CONESTOGA-ROVERS
& ASSOCIATES

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CRAworld.com

February 13, 2008

Mr. Bill Janes
Alaska Department of Environmental Conservation
410 Willoughby Avenue, Suite 302
Juneau, Alaska 99801

Re: **Subsurface Investigation and Well Decommissioning Report**
Delta Western/Former Chevron Bulk Terminal 100-1467
1417 Peninsula Street
Wrangell, Alaska
CRA Project No. 622235
ADEC RecKey: 1994130128401

Dear Mr. Janes:

Conestoga-Rovers & Associates (CRA) is submitting this *2007 Subsurface Investigation and Well Decommissioning Report* to the Alaska Department of Environmental Conservation (ADEC) on behalf of Chevron Environmental Management Company (Chevron) for the site referenced above. The objective of this investigation was to collect additional soil data in areas that previously contained analytes above ADEC Method II cleanup levels. The site background, investigation details, and conclusions are presented below.

SITE BACKGROUND

Site Description: The site is an active Delta Western Terminal located at 1417 Peninsula Street in Wrangell, Alaska (Figure 1). The site was developed as a fuel storage facility in the late 1930's and continues to operate in that capacity. Site facilities have not significantly changed since the original construction. The facilities include eight above-ground storage tanks (ASTs) that contain aviation gasoline, jet fuel, unleaded gasoline, supreme gasoline, diesel, and pre-mix gasoline. Other site facilities include a fuel loading rack, pump house, a marine fueling dock servicing the Wrangell Harbor, an office, and warehouse buildings.

Hydrogeology: The site is located on Wrangell Island in southeast Alaska along the shore of the Zimovia Strait (Figure 1). Historic static groundwater levels have ranged between 3.14 and 5.83 feet (ft) below ground surface (bgs) according to groundwater data from 2001 to present. Annual precipitation in the Wrangell area is 82 inches per year. Groundwater flow direction is to the southwest with a gradient of approximately 0.065 ft/ft, and is consistent with historical data.

Regional Geology: Regional geology includes slate, quartzite, schist, and phyllite with interlayered beds of marble, layered gneiss and amphibolite of Ordovician to Jurassic or Cretaceous age along the west flank of the Coast Mountains. Undifferentiated intrusive rocks are located sporadically through the region. Sediments

beneath the site consists of clay with silt and gravel, underlain by green schist bedrock at approximately 5 feet (ft) below ground surface (bgs).

TEST PIT LOCATION AND WELL DECOMMISSIONING RATIONALE

CRA conducted shallow soil sampling across the Mork property located south/southwest of the current Delta Western Bulk Terminal to assess current soil quality and evaluate the potential for site closure. Soil samples were collected in close proximity to former soil sample locations FOC-1-3.5', SW-8-2.5', MW-3/P-7-6.5', FOC-4-5', SW-3-3.5', P-6/MW-1-2.5', P-3-1.5', and P-5/MW-2-4' where DRO or benzene concentrations in soil have previously exceeded ADEC Method II cleanup levels. Two observation pits were excavated based on historical information provided by David Mork to visually inspect soil conditions west of the residential structure (Figure 2).

The ADEC terminated the groundwater monitoring and sampling program on September 4, 2007 based on historic groundwater data. CRA decommissioned all site groundwater monitoring wells on September 12, 2007.

TEST PIT EXCAVATION AND WELL DECOMMISSIONING

CRA conducted all activities in accordance with the ADEC's *Underground Storage Tanks Procedures Manual, Guidance for Treatment of Petroleum-Contaminated Soil and Water, and Standard Sampling Procedures*; the ADEC's *Recommended Practices for Monitoring Well Design, Installation, and Decommissioning, April 1992;* and CRA's Chevron approved *Health and Safety Plan* and *Journey Management Plan*. Details of the test pit excavations and well decommissioning are presented below.

Sampling Date: October 6, 2007.

Excavator: David Mork, property owner.

CRA Personnel: Nicholas Greco and John Riggi conducted all fieldwork.

Test Pit Excavations: Test pits TP-1 through TP-8 were excavated at various depths to first encountered groundwater or bedrock (Figure 2). A trained geologist and ADEC Qualified Person continuously logged soil during each excavation. Soil logs are presented as Attachment A.

Observation Pit Excavations: Observation pits OP-1 and OP-2 were excavated to encountered groundwater for visual inspection of soil conditions west of the residential structure. No signs of petroleum hydrocarbon impact were observed.

Subsurface Utility Clearance: Alaska Digline was notified prior to site activities to clear excavation locations with utility companies.

Excavation Method: Test pits and observation pits were excavated to first encountered groundwater or bedrock using a backhoe equipped with a three-foot bucket. Soil samples were collected with a disposable soil scoop after removing approximately 6 inches of soil from the backhoe bucket. Excavated material was backfilled in place following sample collection.

Site Stratigraphy: Site sediments primarily consist of gravel fill or peat at the surface, transitioning to silt with clay, underlain by green schist bedrock at approximately 4-5 ft bgs.

Soil Screening: Petroleum hydrocarbon constituents in soil samples were screened using a photo ionization detector (PID). Soil samples were submitted for laboratory analyses based on PID screening results.

Laboratory Analyses: The collected soil samples, equipment blank, and trip blanks were analyzed for one or more of the following analytes:

- Gasoline Range Organics (GRO) by Alaska Series Method AK101;
- Diesel Range Organics (DRO) by Alaska Series Method AK102;
- Residual Range Organics (RRO) by Alaska Series Method AK103;
- DRO with Silica Gel Cleanup by Alaska Series Method AK102;
- RRO with Silica Gel Cleanup by Alaska Series Method AK103;
- Benzene, ethylbenzene, toluene, and xylenes (BTEX) by EPA Method 8021B.

Well Decommissioning: CRA personnel decommissioned all known site groundwater monitoring wells (MW-1 through MW-9) on September 12, 2007. Wells were decommissioned in accordance with ADEC *Recommended Practices for Monitoring Well Design, Installation, and Decommissioning, April 1992*. Each monitoring well was constructed with 4-inch outer diameter PVC casing to approximately 35 ft bgs. Monitoring well MW-5 was constructed with 4-inch outer diameter PVC casing

to approximately 3-6 ft bgs. Well casings were filled with bentonite chips and hydrated in 1 ft increments to approximately 0.5 ft bgs. The upper well casing was removed by splitting and manually removing the casing remnants. Well vaults and stand pipes were removed and the borehole completed with native soil at ground surface to match existing grade. Department of Natural Resources Water Well Logs are included as Attachment B.

Soil Sampling Results

Laboratory Analytical Results: No petroleum hydrocarbon constituents were detected above *ADEC Method II – Soil Cleanup Levels, Table B1 and B2, Over 40 Inch Zone, Migration to Groundwater (ADEC, 18 AAC75.345)* in soil samples collected from test pits TP-2,, TP-4, TP-5, TP-6, and TP-7. Benzene was detected in soil samples at approximately 4 ft bgs collected from test pits TP-1 and TP-8 at 0.217 milligrams per kilogram (mg/kg) and 0.126 mg/kg, respectively. DRO concentrations in soil samples collected from TP-3 were below Method II cleanup levels when analyzed with silica gel cleanup. Soil analytical results are summarized in Table 1. Petroleum hydrocarbon concentrations are presented on Figure 3. The laboratory analytical report is presented as Attachment C.

ADEC Laboratory Quality Assurance Review: Test America received groundwater samples in good condition, however the samples were outside laboratory data quality objectives (DQOs) for temperature, ranging from 1.6 ºC to 2.2 ºC. A minimum of one trip blank per volatile organic analysis per cooler was included with the collected soil samples. A duplicate sample was collected from test pit TP-8-07-4.0 and submitted blind to the laboratory. The relative percent differences for the sample and its duplicate sample are within DQOs for all analytes with the exception of benzene at 74.8%. All surrogate recoveries and laboratory control samples were within accepted ranges, except a,a,a-TFT (PID) for GRO and BTEX at 49.1%. No other discrepancies were noted in the ADEC Quality Assurance Summary and Laboratory Review Checklist. The ADEC Quality Assurance Summary and Laboratory Review Checklist is presented as Attachment D.

CONCLUSIONS

The soil stratigraphy south of the current Delta Western facility consisted of peat and fill material underlain by silty clay to approximately 4 ft bgs, underlain by greenschist bedrock. Observation test pits OP-1 and OP-2 excavated at the east and west property sections contained no visual or olfactory signs of petroleum hydrocarbon impact. Impact to soil appears to have naturally attenuated to below ADEC acceptable Method II cleanup levels near 2003 sample locations TP-2, TP-4, TP-5, TP-6 and TP-7. No petroleum hydrocarbon constituents in

analyzed soil samples collected from test pits TP-2, TP-4, TP-5, TP-6, and TP-7 were above *ADEC Method II – Soil Cleanup Levels, Over 40 Inch Zone, Migration to Groundwater (ADEC, 18 AAC75.345)* cleanup levels. Soil samples collected from TP-3 contain DRO below Method II ADEC cleanup levels when analyzed with silica gel cleanup. Benzene concentrations in soil exceeded ADEC cleanup levels in soil samples collected from test pits TP-1 and TP-8. Residual impact above ADEC Method II levels is present south of the Delta Western facility and is defined by test pits TP-1, TP-3 and TP-8.

CLOSING

We appreciate the opportunity to work with Chevron and the ADEC on this project. Alaska Qualified Personnel in accordance with *18 Alaska Administrative Code (AAC) 75, Article 3 and 18 AAC 78, Article 2, 6, and 9,* conducted and/or supervised all project work. Please call John Riggi at (303) 433-3650 with any questions regarding this report.

Sincerely,
Conestoga-Rovers & Associates

Nicholas Greco,
Staff Geologist

John Riggi, P.G.
Senior Project Geologist

Figures: 1 – Vicinity Map
2 – Test Pit Locations Map
3 – Petroleum Hydrocarbon Concentrations Map

Table: 1 – Soil Analytical Results

Attachments: A – Excavation/Boring Logs
B – Department of Natural Resources Water Well Logs
C – Laboratory Analytical Report
D – ADEC Quality Control Summary and Laboratory Data Review Checklist

cc: Mr. Dan Carrier, Chevron Environmental Management Company,
145 South State College Boulevard, Brea, California 92821

Mr. David Mork,
7520 West Willamette Avenue,
Kennewick, Washington 99336

Conestoga-Rovers & Associates

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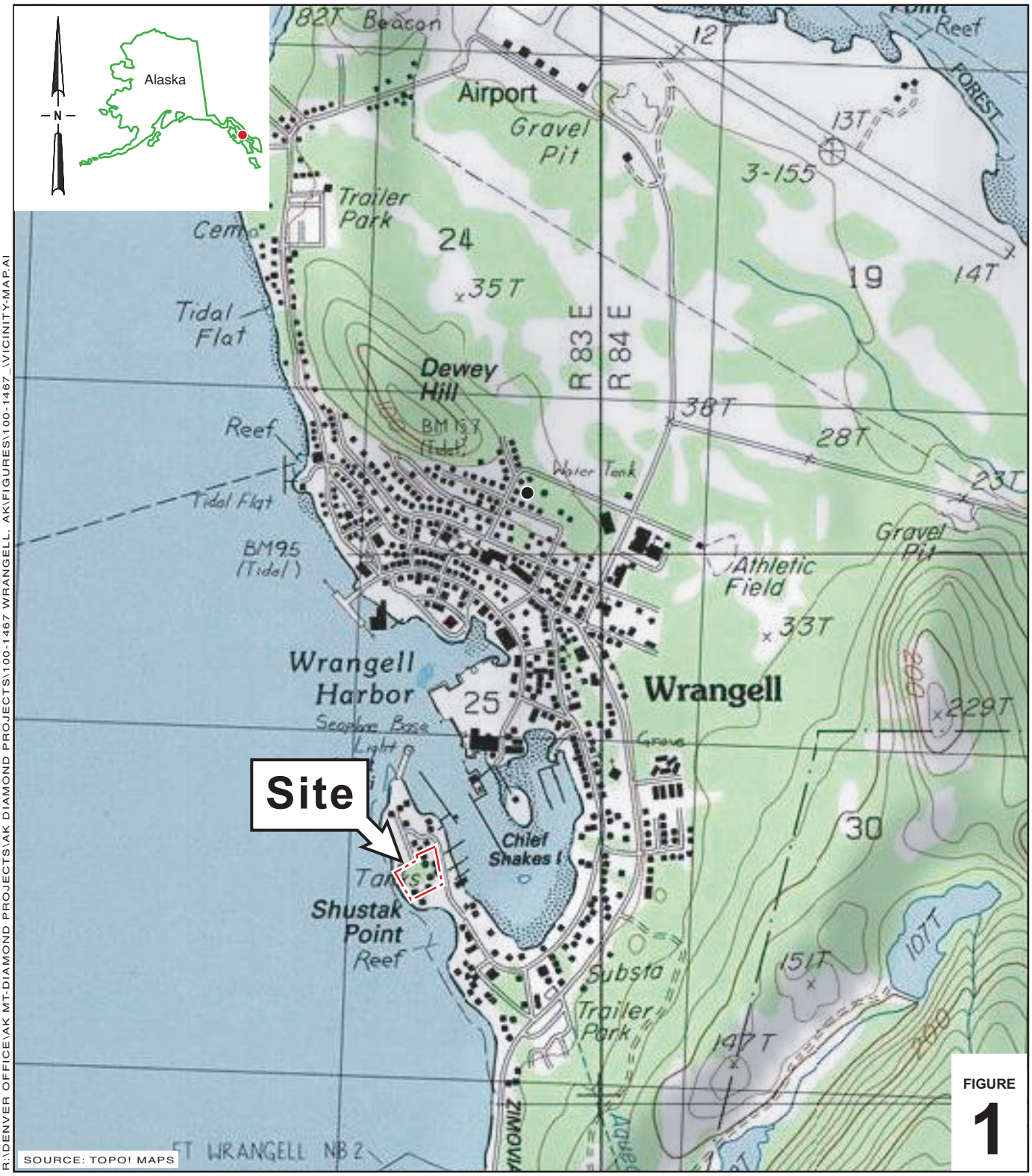

