontane (Surr)	*103*		*50 - 150*	*08/27/14 10:17*	*08/30/14 01:16*	*1*

Client Sample ID: S-7 — Lab Sample ID: 230-265-7

Date Collected: 08/18/14 10:45 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 66.2**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	**2900**		30		mg/Kg	☼	08/27/14 10:17	08/30/14 01:48	1
C25-C36	**110**		75		mg/Kg	☼	08/27/14 10:17	08/30/14 01:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*112*		*50 - 150*	*08/27/14 10:17*	*08/30/14 01:48*	*1*
n-Triacontane (Surr)	*101*		*50 - 150*	*08/27/14 10:17*	*08/30/14 01:48*	*1*

Client Sample ID: S-8 — Lab Sample ID: 230-265-8

Date Collected: 08/18/14 11:07 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 75.8**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	**180**		27		mg/Kg	☼	08/27/14 10:17	08/30/14 02:20	1
C25-C36	**200**		68		mg/Kg	☼	08/27/14 10:17	08/30/14 02:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*97*		*50 - 150*	*08/27/14 10:17*	*08/30/14 02:20*	*1*
n-Triacontane (Surr)	*105*		*50 - 150*	*08/27/14 10:17*	*08/30/14 02:20*	*1*

Client Sample ID: S-9 — Lab Sample ID: 230-265-9

Date Collected: 08/18/14 11:23 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 87.7**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	ND		23		mg/Kg	☼	08/27/14 10:17	08/30/14 02:53	1
C25-C36	ND		57		mg/Kg	☼	08/27/14 10:17	08/30/14 02:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*105*		*50 - 150*	*08/27/14 10:17*	*08/30/14 02:53*	*1*
n-Triacontane (Surr)	*108*		*50 - 150*	*08/27/14 10:17*	*08/30/14 02:53*	*1*

Client Sample ID: S-10 — Lab Sample ID: 230-265-10

Date Collected: 08/18/14 11:45 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 75.2**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	ND		26		mg/Kg	☼	08/27/14 10:17	08/30/14 03:25	1
C25-C36	ND		66		mg/Kg	☼	08/27/14 10:17	08/30/14 03:25	1

Client Sample Results

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: S-10

Lab Sample ID: 230-265-10
Date Collected: 08/18/14 11:45
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 75.2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	89		50 - 150	08/27/14 10:17	08/30/14 03:25	1
n-Triacontane (Surr)	95		50 - 150	08/27/14 10:17	08/30/14 03:25	1

Client Sample ID: S-11

Lab Sample ID: 230-265-11
Date Collected: 08/18/14 12:05
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 34.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	450		56		mg/Kg	☼	08/27/14 10:17	08/30/14 03:57	1
C25-C36	ND		140		mg/Kg	☼	08/27/14 10:17	08/30/14 03:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	104		50 - 150	08/27/14 10:17	08/30/14 03:57	1
n-Triacontane (Surr)	110		50 - 150	08/27/14 10:17	08/30/14 03:57	1

Client Sample ID: S-12

Lab Sample ID: 230-265-12
Date Collected: 08/18/14 12:17
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 32.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	1300		59		mg/Kg	☼	08/27/14 10:17	08/30/14 05:01	1
C25-C36	ND		150		mg/Kg	☼	08/27/14 10:17	08/30/14 05:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	99		50 - 150	08/27/14 10:17	08/30/14 05:01	1
n-Triacontane (Surr)	100		50 - 150	08/27/14 10:17	08/30/14 05:01	1

Client Sample ID: S-13

Lab Sample ID: 230-265-13
Date Collected: 08/18/14 12:30
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 75.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C25-C36	1200		65		mg/Kg	☼	08/27/14 10:17	08/30/14 05:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Triacontane (Surr)	119		50 - 150	08/27/14 10:17	08/30/14 05:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	5300		260		mg/Kg	☼	08/27/14 10:17	09/02/14 09:15	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	206	X	50 - 150	08/27/14 10:17	09/02/14 09:15	10

Client Sample Results

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: S-14

Lab Sample ID: 230-265-14
Date Collected: 08/18/14 12:49
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 86.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	4000		220		mg/Kg	☼	08/27/14 10:17	09/03/14 12:15	10
C25-C36	2600		560		mg/Kg	☼	08/27/14 10:17	09/03/14 12:15	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*76*		*50 - 150*	*08/27/14 10:17*	*09/03/14 12:15*	*10*
n-Triacontane (Surr)	*85*		*50 - 150*	*08/27/14 10:17*	*09/03/14 12:15*	*10*

Client Sample ID: S-15

Lab Sample ID: 230-265-15
Date Collected: 08/18/14 12:58
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 69.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	2000		28		mg/Kg	☼	08/27/14 10:17	08/30/14 06:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*104*		*50 - 150*	*08/27/14 10:17*	*08/30/14 06:37*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C25-C36	4000		690		mg/Kg	☼	08/27/14 10:17	09/02/14 10:19	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Triacontane (Surr)	*97*		*50 - 150*	*08/27/14 10:17*	*09/02/14 10:19*	*10*

Client Sample ID: T.H.WELL

Lab Sample ID: 230-265-16
Date Collected: 08/18/14 13:30
Matrix: Water
Date Received: 08/25/14 08:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			08/26/14 23:55	1
Ethylbenzene	ND		1.0		ug/L			08/26/14 23:55	1
Toluene	ND		1.0		ug/L			08/26/14 23:55	1
Xylenes, Total	ND		1.0		ug/L			08/26/14 23:55	1
o-Xylene	ND		1.0		ug/L			08/26/14 23:55	1
m,p-Xylene	ND		2.0		ug/L			08/26/14 23:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*57.8 - 139*		*08/26/14 23:55*	*1*
Dibromofluoromethane (Surr)	*106*		*35.8 - 145*		*08/26/14 23:55*	*1*
Toluene-d8 (Surr)	*99*		*38.6 - 147*		*08/26/14 23:55*	*1*
Trifluorotoluene (Surr)					*08/26/14 23:55*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND	*	50		ug/L			08/26/14 23:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/26/14 23:55*	*1*
Dibromofluoromethane (Surr)	*106*		*72.7 - 135*		*08/26/14 23:55*	*1*

Client Sample ID: T.H.WELL

Lab Sample ID: 230-265-16
Date Collected: 08/18/14 13:30
Matrix: Water
Date Received: 08/25/14 08:55

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*72.4 - 121*		*08/26/14 23:55*	*1*
Trifluorotoluene (Surr)					*08/26/14 23:55*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.38		mg/L		08/28/14 10:55	08/29/14 18:48	1
Residual Range Organics (RRO) (C25-C36)	ND		0.38		mg/L		08/28/14 10:55	08/29/14 18:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*96*		*50 - 150*	*08/28/14 10:55*	*08/29/14 18:48*	*1*
n-Triacontane (Surr)	*98*		*50 - 150*	*08/28/14 10:55*	*08/29/14 18:48*	*1*

Client Sample ID: SNYDER WELL

Lab Sample ID: 230-265-17
Date Collected: 08/18/14 12:40
Matrix: Water
Date Received: 08/25/14 08:55

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND	*	50		ug/L			08/27/14 02:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*08/27/14 02:03*	*1*
Dibromofluoromethane (Surr)	*101*		*72.7 - 135*		*08/27/14 02:03*	*1*
Toluene-d8 (Surr)	*98*		*72.4 - 121*		*08/27/14 02:03*	*1*
Trifluorotoluene (Surr)					*08/27/14 02:03*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.38		mg/L		08/28/14 10:55	08/29/14 19:53	1
Residual Range Organics (RRO) (C25-C36)	ND		0.38		mg/L		08/28/14 10:55	08/29/14 19:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*96*		*50 - 150*	*08/28/14 10:55*	*08/29/14 19:53*	*1*
n-Triacontane (Surr)	*103*		*50 - 150*	*08/28/14 10:55*	*08/29/14 19:53*	*1*

Client Sample ID: D.WELL

Lab Sample ID: 230-265-18
Date Collected: 08/18/14 13:35
Matrix: Water
Date Received: 08/25/14 08:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			08/27/14 02:35	1
Ethylbenzene	ND		1.0		ug/L			08/27/14 02:35	1
Toluene	ND		1.0		ug/L			08/27/14 02:35	1
Xylenes, Total	ND		1.0		ug/L			08/27/14 02:35	1
o-Xylene	ND		1.0		ug/L			08/27/14 02:35	1
m,p-Xylene	ND		2.0		ug/L			08/27/14 02:35	1

Client Sample Results

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: D.WELL

Lab Sample ID: 230-265-18

Date Collected: 08/18/14 13:35
Matrix: Water
Date Received: 08/25/14 08:55

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		57.8 - 139		08/27/14 02:35	1
Dibromofluoromethane (Surr)	101		35.8 - 145		08/27/14 02:35	1
Toluene-d8 (Surr)	100		38.6 - 147		08/27/14 02:35	1
Trifluorotoluene (Surr)					08/27/14 02:35	1

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND	*	50		ug/L			08/27/14 02:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120		08/27/14 02:35	1
Dibromofluoromethane (Surr)	101		72.7 - 135		08/27/14 02:35	1
Toluene-d8 (Surr)	100		72.4 - 121		08/27/14 02:35	1
Trifluorotoluene (Surr)					08/27/14 02:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.39		mg/L		08/28/14 10:55	08/29/14 20:25	1
Residual Range Organics (RRO) (C25-C36)	ND		0.39		mg/L		08/28/14 10:55	08/29/14 20:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	105		50 - 150	08/28/14 10:55	08/29/14 20:25	1
n-Triacontane (Surr)	105		50 - 150	08/28/14 10:55	08/29/14 20:25	1

Client Sample ID: MW-1

Lab Sample ID: 230-265-19

Date Collected: 08/18/14 15:40
Matrix: Water
Date Received: 08/25/14 08:55

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND	*	50		ug/L			08/27/14 03:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		80 - 120		08/27/14 03:07	1
Dibromofluoromethane (Surr)	103		72.7 - 135		08/27/14 03:07	1
Toluene-d8 (Surr)	99		72.4 - 121		08/27/14 03:07	1
Trifluorotoluene (Surr)					08/27/14 03:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.40		mg/L		08/28/14 10:55	08/29/14 20:58	1
Residual Range Organics (RRO) (C25-C36)	ND		0.40		mg/L		08/28/14 10:55	08/29/14 20:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	99		50 - 150	08/28/14 10:55	08/29/14 20:58	1
n-Triacontane (Surr)	101		50 - 150	08/28/14 10:55	08/29/14 20:58	1

Client Sample Results

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: MW-2

Lab Sample ID: 230-265-20
Date Collected: 08/18/14 16:10
Matrix: Water
Date Received: 08/25/14 08:55

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND	*	50		ug/L			08/27/14 03:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/27/14 03:40*	*1*
Dibromofluoromethane (Surr)	*102*		*72.7 - 135*		*08/27/14 03:40*	*1*
Toluene-d8 (Surr)	*101*		*72.4 - 121*		*08/27/14 03:40*	*1*
Trifluorotoluene (Surr)					*08/27/14 03:40*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	**0.57**		0.39		mg/L		08/28/14 10:55	08/29/14 21:30	1
Residual Range Organics (RRO) (C25-C36)	**2.7**		0.39		mg/L		08/28/14 10:55	08/29/14 21:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*103*		*50 - 150*	*08/28/14 10:55*	*08/29/14 21:30*	*1*
n-Triacontane (Surr)	*105*		*50 - 150*	*08/28/14 10:55*	*08/29/14 21:30*	*1*

Client Sample ID: S-D

Lab Sample ID: 230-265-21
Date Collected: 08/18/14 09:16
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 83.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0093		mg/Kg	☼	08/27/14 10:16	08/28/14 01:54	1
Ethylbenzene	ND		0.023		mg/Kg	☼	08/27/14 10:16	08/28/14 01:54	1
Toluene	ND		0.023		mg/Kg	☼	08/27/14 10:16	08/28/14 01:54	1
Xylenes, Total	ND		0.070		mg/Kg	☼	08/27/14 10:16	08/28/14 01:54	1
o-Xylene	ND		0.023		mg/Kg	☼	08/27/14 10:16	08/28/14 01:54	1
m,p-Xylene	ND		0.047		mg/Kg	☼	08/27/14 10:16	08/28/14 01:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*08/27/14 10:16*	*08/28/14 01:54*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*	*08/27/14 10:16*	*08/28/14 01:54*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*08/27/14 10:16*	*08/28/14 01:54*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*	*08/27/14 10:16*	*08/28/14 01:54*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND	*	2.3		mg/Kg	☼	08/27/14 10:16	08/28/14 01:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*08/27/14 10:16*	*08/28/14 01:54*	*1*
Dibromofluoromethane (Surr)	*99*		*71.5 - 139*	*08/27/14 10:16*	*08/28/14 01:54*	*1*
Toluene-d8 (Surr)	*98*		*77.2 - 120*	*08/27/14 10:16*	*08/28/14 01:54*	*1*
Trifluorotoluene (Surr)	*111*		*50 - 150*	*08/27/14 10:16*	*08/28/14 01:54*	*1*

Client Sample Results

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: S-D

Lab Sample ID: 230-265-21
Date Collected: 08/18/14 09:16
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 83.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	ND		24		mg/Kg	☼	08/27/14 10:17	08/30/14 07:09	1
C25-C36	ND		60		mg/Kg	☼	08/27/14 10:17	08/30/14 07:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*106*		*50 - 150*	*08/27/14 10:17*	*08/30/14 07:09*	*1*
n-Triacontane (Surr)	*107*		*50 - 150*	*08/27/14 10:17*	*08/30/14 07:09*	*1*

Client Sample ID: TRIP BLANK

Lab Sample ID: 230-265-22
Date Collected: 08/18/14 00:00
Matrix: Water
Date Received: 08/25/14 08:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			08/27/14 04:12	1
Ethylbenzene	ND		1.0		ug/L			08/27/14 04:12	1
Toluene	ND		1.0		ug/L			08/27/14 04:12	1
Xylenes, Total	ND		1.0		ug/L			08/27/14 04:12	1
o-Xylene	ND		1.0		ug/L			08/27/14 04:12	1
m,p-Xylene	ND		2.0		ug/L			08/27/14 04:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*57.8 - 139*		*08/27/14 04:12*	*1*
Dibromofluoromethane (Surr)	*107*		*35.8 - 145*		*08/27/14 04:12*	*1*
Toluene-d8 (Surr)	*96*		*38.6 - 147*		*08/27/14 04:12*	*1*
Trifluorotoluene (Surr)					*08/27/14 04:12*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND	*	50		ug/L			08/27/14 04:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/27/14 04:12*	*1*
Dibromofluoromethane (Surr)	*107*		*72.7 - 135*		*08/27/14 04:12*	*1*
Toluene-d8 (Surr)	*96*		*72.4 - 121*		*08/27/14 04:12*	*1*
Trifluorotoluene (Surr)					*08/27/14 04:12*	*1*

Client Sample ID: TRIP BLANK

Lab Sample ID: 230-265-23
Date Collected: 08/18/14 00:00
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 100.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.013		mg/Kg	☼	08/27/14 10:16	08/28/14 02:26	1
Ethylbenzene	ND		0.033		mg/Kg	☼	08/27/14 10:16	08/28/14 02:26	1
Toluene	ND		0.033		mg/Kg	☼	08/27/14 10:16	08/28/14 02:26	1
Xylenes, Total	ND		0.10		mg/Kg	☼	08/27/14 10:16	08/28/14 02:26	1
o-Xylene	ND		0.033		mg/Kg	☼	08/27/14 10:16	08/28/14 02:26	1
m,p-Xylene	ND		0.067		mg/Kg	☼	08/27/14 10:16	08/28/14 02:26	1

Client Sample Results

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 230-265-23

Date Collected: 08/18/14 00:00
Matrix: Solid
Date Received: 08/25/14 08:55
Percent Solids: 100.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*08/27/14 10:16*	*08/28/14 02:26*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*	*08/27/14 10:16*	*08/28/14 02:26*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*08/27/14 10:16*	*08/28/14 02:26*	*1*
Trifluorotoluene (Surr)	*76*		*50 - 150*	*08/27/14 10:16*	*08/28/14 02:26*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	**37**	*	3.3		mg/Kg	☼	08/27/14 10:16	08/28/14 02:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*08/27/14 10:16*	*08/28/14 02:26*	*1*
Dibromofluoromethane (Surr)	*102*		*71.5 - 139*	*08/27/14 10:16*	*08/28/14 02:26*	*1*
Toluene-d8 (Surr)	*100*		*77.2 - 120*	*08/27/14 10:16*	*08/28/14 02:26*	*1*
Trifluorotoluene (Surr)	*76*		*50 - 150*	*08/27/14 10:16*	*08/28/14 02:26*	*1*

Surrogate Summary

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	TOL	TFT
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(50-150)
230-265-2	S-2	98	103	95	89
230-265-21	S-D	100	99	98	111
230-265-23	TRIP BLANK	101	102	100	76
LCS 230-1032/2-A	Lab Control Sample	102	99	96	103
LCS 230-1036/1011	Lab Control Sample	104	98	101	96
LCSD 230-1032/3-A	Lab Control Sample Dup	105	100	99	100
LCSD 230-1036/12	Lab Control Sample Dup	101	99	98	101
MB 230-1032/1-A	Method Blank	105	102	101	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)
TFT = Trifluorotoluene (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	TOL	TFT
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	
MB 230-1036/29	Method Blank	97	103	97	

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)
TFT = Trifluorotoluene (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	TOL	TFT
Lab Sample ID	Client Sample ID	(57.8-139)	(35.8-145)	(38.6-147)	
230-265-16	T.H.WELL	100	106	99	
230-265-18	D.WELL	100	101	100	
230-265-22	TRIP BLANK	97	107	96	
LCS 230-1018/1010	Lab Control Sample	101	99	97	101
LCSD 230-1018/11	Lab Control Sample Dup	102	97	99	107
MB 230-1018/24	Method Blank	99	101	100	

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)
TFT = Trifluorotoluene (Surr)

Surrogate Summary

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	TOL	TFT
Lab Sample ID	Client Sample ID	(80-120)	(71.5-139)	(77.2-120)	(50-150)
230-265-1	S-1	99	99	96	74
230-265-1 DU	S-1	99	98	99	79
230-265-2	S-2	98	103	95	89
230-265-21	S-D	100	99	98	111
230-265-23	TRIP BLANK	101	102	100	76
LCS 230-1032/4-A	Lab Control Sample	100	98	98	107
LCSD 230-1032/5-A	Lab Control Sample Dup	101	101	99	100
MB 230-1032/1-A	Method Blank	105	102	101	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)
TFT = Trifluorotoluene (Surr)

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	TOL	TFT
Lab Sample ID	Client Sample ID	(80-120)	(72.7-135)	(72.4-121)	
230-265-16	T.H.WELL	100	106	99	
230-265-17	SNYDER WELL	100	101	98	
230-265-18	D.WELL	100	101	100	
230-265-19	MW-1	99	103	99	
230-265-20	MW-2	99	102	101	
230-265-22	TRIP BLANK	97	107	96	
LCS 230-1017/1031	Lab Control Sample	99	98	99	
LCSD 230-1017/32	Lab Control Sample Dup	100	97	98	
MB 230-1017/24	Method Blank	99	101	100	

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)
TFT = Trifluorotoluene (Surr)

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1COD	acontane (S
Lab Sample ID	Client Sample ID	(50-150)	(50-150)
230-265-1	S-1	107	109
230-265-1 DU	S-1	102	105
230-265-1 MS	S-1	111	106
230-265-1 MSD	S-1	111	106
230-265-2	S-2	104	107
230-265-3	S-3	105	107
230-265-4	S-4	111	103

Surrogate Summary

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		1COD	acontane (S						
Lab Sample ID	Client Sample ID	(50-150)	(50-150)						
230-265-5	S-5	100	101						
230-265-6	S-6	107	103						
230-265-7	S-7	112	101						
230-265-8	S-8	97	105						
230-265-9	S-9	105	108						
230-265-10	S-10	89	95						
230-265-11	S-11	104	110						
230-265-12	S-12	99	100						
230-265-13	S-13		119						
230-265-13 - DL	S-13	206 X							
230-265-14	S-14	76	85						
230-265-15	S-15	104							
230-265-15 - DL	S-15		97						
230-265-21	S-D	106	107						
LCS 230-1034/2-A	Lab Control Sample	109	105						
LCSD 230-1034/3-A	Lab Control Sample Dup	110	103						
MB 230-1034/1-A	Method Blank	104	105						

Surrogate Legend

1COD = 1-Chlorooctadecane

n-Triacontane (Surr) = n-Triacontane (Surr)

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		1COD	acontane (S						
Lab Sample ID	Client Sample ID	(50-150)	(50-150)						
230-265-16	T.H.WELL	96	98						
230-265-16 DU	T.H.WELL	96	101						
230-265-17	SNYDER WELL	96	103						
230-265-18	D.WELL	105	105						
230-265-19	MW-1	99	101						
230-265-20	MW-2	103	105						
LCS 230-1045/2-A	Lab Control Sample	112	107						
LCSD 230-1045/3-A	Lab Control Sample Dup	102	99						
MB 230-1045/1-A	Method Blank	99	102						

Surrogate Legend

1COD = 1-Chlorooctadecane

n-Triacontane (Surr) = n-Triacontane (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 230-1018/24
Matrix: Water
Analysis Batch: 1018

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			08/26/14 16:55	1
Ethylbenzene	ND		1.0		ug/L			08/26/14 16:55	1
Toluene	ND		1.0		ug/L			08/26/14 16:55	1
Xylenes, Total	ND		1.0		ug/L			08/26/14 16:55	1
o-Xylene	ND		1.0		ug/L			08/26/14 16:55	1
m,p-Xylene	ND		2.0		ug/L			08/26/14 16:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*57.8 - 139*		*08/26/14 16:55*	*1*
Dibromofluoromethane (Surr)	*101*		*35.8 - 145*		*08/26/14 16:55*	*1*
Toluene-d8 (Surr)	*100*		*38.6 - 147*		*08/26/14 16:55*	*1*
Trifluorotoluene (Surr)					*08/26/14 16:55*	*1*