FIGURE
1

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

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Delta Western / Former
Chevron Bulk Terminal 100-1467

1417 Peninsula Drive

Wrangell, Alaska

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Vicinity Map

11/13/07

Test Pit Location Map

October 6, 2007

EXPLANATION

- P-7/MW-3 — Destroyed well location
- SEEP-1 — Seep location
- TP-3 — Test Pit location
- OP-1 — Observation Pit location

ZIMOVIA STRAIT

WRANGELL HARBOR

PENINSULA STREET

Residential Housing

Residential Housing

Wrangell Oil Tank Farm

Concrete Retaining Wall

SSBG

SS5

SS4

SS6

SS1

SS3

SS2

275 gallon Above ground heating oil tank

Truck Trailer Loading Rack (TTLR)

B-1

B-2

B-3

B-4

B-5

B-6

P-16/MW-9

P-18/MW-8

P-9/MW-6

P-11/MW-7

P-7/MW-3

P-6/MW-1

P-5/MW-2

P-3A/MW-4

P-1/MW-5

Delta Western Former Chevron Bulk Terminal

garage

TANK #10

TANK #9

TANK #1

TANK #2

TANK #3

TANK #4

TANK #5

Conc. Retaining Wall

centerline top of dike

TP-1

TP-2

TP-3

TP-4

TP-5

TP-6

TP-7

TP-8

OP-1

OP-2

SEEP-1

SEEP-2

Wood shed

shed

shed

deck

Elmer Mork House

concrete walk

carport

Dave Mork House

Oil Tank

Former Rental House

driveway

MH

CONNEX

Dave Hartung Float House

carport

Warehouse

Warehouse

Parking

Sidewalk

Wrangell Oil Offices and Warehouse

Garage

Warehouse

Platform

Waitehouse

Offices

TTLR

1-1/2" water line

PIPE CROSSING

Fuel Pipelines

Wrangell Oil Fuel Dock

Fuel Pipelines

Delta Western

Fisherman's Dock

Delta Western Fuel Dock

Storage Area

Pump House

Covered Storage

Shower House

550 gallon heating oil UST

former Company Cottage

Parking Area

Dispenser hose and piping to dock

3000 gallon AST 50%gasoline pre-mix tank

Boat Dock

Building

Boat Repair House and Dock

Building

Approximate Shoreline

Approximate Shoreline

N

0 30 60 120

Scale (ft)

Basemap modified from drawing provided by SECOR

FIGURE

2

Delta Western / Former Chevron Bulk Terminal 100-1467

1417 Peninsula Drive

Wrangell, Alaska

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12/10/07

Petroleum Hydrocarbon Concentrations Map

October 6, 2007

EXPLANATION

P-7/MW-3	Destroyed well location
SEEP-1	Seep location
TP-3	Test Pit location
OP-1	Observation Pit location

Test Pit ID	(Sample Depth)
DRO with Silica Gel Cleanup	(mg/kg)
RRO with Silica Gel Cleanup	(mg/kg)
GRO	(mg/kg)
Benzene	(mg/kg)

ZIMOVIA STRAIT

WRANGELL HARBOR

PENINSULA STREET

Residential Housing

Residential Housing

TP-7	(3.5')
DRO	<44.8
RRO	<112
GRO	<3.50
Benzene	<0.0140

TP-6	(3.0')
DRO	<44.3
RRO	<111
GRO	<4.50
Benzene	0.0199

TP-3	(4.0)
DRO	177.0
RRO	<258
GRO	7.90
Benzene	<0.142

TP-5	(5.0')
DRO	<50.0
RRO	<125
GRO	<4.14
Benzene	0.0165

TP-8	(4.0')
DRO	<39.7
RRO	<99.3
GRO	<3.93
Benzene	0.126

TP-4	(2.5')
DRO	<50.0
RRO	<125
GRO	<3.82
Benzene	<0.0153

TP-2	(5.0')
DRO	<50.0
RRO	<125
GRO	<4.63
Benzene	0.0192

TP-1	(4.5')
DRO	<50.0
RRO	<125
GRO	<16.7
Benzene	0.217

P-16/MW-9 P-18/MW-8 P-9/MW-6 P-11/MW-7 P-7/MW-3 P-6/MW-1 P-5/MW-2 P-3A/MW-4 P-1/MW-5

SEEP-1 SEEP-2

OP-1 OP-2

SSBG SS1 SS2 SS3 SS4 SS5 SS6

B-1 B-2 B-3 B-4 B-5 B-6

TP-1 TP-2 TP-3 TP-4 TP-5 TP-6 TP-7 TP-8

Wrangell Oil Tank Farm

Concrete Retaining Wall

275 gallon Above ground heating oil tank

Truck Trailer Loading Rack (TTLR)

Wrangell Oil Offices and Warehouse

Wrangell Oil Fuel Dock

Delta Western Former Chevron Bulk Terminal

TANK #10 TANK #1 TANK #2 TANK #3 TANK #4 TANK #5 TANK #9

centerline top of dike

Conc. Retaining Wall

garage

Garage

Warehouse

Waterhouse

Platform

Offices

TTLR

1-1/2" water line

Fuel Pipelines

Delta Western

Fisherman's Dock

Delta Western Fuel Dock

PIPE CROSSING

Pump House

Covered Storage

Shower House

Storage Area

550 gallon heating oil UST

former Company Cottage

Parking Area

Dispenser hose and piping to dock

3000 gallon AST 50%gasoline pre-mix tank

Boat Dock

Boat Repair House and Dock

Building

Building

Parking

Sidewalk

Elmer Mork House

deck

Wood shed

shed

shed

concrete walk

carport

Dave Mork House

Oil Tank

Former Rental House

CONNEX

MH

driveway

carport

Warehouse

carport

Warehouse

Dave Hartung Float House

Approximate Shoreline

Approximate Shoreline

N

0 30 60 120

Scale (ft)

Basemap modified from drawing provided by SECOR

FIGURE

3

Delta Western / Former Chevron Bulk Terminal 100-1467

1417 Peninsula Drive

Wrangell, Alaska

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R:\DENVER OFFICE\AK MT- DIAMOND PROJECTS\AK DIAMOND PROJECTS\100-1467 WRANGELL_AK\FIGURES\100-1467_PHC-SOIL-2.DWG

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Table 1. **Soil Analytical Results** - Delta Western Terminal, 1417 Peninsula Street, Wrangell, Alaska

Sample ID	Date Sampled	Sample Depth	DRO	DRO with Silica Gel Cleanup	RRO	RRO with Silica Gel Cleanup	GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes
	(mm/dd/yyyy)	(ft bgs)	(Concentrations in mg/kg)								
TP-1-07-4.5	10/06/2007	4.50	<20.0	<50.0	<50.0	<125	<16.7	**0.217**	<0.167	<0.167	<0.335
TP-2-07-5.0	10/06/2007	5.00	56.10	<50.0	51.50	<125	<4.63	0.0192	<0.0463	<0.0463	<0.0927
TP-3-07-4.0	10/06/2007	4.00	**268.00**	177.00	206.00	<258	7.90	<0.142	<0.0.581	<0.0581	0.147
TP-4-07-2.5	10/06/2007	2.50	26.90	<50.0	<50.0	<125	<3.82	<0.0153	<0.0382	<0.0382	<0.0764
TP-5-07-5.0	10/06/2007	5.00	68.60	<50.0	110.00	<125	<4.14	<0.0165	<0.0414	<0.0414	<0.0827
TP-6-07-3.0	10/06/2007	3.00	56.30	<44.3	<44.3	<111	<4.50	0.0199	<0.0450	<0.0450	<0.0900
TP-7-07-3.5	10/06/2007	3.50	<17.9	<44.8	<44.8	<112	<3.50	<0.0140	<0.0350	<0.0350	<0.0701
TP-8-07-4.0	10/06/2007	4.00	<15.9	<39.7	<39.7	<99.3	<3.93	**0.126**	<0.0393	<0.0393	<0.0785
TP-8-07-4.0 (d)	10/06/2007	--	<20.0	<50.0	<50.0	<125	<4.02	**0.0574**	<0.0402	<0.0402	<0.0805
Trip Blank	--	--	--	--	--	--	<5.00	<0.0200	<0.0500	<0.0500	<0.100
ADEC Cleanup Levels**			**250**	**250**	**11,000**	**11,000**	**300**	**0.02**	**5.4**	**5.5**	**78**

Notes and Abbreviations:
ft bgs = Feet Below Ground Surface
mg/kg = miligrams per kilogram
<x = Not detected above x milligrams per kilogram
(d) = duplicate sample
ND = Not Detected
ADEC = Alaska Department of Environmental Conservation
EPA = Environmental Protection Agency
DRO = Diesel Range Organics by Alaska Series Method AK 101
RRO = Residual Range Organics by Alaska Series Method AK 103
GRO = Gasoline Range Organics by Alaska Series Method AK 102
BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes by EPA method 8021
-- = Not Measured/Not Analyzed
** = Levels established in ADEC Method II - Soil Cleanup Levels, Table B1 and B2, Over 40 Inch Zone, Migration to Groundwater (ADEC, 18 AAC 75.345

ATTACHMENT A

Excavation/Boring Logs

Conestoga-Rovers & Associates
2828 North Speer Blvd., Suite 140
Denver, CO 80211
Telephone: (303) 433-3650
Fax: (303) 433-3974

BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	TP-1
JOB/SITE NAME	Former Chevron Bulk Terminal 100-1467	**DRILLING STARTED**	06-Oct-07
LOCATION	1447 Peninsula Drive, Wrangell, Alaska	**DRILLING COMPLETED**	06-Oct-07
PROJECT NUMBER	622235	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	David Mork	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Excavation with Backhoe	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	NA	**SCREENED INTERVAL**	NA
LOGGED BY	John Riggi	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	J. Riggi, CA PG# 7262	**DEPTH TO WATER (Static)**	NA
REMARKS	DTW varies from 3.5 fbg to 4.5 fbg in test pits.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
61.7		TP-1 @ 4.5'			PT		**PEAT**	0.5	
					ML		**SILT with clay:** Brown; moist; 60% silt, 40% clay; low estimated permeability; low to medium plasticity.	4.0	Native Fill
							BEDROCK: green schist; fractured.	4.5	Bottom of Boring @ 4.5 fbg

WELL LOG (PID) DENVER C:\DOCUMENTS AND SETTINGS\AVANDERPAARDT\DESKTOP\100-1467 TP-1 - TP-8 NOV 19 2007.GPJ DEFAULT.GDT 11/19/07

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	TP-2
JOB/SITE NAME	Former Chevron Bulk Terminal 100-1467	**DRILLING STARTED**	06-Oct-07
LOCATION	1447 Peninsula Drive, Wrangell, Alaska	**DRILLING COMPLETED**	06-Oct-07
PROJECT NUMBER	622235	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	David Mork	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Excavation with Backhoe	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	NA	**SCREENED INTERVAL**	NA
LOGGED BY	John Riggi	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	J. Riggi, CA PG# 7262	**DEPTH TO WATER (Static)**	NA
REMARKS	DTW varies from 3.5 fbg to 4.5 fbg in test pits.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
53.7		TP-2 @ 5'			PT		**PEAT**	0.5	
					ML		**SILT with clay:** Brown; moist; 60% silt, 40% clay; low estimated permeability; low to medium plasticity.		Native Fill
				5			**BEDROCK:** green schist; fractured.	5.0 5.5	Bottom of Boring @ 5.5 fbg