Lab Sample ID: LCS 230-1018/1010
Matrix: Water
Analysis Batch: 1018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	20.8		ug/L		104	73.8 - 128
Ethylbenzene	20.0	21.0		ug/L		105	78 - 130
Toluene	20.0	20.8		ug/L		104	75.6 - 124
Xylenes, Total	60.0	62.4		ug/L		104	70 - 130
o-Xylene	20.0	20.5		ug/L		102	75.1 - 137
m,p-Xylene	40.0	41.9		ug/L		105	76 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*57.8 - 139*
Dibromofluoromethane (Surr)	*99*		*35.8 - 145*
Toluene-d8 (Surr)	*97*		*38.6 - 147*
Trifluorotoluene (Surr)	*101*		

Lab Sample ID: LCSD 230-1018/11
Matrix: Water
Analysis Batch: 1018

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	22.4		ug/L		112	73.8 - 128	7	20
Ethylbenzene	20.0	23.6		ug/L		118	78 - 130	12	20
Toluene	20.0	22.2		ug/L		111	75.6 - 124	6	20
Xylenes, Total	60.0	69.5		ug/L		116	70 - 130	11	20
o-Xylene	20.0	22.8		ug/L		114	75.1 - 137	11	20
m,p-Xylene	40.0	46.7		ug/L		117	76 - 137	11	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*57.8 - 139*
Dibromofluoromethane (Surr)	*97*		*35.8 - 145*
Toluene-d8 (Surr)	*99*		*38.6 - 147*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 230-1018/11
Matrix: Water
Analysis Batch: 1018

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Trifluorotoluene (Surr)	*107*		

Lab Sample ID: MB 230-1032/1-A
Matrix: Solid
Analysis Batch: 1036

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1032

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.013		mg/Kg		08/27/14 10:16	08/27/14 20:33	1
Ethylbenzene	ND		0.033		mg/Kg		08/27/14 10:16	08/27/14 20:33	1
Toluene	ND		0.033		mg/Kg		08/27/14 10:16	08/27/14 20:33	1
Xylenes, Total	ND		0.10		mg/Kg		08/27/14 10:16	08/27/14 20:33	1
o-Xylene	ND		0.033		mg/Kg		08/27/14 10:16	08/27/14 20:33	1
m,p-Xylene	ND		0.067		mg/Kg		08/27/14 10:16	08/27/14 20:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*	*08/27/14 10:16*	*08/27/14 20:33*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*	*08/27/14 10:16*	*08/27/14 20:33*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*08/27/14 10:16*	*08/27/14 20:33*	*1*
Trifluorotoluene (Surr)	*100*		*50 - 150*	*08/27/14 10:16*	*08/27/14 20:33*	*1*

Lab Sample ID: LCS 230-1032/2-A
Matrix: Solid
Analysis Batch: 1036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1032

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.800	0.806		mg/Kg		101	70 - 130
Ethylbenzene	0.800	0.832		mg/Kg		104	70 - 130
Toluene	0.800	0.793		mg/Kg		99	70 - 130
Xylenes, Total	2.40	2.49		mg/Kg		104	70 - 130
o-Xylene	0.800	0.824		mg/Kg		103	70 - 130
m,p-Xylene	1.60	1.67		mg/Kg		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*
Trifluorotoluene (Surr)	*103*		*50 - 150*

Lab Sample ID: LCSD 230-1032/3-A
Matrix: Solid
Analysis Batch: 1036

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 1032

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.800	0.816		mg/Kg		102	70 - 130	1	20
Ethylbenzene	0.800	0.868		mg/Kg		109	70 - 130	4	20
Toluene	0.800	0.823		mg/Kg		103	70 - 130	4	20
Xylenes, Total	2.40	2.56		mg/Kg		107	70 - 130	2	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 230-1032/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1036 — **Prep Batch: 1032**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene			0.800	0.827		mg/Kg		103	70 - 130	0	20
m,p-Xylene			1.60	1.73		mg/Kg		108	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*
Trifluorotoluene (Surr)	*100*		*50 - 150*

Lab Sample ID: MB 230-1036/29 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1036

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00040		mg/Kg			08/27/14 18:24	1
Ethylbenzene	ND		0.0010		mg/Kg			08/27/14 18:24	1
Toluene	ND		0.0010		mg/Kg			08/27/14 18:24	1
Xylenes, Total	ND		0.0030		mg/Kg			08/27/14 18:24	1
o-Xylene	ND		0.0010		mg/Kg			08/27/14 18:24	1
m,p-Xylene	ND		0.0020		mg/Kg			08/27/14 18:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/27/14 18:24*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*08/27/14 18:24*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/27/14 18:24*	*1*
Trifluorotoluene (Surr)					*08/27/14 18:24*	*1*

Lab Sample ID: LCS 230-1036/1011 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1036

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0200	0.0204		mg/Kg		102	70 - 130		
Ethylbenzene			0.0200	0.0218		mg/Kg		109	70 - 130		
Toluene			0.0200	0.0210		mg/Kg		105	70 - 130		
Xylenes, Total			0.0600	0.0637		mg/Kg		106	70 - 130		
o-Xylene			0.0200	0.0211		mg/Kg		106	70 - 130		
m,p-Xylene			0.0400	0.0426		mg/Kg		107	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*
Trifluorotoluene (Surr)	*96*		*50 - 150*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 230-1036/12 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1036

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.0200	0.0214		mg/Kg		107	70 - 130	5	20
Ethylbenzene			0.0200	0.0225		mg/Kg		113	70 - 130	3	20
Toluene			0.0200	0.0215		mg/Kg		108	70 - 130	3	20
Xylenes, Total			0.0600	0.0659		mg/Kg		110	70 - 130	3	20
o-Xylene			0.0200	0.0216		mg/Kg		108	70 - 130	2	20
m,p-Xylene			0.0400	0.0443		mg/Kg		111	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*
Trifluorotoluene (Surr)	*101*		*50 - 150*

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Lab Sample ID: MB 230-1017/24 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 1017

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		50		ug/L			08/26/14 16:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/26/14 16:55*	*1*
Dibromofluoromethane (Surr)	*101*		*72.7 - 135*		*08/26/14 16:55*	*1*
Toluene-d8 (Surr)	*100*		*72.4 - 121*		*08/26/14 16:55*	*1*
Trifluorotoluene (Surr)					*08/26/14 16:55*	*1*

Lab Sample ID: LCS 230-1017/1031 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 1017

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C6-C10			500	793	*	ug/L		159	60 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*72.7 - 135*
Toluene-d8 (Surr)	*99*		*72.4 - 121*

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS) (Continued)

Lab Sample ID: LCSD 230-1017/32 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 1017

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10			500	777	*	ug/L		155	60 - 120	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*72.7 - 135*
Toluene-d8 (Surr)	*98*		*72.4 - 121*

Lab Sample ID: MB 230-1032/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1035 — **Prep Batch: 1032**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		3.3		mg/Kg		08/27/14 10:16	08/27/14 20:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*	*08/27/14 10:16*	*08/27/14 20:33*	*1*
Dibromofluoromethane (Surr)	*102*		*71.5 - 139*	*08/27/14 10:16*	*08/27/14 20:33*	*1*
Toluene-d8 (Surr)	*101*		*77.2 - 120*	*08/27/14 10:16*	*08/27/14 20:33*	*1*
Trifluorotoluene (Surr)	*100*		*50 - 150*	*08/27/14 10:16*	*08/27/14 20:33*	*1*

Lab Sample ID: LCS 230-1032/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1035 — **Prep Batch: 1032**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C6-C10			20.0	23.1		mg/Kg		115	60 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*71.5 - 139*
Toluene-d8 (Surr)	*98*		*77.2 - 120*
Trifluorotoluene (Surr)	*107*		*50 - 150*

Lab Sample ID: LCSD 230-1032/5-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1035 — **Prep Batch: 1032**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10			20.0	24.2	*	mg/Kg		121	60 - 120	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*71.5 - 139*
Toluene-d8 (Surr)	*99*		*77.2 - 120*

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS) (Continued)

Lab Sample ID: LCSD 230-1032/5-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1035 — **Prep Batch: 1032**

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	*100*		*50 - 150*

Lab Sample ID: 230-265-1 DU — **Client Sample ID: S-1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1035 — **Prep Batch: 1032**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10	ND	*		ND	*	mg/Kg	☼			83	

Surrogate	DU %Recovery	DU Qualifier	Limits
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*71.5 - 139*
Toluene-d8 (Surr)	*99*		*77.2 - 120*
Trifluorotoluene (Surr)	*79*		*50 - 150*

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

Lab Sample ID: MB 230-1034/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1042 — **Prep Batch: 1034**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	ND		20		mg/Kg		08/27/14 10:17	08/28/14 18:42	1
C25-C36	ND		50		mg/Kg		08/27/14 10:17	08/28/14 18:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	*104*		*50 - 150*	*08/27/14 10:17*	*08/28/14 18:42*	*1*
n-Triacontane (Surr)	*105*		*50 - 150*	*08/27/14 10:17*	*08/28/14 18:42*	*1*

Lab Sample ID: LCS 230-1034/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1042 — **Prep Batch: 1034**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C25			125	103		mg/Kg		82	75 - 125		
C25-C36			125	119		mg/Kg		95	60 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctadecane	*109*		*50 - 150*
n-Triacontane (Surr)	*105*		*50 - 150*

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

Lab Sample ID: LCSD 230-1034/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1042 — **Prep Batch: 1034**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C25			125	103		mg/Kg		83	75 - 125	0	20
C25-C36			125	115		mg/Kg		92	60 - 120	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctadecane	*110*		*50 - 150*
n-Triacontane (Surr)	*103*		*50 - 150*

Lab Sample ID: 230-265-1 MS — **Client Sample ID: S-1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1042 — **Prep Batch: 1034**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C25	ND		152	126	F1	mg/Kg	☼	72	75 - 125		
C25-C36	ND		152	151		mg/Kg	☼	81	60 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctadecane	*111*		*50 - 150*
n-Triacontane (Surr)	*106*		*50 - 150*

Lab Sample ID: 230-265-1 MSD — **Client Sample ID: S-1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1042 — **Prep Batch: 1034**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C25	ND		151	131		mg/Kg	☼	76	75 - 125	4	20
C25-C36	ND		151	176		mg/Kg	☼	98	60 - 120	15	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctadecane	*111*		*50 - 150*
n-Triacontane (Surr)	*106*		*50 - 150*

Lab Sample ID: 230-265-1 DU — **Client Sample ID: S-1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 1042 — **Prep Batch: 1034**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C10-C25	ND			ND		mg/Kg	☼			41	20
C25-C36	ND			ND		mg/Kg	☼			24	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
1-Chlorooctadecane	*102*		*50 - 150*
n-Triacontane (Surr)	*105*		*50 - 150*