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	TP-3
JOB/SITE NAME	Former Chevron Bulk Terminal 100-1467	**DRILLING STARTED**	06-Oct-07
LOCATION	1447 Peninsula Drive, Wrangell, Alaska	**DRILLING COMPLETED**	06-Oct-07
PROJECT NUMBER	622235	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	David Mork	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Excavation with Backhoe	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	NA	**SCREENED INTERVAL**	NA
LOGGED BY	John Riggi	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	J. Riggi, CA PG# 7262	**DEPTH TO WATER (Static)**	NA
REMARKS	DTW varies from 3.5 fbg to 4.5 fbg in test pits.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							FILL	2.0	
83		TP-3 @ 4'			ML		**SILT with clay:** Brown; moist; 60% silt, 40% clay; low estimated permeability; low to medium plasticity.	4.0	Native Fill
							BEDROCK: green schist; fractured.	4.5	Bottom of Boring @ 4.5 fbg

WELL LOG (PID) DENVER C:\DOCUMENTS AND SETTINGS\AVANDERPAARDT\DESKTOP\100-1467 TP-1 - TP-8_NOV 19 2007.GPJ DEFAULT.GDT 11/19/07

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	TP-4
JOB/SITE NAME	Former Chevron Bulk Terminal 100-1467	**DRILLING STARTED**	06-Oct-07
LOCATION	1447 Peninsula Drive, Wrangell, Alaska	**DRILLING COMPLETED**	06-Oct-07
PROJECT NUMBER	622235	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	David Mork	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Excavation with Backhoe	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	NA	**SCREENED INTERVAL**	NA
LOGGED BY	John Riggi	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	J. Riggi, CA PG# 7262	**DEPTH TO WATER (Static)**	NA
REMARKS	DTW varies from 3.5 fbg to 4.5 fbg in test pits.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
98		TP-4 @ 2.5'			ML		**SILT with clay:** Brown; moist; 60% silt, 40% clay; low estimated permeability; low to medium plasticity.	3.5	Native Fill
							BEDROCK: green schist; fractured.	4.0	Bottom of Boring @ 4 fbg

WELL LOG (PID) DENVER C:\DOCUMENTS AND SETTINGS\AVANDERPAARDT\DESKTOP\100-1467 TP-1 - TP-8_NOV 19 2007.GPJ DEFAULT.GDT 11/19/07

Conestoga-Rovers & Associates
2828 North Speer Blvd., Suite 140
Denver, CO 80211
Telephone: (303) 433-3650
Fax: (303) 433-3974

BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	TP-5
JOB/SITE NAME	Former Chevron Bulk Terminal 100-1467	**DRILLING STARTED**	06-Oct-07
LOCATION	1447 Peninsula Drive, Wrangell, Alaska	**DRILLING COMPLETED**	06-Oct-07
PROJECT NUMBER	622235	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	David Mork	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Excavation with Backhoe	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	NA	**SCREENED INTERVAL**	NA
LOGGED BY	John Riggi	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	J. Riggi, CA PG# 7262	**DEPTH TO WATER (Static)**	NA
REMARKS	DTW varies from 3.5 fbg to 4.5 fbg in test pits.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					ML		**SILT with clay:** Brown; moist; 60% silt, 40% clay; low estimated permeability; low to medium plasticity.	4.0	Native Fill
60.7		TP-5 @ 5'		5			**BEDROCK:** green schist; fractured.	5.0	Bottom of Boring @ 5 fbg

WELL LOG (PID) DENVER C:\DOCUMENTS AND SETTINGS\VANDERPAARDT\DESKTOP\100-1467 TP-1 - TP-8_NOV 19 2007.GPJ DEFAULT.GDT 11/19/07

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	TP-6
JOB/SITE NAME	Former Chevron Bulk Terminal 100-1467	**DRILLING STARTED**	06-Oct-07
LOCATION	1447 Peninsula Drive, Wrangell, Alaska	**DRILLING COMPLETED**	06-Oct-07
PROJECT NUMBER	622235	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	David Mork	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Excavation with Backhoe	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	NA	**SCREENED INTERVAL**	NA
LOGGED BY	John Riggi	**DEPTH TO WATER (First Encountered)**	NA ▽
REVIEWED BY	J. Riggi, CA PG# 7262	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	DTW varies from 3.5 fbg to 4.5 fbg in test pits.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
51		TP-6 @ 4'			ML		**SILT with clay:** Brown; moist; 60% silt, 40% clay; low estimated permeability; low to medium plasticity.	4.0	Native Fill Bottom of Boring @ 4 fbg

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	TP-7
JOB/SITE NAME	Former Chevron Bulk Terminal 100-1467	**DRILLING STARTED**	06-Oct-07
LOCATION	1447 Peninsula Drive, Wrangell, Alaska	**DRILLING COMPLETED**	06-Oct-07
PROJECT NUMBER	622235	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	David Mork	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Excavation with Backhoe	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	NA	**SCREENED INTERVAL**	NA
LOGGED BY	John Riggi	**DEPTH TO WATER (First Encountered)**	NA ▽
REVIEWED BY	J. Riggi, CA PG# 7262	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	DTW varies from 3.5 fbg to 4.5 fbg in test pits.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
		TP-7 @ 4'			ML		**SILT with clay:** Brown; moist; 60% silt, 40% clay; low estimated permeability; low to medium plasticity.	4.0	Native Fill Bottom of Boring @ 4 fbg

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BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	TP-8
JOB/SITE NAME	Former Chevron Bulk Terminal 100-1467	**DRILLING STARTED**	06-Oct-07
LOCATION	1447 Peninsula Drive, Wrangell, Alaska	**DRILLING COMPLETED**	06-Oct-07
PROJECT NUMBER	622235	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	David Mork	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Excavation with Backhoe	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	NA	**SCREENED INTERVAL**	NA
LOGGED BY	John Riggi	**DEPTH TO WATER (First Encountered)**	NA ▽
REVIEWED BY	J. Riggi, CA PG# 7262	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	DTW varies from 3.5 fbg to 4.5 fbg in test pits.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
		TP-8 @ 4'			ML		**SILT with clay:** Brown; moist; 60% silt, 40% clay; low estimated permeability; low to medium plasticity.	4.0	Native Fill Bottom of Boring @ 4 fbg

Boring/Well Log Legend

KEY TO SYMBOLS/ABBREVIATIONS

- First encountered groundwater
- Static groundwater
- Soils logged by hand-auger or air-knife cuttings
- Soils logged by drill cuttings or disturbed sample
- Undisturbed soil sample interval
- Soil sample retained for submittal to analytical laboratory
- No recovery within interval
- Hydropunch screen interval

PID = Photo-ionization detector or organic vapor meter reading in parts per million (ppm)

fbg = Feet below grade

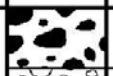
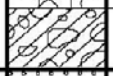
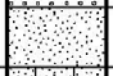
Blow Counts = Number of blows required to drive a California-modified split-spoon sampler using a 140-pound hammer falling freely 30 inches, recorded per 6-inch interval of a total 18-inch sample interval

(10YR 4/4) = Soil color according to Munsell Soil Color Charts

msl = Mean sea level

Soils logged according to the USCS.

UNIFIED SOILS CLASSIFICATION SYSTEM (USCS) SUMMARY

Major Divisions			Graphic	Group Symbol	Typical Description
Coarse-Grained Soils (>50% Sands and/or Gravels)	Gravel and Gravelly Soils	Clean Gravels (≤5% fines)		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
				GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
		Gravels with Fines (≥15% fines)		GM	Silty gravels, gravel-sand-silt mixtures
				GC	Clayey gravels, gravel-sand-clay mixtures
	Sand and Sandy Soils	Clean Sands (≤5% fines)		SW	Well-graded sands, gravelly sands, little or no fines
				SP	Poorly-graded sands, gravelly sand, little or no fines
		Sands with Fines (≥15% fines)		SM	Silty sands, sand-silt mixtures
				SC	Clayey sands, sand-clay mixtures
Fine-Grained Soils (>50% Silts and/or Clays)	Silts and Clays			ML	Inorganic silts, very fine sands, silty or clayey fine sands, clayey silts with slight plasticity
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
				OL	Organic silts and organic silty clays of low plasticity
	Silts and Clays			MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils
				CH	Inorganic clays of high plasticity
				OH	Organic clays of medium to high plasticity, organic silts
Highly Organic Soils				PT	Peat, humus, swamp soils with high organic contents

CRA
CONESTOGA-ROVERS & ASSOCIATES

Attachment B

Department of Natural Resources Water Well Logs

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
WATER WELL LOG

Drilling Started: 9 / 12 / 2007, Completed: 9 / 12 / 2007

City/Borough:	Subdivision:	BLOCK	LOT	Property Owner Name & Address:
				Chevron Environmental Management Company, 6001 Bollinger Canyon Road, Room K2200, San Ramon, California 94583

Meridian Copper River Township _____ Range _____ Section _____, ____ 1/4 of ____ 1/4 of ____ 1/4 of ____ 1/4

BOREHOLE DATA: (from ground surface) **Depth**

Material: Type, Color & wetness	From	To
Bentonite	0 ft	3.5 ft

Drilling method: ☐ Air rotary, ☐ Cable tool ☒ Other Manual

Well use: ☐ Public supply, ☐ Domestic, ☒ Other Environmental

Depth of hole: 3.5 ft, Casing stickup: _____ ft

Casing type: PVC Thickness _____ inches

Casing diameter: 2 inches Casing depth 3.5 ft

Liner type: _____ Diameter: _____ inches Depth: _____ ft

Note: .....

Static water (from top of casing): 4.25 ft on 5 / 22 / 2007

Pumping level & yield: _____ feet after _____ hours at _____ gpm

Recovery rate: _____ gpm, Method of testing: _____

Development method: _____ Duration: _____

Well intake opening type: ☐ Open end ☐ Open hole, Other ☒

☒ Screened; Start: 2 ft, Stopped 3.5 ft

Screen type: _____ Slot/mesh size 0.020

☐ Perforated; Start: _____ ft, Stopped _____ ft

Start: _____ ft, Stopped _____ ft

Gravel packed ☐ Yes ☒ No From _____ ft to _____ ft

Note: .....

Grout type: Bentonite Volume _____

Depth; from 0 ft, to 3.5 ft

Pump intake depth: _____ ft

Pump size _____ hp Brand name _____

Was well disinfected upon completion? ☐ Yes ☐ No

Method of disinfection: .....

Driller comments/ disclaimers: Well Decommisioned

.....

.....

Well driller name: Well abandoned manually

Company name: .....

Mailing address: .....

City: _____ State: AK Zip _____

Phone number : (_____) _____ - _____

Drillers signature:

Date: ____/____/_____

Alaska state law requires that a copy of this well log be forwarded to the Department of Natural Resources within 45 days (AK statutes 38.05.020, 38.05.035, 41.08.020, 46.15.020 and AK regulations 11 AAC 93.140). Faxes are acceptable.

Alaska DNR, Division of Mining, Land and Water,
550 W 7th Avenue, Suite 1020
Anchorage, AK 99501-3562

Phone (907)269-8639 and fax (907)269-8947

If the well is within city limits, the City of Anchorage requires that a copy of this well log be forwarded to the city within 60 days and another copy of this log be forwarded to the owner of the property, on which the well is located, within 30 days.

City Permit Number: _____

Date of Issue: ____/____/_____

Parcel Identification Number: _____-_____-_____

Is well located at approved permit location? Yes ☐ or No ☐

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
WATER WELL LOG

Drilling Started: 9 / 12 / 2007, Completed: 9 / 12 / 2007

City/Borough:	Subdivision:	BLOCK	LOT	Property Owner Name & Address:
				Chevron Environmental Management Company, 6001 Bollinger Canyon Road, Room K2200, San Ramon, California 94583

Meridian Copper River Township _____ Range _____ Section _____, ____ 1/4 of ____ 1/4 of ____ 1/4 of ____ 1/4

BOREHOLE DATA: (from ground surface) **Depth**

Material: Type, Color & wetness	From	To
Bentonite	0 ft	4.8 ft

Drilling method: ☐ Air rotary, ☐ Cable tool ☒ Other Manual

Well use: ☐ Public supply, ☐ Domestic, ☒ Other Environmental

Depth of hole: 4.8 ft, Casing stickup: _____ ft

Casing type: PVC Thickness _____ inches

Casing diameter: 2 inches Casing depth 4.8 ft

Liner type: _____ Diameter: _____ inches Depth: _____ ft

Note: .....

Static water (from top of casing): 1.87 ft on 5 / 22 / 2007

Pumping level & yield: _____ feet after _____ hours at _____ gpm

Recovery rate: _____ gpm, Method of testing: _____

Development method: _____ Duration: _____

Well intake opening type: ☐ Open end ☐ Open hole, Other ☒

☒ Screened; Start: 2 ft, Stopped 4.8 ft

Screen type: _____ Slot/mesh size 0.020

☐ Perforated; Start: _____ ft, Stopped _____ ft

Start: _____ ft, Stopped _____ ft

Gravel packed ☐ Yes ☒ No From _____ ft to _____ ft

Note: .....

Grout type: Bentonite Volume _____

Depth; from 0 ft, to 4.8 ft

Pump intake depth: _____ ft

Pump size _____ hp Brand name _____

Was well disinfected upon completion? ☐ Yes ☐ No

Method of disinfection: .....

Driller comments/ disclaimers: Well Decommisioned

.....

.....

Well driller name: Well abandoned manually

Company name: .....

Mailing address: .....

City: _____ State: AK Zip _____

Phone number : (_____) _____ - _____

Drillers signature:

Date: _____/_____/_____

Alaska state law requires that a copy of this well log be forwarded to the Department of Natural Resources within 45 days (AK statutes 38.05.020, 38.05.035, 41.08.020, 46.15.020 and AK regulations 11 AAC 93.140). Faxes are acceptable.

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City Permit Number: _____

Date of Issue: _____/____/_____

Parcel Identification Number: _____-_____-_____

Is well located at approved permit location? Yes ☐ or No ☐

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
WATER WELL LOG

Drilling Started: 9 / 12 / 2007, Completed: 9 / 12 / 2007

City/Borough:	Subdivision:	BLOCK	LOT	Property Owner Name & Address:
				Chevron Environmental Management Company, 6001 Bollinger Canyon Road, Room K2200, San Ramon, California 94583

Meridian Copper River Township _____ Range _____ Section _____, ____ 1/4 of ____ 1/4 of ____ 1/4 of ____ 1/4

BOREHOLE DATA: (from ground surface) **Depth**

Material: Type, Color & wetness	From	To
Bentonite	0 ft	6.5 ft

Drilling method: ☐ Air rotary, ☐ Cable tool ☒ Other Manual
Well use: ☐ Public supply, ☐ Domestic, ☒ Other Environmental

Depth of hole: 6.5 ft, Casing stickup: _____ ft
Casing type: PVC Thickness _____ inches
Casing diameter: 2 inches Casing depth 6.5 ft
Liner type: _____ Diameter: _____ inches Depth: _____ ft
Note: .....

Static water (from top of casing): 0.76 ft on 5 / 22 / 2007
Pumping level & yield: _____ feet after _____ hours at _____ gpm
Recovery rate: _____ gpm, Method of testing: _____
Development method: _____ Duration: _____

Well intake opening type: ☐ Open end ☐ Open hole, Other ☒
☒ Screened; Start: 2 ft, Stopped 6.5 ft
Screen type: _____ Slot/mesh size 0.020
☐ Perforated; Start: _____ ft, Stopped _____ ft
Start: _____ ft, Stopped _____ ft
Gravel packed ☐ Yes ☒ No From _____ ft to _____ ft
Note: .....

Grout type: Bentonite Volume _____
Depth; from 0 ft, to 6.5 ft

Pump intake depth: _____ ft
Pump size _____ hp Brand name _____

Was well disinfected upon completion? ☐ Yes ☐ No
Method of disinfection: .....

Driller comments/ disclaimers: Well Decommisioned
.....
.....

Well driller name: Well abandoned manually
Company name: .....
Mailing address: .....
City: _____ State: AK Zip _____
Phone number : (_____) _____ - _____

Drillers signature:
Date: _____/_____/_____

Alaska state law requires that a copy of this well log be forwarded to the Department of Natural Resources within 45 days (AK statutes 38.05.020, 38.05.035, 41.08.020, 46.15.020 and AK regulations 11 AAC 93.140). Faxes are acceptable.

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City Permit Number: _____
Date of Issue: _____/____/_____

Parcel Identification Number: _____-_____-_____

Is well located at approved permit location? Yes ☐ or No ☐

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
WATER WELL LOG

Drilling Started: 9 / 12 / 2007, Completed: 9 / 12 / 2007

City/Borough:	Subdivision:	BLOCK	LOT	Property Owner Name & Address:
				Chevron Environmental Management Company, 6001 Bollinger Canyon Road, Room K2200, San Ramon, California 94583

Meridian Copper River Township _____ Range _____ Section _____, ____ 1/4 of ____ 1/4 of ____ 1/4 of ____ 1/4

BOREHOLE DATA: (from ground surface) **Depth**

Material: Type, Color & wetness	From	To
Bentonite	0 ft	6.3 ft

Drilling method: ☐ Air rotary, ☐ Cable tool ☒ Other Manual

Well use: ☐ Public supply, ☐ Domestic, ☒ Other Environmental

Depth of hole: 6.3 ft, Casing stickup: _____ ft

Casing type: PVC Thickness _____ inches

Casing diameter: 2 inches Casing depth 6.3 ft

Liner type: _____ Diameter: _____ inches Depth: _____ ft

Note: .....

Static water (from top of casing): 5.64 ft on 5 / 22 / 2007

Pumping level & yield: _____ feet after _____ hours at _____ gpm

Recovery rate: _____ gpm, Method of testing: _____

Development method: _____ Duration: _____

Well intake opening type: ☐ Open end ☐ Open hole, Other ☒

☒ Screened; Start: 2 ft, Stopped 6.3 ft

Screen type: _____ Slot/mesh size 0.020

☐ Perforated; Start: _____ ft, Stopped _____ ft

Start: _____ ft, Stopped _____ ft

Gravel packed ☐ Yes ☒ No From _____ ft to _____ ft

Note: .....

Grout type: Bentonite Volume _____

Depth; from 0 ft, to 6.3 ft

Pump intake depth: _____ ft

Pump size _____ hp Brand name _____

Was well disinfected upon completion? ☐ Yes ☐ No

Method of disinfection: .....

Driller comments/ disclaimers: Well Decommisioned .....

.....

.....

Well driller name: Well abandoned manually .....

Company name: .....

Mailing address: .....

City: _____ State: AK Zip _____

Phone number : (_____) _____ - _____

Drillers signature:

Date: ____/____/_____

Alaska state law requires that a copy of this well log be forwarded to the Department of Natural Resources within 45 days (AK statutes 38.05.020, 38.05.035, 41.08.020, 46.15.020 and AK regulations 11 AAC 93.140). Faxes are acceptable.

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City Permit Number: _____

Date of Issue: ____/____/_____

Parcel Identification Number: _____-_____-_____

Is well located at approved permit location? Yes ☐ or No ☐

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
WATER WELL LOG

Drilling Started: 9 / 11 / 2007, Completed: 9 / 11 / 2007

City/Borough:	Subdivision:	BLOCK	LOT	Property Owner Name & Address:
				Chevron Environmental Management Company, 6001 Bollinger Canyon Road, Room K2200, San Ramon, California 94583

Meridian Copper River Township _____ Range _____ Section _____, ____ 1/4 of ____ 1/4 of ____ 1/4 of ____ 1/4

BOREHOLE DATA: (from ground surface) **Depth**

Material: Type, Color & wetness	From	To
Bentonite	0 ft	4.1 ft

Drilling method: ☐ Air rotary, ☐ Cable tool ☒ Other Manual

Well use: ☐ Public supply, ☐ Domestic, ☒ Other Environmental

Depth of hole: 4.1 ft, Casing stickup: _____ ft

Casing type: PVC Thickness _____ inches

Casing diameter: 2 inches Casing depth 4.1 ft

Liner type: _____ Diameter: _____ inches Depth: _____ ft

Note: .....

Static water (from top of casing): 3.97 ft on 5 / 22 / 2007

Pumping level & yield: _____ feet after _____ hours at _____ gpm

Recovery rate: _____ gpm, Method of testing: _____

Development method: _____ Duration: _____

Well intake opening type: ☐ Open end ☐ Open hole, Other ☒

☒ Screened; Start: 2 ft, Stopped 4.1 ft

Screen type: _____ Slot/mesh size 0.020

☐ Perforated; Start: _____ ft, Stopped _____ ft

Start: _____ ft, Stopped _____ ft

Gravel packed ☐ Yes ☒ No From _____ ft to _____ ft

Note: .....

Grout type: Bentonite Volume _____

Depth; from 0 ft, to 4.1 ft

Pump intake depth: _____ ft

Pump size _____ hp Brand name _____

Was well disinfected upon completion? ☐ Yes ☐ No

Method of disinfection: .....

Driller comments/ disclaimers: Well Decommisioned

.....

.....

Well driller name: Well abandoned manually

Company name: .....

Mailing address: .....

City: _____ State: AK Zip _____

Phone number : (_____) _____ - _____

Drillers signature:

Date: _____/_____/_____

Alaska state law requires that a copy of this well log be forwarded to the Department of Natural Resources within 45 days (AK statutes 38.05.020, 38.05.035, 41.08.020, 46.15.020 and AK regulations 11 AAC 93.140). Faxes are acceptable.

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City Permit Number: _____

Date of Issue: _____/____/_____

Parcel Identification Number: _____-_____-_____

Is well located at approved permit location? Yes ☐ or No ☐

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
WATER WELL LOG

Drilling Started: 9 / 11 / 2007, Completed: 9 / 11 / 2007

City/Borough:	Subdivision:	BLOCK	LOT	Property Owner Name & Address:
				Chevron Environmental Management Company, 6001 Bollinger Canyon Road, Room K2200, San Ramon, California 94583

Meridian Copper River Township _____ Range _____ Section _____, ____ 1/4 of ____ 1/4 of ____ 1/4 of ____ 1/4

BOREHOLE DATA: (from ground surface) Material: Type, Color & wetness	Depth From	Depth To
Bentonite	0 ft	6.5 ft

Drilling method: ☐ Air rotary, ☐ Cable tool ☒ Other Manual
Well use: ☐ Public supply, ☐ Domestic, ☒ Other Environmental

Depth of hole: 6.5 ft, Casing stickup: _____ ft
Casing type: PVC Thickness _____ inches
Casing diameter: 2 inches Casing depth 6.5 ft
Liner type: _____ Diameter: _____ inches Depth: _____ ft
Note: .....

Static water (from top of casing): 3.02 ft on 5 / 22 / 2007
Pumping level & yield: _____ feet after _____ hours at _____ gpm
Recovery rate: _____ gpm, Method of testing: _____
Development method: _____ Duration: _____

Well intake opening type: ☐ Open end ☐ Open hole, Other ☒
☒ Screened; Start: 2 ft, Stopped 6.5 ft
Screen type: _____ Slot/mesh size 0.020
☐ Perforated; Start: _____ ft, Stopped _____ ft
Start: _____ ft, Stopped _____ ft
Gravel packed ☐ Yes ☒ No From _____ ft to _____ ft
Note: .....

Grout type: Bentonite Volume _____
Depth; from 0 ft, to 6.5 ft

Pump intake depth: _____ ft
Pump size _____ hp Brand name _____

Was well disinfected upon completion? ☐ Yes ☐ No
Method of disinfection: .....

Driller comments/ disclaimers: Well Decommisioned
.....
.....

Well driller name: Well abandoned manually
Company name: .....
Mailing address: .....
City: _____ State: AK Zip _____
Phone number : (_____) _____ - _____

Drillers signature:
Date: _____/_____/_____

Alaska state law requires that a copy of this well log be forwarded to the Department of Natural Resources within 45 days (AK statutes 38.05.020, 38.05.035, 41.08.020, 46.15.020 and AK regulations 11 AAC 93.140). Faxes are acceptable.

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Anchorage, AK 99501-3562

Phone (907)269-8639 and fax (907)269-8947

If the well is within city limits, the City of Anchorage requires that a copy of this well log be forwarded to the city within 60 days and another copy of this log be forwarded to the owner of the property, on which the well is located, within 30 days.

City Permit Number: _____
Date of Issue: _____/_____/_____

Parcel Identification Number: _____-_____-_____

Is well located at approved permit location? Yes ☐ or No ☐

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
WATER WELL LOG

Drilling Started: 9 / 11 / 2007, Completed: 9 / 11 / 2007

City/Borough:	Subdivision:	BLOCK	LOT	Property Owner Name & Address:
				Chevron Environmental Management Company, 6001 Bollinger Canyon Road, Room K2200, San Ramon, California 94583

Meridian Copper River Township _____ Range _____ Section _____, ____ 1/4 of ____ 1/4 of ____ 1/4 of ____ 1/4

BOREHOLE DATA: (from ground surface) **Depth**

Material: Type, Color & wetness	From	To
Bentonite	0 ft	5.3 ft

Drilling method: ☐ Air rotary, ☐ Cable tool ☒ Other Manual
Well use: ☐ Public supply, ☐ Domestic, ☒ Other Environmental

Depth of hole: 5.3 ft, Casing stickup: _____ ft
Casing type: PVC Thickness _____ inches
Casing diameter: 2 inches Casing depth 5.3 ft
Liner type: _____ Diameter: _____ inches Depth: _____ ft
Note: .....

Static water (from top of casing): 7.03 ft on 5 / 22 / 2007
Pumping level & yield: _____ feet after _____ hours at _____ gpm
Recovery rate: _____ gpm, Method of testing: _____
Development method: _____ Duration: _____

Well intake opening type: ☐ Open end ☐ Open hole, Other ☒
☒ Screened; Start: 2 ft, Stopped 5.3 ft
Screen type: _____ Slot/mesh size 0.020
☐ Perforated; Start: _____ ft, Stopped _____ ft
Start: _____ ft, Stopped _____ ft
Gravel packed ☐ Yes ☒ No From _____ ft to _____ ft
Note: .....