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

Lab Sample ID: MB 230-1045/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 1046 — **Prep Batch: 1045**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.50		mg/L		08/28/14 10:55	08/29/14 11:52	1
Residual Range Organics (RRO) (C25-C36)	ND		0.50		mg/L		08/28/14 10:55	08/29/14 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*99*		*50 - 150*	*08/28/14 10:55*	*08/29/14 11:52*	*1*
n-Triacontane (Surr)	*102*		*50 - 150*	*08/28/14 10:55*	*08/29/14 11:52*	*1*

Lab Sample ID: LCS 230-1045/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 1046 — **Prep Batch: 1045**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	10.0	8.80		mg/L		88	75 - 125
Residual Range Organics (RRO) (C25-C36)	10.0	9.06		mg/L		91	60 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctadecane	*112*		*50 - 150*
n-Triacontane (Surr)	*107*		*50 - 150*

Lab Sample ID: LCSD 230-1045/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 1046 — **Prep Batch: 1045**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)	10.0	7.67		mg/L		77	75 - 125	14	20
Residual Range Organics (RRO) (C25-C36)	10.0	8.35		mg/L		83	60 - 120	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctadecane	*102*		*50 - 150*
n-Triacontane (Surr)	*99*		*50 - 150*

Lab Sample ID: 230-265-16 DU — **Client Sample ID: T.H.WELL**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 1046 — **Prep Batch: 1045**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)	ND		ND		mg/L		NC	20
Residual Range Organics (RRO) (C25-C36)	ND		ND		mg/L		4	20

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

Lab Sample ID: 230-265-16 DU
Matrix: Water
Analysis Batch: 1046

Client Sample ID: T.H.WELL
Prep Type: Total/NA
Prep Batch: 1045

Surrogate	DU %Recovery	DU Qualifier	Limits
1-Chlorooctadecane	96		50 - 150
n-Triacontane (Surr)	101		50 - 150

QC Association Summary

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

GC/MS VOA

Analysis Batch: 1017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-16	T.H.WELL	Total/NA	Water	AK101	
230-265-17	SNYDER WELL	Total/NA	Water	AK101	
230-265-18	D.WELL	Total/NA	Water	AK101	
230-265-19	MW-1	Total/NA	Water	AK101	
230-265-20	MW-2	Total/NA	Water	AK101	
230-265-22	TRIP BLANK	Total/NA	Water	AK101	
LCS 230-1017/1031	Lab Control Sample	Total/NA	Water	AK101	
LCSD 230-1017/32	Lab Control Sample Dup	Total/NA	Water	AK101	
MB 230-1017/24	Method Blank	Total/NA	Water	AK101	

Analysis Batch: 1018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-16	T.H.WELL	Total/NA	Water	8260B	
230-265-18	D.WELL	Total/NA	Water	8260B	
230-265-22	TRIP BLANK	Total/NA	Water	8260B	
LCS 230-1018/1010	Lab Control Sample	Total/NA	Water	8260B	
LCSD 230-1018/11	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 230-1018/24	Method Blank	Total/NA	Water	8260B	

Prep Batch: 1032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-1	S-1	Total/NA	Solid	5035	
230-265-1 DU	S-1	Total/NA	Solid	5035	
230-265-2	S-2	Total/NA	Solid	5035	
230-265-21	S-D	Total/NA	Solid	5035	
230-265-23	TRIP BLANK	Total/NA	Solid	5035	
LCS 230-1032/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 230-1032/4-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 230-1032/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	
LCSD 230-1032/5-A	Lab Control Sample Dup	Total/NA	Solid	5035	
MB 230-1032/1-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 1035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-1	S-1	Total/NA	Solid	AK101	1032
230-265-1 DU	S-1	Total/NA	Solid	AK101	1032
230-265-2	S-2	Total/NA	Solid	AK101	1032
230-265-21	S-D	Total/NA	Solid	AK101	1032
230-265-23	TRIP BLANK	Total/NA	Solid	AK101	1032
LCS 230-1032/4-A	Lab Control Sample	Total/NA	Solid	AK101	1032
LCSD 230-1032/5-A	Lab Control Sample Dup	Total/NA	Solid	AK101	1032
MB 230-1032/1-A	Method Blank	Total/NA	Solid	AK101	1032

Analysis Batch: 1036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-2	S-2	Total/NA	Solid	8260B	1032
230-265-21	S-D	Total/NA	Solid	8260B	1032
230-265-23	TRIP BLANK	Total/NA	Solid	8260B	1032
LCS 230-1032/2-A	Lab Control Sample	Total/NA	Solid	8260B	1032
LCS 230-1036/1011	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 230-1032/3-A	Lab Control Sample Dup	Total/NA	Solid	8260B	1032

GC/MS VOA (Continued)

Analysis Batch: 1036 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 230-1036/12	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 230-1032/1-A	Method Blank	Total/NA	Solid	8260B	1032
MB 230-1036/29	Method Blank	Total/NA	Solid	8260B	

GC Semi VOA

Prep Batch: 1034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-1	S-1	Total/NA	Solid	3545	
230-265-1 DU	S-1	Total/NA	Solid	3545	
230-265-1 MS	S-1	Total/NA	Solid	3545	
230-265-1 MSD	S-1	Total/NA	Solid	3545	
230-265-2	S-2	Total/NA	Solid	3545	
230-265-3	S-3	Total/NA	Solid	3545	
230-265-4	S-4	Total/NA	Solid	3545	
230-265-5	S-5	Total/NA	Solid	3545	
230-265-6	S-6	Total/NA	Solid	3545	
230-265-7	S-7	Total/NA	Solid	3545	
230-265-8	S-8	Total/NA	Solid	3545	
230-265-9	S-9	Total/NA	Solid	3545	
230-265-10	S-10	Total/NA	Solid	3545	
230-265-11	S-11	Total/NA	Solid	3545	
230-265-12	S-12	Total/NA	Solid	3545	
230-265-13	S-13	Total/NA	Solid	3545	
230-265-13 - DL	S-13	Total/NA	Solid	3545	
230-265-14	S-14	Total/NA	Solid	3545	
230-265-15 - DL	S-15	Total/NA	Solid	3545	
230-265-15	S-15	Total/NA	Solid	3545	
230-265-21	S-D	Total/NA	Solid	3545	
LCS 230-1034/2-A	Lab Control Sample	Total/NA	Solid	3545	
LCSD 230-1034/3-A	Lab Control Sample Dup	Total/NA	Solid	3545	
MB 230-1034/1-A	Method Blank	Total/NA	Solid	3545	

Analysis Batch: 1042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-1	S-1	Total/NA	Solid	AK102 & 103	1034
230-265-1 DU	S-1	Total/NA	Solid	AK102 & 103	1034
230-265-1 MS	S-1	Total/NA	Solid	AK102 & 103	1034
230-265-1 MSD	S-1	Total/NA	Solid	AK102 & 103	1034
LCS 230-1034/2-A	Lab Control Sample	Total/NA	Solid	AK102 & 103	1034
LCSD 230-1034/3-A	Lab Control Sample Dup	Total/NA	Solid	AK102 & 103	1034
MB 230-1034/1-A	Method Blank	Total/NA	Solid	AK102 & 103	1034

Prep Batch: 1045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-16	T.H.WELL	Total/NA	Water	3510C	
230-265-16 DU	T.H.WELL	Total/NA	Water	3510C	
230-265-17	SNYDER WELL	Total/NA	Water	3510C	
230-265-18	D.WELL	Total/NA	Water	3510C	
230-265-19	MW-1	Total/NA	Water	3510C	

GC Semi VOA (Continued)

Prep Batch: 1045 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-20	MW-2	Total/NA	Water	3510C	
LCS 230-1045/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 230-1045/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 230-1045/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 1046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-2	S-2	Total/NA	Solid	AK102 & 103	1034
230-265-3	S-3	Total/NA	Solid	AK102 & 103	1034
230-265-4	S-4	Total/NA	Solid	AK102 & 103	1034
230-265-5	S-5	Total/NA	Solid	AK102 & 103	1034
230-265-6	S-6	Total/NA	Solid	AK102 & 103	1034
230-265-7	S-7	Total/NA	Solid	AK102 & 103	1034
230-265-8	S-8	Total/NA	Solid	AK102 & 103	1034
230-265-9	S-9	Total/NA	Solid	AK102 & 103	1034
230-265-10	S-10	Total/NA	Solid	AK102 & 103	1034
230-265-11	S-11	Total/NA	Solid	AK102 & 103	1034
230-265-12	S-12	Total/NA	Solid	AK102 & 103	1034
230-265-13	S-13	Total/NA	Solid	AK102 & 103	1034
230-265-15	S-15	Total/NA	Solid	AK102 & 103	1034
230-265-16	T.H.WELL	Total/NA	Water	AK102 & 103	1045
230-265-16 DU	T.H.WELL	Total/NA	Water	AK102 & 103	1045
230-265-17	SNYDER WELL	Total/NA	Water	AK102 & 103	1045
230-265-18	D.WELL	Total/NA	Water	AK102 & 103	1045
230-265-19	MW-1	Total/NA	Water	AK102 & 103	1045
230-265-20	MW-2	Total/NA	Water	AK102 & 103	1045
230-265-21	S-D	Total/NA	Solid	AK102 & 103	1034
LCS 230-1045/2-A	Lab Control Sample	Total/NA	Water	AK102 & 103	1045
LCSD 230-1045/3-A	Lab Control Sample Dup	Total/NA	Water	AK102 & 103	1045
MB 230-1045/1-A	Method Blank	Total/NA	Water	AK102 & 103	1045

Analysis Batch: 1051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-13 - DL	S-13	Total/NA	Solid	AK102 & 103	1034
230-265-15 - DL	S-15	Total/NA	Solid	AK102 & 103	1034

Analysis Batch: 1063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-14	S-14	Total/NA	Solid	AK102 & 103	1034

General Chemistry

Analysis Batch: 1016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-1	S-1	Total/NA	Solid	Moisture	
230-265-2	S-2	Total/NA	Solid	Moisture	
230-265-2 DU	S-2	Total/NA	Solid	Moisture	
230-265-3	S-3	Total/NA	Solid	Moisture	
230-265-4	S-4	Total/NA	Solid	Moisture	
230-265-5	S-5	Total/NA	Solid	Moisture	

General Chemistry (Continued)

Analysis Batch: 1016 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-265-6	S-6	Total/NA	Solid	Moisture	
230-265-7	S-7	Total/NA	Solid	Moisture	
230-265-8	S-8	Total/NA	Solid	Moisture	
230-265-9	S-9	Total/NA	Solid	Moisture	
230-265-10	S-10	Total/NA	Solid	Moisture	
230-265-11	S-11	Total/NA	Solid	Moisture	
230-265-12	S-12	Total/NA	Solid	Moisture	
230-265-13	S-13	Total/NA	Solid	Moisture	
230-265-14	S-14	Total/NA	Solid	Moisture	
230-265-15	S-15	Total/NA	Solid	Moisture	
230-265-21	S-D	Total/NA	Solid	Moisture	
230-265-23	TRIP BLANK	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: S-1 — Lab Sample ID: 230-265-1

Date Collected: 08/18/14 09:00 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 82.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1032	08/27/14 10:16	ASD	TAL ANC
Total/NA	Analysis	AK101		1	1035	08/27/14 23:14	ASD	TAL ANC
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1042	08/28/14 20:19	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: S-2 — Lab Sample ID: 230-265-2

Date Collected: 08/18/14 09:11 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 85.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1032	08/27/14 10:16	ASD	TAL ANC
Total/NA	Analysis	8260B		1	1036	08/28/14 01:22	ASD	TAL ANC
Total/NA	Prep	5035			1032	08/27/14 10:16	ASD	TAL ANC
Total/NA	Analysis	AK101		1	1035	08/28/14 01:22	ASD	TAL ANC
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/29/14 23:07	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: S-3 — Lab Sample ID: 230-265-3

Date Collected: 08/18/14 09:57 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 77.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/29/14 23:40	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: S-4 — Lab Sample ID: 230-265-4

Date Collected: 08/18/14 10:05 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 45.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/30/14 00:12	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Lab Chronicle

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: S-5 — Lab Sample ID: 230-265-5

Date Collected: 08/18/14 10:15 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 75.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/30/14 00:44	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: S-6 — Lab Sample ID: 230-265-6

Date Collected: 08/18/14 10:27 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 76.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/30/14 01:16	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: S-7 — Lab Sample ID: 230-265-7

Date Collected: 08/18/14 10:45 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 66.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/30/14 01:48	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: S-8 — Lab Sample ID: 230-265-8

Date Collected: 08/18/14 11:07 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 75.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/30/14 02:20	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: S-9 — Lab Sample ID: 230-265-9

Date Collected: 08/18/14 11:23 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 87.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/30/14 02:53	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Lab Chronicle

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: S-10 — Lab Sample ID: 230-265-10

Date Collected: 08/18/14 11:45 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 75.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/30/14 03:25	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: S-11 — Lab Sample ID: 230-265-11

Date Collected: 08/18/14 12:05 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 34.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/30/14 03:57	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: S-12 — Lab Sample ID: 230-265-12

Date Collected: 08/18/14 12:17 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 32.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/30/14 05:01	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: S-13 — Lab Sample ID: 230-265-13

Date Collected: 08/18/14 12:30 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 75.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/30/14 05:33	ASD	TAL ANC
Total/NA	Prep	3545	DL		1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103	DL	10	1051	09/02/14 09:15	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: S-14 — Lab Sample ID: 230-265-14

Date Collected: 08/18/14 12:49 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 86.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		10	1063	09/03/14 12:15	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Lab Chronicle

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: S-15 — Lab Sample ID: 230-265-15

Date Collected: 08/18/14 12:58 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 69.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/30/14 06:37	ASD	TAL ANC
Total/NA	Prep	3545	DL		1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103	DL	10	1051	09/02/14 10:19	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: T.H.WELL — Lab Sample ID: 230-265-16

Date Collected: 08/18/14 13:30 — **Matrix: Water**
Date Received: 08/25/14 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	1018	08/26/14 23:55	ASD	TAL ANC
Total/NA	Analysis	AK101		1	1017	08/26/14 23:55	ASD	TAL ANC
Total/NA	Prep	3510C			1045	08/28/14 10:55	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/29/14 18:48	ASD	TAL ANC

Client Sample ID: SNYDER WELL — Lab Sample ID: 230-265-17

Date Collected: 08/18/14 12:40 — **Matrix: Water**
Date Received: 08/25/14 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AK101		1	1017	08/27/14 02:03	ASD	TAL ANC
Total/NA	Prep	3510C			1045	08/28/14 10:55	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/29/14 19:53	ASD	TAL ANC

Client Sample ID: D.WELL — Lab Sample ID: 230-265-18

Date Collected: 08/18/14 13:35 — **Matrix: Water**
Date Received: 08/25/14 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	1018	08/27/14 02:35	ASD	TAL ANC
Total/NA	Analysis	AK101		1	1017	08/27/14 02:35	ASD	TAL ANC
Total/NA	Prep	3510C			1045	08/28/14 10:55	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/29/14 20:25	ASD	TAL ANC

Client Sample ID: MW-1 — Lab Sample ID: 230-265-19

Date Collected: 08/18/14 15:40 — **Matrix: Water**
Date Received: 08/25/14 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AK101		1	1017	08/27/14 03:07	ASD	TAL ANC
Total/NA	Prep	3510C			1045	08/28/14 10:55	ASD	TAL ANC

Lab Chronicle

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Client Sample ID: MW-1 — Lab Sample ID: 230-265-19

Date Collected: 08/18/14 15:40 — **Matrix: Water**
Date Received: 08/25/14 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AK102 & 103		1	1046	08/29/14 20:58	ASD	TAL ANC

Client Sample ID: MW-2 — Lab Sample ID: 230-265-20

Date Collected: 08/18/14 16:10 — **Matrix: Water**
Date Received: 08/25/14 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AK101		1	1017	08/27/14 03:40	ASD	TAL ANC
Total/NA	Prep	3510C			1045	08/28/14 10:55	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/29/14 21:30	ASD	TAL ANC

Client Sample ID: S-D — Lab Sample ID: 230-265-21

Date Collected: 08/18/14 09:16 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 83.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1032	08/27/14 10:16	ASD	TAL ANC
Total/NA	Analysis	8260B		1	1036	08/28/14 01:54	ASD	TAL ANC
Total/NA	Prep	5035			1032	08/27/14 10:16	ASD	TAL ANC
Total/NA	Analysis	AK101		1	1035	08/28/14 01:54	ASD	TAL ANC
Total/NA	Prep	3545			1034	08/27/14 10:17	ASD	TAL ANC
Total/NA	Analysis	AK102 & 103		1	1046	08/30/14 07:09	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:44	ASD	TAL ANC

Client Sample ID: TRIP BLANK — Lab Sample ID: 230-265-22

Date Collected: 08/18/14 00:00 — **Matrix: Water**
Date Received: 08/25/14 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	1018	08/27/14 04:12	ASD	TAL ANC
Total/NA	Analysis	AK101		1	1017	08/27/14 04:12	ASD	TAL ANC

Client Sample ID: TRIP BLANK — Lab Sample ID: 230-265-23

Date Collected: 08/18/14 00:00 — **Matrix: Solid**
Date Received: 08/25/14 08:55 — **Percent Solids: 100.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1032	08/27/14 10:16	ASD	TAL ANC
Total/NA	Analysis	8260B		1	1036	08/28/14 02:26	ASD	TAL ANC
Total/NA	Prep	5035			1032	08/27/14 10:16	ASD	TAL ANC
Total/NA	Analysis	AK101		1	1035	08/28/14 02:26	ASD	TAL ANC
Total/NA	Analysis	Moisture		1	1016	08/25/14 15:49	ASD	TAL ANC

Lab Chronicle

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

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: TKE T.F.

TestAmerica Job ID: 230-265-1

Laboratory: TestAmerica Anchorage

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	AK00975	06-30-15
Alaska (UST)	State Program	10	UST-067	06-16-14 *

* Certification renewal pending - certification considered valid.

Method Summary

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 230-265-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL ANC
AK101	Alaska - Gasoline Range Organics (GC/MS)	ADEC	TAL ANC
AK102 & 103	Alaska - Diesel Range Organics & Residual Range Organics (GC)	ADEC	TAL ANC
Moisture	Percent Moisture	EPA	TAL ANC

Protocol 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.

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: TKE T.F.

TestAmerica Job ID: 230-265-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
230-265-1	S-1	Solid	08/18/14 09:00	08/25/14 08:55
230-265-2	S-2	Solid	08/18/14 09:11	08/25/14 08:55
230-265-3	S-3	Solid	08/18/14 09:57	08/25/14 08:55
230-265-4	S-4	Solid	08/18/14 10:05	08/25/14 08:55
230-265-5	S-5	Solid	08/18/14 10:15	08/25/14 08:55
230-265-6	S-6	Solid	08/18/14 10:27	08/25/14 08:55
230-265-7	S-7	Solid	08/18/14 10:45	08/25/14 08:55
230-265-8	S-8	Solid	08/18/14 11:07	08/25/14 08:55
230-265-9	S-9	Solid	08/18/14 11:23	08/25/14 08:55
230-265-10	S-10	Solid	08/18/14 11:45	08/25/14 08:55
230-265-11	S-11	Solid	08/18/14 12:05	08/25/14 08:55
230-265-12	S-12	Solid	08/18/14 12:17	08/25/14 08:55
230-265-13	S-13	Solid	08/18/14 12:30	08/25/14 08:55
230-265-14	S-14	Solid	08/18/14 12:49	08/25/14 08:55
230-265-15	S-15	Solid	08/18/14 12:58	08/25/14 08:55
230-265-16	T.H.WELL	Water	08/18/14 13:30	08/25/14 08:55
230-265-17	SNYDER WELL	Water	08/18/14 12:40	08/25/14 08:55
230-265-18	D.WELL	Water	08/18/14 13:35	08/25/14 08:55
230-265-19	MW-1	Water	08/18/14 15:40	08/25/14 08:55
230-265-20	MW-2	Water	08/18/14 16:10	08/25/14 08:55
230-265-21	S-D	Solid	08/18/14 09:16	08/25/14 08:55
230-265-22	TRIP BLANK	Water	08/18/14 00:00	08/25/14 08:55
230-265-23	TRIP BLANK	Solid	08/18/14 00:00	08/25/14 08:55

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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2000 W Internati

230-265 Chain of Custody

-420-9200 FAX 420-9210
-924-9200 FAX 924-9290
-906-9200 FAX 906-9210
-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: 230-265

CLIENT: CDF

REPORT TO: ADDRESS: JCOX@CARPENTERN.com

PHONE: 586.4447 FAX:

INVOICE TO: frankbs@CARPENTERN.com

P.O. NUMBER:

PROJECT NAME: TKETF.

PROJECT NUMBER:

SAMPLED BY: J. COX

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: ~~10~~ STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: ~~5~~ STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE: MEOH, MEOH

REQUESTED ANALYSES: AK102/103, AK101, ~~8260B~~ 8260B

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	AK102/103	AK101	8260B	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	S-1	8.18.14 9:00	X	X		S	2	2-8oz	01
2	S-2	9:11	X	X	X		2		02
3	S-3	9:57	X				1	1-8oz	03
4	S-4	10:05	X				1		04
5	S-5	10:15	X				1		05
6	S-6	10:27	X				1		06
7	S-7	10:45	X				1		07
8	S-8	11:07	X				1		08
9	S-9	11:23	X				1		09
10	S-10	11:45	X				1		10

RELEASED BY: JCOX	DATE: 8.24.14	RECEIVED BY: Ally Hill	DATE: 8/25/14
PRINT NAME: JOLENE COX	FIRM: CDI	TIME: 11:34	PRINT NAME: Ally Hill	FIRM: TA-AK	TIME: 0855
RELEASED BY:	DATE:	RECEIVED BY:	DATE:
PRINT NAME:	FIRM:	TIME:	PRINT NAME:	FIRM:	TIME:

ADDITIONAL REMARKS:

TEMP: 2.2 °C

PAGE OF

TAL-1000(0408)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave,Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210 ☒

CHAIN OF CUSTODY REPORT

Work Order #: 230-265

CLIENT: CDI

REPORT TO: ADDRESS: JCOX@CARSENDORN.COM

PHONE: 586.4447 FAX:

INVOICE TO: frontdesk@carsendorn.com

P.O. NUMBER:

PROJECT NAME: THE T.F.