Grout type: Bentonite Volume _____
Depth; from 0 ft, to 5.3 ft

Pump intake depth: _____ ft
Pump size _____ hp Brand name _____

Was well disinfected upon completion? ☐ Yes ☐ No
Method of disinfection: .....

Driller comments/ disclaimers: Well Decommisioned
.....
.....

Well driller name: Well abandoned manually
Company name: .....
Mailing address: .....
City: _____ State: AK Zip _____
Phone number : (_____) _____ - _____

Drillers signature:
Date: _____/_____/_____

Alaska state law requires that a copy of this well log be forwarded to the Department of Natural Resources within 45 days (AK statutes 38.05.020, 38.05.035, 41.08.020, 46.15.020 and AK regulations 11 AAC 93.140). Faxes are acceptable.

Alaska DNR, Division of Mining, Land and Water,
550 W 7th Avenue, Suite 1020
Anchorage, AK 99501-3562

Phone (907)269-8639 and fax (907)269-8947

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City Permit Number: _____
Date of Issue: _____/____/_____

Parcel Identification Number: _____-_____-_____

Is well located at approved permit location? Yes ☐ or No ☐

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
WATER WELL LOG

Drilling Started: 9 / 11 / 2007, Completed: 9 / 11 / 2007

City/Borough:	Subdivision:	BLOCK	LOT	Property Owner Name & Address:
				Chevron Environmental Management Company, 6001 Bollinger Canyon Road, Room K2200, San Ramon, California 94583

Meridian Copper River Township _____ Range _____ Section _____, ____ 1/4 of ____ 1/4 of ____ 1/4 of ____ 1/4

BOREHOLE DATA: (from ground surface) **Depth**

Material: Type, Color & wetness	From	To
Bentonite	0 ft	3 ft

Drilling method: ☐ Air rotary, ☐ Cable tool ☒ Other Manual
Well use: ☐ Public supply, ☐ Domestic, ☒ Other Environmental

Depth of hole: 3 ft, Casing stickup: _____ ft
Casing type: PVC Thickness _____ inches
Casing diameter: 2 inches Casing depth 3 ft
Liner type: _____ Diameter: _____ inches Depth: _____ ft
Note: .....

Static water (from top of casing): 3.04 ft on 5 / 22 / 2007
Pumping level & yield: _____ feet after _____ hours at _____ gpm
Recovery rate: _____ gpm, Method of testing: _____
Development method: _____ Duration: _____

Well intake opening type: ☐ Open end ☐ Open hole, Other ☒
☒ Screened; Start: 1.5 ft, Stopped 3 ft
Screen type: _____ Slot/mesh size 0.020
☐ Perforated; Start: _____ ft, Stopped _____ ft
Start: _____ ft, Stopped _____ ft
Gravel packed ☐ Yes ☒ No From _____ ft to _____ ft
Note: .....

Grout type: Bentonite Volume _____
Depth; from 0 ft, to 3 ft

Pump intake depth: _____ ft
Pump size _____ hp Brand name _____

Was well disinfected upon completion? ☐ Yes ☐ No
Method of disinfection: .....

Driller comments/ disclaimers: Well Decommisioned
.....
.....

Well driller name: Well abandoned manually
Company name: .....
Mailing address: .....
City: _____ State: AK Zip _____
Phone number : (_____) _____ - _____

Drillers signature:
Date: ____/____/_____

Alaska state law requires that a copy of this well log be forwarded to the Department of Natural Resources within 45 days (AK statutes 38.05.020, 38.05.035, 41.08.020, 46.15.020 and AK regulations 11 AAC 93.140). Faxes are acceptable.

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City Permit Number: _____
Date of Issue: ____/____/_____

Parcel Identification Number: _____-_____-_____

Is well located at approved permit location? Yes ☐ or No ☐

Attachment C

Laboratory Analytical Report

TestAmerica
ANALYTICAL TESTING CORPORATION

ANCHORAGE, AK 2000 W INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210

October 23, 2007

Nicholas Greco
Conestoga-Rovers & Associates
2828 North Speer Blvd., Suite 140
Denver, CO 80211

RE: 100-1467

Enclosed are the results of analyses for samples received by the laboratory on 10/09/07 15:50. The following list is a summary of the Work Orders contained in this report, generated on 10/23/07 15:08.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
AQJ0065	100-1467	100-1467

TestAmerica - Anchorage, AK

Troy J. Engstrom, Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210

Conestoga-Rovers & Associates	Project Name:	**100-1467**	
2828 North Speer Blvd., Suite 140	Project Number:	100-1467	Report Created:
Denver, CO 80211	Project Manager:	Nicholas Greco	10/23/07 15:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TP-1-07-4.5	AQJ0065-01	Soil	10/06/07 09:30	10/09/07 15:50
TP-2-07-5.0	AQJ0065-02	Soil	10/06/07 10:00	10/09/07 15:50
TP-3-07-4.0	AQJ0065-03	Soil	10/06/07 10:20	10/09/07 15:50
TP-4-07-2.5	AQJ0065-04	Soil	10/06/07 11:00	10/09/07 15:50
TP-5-07-5.0	AQJ0065-05	Soil	10/06/07 11:30	10/09/07 15:50
TP-6-07-3.0	AQJ0065-06	Soil	10/06/07 12:20	10/09/07 15:50
TP-7-07-3.5	AQJ0065-07	Soil	10/06/07 12:40	10/09/07 15:50
TP-8-07-4.0	AQJ0065-08	Soil	10/06/07 13:00	10/09/07 15:50
Dup-1	AQJ0065-09	Soil	10/06/07 00:00	10/09/07 15:50
Trip Blank	AQJ0065-10	Soil	10/06/07 08:00	10/09/07 15:50

TestAmerica - Anchorage, AK

Troy J. Engstrom, Manager

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ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210

Conestoga-Rovers & Associates	Project Name: **100-1467**	
2828 North Speer Blvd., Suite 140	Project Number: 100-1467	Report Created:
Denver, CO 80211	Project Manager: Nicholas Greco	10/23/07 15:08

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

TestAmerica - Anchorage, AK

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
AQJ0065-01 (TP-1-07-4.5)		**Soil**			**Sampled: 10/06/07 09:30**					
Diesel Range Organics	AK102/103	ND	-----	20.0	mg/kg dry	1x	7100105	10/18/07 16:03	10/21/07 11:27	
Residual Range Organics	"	ND	-----	50.0	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*95.4%*		*50 - 150 %*	"			"	
Triacontane			*95.8%*		*50 - 150 %*	"			"	
AQJ0065-02 (TP-2-07-5.0)		**Soil**			**Sampled: 10/06/07 10:00**					
Diesel Range Organics	AK102/103	**56.1**	-----	20.0	mg/kg dry	1x	7100105	10/18/07 16:03	10/21/07 12:34	
Residual Range Organics	"	**51.5**	-----	50.0	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*94.5%*		*50 - 150 %*	"			"	
Triacontane			*95.7%*		*50 - 150 %*	"			"	
AQJ0065-03 (TP-3-07-4.0)		**Soil**			**Sampled: 10/06/07 10:20**					
Diesel Range Organics	AK102/103	**268**	-----	41.2	mg/kg dry	1x	7100105	10/18/07 16:03	10/21/07 13:07	
Residual Range Organics	"	**206**	-----	103	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*89.6%*		*50 - 150 %*	"			"	
Triacontane			*86.8%*		*50 - 150 %*	"			"	
AQJ0065-04 (TP-4-07-2.5)		**Soil**			**Sampled: 10/06/07 11:00**					
Diesel Range Organics	AK102/103	**26.9**	-----	20.0	mg/kg dry	1x	7100105	10/18/07 16:03	10/21/07 13:07	
Residual Range Organics	"	ND	-----	50.0	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*92.2%*		*50 - 150 %*	"			"	
Triacontane			*95.8%*		*50 - 150 %*	"			"	
AQJ0065-05 (TP-5-07-5.0)		**Soil**			**Sampled: 10/06/07 11:30**					
Diesel Range Organics	AK102/103	**68.6**	-----	20.0	mg/kg dry	1x	7100105	10/18/07 16:03	10/21/07 13:41	
Residual Range Organics	"	**110**	-----	50.0	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*90.9%*		*50 - 150 %*	"			"	
Triacontane			*91.3%*		*50 - 150 %*	"			"	
AQJ0065-06 (TP-6-07-3.0)		**Soil**			**Sampled: 10/06/07 12:20**					
Diesel Range Organics	AK102/103	**56.3**	-----	17.7	mg/kg dry	1x	7100105	10/18/07 16:03	10/21/07 13:41	
Residual Range Organics	"	ND	-----	44.3	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*87.3%*		*50 - 150 %*	"			"	
Triacontane			*94.8%*		*50 - 150 %*	"			"	

TestAmerica - Anchorage, AK

Troy J. Engstrom, Manager

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TestAmerica
ANALYTICAL TESTING CORPORATION

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210

Conestoga-Rovers & Associates	Project Name:	**100-1467**	
2828 North Speer Blvd., Suite 140	Project Number:	100-1467	Report Created:
Denver, CO 80211	Project Manager:	Nicholas Greco	10/23/07 15:08

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

TestAmerica - Anchorage, AK

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
AQJ0065-07 (TP-7-07-3.5)		**Soil**				**Sampled: 10/06/07 12:40**				
Diesel Range Organics	AK102/103	ND	-----	17.9	mg/kg dry	1x	7100105	10/18/07 16:03	10/21/07 14:14	
Residual Range Organics	"	ND	-----	44.8	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*94.3%*		*50 - 150 %*	"			"	
Triacontane			*93.9%*		*50 - 150 %*	"			"	
AQJ0065-08 (TP-8-07-4.0)		**Soil**				**Sampled: 10/06/07 13:00**				
Diesel Range Organics	AK102/103	ND	-----	15.9	mg/kg dry	1x	7100105	10/18/07 16:03	10/21/07 14:14	
Residual Range Organics	"	ND	-----	39.7	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*93.2%*		*50 - 150 %*	"			"	
Triacontane			*95.6%*		*50 - 150 %*	"			"	
AQJ0065-09 (Dup-1)		**Soil**				**Sampled: 10/06/07 00:00**				
Diesel Range Organics	AK102/103	ND	-----	20.0	mg/kg dry	1x	7100105	10/18/07 16:03	10/21/07 14:48	
Residual Range Organics	"	ND	-----	50.0	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*88.4%*		*50 - 150 %*	"			"	
Triacontane			*91.8%*		*50 - 150 %*	"			"	

TestAmerica - Anchorage, AK

Troy J. Engstrom, Manager

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Conestoga-Rovers & Associates	Project Name:	**100-1467**	
2828 North Speer Blvd., Suite 140	Project Number:	100-1467	Report Created:
Denver, CO 80211	Project Manager:	Nicholas Greco	10/23/07 15:08

Diesel Range (C10-C25) and Residual Range (C25-C36) Organics per AK102/RRO w/SG Cleanup

TestAmerica - Anchorage, AK

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
AQJ0065-01 (TP-1-07-4.5)		**Soil**				**Sampled: 10/06/07 09:30**				
Diesel Range Organics	AK102/103	ND	-----	50.0	mg/kg dry	2.5x	7100117	10/18/07 16:03	10/22/07 22:28	
Residual Range Organics	"	ND	-----	125	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*99.8%*		*50 - 150 %*	"			"	
Triacontane			*98.5%*		*50 - 150 %*	"			"	
AQJ0065-02 (TP-2-07-5.0)		**Soil**				**Sampled: 10/06/07 10:00**				
Diesel Range Organics	AK102/103	ND	-----	50.0	mg/kg dry	2.5x	7100117	10/18/07 16:03	10/23/07 00:08	
Residual Range Organics	"	ND	-----	125	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*93.8%*		*50 - 150 %*	"			"	
Triacontane			*93.4%*		*50 - 150 %*	"			"	
AQJ0065-03 (TP-3-07-4.0)		**Soil**				**Sampled: 10/06/07 10:20**				
Diesel Range Organics	AK102/103	**177**	-----	103	mg/kg dry	2.5x	7100117	10/18/07 16:03	10/23/07 00:08	
Residual Range Organics	"	ND	-----	258	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*90.2%*		*50 - 150 %*	"			"	
Triacontane			*91.0%*		*50 - 150 %*	"			"	
AQJ0065-04 (TP-4-07-2.5)		**Soil**				**Sampled: 10/06/07 11:00**				
Diesel Range Organics	AK102/103	ND	-----	50.0	mg/kg dry	2.5x	7100117	10/18/07 16:03	10/23/07 00:41	
Residual Range Organics	"	ND	-----	125	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*91.7%*		*50 - 150 %*	"			"	
Triacontane			*93.7%*		*50 - 150 %*	"			"	
AQJ0065-05 (TP-5-07-5.0)		**Soil**				**Sampled: 10/06/07 11:30**				
Diesel Range Organics	AK102/103	ND	-----	50.0	mg/kg dry	2.5x	7100117	10/18/07 16:03	10/23/07 00:41	
Residual Range Organics	"	ND	-----	125	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*97.9%*		*50 - 150 %*	"			"	
Triacontane			*95.2%*		*50 - 150 %*	"			"	
AQJ0065-06 (TP-6-07-3.0)		**Soil**				**Sampled: 10/06/07 12:20**				
Diesel Range Organics	AK102/103	ND	-----	44.3	mg/kg dry	2.5x	7100117	10/18/07 16:03	10/23/07 01:14	
Residual Range Organics	"	ND	-----	111	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*94.4%*		*50 - 150 %*	"			"	
Triacontane			*92.9%*		*50 - 150 %*	"			"	