PROJECT NUMBER:

SAMPLED BY: J. COX

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: ~~10~~ STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: ~~5~~ STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE: HCL, HCL

REQUESTED ANALYSES: AK101/103, AK101, PC 8260C 8260B

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	AK101/103	AK101	PC 8260C 8260B	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	S-11	8.18.14 12:05	X			S	1	1-802	11
2	S-12	12:17	X			S	1		12
3	S-13	12:30	X			S	1		13
4	S-14	12:49	X			S	1		14
5	S-15	12:58	X			S	1		15
6	T.H. WELL	13:30	X	X	X	W	5	2-150mL 3-40mL	16
7	SNYDER WELL	12:40	X	X		W	5		17
8	D. WELL	13:35	X	X	X	W	5		18
9	MW-1	15:40	X	X		W	5		19
10	MW-2	16:10	X	X		W	5		20

RELEASED BY: PRINT NAME: JOLENE COX FIRM: CDI DATE: 8.29.14 TIME: 11:36

RECEIVED BY: PRINT NAME: Ally Hiott FIRM: TA-AK DATE: 08/29/14 TIME: 0855

RELEASED BY: PRINT NAME: FIRM: DATE: TIME:

RECEIVED BY: PRINT NAME: FIRM: DATE: TIME:

ADDITIONAL REMARKS:

TEMP: 2.2 °C

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TAL-1000(0408)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317 253-922-2310 FAX 922-5047
11922 E. First Ave., Spokane WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210 ☒

CHAIN OF CUSTODY REPORT

Work Order #: 230-265

CLIENT: CDI

REPORT TO: ADDRESS: JCOX@CARSENDORN.COM

PHONE: 556.4447 FAX:

INVOICE TO: FRONTDESK@CARSENDORN.COM

P.O. NUMBER:

PROJECT NAME: TKE T.F.

PROJECT NUMBER:

SAMPLED BY: J. COX

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: ☒ 10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: ☒ 5 STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE: HCL, HCL, MEOH, MEOH

REQUESTED ANALYSES: AH02/103, AL101, 8260B, AH101, 8260B

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	AH02/103	AL101	8260B	AH101	8260B								MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	S-D	8.18.14 9:16	X	X	X										W	2		21
2	~~TRIP BLANK~~	JC		X	X										~~S~~	~~1~~		
3	TRIP BLANK			X	X										W	2		22
4	TRIP BLANK					X	X								S	1		23
5																		
6																		
7																		
8																		
9																		
10																		

RELEASED BY: JCOX	DATE: 8.24.14	RECEIVED BY: Ally Higgs	DATE: 08/25/14
PRINT NAME: JOLENE COX FIRM: CDI	TIME: 11:36	PRINT NAME: FIRM: TA-AK	TIME: 0855
RELEASED BY:	DATE:	RECEIVED BY:	DATE:
PRINT NAME: FIRM:	TIME:	PRINT NAME: FIRM:	TIME:

ADDITIONAL REMARKS:

TEMP: 2.2 PAGE OF

CTAL-1000 (0612)

Login Sample Receipt Checklist

Client: Carson Dorn, Inc

Job Number: 230-265-1

Login Number: 265
List Number: 1
Creator: Hirji, Ally

List Source: TestAmerica Anchorage

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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	2.2 C
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	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Laboratory Data Review Checklist

Completed by: Jolene Cox

Title: Environmental Professional Date: October 20, 2014

CS Report Name: Tenakee Springs Tank Farm Report Date: September 9, 2014

Consultant Firm: Carson Dorn, Inc.

Laboratory Name: Test America, Inc. Laboratory Report Number: 580-45109-1

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 No NA (Please explain.) Comments:

      YES

   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 No NA (Please explain.) Comments:

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      Yes No NA (Please explain.) Comments:

      YES

   b. Correct analyses requested?
      Yes No NA (Please explain.) Comments:

      The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): S-3 (580-45109-3). The container labels list S-D, while the COC lists S-3.

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      Yes No NA (Please explain.) Comments:

      YES

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      Yes No NA (Please explain.) Comments:

      YES

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
Yes No NA (Please explain.) Comments:

YES

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 No NA (Please explain.) Comments:

NO

e. Data quality or usability affected? (Please explain.)
Comments:

4. Case Narrative
a. Present and understandable?
Yes No NA (Please explain.) Comments:

YES

b. Discrepancies, errors or QC failures identified by the lab?
Yes No NA (Please explain.) Comments:

NO

c. Were all corrective actions documented?
Yes No NA (Please explain.) Comments:

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

5. Samples Results
a. Correct analyses performed/reported as requested on COC?
Yes No NA (Please explain.) Comments:

YES

b. All applicable holding times met?
Yes No NA (Please explain.) Comments:

YES

c. All soils reported on a dry weight basis?

YES

Yes No NA (Please explain.) Comments:

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

Yes No NA (Please explain.) Comments:

YES

e. Data quality or usability affected?

Comments:

6. <u>QC Samples</u>

a. Method Blank

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

Yes No NA (Please explain.) Comments:

YES

ii. All method blank results less than PQL?

Yes No NA (Please explain.) Comments:

YES

iii. If above PQL, what samples are affected?

Comments:

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

Yes No NA (Please explain.) Comments:

v. Data quality or usability affected? (Please 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 No NA (Please explain.) Comments:

YES

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

Yes 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)
Yes No NA (Please explain.) Comments:

YES

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 No NA (Please explain.) Comments:

YES

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 No NA (Please explain.) 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 No NA (Please explain.) Comments:

YES

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 No NA (Please explain.) Comments:

YES

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?
Yes No NA (Please explain.) 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 No NA (Please explain.) Comments:

NA

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 No NA (Please explain.) Comments:

iii. All results less than PQL?
Yes No NA (Please explain.) Comments:

iv. If above PQL, what samples are affected?
Comments:

v. Data quality or usability affected? (Please explain.)
Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes No NA (Please explain.) Comments:

YES

ii. Submitted blind to lab?

YES

Yes No NA (Please explain.) Comments:

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

RPD (%) = 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 No NA (Please explain.) Comments:

YES

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

Comments:

f. Decontamination or Equipment Blank (If not used explain why).

Yes No NA (Please explain.) Comments:

i. All results less than PQL?

Yes No NA (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

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

a. Defined and appropriate?

Yes No NA (Please explain.) Comments:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-45109-1
Client Project/Site: TKE T.F.

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

Attn: Jolene Cox

Authorized for release by:
9/9/2014 4:15:08 PM

David Burk, Project Manager I
(253)248-4972
david.burk@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.

Table of Contents

Case Narrative

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 580-45109-1

Job ID: 580-45109-1

Laboratory: TestAmerica Seattle

Narrative

Receipt
The samples were received on 8/25/2014 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5º C.

Except:

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): S-3 (580-45109-3). The container labels list S-D, while the COC lists S-3.

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

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

Subcontract non-Sister
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.

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
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)

Client Sample Results

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 580-45109-1

Client Sample ID: S-1

Date Collected: 08/18/14 09:00
Date Received: 08/25/14 10:15

Lab Sample ID: 580-45109-1

Matrix: Solid
Percent Solids: 81.7

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		24		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
2-Methylnaphthalene	ND		24		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
1-Methylnaphthalene	ND		36		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Acenaphthylene	ND		24		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Acenaphthene	ND		24		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Fluorene	ND		24		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Phenanthrene	ND		24		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Anthracene	ND		24		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Fluoranthene	**63**		24		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Pyrene	**76**		24		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Benzo[a]anthracene	**39**		24		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Chrysene	**47**		30		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Benzo[b]fluoranthene	**69**		24		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Benzo[k]fluoranthene	ND		30		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Benzo[a]pyrene	**48**		36		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Indeno[1,2,3-cd]pyrene	ND		48		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Dibenz(a,h)anthracene	ND		48		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1
Benzo[g,h,i]perylene	ND		30		ug/Kg	☼	08/26/14 10:37	08/28/14 00:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*73*		*38 - 141*	*08/26/14 10:37*	*08/28/14 00:38*	*1*
2-Fluorobiphenyl	*76*		*42 - 140*	*08/26/14 10:37*	*08/28/14 00:38*	*1*
Terphenyl-d14	*109*		*42 - 151*	*08/26/14 10:37*	*08/28/14 00:38*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82**		0.10		%			08/26/14 10:21	1
Percent Moisture	**18**		0.10		%			08/26/14 10:21	1

Client Sample Results

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 580-45109-1

Client Sample ID: S-2

Date Collected: 08/18/14 09:11
Date Received: 08/25/14 10:15

Lab Sample ID: 580-45109-2

Matrix: Solid
Percent Solids: 80.1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**31**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
2-Methylnaphthalene	ND		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
1-Methylnaphthalene	ND		36		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Acenaphthylene	ND		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Acenaphthene	ND		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Fluorene	ND		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Phenanthrene	**98**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Anthracene	**54**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Fluoranthene	**170**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Pyrene	**180**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Benzo[a]anthracene	**120**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Chrysene	**220**		30		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Benzo[b]fluoranthene	**160**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Benzo[k]fluoranthene	**79**		30		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Benzo[a]pyrene	**97**		36		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Indeno[1,2,3-cd]pyrene	**67**		48		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Dibenz(a,h)anthracene	ND		48		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1
Benzo[g,h,i]perylene	**47**		30		ug/Kg	☼	08/26/14 10:41	08/28/14 01:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*82*		*38 - 141*	*08/26/14 10:41*	*08/28/14 01:05*	*1*
2-Fluorobiphenyl	*84*		*42 - 140*	*08/26/14 10:41*	*08/28/14 01:05*	*1*
Terphenyl-d14	*108*		*42 - 151*	*08/26/14 10:41*	*08/28/14 01:05*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**80**		0.10		%			08/26/14 10:21	1
Percent Moisture	**20**		0.10		%			08/26/14 10:21	1

Client Sample Results

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 580-45109-1

Client Sample ID: S-3

Date Collected: 08/18/14 09:16
Date Received: 08/25/14 10:15

Lab Sample ID: 580-45109-3

Matrix: Solid
Percent Solids: 82.1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
2-Methylnaphthalene	ND		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
1-Methylnaphthalene	ND		36		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Acenaphthylene	ND		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Acenaphthene	ND		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Fluorene	ND		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Phenanthrene	**98**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Anthracene	**34**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Fluoranthene	**270**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Pyrene	**250**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Benzo[a]anthracene	**130**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Chrysene	**160**		30		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Benzo[b]fluoranthene	**150**		24		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Benzo[k]fluoranthene	**60**		30		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Benzo[a]pyrene	**93**		36		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Indeno[1,2,3-cd]pyrene	**63**		48		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Dibenz(a,h)anthracene	ND		48		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1
Benzo[g,h,i]perylene	**41**		30		ug/Kg	☼	08/26/14 10:41	08/28/14 01:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*83*		*38 - 141*	*08/26/14 10:41*	*08/28/14 01:30*	*1*
2-Fluorobiphenyl	*89*		*42 - 140*	*08/26/14 10:41*	*08/28/14 01:30*	*1*
Terphenyl-d14	*113*		*42 - 151*	*08/26/14 10:41*	*08/28/14 01:30*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82**		0.10		%			08/26/14 10:21	1
Percent Moisture	**18**		0.10		%			08/26/14 10:21	1