TestAmerica - Anchorage, AK

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Troy J. Engstrom, Manager

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ANALYTICAL TESTING CORPORATION

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210

Conestoga-Rovers & Associates	Project Name:	**100-1467**	
2828 North Speer Blvd., Suite 140	Project Number:	100-1467	Report Created:
Denver, CO 80211	Project Manager:	Nicholas Greco	10/23/07 15:08

Diesel Range (C10-C25) and Residual Range (C25-C36) Organics per AK102/RRO w/SG Cleanup

TestAmerica - Anchorage, AK

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
AQJ0065-07 (TP-7-07-3.5)		**Soil**				**Sampled: 10/06/07 12:40**				
Diesel Range Organics	AK102/103	ND	-----	44.8	mg/kg dry	2.5x	7100117	10/18/07 16:03	10/23/07 01:14	
Residual Range Organics	"	ND	-----	112	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*96.9%*		*50 - 150 %*	"			"	
Triacontane			*94.6%*		*50 - 150 %*	"			"	
AQJ0065-08 (TP-8-07-4.0)		**Soil**				**Sampled: 10/06/07 13:00**				
Diesel Range Organics	AK102/103	ND	-----	39.7	mg/kg dry	2.5x	7100117	10/18/07 16:03	10/23/07 01:48	
Residual Range Organics	"	ND	-----	99.3	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*89.4%*		*50 - 150 %*	"			"	
Triacontane			*75.2%*		*50 - 150 %*	"			"	
AQJ0065-09 (Dup-1)		**Soil**				**Sampled: 10/06/07 00:00**				
Diesel Range Organics	AK102/103	ND	-----	50.0	mg/kg dry	2.5x	7100117	10/18/07 16:03	10/23/07 01:48	
Residual Range Organics	"	ND	-----	125	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*88.9%*		*50 - 150 %*	"			"	
Triacontane			*90.2%*		*50 - 150 %*	"			"	

TestAmerica - Anchorage, AK

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ANCHORAGE, AK 99502-1119
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Conestoga-Rovers & Associates	Project Name:	**100-1467**	
2828 North Speer Blvd., Suite 140	Project Number:	100-1467	Report Created:
Denver, CO 80211	Project Manager:	Nicholas Greco	10/23/07 15:08

Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
AQJ0065-01 (TP-1-07-4.5)		**Soil**			**Sampled: 10/06/07 09:30**					
Gasoline Range Hydrocarbons	AK 101	ND	-----	16.7	mg/kg dry	5x	7J16033	10/16/07 10:18	10/17/07 06:43	
Benzene	"	**0.217**	-----	0.0670	"	"	"	"	"	
Toluene	"	ND	-----	0.167	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.167	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.335	"	"	"	"	"	
Surrogate(s): a,a,a-TFT (FID)			*92.7%*		*50 - 150 %*	"			"	
4-BFB (FID)			*82.2%*		*60 - 120 %*	*1x*			"	
a,a,a-TFT (PID)			*107%*		*50 - 150 %*	*5x*			"	
4-BFB (PID)			*105%*		*60 - 120 %*	*1x*			"	
AQJ0065-02 (TP-2-07-5.0)		**Soil**			**Sampled: 10/06/07 10:00**					
Gasoline Range Hydrocarbons	AK 101	ND	-----	4.63	mg/kg dry	1x	7J16033	10/16/07 10:18	10/16/07 19:10	
Benzene	"	**0.0192**	-----	0.0185	"	"	"	"	"	
Toluene	"	ND	-----	0.0463	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0463	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0927	"	"	"	"	"	
Surrogate(s): a,a,a-TFT (FID)			*84.9%*		*50 - 150 %*	"			"	
4-BFB (FID)			*84.3%*		*60 - 120 %*	"			"	
a,a,a-TFT (PID)			*97.1%*		*50 - 150 %*	"			"	
4-BFB (PID)			*103%*		*60 - 120 %*	"			"	
AQJ0065-03 (TP-3-07-4.0)		**Soil**			**Sampled: 10/06/07 10:20**					
Gasoline Range Hydrocarbons	AK 101	**7.90**	-----	5.81	mg/kg dry	1x	7J16033	10/16/07 10:18	10/17/07 03:59	
Benzene	"	**0.142**	-----	0.0232	"	"	"	"	"	
Toluene	"	ND	-----	0.0581	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0581	"	"	"	"	"	
Xylenes (total)	"	**0.147**	-----	0.116	"	"	"	"	"	
Surrogate(s): a,a,a-TFT (FID)			*49.1%*		*50 - 150 %*	"			"	***ZX***
4-BFB (FID)			*87.4%*		*60 - 120 %*	"			"	
a,a,a-TFT (PID)			*54.8%*		*50 - 150 %*	"			"	
4-BFB (PID)			*103%*		*60 - 120 %*	"			"	

TestAmerica - Anchorage, AK

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ANCHORAGE, AK 99502-1119
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Conestoga-Rovers & Associates	Project Name:	**100-1467**	
2828 North Speer Blvd., Suite 140	Project Number:	100-1467	Report Created:
Denver, CO 80211	Project Manager:	Nicholas Greco	10/23/07 15:08

Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
AQJ0065-04 (TP-4-07-2.5)		**Soil**			**Sampled: 10/06/07 11:00**					
Gasoline Range Hydrocarbons	AK 101	ND	-----	3.82	mg/kg dry	1x	7J16033	10/16/07 10:18	10/17/07 03:26	
Benzene	"	ND	-----	0.0153	"	"	"	"	"	
Toluene	"	ND	-----	0.0382	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0382	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0764	"	"	"	"	"	
Surrogate(s): a,a,a-TFT (FID)			*80.4%*		*50 - 150 %*	"			"	
4-BFB (FID)			*81.2%*		*60 - 120 %*	"			"	
a,a,a-TFT (PID)			*90.7%*		*50 - 150 %*	"			"	
4-BFB (PID)			*101%*		*60 - 120 %*	"			"	
AQJ0065-05 (TP-5-07-5.0)		**Soil**			**Sampled: 10/06/07 11:30**					
Gasoline Range Hydrocarbons	AK 101	ND	-----	4.14	mg/kg dry	1x	7J16033	10/16/07 10:18	10/17/07 00:08	
Benzene	"	ND	-----	0.0165	"	"	"	"	"	
Toluene	"	ND	-----	0.0414	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0414	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0827	"	"	"	"	"	
Surrogate(s): a,a,a-TFT (FID)			*72.6%*		*50 - 150 %*	"			"	
4-BFB (FID)			*81.4%*		*60 - 120 %*	"			"	
a,a,a-TFT (PID)			*82.7%*		*50 - 150 %*	"			"	
4-BFB (PID)			*102%*		*60 - 120 %*	"			"	
AQJ0065-06 (TP-6-07-3.0)		**Soil**			**Sampled: 10/06/07 12:20**					
Gasoline Range Hydrocarbons	AK 101	ND	-----	4.50	mg/kg dry	1x	7J16033	10/16/07 10:18	10/17/07 02:53	
Benzene	"	**0.0199**	-----	0.0180	"	"	"	"	"	
Toluene	"	ND	-----	0.0450	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0450	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0900	"	"	"	"	"	
Surrogate(s): a,a,a-TFT (FID)			*65.6%*		*50 - 150 %*	"			"	
4-BFB (FID)			*82.1%*		*60 - 120 %*	"			"	
a,a,a-TFT (PID)			*73.9%*		*50 - 150 %*	"			"	
4-BFB (PID)			*101%*		*60 - 120 %*	"			"	

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Conestoga-Rovers & Associates	Project Name:	**100-1467**	
2828 North Speer Blvd., Suite 140	Project Number:	100-1467	Report Created:
Denver, CO 80211	Project Manager:	Nicholas Greco	10/23/07 15:08

Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
AQJ0065-07 (TP-7-07-3.5)		**Soil**			**Sampled: 10/06/07 12:40**					
Gasoline Range Hydrocarbons	AK 101	ND	-----	3.50	mg/kg dry	1x	7J16033	10/16/07 10:18	10/17/07 02:20	
Benzene	"	ND	-----	0.0140	"	"	"	"	"	
Toluene	"	ND	-----	0.0350	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0350	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0701	"	"	"	"	"	
Surrogate(s): a,a,a-TFT (FID)			*79.5%*		*50 - 150 %*	"			"	
4-BFB (FID)			*79.9%*		*60 - 120 %*	"			"	
a,a,a-TFT (PID)			*92.2%*		*50 - 150 %*	"			"	
4-BFB (PID)			*102%*		*60 - 120 %*	"			"	
AQJ0065-08 (TP-8-07-4.0)		**Soil**			**Sampled: 10/06/07 13:00**					
Gasoline Range Hydrocarbons	AK 101	ND	-----	3.93	mg/kg dry	1x	7J16033	10/16/07 10:18	10/17/07 01:47	
Benzene	"	**0.126**	-----	0.0157	"	"	"	"	"	
Toluene	"	ND	-----	0.0393	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0393	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0785	"	"	"	"	"	
Surrogate(s): a,a,a-TFT (FID)			*80.5%*		*50 - 150 %*	"			"	
4-BFB (FID)			*79.7%*		*60 - 120 %*	"			"	
a,a,a-TFT (PID)			*92.4%*		*50 - 150 %*	"			"	
4-BFB (PID)			*102%*		*60 - 120 %*	"			"	
AQJ0065-09 (Dup-1)		**Soil**			**Sampled: 10/06/07 00:00**					
Gasoline Range Hydrocarbons	AK 101	ND	-----	4.02	mg/kg dry	1x	7J16033	10/16/07 10:18	10/17/07 01:14	
Benzene	"	**0.0574**	-----	0.0161	"	"	"	"	"	
Toluene	"	ND	-----	0.0402	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0402	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0805	"	"	"	"	"	
Surrogate(s): a,a,a-TFT (FID)			*75.2%*		*50 - 150 %*	"			"	
4-BFB (FID)			*78.9%*		*60 - 120 %*	"			"	
a,a,a-TFT (PID)			*87.1%*		*50 - 150 %*	"			"	
4-BFB (PID)			*102%*		*60 - 120 %*	"			"	

TestAmerica - Anchorage, AK

Troy J. Engstrom, Manager

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Conestoga-Rovers & Associates	Project Name: **100-1467**	
2828 North Speer Blvd., Suite 140	Project Number: 100-1467	Report Created:
Denver, CO 80211	Project Manager: Nicholas Greco	10/23/07 15:08

Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
AQJ0065-10 (Trip Blank)		**Soil**			**Sampled: 10/06/07 08:00**					
Gasoline Range Hydrocarbons	AK 101	ND	-----	5.00	mg/kg wet	1x	7J16033	10/16/07 10:18	10/16/07 23:35	
Benzene	"	ND	-----	0.0200	"	"	"	"	"	
Toluene	"	ND	-----	0.0500	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0500	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.100	"	"	"	"	"	
Surrogate(s): a,a,a-TFT (FID)			*106%*		*50 - 150 %*	"			"	
4-BFB (FID)			*79.9%*		*60 - 120 %*	"			"	
a,a,a-TFT (PID)			*123%*		*50 - 150 %*	"			"	
4-BFB (PID)			*103%*		*60 - 120 %*	"			"	

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Conestoga-Rovers & Associates	Project Name: **100-1467**	
2828 North Speer Blvd., Suite 140	Project Number: 100-1467	Report Created:
Denver, CO 80211	Project Manager: Nicholas Greco	10/23/07 15:08