QC Sample Results

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 580-45109-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-168090/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 168253 — **Prep Batch: 168090**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		20		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
2-Methylnaphthalene	ND		20		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
1-Methylnaphthalene	ND		30		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Acenaphthylene	ND		20		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Acenaphthene	ND		20		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Fluorene	ND		20		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Phenanthrene	ND		20		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Anthracene	ND		20		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Fluoranthene	ND		20		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Pyrene	ND		20		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Benzo[a]anthracene	ND		20		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Chrysene	ND		25		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Benzo[b]fluoranthene	ND		20		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Benzo[k]fluoranthene	ND		25		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Benzo[a]pyrene	ND		30		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Indeno[1,2,3-cd]pyrene	ND		40		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Dibenz(a,h)anthracene	ND		40		ug/Kg		08/26/14 10:37	08/27/14 19:53	1
Benzo[g,h,i]perylene	ND		25		ug/Kg		08/26/14 10:37	08/27/14 19:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*71*		*38 - 141*	*08/26/14 10:37*	*08/27/14 19:53*	*1*
2-Fluorobiphenyl	*70*		*42 - 140*	*08/26/14 10:37*	*08/27/14 19:53*	*1*
Terphenyl-d14	*90*		*42 - 151*	*08/26/14 10:37*	*08/27/14 19:53*	*1*

Lab Sample ID: LCS 580-168090/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 168253 — **Prep Batch: 168090**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	1000	757		ug/Kg		76	62 - 112
2-Methylnaphthalene	1000	861		ug/Kg		86	64 - 119
1-Methylnaphthalene	1000	835		ug/Kg		83	62 - 118
Acenaphthylene	1000	881		ug/Kg		88	68 - 120
Acenaphthene	1000	817		ug/Kg		82	68 - 116
Fluorene	1000	874		ug/Kg		87	70 - 121
Phenanthrene	1000	875		ug/Kg		88	73 - 106
Anthracene	1000	848		ug/Kg		85	73 - 116
Fluoranthene	1000	874		ug/Kg		87	73 - 125
Pyrene	1000	842		ug/Kg		84	70 - 120
Benzo[a]anthracene	1000	988		ug/Kg		99	76 - 119
Chrysene	1000	861		ug/Kg		86	75 - 114
Benzo[b]fluoranthene	1000	846		ug/Kg		85	63 - 132
Benzo[k]fluoranthene	1000	825		ug/Kg		83	63 - 119
Benzo[a]pyrene	1000	897		ug/Kg		90	72 - 117
Indeno[1,2,3-cd]pyrene	1000	840		ug/Kg		84	56 - 127
Dibenz(a,h)anthracene	1000	799		ug/Kg		80	56 - 134
Benzo[g,h,i]perylene	1000	868		ug/Kg		87	55 - 139

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-168090/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 168253 — **Prep Batch: 168090**

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	*74*		*38 - 141*
2-Fluorobiphenyl	*84*		*42 - 140*
Terphenyl-d14	*97*		*42 - 151*

Lab Sample ID: LCSD 580-168090/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 168253 — **Prep Batch: 168090**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene			1000	724		ug/Kg		72	62 - 112	5	26
2-Methylnaphthalene			1000	801		ug/Kg		80	64 - 119	7	27
1-Methylnaphthalene			1000	789		ug/Kg		79	62 - 118	6	30
Acenaphthylene			1000	835		ug/Kg		84	68 - 120	5	28
Acenaphthene			1000	772		ug/Kg		77	68 - 116	6	27
Fluorene			1000	884		ug/Kg		88	70 - 121	1	30
Phenanthrene			1000	876		ug/Kg		88	73 - 106	0	28
Anthracene			1000	881		ug/Kg		88	73 - 116	4	27
Fluoranthene			1000	874		ug/Kg		87	73 - 125	0	30
Pyrene			1000	865		ug/Kg		86	70 - 120	3	30
Benzo[a]anthracene			1000	974		ug/Kg		97	76 - 119	1	27
Chrysene			1000	930		ug/Kg		93	75 - 114	8	26
Benzo[b]fluoranthene			1000	867		ug/Kg		87	63 - 132	2	30
Benzo[k]fluoranthene			1000	898		ug/Kg		90	63 - 119	8	30
Benzo[a]pyrene			1000	866		ug/Kg		87	72 - 117	3	30
Indeno[1,2,3-cd]pyrene			1000	827		ug/Kg		83	56 - 127	2	29
Dibenz(a,h)anthracene			1000	789		ug/Kg		79	56 - 134	1	30
Benzo[g,h,i]perylene			1000	850		ug/Kg		85	55 - 139	2	28

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Nitrobenzene-d5	*72*		*38 - 141*
2-Fluorobiphenyl	*81*		*42 - 140*
Terphenyl-d14	*103*		*42 - 151*

Lab Chronicle

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 580-45109-1

Client Sample ID: S-1

Lab Sample ID: 580-45109-1
Date Collected: 08/18/14 09:00
Matrix: Solid
Date Received: 08/25/14 10:15
Percent Solids: 81.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			168090	08/26/14 10:37	CTC	TAL SEA
Total/NA	Analysis	8270C		1	168253	08/28/14 00:38	AHP	TAL SEA
Total/NA	Analysis	D 2216		1	168087	08/26/14 10:21	LHJ	TAL SEA

Client Sample ID: S-2

Lab Sample ID: 580-45109-2
Date Collected: 08/18/14 09:11
Matrix: Solid
Date Received: 08/25/14 10:15
Percent Solids: 80.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			168090	08/26/14 10:41	CTC	TAL SEA
Total/NA	Analysis	8270C		1	168253	08/28/14 01:05	AHP	TAL SEA
Total/NA	Analysis	D 2216		1	168087	08/26/14 10:21	LHJ	TAL SEA

Client Sample ID: S-3

Lab Sample ID: 580-45109-3
Date Collected: 08/18/14 09:16
Matrix: Solid
Date Received: 08/25/14 10:15
Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			168090	08/26/14 10:41	CTC	TAL SEA
Total/NA	Analysis	8270C		1	168253	08/28/14 01:30	AHP	TAL SEA
Total/NA	Analysis	D 2216		1	168087	08/26/14 10:21	LHJ	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 580-45109-1

Laboratory: TestAmerica Seattle

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 (UST)	State Program	10	UST-113	07-25-15
California	NELAP	9	01115CA	01-31-14 *
California	State Program	9	2901	01-31-15
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-14
USDA	Federal		P330-11-00222	04-08-17
Washington	State Program	10	C553	02-17-15

* Certification renewal pending - certification considered valid.

Sample Summary

Client: Carson Dorn, Inc
Project/Site: TKE T.F.

TestAmerica Job ID: 580-45109-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-45109-1	S-1	Solid	08/18/14 09:00	08/25/14 10:15
580-45109-2	S-2	Solid	08/18/14 09:11	08/25/14 10:15
580-45109-3	S-3	Solid	08/18/14 09:16	08/25/14 10:15
580-45109-4	T.H.WELL	Water	08/18/14 13:30	08/25/14 10:15
580-45109-5	D.WELL	Water	08/18/14 13:35	08/25/14 10:15

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st. Avenue
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: SXH0169
Client Project/Site: 580-45109-1
Client Project Description: Burk, David

For:
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424

Attn: David Burk

Authorized for release by:
9/5/2014 9:10:57 AM

Randee Arrington, Project Manager
(509)924-9200
Randee.Arrington@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.

Table of Contents

Sample Summary

Client: TestAmerica Seattle
Project/Site: 580-45109-1

TestAmerica Job ID: SXH0169

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
SXH0169-01	T.H. Well	Water	08/18/14 13:30	08/26/14 10:00
SXH0169-02	D. Well	Water	08/18/14 13:35	08/26/14 10:00

Definitions/Glossary

Client: TestAmerica Seattle
Project/Site: 580-45109-1

TestAmerica Job ID: SXH0169

Qualifiers

Semivolatiles

Qualifier	Qualifier Description
H1	Sample analysis performed past the method-specified holding time per client's approval.

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
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)

Client Sample Results

Client: TestAmerica Seattle
Project/Site: 580-45109-1

TestAmerica Job ID: SXH0169

Client Sample ID: T.H. Well

Lab Sample ID: SXH0169-01

Date Collected: 08/18/14 13:30
Date Received: 08/26/14 10:00

Matrix: Water

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
2-Methylnaphthalene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
1-Methylnaphthalene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Acenaphthylene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Acenaphthene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Fluorene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Phenanthrene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Anthracene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Fluoranthene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Pyrene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Benzo (a) anthracene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Chrysene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Benzo (b) fluoranthene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Benzo (k) fluoranthene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Benzo (a) pyrene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Indeno (1,2,3-cd) pyrene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Dibenzo (a,h) anthracene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00
Benzo (ghi) perylene	ND	H1	0.106		ug/L		08/27/14 09:20	08/28/14 02:47	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*78.1*	*H1*	*32.7 - 135*	*08/27/14 09:20*	*08/28/14 02:47*	*1.00*
2-FBP	*74.1*	*H1*	*44.3 - 120*	*08/27/14 09:20*	*08/28/14 02:47*	*1.00*
p-Terphenyl-d14	*90.4*	*H1*	*59.5 - 154*	*08/27/14 09:20*	*08/28/14 02:47*	*1.00*

Client Sample ID: D. Well

Lab Sample ID: SXH0169-02

Date Collected: 08/18/14 13:35
Date Received: 08/26/14 10:00

Matrix: Water

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
2-Methylnaphthalene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
1-Methylnaphthalene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Acenaphthylene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Acenaphthene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Fluorene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Phenanthrene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Anthracene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Fluoranthene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Pyrene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Benzo (a) anthracene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Chrysene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Benzo (b) fluoranthene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Benzo (k) fluoranthene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Benzo (a) pyrene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Indeno (1,2,3-cd) pyrene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Dibenzo (a,h) anthracene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00
Benzo (ghi) perylene	ND	H1	0.109		ug/L		08/27/14 09:20	08/28/14 03:09	1.00

Client Sample Results

Client: TestAmerica Seattle
Project/Site: 580-45109-1

TestAmerica Job ID: SXH0169

Client Sample ID: D. Well
Date Collected: 08/18/14 13:35
Date Received: 08/26/14 10:00

Lab Sample ID: SXH0169-02
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	75.9	H1	32.7 - 135	08/27/14 09:20	08/28/14 03:09	1.00
2-FBP	67.2	H1	44.3 - 120	08/27/14 09:20	08/28/14 03:09	1.00
p-Terphenyl-d14	84.9	H1	59.5 - 154	08/27/14 09:20	08/28/14 03:09	1.00

QC Sample Results

Client: TestAmerica Seattle
Project/Site: 580-45109-1

TestAmerica Job ID: SXH0169

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Lab Sample ID: 14H0153-BLK1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 14H0153 — **Prep Batch: 14H0153_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
2-Methylnaphthalene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
1-Methylnaphthalene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Acenaphthylene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Acenaphthene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Fluorene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Phenanthrene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Anthracene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Fluoranthene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Pyrene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Benzo (a) anthracene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Chrysene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Benzo (b) fluoranthene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Benzo (k) fluoranthene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Benzo (a) pyrene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Indeno (1,2,3-cd) pyrene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Dibenzo (a,h) anthracene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00
Benzo (ghi) perylene	ND		0.100		ug/L		08/27/14 09:20	08/28/14 01:40	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*73.4*		*32.7 - 135*	*08/27/14 09:20*	*08/28/14 01:40*	*1.00*
2-FBP	*74.6*		*44.3 - 120*	*08/27/14 09:20*	*08/28/14 01:40*	*1.00*
p-Terphenyl-d14	*90.4*		*59.5 - 154*	*08/27/14 09:20*	*08/28/14 01:40*	*1.00*

Lab Sample ID: 14H0153-BS1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 14H0153 — **Prep Batch: 14H0153_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	4.00	2.09		ug/L		52.2	27.8 - 143
Fluorene	4.00	3.45		ug/L		86.2	59.2 - 120
Chrysene	4.00	3.46		ug/L		86.5	69.1 - 122
Indeno (1,2,3-cd) pyrene	4.00	3.92		ug/L		98.0	56.1 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*86.7*		*32.7 - 135*
2-FBP	*85.5*		*44.3 - 120*
p-Terphenyl-d14	*89.5*		*59.5 - 154*

Lab Sample ID: 14H0153-BSD1 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 14H0153 — **Prep Batch: 14H0153_P**

Analyte	Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	4.00	2.18		ug/L		54.5	27.8 - 143	4.22	30
Fluorene	4.00	2.83		ug/L		70.8	59.2 - 120	19.7	30
Chrysene	4.00	3.06		ug/L		76.5	69.1 - 122	12.3	30

Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Continued)

Lab Sample ID: 14H0153-BSD1 | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total**
Analysis Batch: 14H0153 | **Prep Batch: 14H0153_P**

Analyte			Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indeno (1,2,3-cd) pyrene			4.00	3.42		ug/L		85.5	56.1 - 135	13.6	30

Surrogate	*LCS Dup %Recovery*	*LCS Dup Qualifier*	*Limits*
Nitrobenzene-d5	*76.4*		*32.7 - 135*
2-FBP	*73.3*		*44.3 - 120*
p-Terphenyl-d14	*86.1*		*59.5 - 154*

Lab Chronicle

Client: TestAmerica Seattle
Project/Site: 580-45109-1

TestAmerica Job ID: SXH0169

Client Sample ID: T.H. Well

Lab Sample ID: SXH0169-01

Date Collected: 08/18/14 13:30

Matrix: Water

Date Received: 08/26/14 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3510/600 Series		1.06	14H0153_P	08/27/14 09:20	IAB	TAL SPK
Total	Analysis	EPA 8270D		1.00	14H0153	08/28/14 02:47	NMI	TAL SPK

Client Sample ID: D. Well

Lab Sample ID: SXH0169-02

Date Collected: 08/18/14 13:35

Matrix: Water

Date Received: 08/26/14 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3510/600 Series		1.09	14H0153_P	08/27/14 09:20	IAB	TAL SPK
Total	Analysis	EPA 8270D		1.00	14H0153	08/28/14 03:09	NMI	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

Certification Summary

Client: TestAmerica Seattle
Project/Site: 580-45109-1

TestAmerica Job ID: SXH0169

Laboratory: TestAmerica Spokane

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 (UST)	State Program	10	UST-071	10-31-14
Washington	State Program	10	C569	01-06-15

Method Summary

Client: TestAmerica Seattle
Project/Site: 580-45109-1

TestAmerica Job ID: SXH0169

Method	Method Description	Protocol	Laboratory
EPA 8270D	Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring		TAL SPK

Protocol References:

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

SXH0169

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Burk, David G	Carrier Tracking No(s):	COC No: 580-18989.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: david.burk@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc				Job #: 580-45109-1
Address: 11922 East 1st Ave, ,	Due Date Requested: 9/5/2014			
City: Spokane	TAT Requested (days):			
State, Zip: WA, 99206				
Phone: 509-924-9200(Tel)	PO #:			
Email:	WO #:			
Project Name: TKE T.F.	Project #: 58003223			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (8270C PAH)/ Copy8270C PAH Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
T.H.WELL	8/18/14	13:30 Alaskan		Water			X		
D.WELL	8/18/14	13:35 Alaskan		Water			X		

Possible Hazard Identification
Unconfirmed

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Tom Bloom	Date/Time: 8/25/14	Company: TA-Sea	Received by: Pat Stapleton	Date/Time: 8-26-14 11:00	Company: TA-Spokane
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 4.3

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9/5/2014
9/9/2014

TestAmerica Spokane
Sample Receipt Form

Work Order #: SXH0169	**Client:** TA Seattle	**Project:** 580-45109-1
Date/Time Received: 8-26-14 10:00	By: CS	

Samples Delivered By: ☒ Shipping Service ☐ Courier ☐ Client ☐ Other: _____

List Air Bill Number(s) or Attach a photocopy of the Air Bill:

Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	Y			
Custody Seals are present and intact:	Y			
Are CoC documents present:	Y			
Necessary signatures:	Y			

Thermal Preservation Type: ☐ Blue Ice ☒ Gel Ice ☐ Real Ice ☐ Dry Ice ☐ None ☐ Other: _____

Temperature: 4.3 °C Thermometer (Circle **one** Serial #122208348 Keyring IR Serial # 111874910 IR Gun 2)(acceptance criteria 0-6

Temperature out of range: ☐ Not enough ice ☐ Ice melted ☐ w/in 4hrs of collection ☐ NA ☐ Other: _____

Log-in Phase Date/Time: 8-26-14 10:00 By: CS	Yes	No	NA	Comments
Are sample labels affixed and completed for each container	X			
Samples containers were received intact:	X			
Do sample IDs match the CoC	X			
Appropriate sample containers were received for tests requested	X			
Are sample volumes adequate for tests requested	X			
Appropriate preservatives were used for the tests requested	X			
pH of inorganic samples checked and is within method specification	X			
Are VOC samples free of bubbles >6mm (1/4" diameter)			X	
Are dissolved parameters field filtered			X	
Do any samples need to be filtered or preserved by the lab		X		
Does this project require quick turnaround analysis		X		
Are there any short hold time tests (see chart below)	X			Samples expired 8-25-14.
Are any samples within 2 days of or past expiration	X			" " "
Was the CoC scanned	X			
Were there Non-conformance issues at login		X		
If yes, was a CAR generated # _____			X	

24 hours or less	48 hours	7 days
Coliform Bacteria	BOD, Color, MBAS	TDS, TSS, VDS, FDS
Chromium +6	Nitrate/Nitrite	Sulfide
	Orthophosphate	Aqueous Organic Prep

Form No. SP-FORM-SPL-002 12 December 2012

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317 253-922-2310 FAX 922-5047
11922 E. First Ave., Spokane WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

9/9/2014

CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT: CDI

REPORT TO: JCOX@CARSONDORN.COM
ADDRESS:

PHONE: 907.586.4447 FAX:

INVOICE TO: FRONTDESK@CARSONDORN.COM

P.O. NUMBER:

PROJECT NAME: TKE T.F.

PROJECT NUMBER:

SAMPLED BY: JCOX

TURNAROUND REQUEST
in Business Days *

Organic & Inorganic Analyses: 10 (STD.) | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: 5 (STD.) | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE: —

REQUESTED ANALYSES: 8270C PAHs

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	8270C PAHs	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	S-1	8.18.14 9:00	X	S	1		
2	S-2	↓ 9:11	X	↓	1		
3	S-3	↓ 9:16	X	↓	1		
4	T.H. WELL	8.18.14 13:30	X	W	2		
5	D. WELL	↓ 13:35	X	↓	2		
6							
7							
8							
9							
10							

580-45109 Chain of Custody

RELEASED BY: JCOX		DATE: 8.24.14	RECEIVED BY:		DATE: 8/25/14
PRINT NAME: JOLENE COX	FIRM: CDI	TIME: 11:36	PRINT NAME: Francisco Luna, Jr.	FIRM: TA-SEA	TIME: 1015
RELEASED BY:		DATE:	RECEIVED BY:		DATE:
PRINT NAME:	FIRM:	TIME:	PRINT NAME:	FIRM:	TIME:

ADDITIONAL REMARKS:

TEMP:

PAGE OF

TAL-1000 (0612)

Login Sample Receipt Checklist

Client: Carson Dorn, Inc

Job Number: 580-45109-1

Login Number: 45109
List Number: 1
Creator: Ames, Melissa R

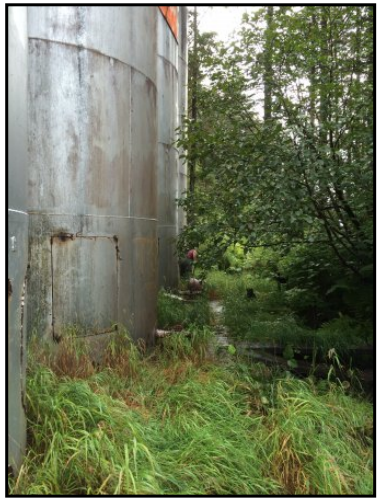
List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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	
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Attachment C

View of west side of the City Hall and Library Building

View of the site from the southwest along Tenakeee Avenue.



Looking along old tanks from the west.

Close-up of soil in front of westernmost tank within tank containment.

View of old drain line from tank containment.

Sample location S-9 below old drain line from old tank containment.

Discarded old tanks below old tank containment.

View of north side of old tank containment from the east.

Sample location S-10 west of the old tank containment.

View of the old tanks and containment area from the northwest.

Looking along old tanks from the west.

Sample location S-11 in drainage below east side of old tank containment.

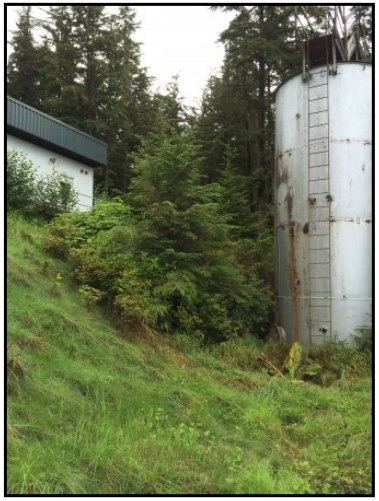
View of the site from Tenakee Avenue. Truck fill station visible in left portion of photograph.

Downgradient of the site looking along the east side of Snyder Mercantile.

Location of sample S-14 along the east side of Snyder Mercantile.

View of monitoring well 1.

View of new city power plant
from the south



Looking to the east between the
old tank farm containment and
the new city power plant.

View of new tanks #3 and #4 from the west.

Close-up view of tank #3 and piping.

Close-up view of tank #4 and piping.

View of new tanks #1 and #2 from the west.

View of new tanks #3 and #4 from the east.

View of new 3" distribution lines and steps leading down from new tank farm.