Physical Parameters by APHA/ASTM/EPA Methods

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
AQJ0065-01 (TP-1-07-4.5)		**Soil**				**Sampled: 10/06/07 09:30**				
Dry Weight	BSOPSPL003R08	**81.6**	-----	1.00	%	1x	7J19029	10/19/07 12:10	10/22/07 00:00	
AQJ0065-02 (TP-2-07-5.0)		**Soil**				**Sampled: 10/06/07 10:00**				
Dry Weight	BSOPSPL003R08	**57.9**	-----	1.00	%	1x	7J19029	10/19/07 12:10	10/22/07 00:00	
AQJ0065-03 (TP-3-07-4.0)		**Soil**				**Sampled: 10/06/07 10:20**				
Dry Weight	BSOPSPL003R08	**48.5**	-----	1.00	%	1x	7J19029	10/19/07 12:10	10/22/07 00:00	
AQJ0065-04 (TP-4-07-2.5)		**Soil**				**Sampled: 10/06/07 11:00**				
Dry Weight	BSOPSPL003R08	**75.1**	-----	1.00	%	1x	7J19029	10/19/07 12:10	10/22/07 00:00	
AQJ0065-05 (TP-5-07-5.0)		**Soil**				**Sampled: 10/06/07 11:30**				
Dry Weight	BSOPSPL003R08	**68.0**	-----	1.00	%	1x	7J19029	10/19/07 12:10	10/22/07 00:00	
AQJ0065-06 (TP-6-07-3.0)		**Soil**				**Sampled: 10/06/07 12:20**				
Dry Weight	BSOPSPL003R08	**61.3**	-----	1.00	%	1x	7J19029	10/19/07 12:10	10/22/07 00:00	
AQJ0065-07 (TP-7-07-3.5)		**Soil**				**Sampled: 10/06/07 12:40**				
Dry Weight	BSOPSPL003R08	**72.0**	-----	1.00	%	1x	7J19029	10/19/07 12:10	10/22/07 00:00	
AQJ0065-08 (TP-8-07-4.0)		**Soil**				**Sampled: 10/06/07 13:00**				
Dry Weight	BSOPSPL003R08	**72.4**	-----	1.00	%	1x	7J19029	10/19/07 12:10	10/22/07 00:00	
AQJ0065-09 (Dup-1)		**Soil**				**Sampled: 10/06/07 00:00**				
Dry Weight	BSOPSPL003R08	**66.3**	-----	1.00	%	1x	7J18042	10/18/07 14:03	10/19/07 00:00	

TestAmerica - Anchorage, AK

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Conestoga-Rovers & Associates	Project Name:	**100-1467**	
2828 North Speer Blvd., Suite 140	Project Number:	100-1467	Report Created:
Denver, CO 80211	Project Manager:	Nicholas Greco	10/23/07 15:08

Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO - Laboratory Quality Control Results

TestAmerica - Anchorage, AK

QC Batch: 7100105 **Soil Preparation Method: EPA 3545**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7100105-BLK1)							**Extracted: 10/18/07 16:03**							
Diesel Range Organics	AK102/103	ND	---	20.0	mg/kg wet	1x	--	--	--	--	--	--	10/21/07 10:53	
Residual Range Organics	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 90.9%*			*Limits: 50-150%*	"							*10/21/07 10:53*	
Triacontane		*91.4%*			*50-150%*	"							"	
LCS (7100105-BS1)							**Extracted: 10/18/07 16:03**							
Diesel Range Organics	AK102/103	129	---	20.0	mg/kg wet	1x	--	126	102%	(75-125)	--	--	10/21/07 11:27	
Residual Range Organics	"	131	---	50.0	"	"	--	128	103%	(60-120)	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 98.7%*			*Limits: 60-120%*	"							*10/21/07 11:27*	
Triacontane		*91.8%*			*60-120%*	"							"	
LCS Dup (7100105-BSD1)							**Extracted: 10/18/07 16:03**							
Diesel Range Organics	AK102/103	132	---	20.0	mg/kg wet	1x	--	126	104%	(75-125)	1.77%	(20)	10/21/07 12:00	
Residual Range Organics	"	134	---	50.0	"	"	--	128	105%	(60-120)	2.13%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 99.5%*			*Limits: 60-120%*	"							*10/21/07 12:00*	
Triacontane		*92.9%*			*60-120%*	"							"	
Duplicate (7100105-DUP1)					**QC Source: AQJ0065-01**		**Extracted: 10/18/07 16:03**							
Diesel Range Organics	AK102/103	ND	---	16.9	mg/kg dry	1x	ND	--	--	--	12.6%	(20)	10/21/07 10:53	
Residual Range Organics	"	ND	---	42.4	"	"	ND	--	--	--	57.4%	"	"	R4
Surrogate(s): 1-Chlorooctadecane		*Recovery: 95.6%*			*Limits: 50-150%*	"							*10/21/07 10:53*	
Triacontane		*95.4%*			*50-150%*	"							"	
Matrix Spike (7100105-MS1)					**QC Source: AQJ0065-01**		**Extracted: 10/18/07 16:03**							
Diesel Range Organics	AK102/103	165	---	20.0	mg/kg dry	1x	6.96	145	108%	(75-125)	--	--	10/21/07 12:00	
Residual Range Organics	"	164	---	50.0	"	"	6.90	147	107%	(60-150)	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 93.7%*			*Limits: 50-150%*	"							*10/21/07 12:00*	
Triacontane		*96.3%*			*50-150%*	"							"	
Matrix Spike Dup (7100105-MSD1)					**QC Source: AQJ0065-01**		**Extracted: 10/18/07 16:03**							
Diesel Range Organics	AK102/103	140	---	18.0	mg/kg dry	1x	6.96	139	95.8%	(75-125)	16.0%	(25)	10/21/07 12:34	
Residual Range Organics	"	142	---	44.9	"	"	6.90	140	95.9%	(60-150)	15.0%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 83.1%*			*Limits: 50-150%*	"							*10/21/07 12:34*	
Triacontane		*84.8%*			*50-150%*	"							"	

TestAmerica - Anchorage, AK

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Conestoga-Rovers & Associates	Project Name:	**100-1467**	
2828 North Speer Blvd., Suite 140	Project Number:	100-1467	Report Created:
Denver, CO 80211	Project Manager:	Nicholas Greco	10/23/07 15:08

Diesel Range (C10-C25) and Residual Range (C25-C36) Organics per AK102/RRO w/SG Cleanup - Laboratory Quality Control Results

TestAmerica - Anchorage, AK

QC Batch: 7100117 **Soil Preparation Method: EPA 3545**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7100117-BLK1)								**Extracted: 10/18/07 16:03**						
Diesel Range Organics	AK102/103	ND	---	50.0	mg/kg wet	2.5x	--	--	--	--	--	--	10/22/07 22:28	
Residual Range Organics	"	ND	---	125	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 97.5%*			*Limits: 50-150%*	"							*10/22/07 22:28*	
Triacontane		*97.2%*			*50-150%*	"							"	
LCS (7100117-BS1)								**Extracted: 10/18/07 16:03**						
Diesel Range Organics	AK102/103	132	---	50.0	mg/kg wet	2.5x	--	126	105%	(75-125)	--	--	10/22/07 23:02	
Residual Range Organics	"	137	---	125	"	"	--	128	107%	(60-120)	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 104%*			*Limits: 60-120%*	"							*10/22/07 23:02*	
Triacontane		*96.2%*			*60-120%*	"							"	
LCS Dup (7100117-BSD1)								**Extracted: 10/18/07 16:03**						
Diesel Range Organics	AK102/103	137	---	50.0	mg/kg wet	2.5x	--	126	109%	(75-125)	4.01%	(20)	10/22/07 23:35	
Residual Range Organics	"	144	---	125	"	"	--	128	113%	(60-120)	5.32%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 108%*			*Limits: 60-120%*	"							*10/22/07 23:35*	
Triacontane		*99.0%*			*60-120%*	"							"	
Duplicate (7100117-DUP1)					**QC Source: AQJ0065-01**			**Extracted: 10/18/07 16:03**						
Diesel Range Organics	AK102/103	ND	---	42.4	mg/kg dry	2.5x	ND	--	--	--	NR	(20)	10/22/07 21:22	
Residual Range Organics	"	ND	---	106	"	"	ND	--	--	--		"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 102%*			*Limits: 50-150%*	"							*10/22/07 21:22*	
Triacontane		*100%*			*50-150%*	"							"	
Matrix Spike (7100117-MS1)					**QC Source: AQJ0065-01**			**Extracted: 10/18/07 16:03**						
Diesel Range Organics	AK102/103	160	---	50.0	mg/kg dry	2.5x	ND	145	110%	(75-125)	--	--	10/22/07 23:02	
Residual Range Organics	"	166	---	125	"	"	ND	147	113%	(60-150)	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 99.1%*			*Limits: 50-150%*	"							*10/22/07 23:02*	
Triacontane		*97.4%*			*50-150%*	"							"	
Matrix Spike Dup (7100117-MSD1)					**QC Source: AQJ0065-01**			**Extracted: 10/18/07 16:03**						
Diesel Range Organics	AK102/103	138	---	44.9	mg/kg dry	2.5x	ND	139	99.2%	(75-125)	14.6%	(25)	10/22/07 23:35	
Residual Range Organics	"	147	---	112	"	"	ND	140	104%	(60-150)	12.1%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 88.9%*			*Limits: 50-150%*	"							*10/22/07 23:35*	
Triacontane		*85.4%*			*50-150%*	"							"	

TestAmerica - Anchorage, AK

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Conestoga-Rovers & Associates	Project Name: **100-1467**	
2828 North Speer Blvd., Suite 140	Project Number: 100-1467	Report Created:
Denver, CO 80211	Project Manager: Nicholas Greco	10/23/07 15:08

Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 7J16033 **Soil Preparation Method: EPA 5030B (P/T)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7J16033-BLK1)							**Extracted: 10/16/07 10:18**							
Gasoline Range Hydrocarbons	AK 101	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	10/16/07 16:24	
Benzene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Surrogate(s): a,a,a-TFT (FID)		*Recovery: 94.1%*			*Limits: 50-150%*	"							*10/16/07 16:24*	
4-BFB (FID)		*79.7%*			*60-120%*	"							"	
a,a,a-TFT (PID)		*108%*			*50-150%*	"							"	
4-BFB (PID)		*102%*			*60-120%*	"							"	
LCS (7J16033-BS1)							**Extracted: 10/16/07 10:18**							
Gasoline Range Hydrocarbons	AK 101	48.4	---	5.00	mg/kg wet	1x	--	50.0	96.8%	(60-120)	--	--	10/16/07 16:57	
Surrogate(s): a,a,a-TFT (FID)		*Recovery: 97.7%*			*Limits: 50-150%*	"							*10/16/07 16:57*	
4-BFB (FID)		*85.3%*			*60-120%*	"							"	
LCS (7J16033-BS2)							**Extracted: 10/16/07 10:18**							
Benzene	AK 101	1.63	---	0.0200	mg/kg wet	1x	--	1.50	109%	(75-125)	--	--	10/16/07 18:03	
Toluene	"	1.50	---	0.0500	"	"	--	"	99.8%	"	--	--	"	
Ethylbenzene	"	1.54	---	0.0500	"	"	--	"	103%	"	--	--	"	
Xylenes (total)	"	4.88	---	0.100	"	"	--	4.50	108%	"	--	--	"	
Surrogate(s): a,a,a-TFT (PID)		*Recovery: 103%*			*Limits: 50-150%*	"							*10/16/07 18:03*	
4-BFB (PID)		*101%*			*60-120%*	"							"	
LCS Dup (7J16033-BSD1)							**Extracted: 10/16/07 10:18**							
Gasoline Range Hydrocarbons	AK 101	45.3	---	5.00	mg/kg wet	1x	--	50.0	90.6%	(60-120)	6.66%	(20)	10/16/07 17:30	
Surrogate(s): a,a,a-TFT (FID)		*Recovery: 92.6%*			*Limits: 50-150%*	"							*10/16/07 17:30*	
4-BFB (FID)		*86.1%*			*60-120%*	"							"	
LCS Dup (7J16033-BSD2)							**Extracted: 10/16/07 10:18**							
Benzene	AK 101	1.56	---	0.0200	mg/kg wet	1x	--	1.50	104%	(75-125)	4.13%	(25)	10/16/07 18:37	
Toluene	"	1.44	---	0.0500	"	"	--	"	95.7%	"	4.21%	"	"	
Ethylbenzene	"	1.48	---	0.0500	"	"	--	"	98.8%	"	3.97%	"	"	
Xylenes (total)	"	4.71	---	0.100	"	"	--	4.50	105%	"	3.57%	"	"	
Surrogate(s): a,a,a-TFT (PID)		*Recovery: 96.6%*			*Limits: 50-150%*	"							*10/16/07 18:37*	
4-BFB (PID)		*102%*			*60-120%*	"							"	

TestAmerica - Anchorage, AK

Troy J. Engstrom, Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

TestAmerica
ANALYTICAL TESTING CORPORATION

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210

Conestoga-Rovers & Associates	Project Name: **100-1467**	
2828 North Speer Blvd., Suite 140	Project Number: 100-1467	Report Created:
Denver, CO 80211	Project Manager: Nicholas Greco	10/23/07 15:08

Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 7J16033 **Soil Preparation Method: EPA 5030B (P/T)**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (7J16033-DUP1)				**QC Source: AQJ0065-02**					**Extracted: 10/16/07 10:18**					
Gasoline Range Hydrocarbons	AK 101	ND	---	4.63	mg/kg dry	1x	ND	--	--	--	13.3%	(20)	10/16/07 19:43	R4
Benzene	"	ND	---	0.0185	"	"	0.0192	--	--	--	22.0%	(35)	"	R4
Toluene	"	ND	---	0.0463	"	"	ND	--	--	--	19.3%	"	"	R4
Ethylbenzene	"	ND	---	0.0463	"	"	ND	--	--	--	43.5%	"	"	R4
Xylenes (total)	"	ND	---	0.0927	"	"	ND	--	--	--	NR	"	"	R4
Surrogate(s): a,a,a-TFT (FID)		*Recovery: 80.8%*			*Limits: 50-150%*	"							*10/16/07 19:43*	
4-BFB (FID)		*85.6%*			*60-120%*	"							"	
a,a,a-TFT (PID)		*91.9%*			*50-150%*	"							"	
4-BFB (PID)		*103%*			*60-120%*	"							"	
Duplicate (7J16033-DUP2)				**QC Source: AQJ0065-05**					**Extracted: 10/16/07 10:18**					
Gasoline Range Hydrocarbons	AK 101	ND	---	4.14	mg/kg dry	1x	ND	--	--	--	NR	(20)	10/17/07 00:41	R4
Benzene	"	ND	---	0.0165	"	"	ND	--	--	--	1.66%	(35)	"	R4
Toluene	"	ND	---	0.0414	"	"	ND	--	--	--	3.41%	"	"	R4
Ethylbenzene	"	ND	---	0.0414	"	"	ND	--	--	--	NR	"	"	R4
Xylenes (total)	"	ND	---	0.0827	"	"	ND	--	--	--	NR	"	"	R4
Surrogate(s): a,a,a-TFT (FID)		*Recovery: 73.3%*			*Limits: 50-150%*	"							*10/17/07 00:41*	
4-BFB (FID)		*79.8%*			*60-120%*	"							"	
a,a,a-TFT (PID)		*84.7%*			*50-150%*	"							"	
4-BFB (PID)		*103%*			*60-120%*	"							"	
Matrix Spike (7J16033-MS1)				**QC Source: AQJ0065-02**					**Extracted: 10/16/07 10:18**					
Gasoline Range Hydrocarbons	AK 101	48.5	---	4.63	mg/kg dry	1x	1.62	46.3	101%	(60-120)	--	--	10/16/07 20:49	
Surrogate(s): a,a,a-TFT (FID)		*Recovery: 87.7%*			*Limits: 50-150%*	"							*10/16/07 20:49*	
4-BFB (FID)		*90.3%*			*60-120%*	"							"	
Matrix Spike (7J16033-MS2)				**QC Source: AQJ0065-02**					**Extracted: 10/16/07 10:18**					
Benzene	AK 101	1.60	---	0.0185	mg/kg dry	1x	0.0192	1.39	114%	(45-125)	--	--	10/16/07 21:23	
Toluene	"	1.48	---	0.0463	"	"	0.0145	"	105%	(55-125)	--	--	"	
Ethylbenzene	"	1.51	---	0.0463	"	"	0.00765	"	108%	(53-132)	--	--	"	
Xylenes (total)	"	4.86	---	0.0927	"	"	ND	4.17	116%	(59-125)	--	--	"	
Surrogate(s): a,a,a-TFT (PID)		*Recovery: 89.3%*			*Limits: 50-150%*	"							*10/16/07 21:23*	
4-BFB (PID)		*102%*			*60-120%*	"							"	

TestAmerica - Anchorage, AK

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Troy J. Engstrom, Manager

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Conestoga-Rovers & Associates	Project Name:	**100-1467**	
2828 North Speer Blvd., Suite 140	Project Number:	100-1467	Report Created:
Denver, CO 80211	Project Manager:	Nicholas Greco	10/23/07 15:08

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 7J18042 **Soil Preparation Method: Dry Weight**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7J18042-BLK1)													**Extracted: 10/18/07 14:03**	
Dry Weight	BSOPSPL00 3R08	99.8	---	1.00	%	1x	--	--	--	--	--	--	10/19/07 00:00	

QC Batch: 7J19029 **Soil Preparation Method: Dry Weight**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7J19029-BLK1)													**Extracted: 10/19/07 12:10**	
Dry Weight	BSOPSPL00 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	10/22/07 00:00	

TestAmerica - Anchorage, AK

Troy J. Engstrom, Manager

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ph: (907) 563.9200 fax: (907) 563.9210

Conestoga-Rovers & Associates	Project Name:	**100-1467**	
2828 North Speer Blvd., Suite 140	Project Number:	100-1467	Report Created:
Denver, CO 80211	Project Manager:	Nicholas Greco	10/23/07 15:08

Notes and Definitions

Report Specific Notes:

R4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

ZX - Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Anchorage, AK

Troy J. Engstrom, Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

CHAIN OF CUSTODY

AQ00065

☐ 885 Jarvis Drive • **Morgan Hill, CA 95037** • (408) 776-9600 • FAX (408) 782-6308
☐ 819 Striker Ave., Suite 8 • **Sacramento, CA 95834** • (916) 921-9600 • FAX (916) 921-0100

Company Name: Conestoga - Rovers + Associates | Project: 100-1467
Mailing Address: 2828 North Spear Blvd., Suite 140 | Billing Address (if different):
City: Denver | State: CO | Zip Code: 80211
Telephone: 3034333650 | Fax #: 3034333974 | P.O. #:
Report To: | E-Mail Address: ngreco@craworld.com | QC Data: ☐ Level II (standard) ☒ Level III ☐ Level IV
Sampler: Nick Greco | Date/Time Results Required: | Test America Work Order #

Turnaround Time: ☒ 10-15 Working Days (Standard TAT) ☐ 7 Working Days ☐ 5 Working Days ☐ 72 hours ☐ 48 hours ☐ 24 hours ☐ 2-8 hours

MANDATORY: ☐ SDWA (Drinking Water) ☐ CWA (Waste Water) ☐ RCRA (Hazardous Waste) ☐ Other

ANALYSES REQUESTED (Please provide method)

Client Sample I.D.	Date / Time Sampled	Matrix Desc.	# of Cont.	Container Type	Test America's Sample #	GRO (AK101)	BTEX (8021)								Comments/Temp. (if required)
1. TP-1-07-4.5	10/6/07 / 0930	Soil	2	4oz Preweight	01	X	X								
2. TP-2-07-5.0	10-6-07 / 1000	Soil	2	4oz Preweight	02	X	X								* Case Narrative Required *
3. TP-3-07-4.0	10-6-07 / 1020	Soil	2	4oz Preweight	03	X	X								
4. TP-4-07-2.5	10-6-07 / 1100	Soil	2	4oz Preweight	04	X	X								
5. TP-5-07-5.0	10-6-07 / 1130	Soil	2	4oz Preweight	05	X	X								
6. TP-6-07-3.0	10-6-07 / 1220	Soil	2	4oz Preweight	06	X	X								
7. TP-7-07-3.5	10-6-07 / 1240	Soil	2	4oz Preweight	07	X	X								
8. TP-8-07-4.0	10-6-07 / 1300	Soil	2	4oz Preweight	08	X	X								
9. Dup-1	10-6-07	Soil	2	4oz Preweight	09	X	X								
10. Trip Blank	—	—	2	—	10	X	X								

Relinquished by/Co.	Received by/Co.	Date/Time/Temp
[signature] / CRA	[signature] TA	9 October 2007 15:50 1.6°

Were Samples Received in Good Condition? ☐ Yes ☐ No Samples on Ice? ☐ Yes ☐ No Method of Shipment: ________ Page 1 of 2

Note: By relinquishing samples to Test America, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of the invoice. Sample(s) will be disposed of after 30 days.

White: Test America **Yellow:** Test America **Pink:** Client

TestAmerica
ANALYTICAL TESTING CORPORATION

CHAIN OF CUSTODY

AQ20065

❑ 885 Jarvis Drive • **Morgan Hill, CA 95037** • (408) 776-9600 • FAX (408) 782-6308
❑ 819 Striker Ave., Suite 8 • **Sacramento, CA 95834** • (916) 921-9600 • FAX (916) 921-0100

Company Name: Conestoga - Rovers + Associates		Project	100-1467
Mailing Address: 2828 North Speer Blvd., Suite 140		Billing Address (if different):	
City: Denver	State: CO Zip Code: 80211		
Telephone: 3034333650	Fax #: 3034333974	P.O. #:	
Report To:	E-Mail Address: nsreco@crworld.com	QC Data: ❑ Level II (standard) ☒ Level III ❑ Level IV	
Sampler: Nick Greco	Date/Time Results Required:	Test America Work Order #	

Turnaround Time:
☒ 10-15 Working Days (Standard TAT)
❑ 7 Working Days
❑ 5 Working Days
❑ 72 hours
❑ 48 hours
❑ 24 hours
❑ 2-8 hours

MANDATORY:
❑ SDWA (Drinking Water)
❑ CWA (Waste Water)
❑ RCRA (Hazardous Waste)
❑ Other

ANALYSES REQUESTED (Please provide method)

Client Sample I.D.	Date / Time Sampled	Matrix Desc.	# of Cont.	Container Type	Test America's Sample #	Dry Weight									Comments/Temp. (if required)
1. TP-1-07-4.5	10-6-07 / 0930	Soil	1	2oz	01	X									
2. TP-2-07-5.0	10-6-07 / 1000	Soil	1	2oz	02	X									
3. TP-3-07-4.0	10-6-07 / 1020	Soil	1	2oz	03	X									
4. TP-4-07-2.5	10-6-07 / 1100	Soil	1	2oz	04	X									
5. TP-5-07-5.0	10-6-07 / 1130	Soil	1	2oz	05	X									
6. TP-6-07-3.0	10-6-07 / 1220	Soil	1	2oz	06	X									
7. TP-7-07-3.5	10-6-07 / 1240	Soil	1	2oz	07	X									
8. TP-8-07-4.0	10-6-07 / 1300	Soil	1	2oz	08	X									
9. Dup-1	10-6-07 / —	Soil	1	2oz	09	X									
10. Unused Bottleware			4	4oz Preserved											

Case Narrative Required

Relinquished by/Co.: CRA	Received by/Co.: Race Lexington TA	Date/Time/Temp: 9 October 2007 15:30 1.6°
Relinquished by/Co.:	Received by/Co.:	Date/Time/Temp:
Relinquished by/Co.:	Received by/Co.:	Date/Time/Temp:

Were Samples Received in Good Condition? ❑ Yes ❑ No Samples on Ice? ❑ Yes ❑ No Method of Shipment: _____ Page 2 of 2

Note: By relinquishing samples to Test America, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of the invoice. Sample(s) will be disposed of after 30 days.

White: Test America **Yellow:** Test America **Pink:** Client

TestAmerica
ANALYTICAL TESTING CORPORATION

CHAIN OF CUSTODY

AQJ0065

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☐ 819 Striker Ave., Suite 8 • **Sacramento, CA 95834** • (916) 921-9600 • FAX (916) 921-0100

Company Name: Conestoga-Rovers + Associates — Project: 100-1467
Mailing Address: 2828 North Speer Blvd., Suite 140 — Billing Address (if different):
City: Denver — State: CO — Zip Code: 80211
Telephone: 3034333650 — Fax #: 3034333974 — P.O. #:
Report To: — E-Mail Address: ngreco@craworld.com — QC Data: ☐ Level II (standard) ☒ Level III ☐ Level IV
Sampler: Nick Greco — Date/Time Results Required: — Test America Work Order #

Turnaround Time: ☒ 10-15 Working Days (Standard TAT) ☐ 7 Working Days ☐ 5 Working Days ☐ 72 hours ☐ 48 hours ☐ 24 hours ☐ 2-8 hours

MANDATORY: ☐ SDWA (Drinking Water) ☐ CWA (Waste Water) ☐ RCRA (Hazardous Waste) ☐ Other

ANALYSES REQUESTED (Please provide method)

Client Sample I.D.	Date / Time Sampled	Matrix Desc.	# of Cont.	Container Type	Test America's Sample #	DRO (AK102)	RRO (AK103)	DRO w/ Silica Gel Cleanup	RRO w/ Silica Gel Cleanup						Comments/Temp. (if required)
1. TP-1-07-4.5	10-6-07/0930	Soil	4oz	4	01	X	X	X	X						
2. TP-2-07-5.0	10-6-07/1000	Soil	4oz	4	02	X	X	X	X						* Case Narrative Required *
3. TP-3-07-4.0	10-6-07/1020	Soil	4oz	4	03	X	X	X	X						
4. TP-4-07-2.5	10-6-07/1100	Soil	4oz	4	04	X	X	X	X						
5. TP-5-07-5.0	10-6-07/1130	Soil	4oz	4	05	X	X	X	X						
6. TP-6-07-3.0	10-6-07/1220	Soil	4oz	4	06	X	X	X	X						
7. TP-7-07-3.5	10-6-07/1240	Soil	4oz	4	07	X	X	X	X						
8. TP-8-07-4.0	10-6-07/1300	Soil	4oz	4	08	X	X	X	X						
9. Dup-1	10-6-07	Soil	4oz	4	09	X	X	X	X						
10. Unused Bottleware	—		4oz	8	—										

Relinquished by/Co.: [signature] / CRA	Received by/Co.: [signature] TA	Date/Time/Temp: 9 Oct 2007 1655 2.2°
Relinquished by/Co.:	Received by/Co.:	Date/Time/Temp:
Relinquished by/Co.:	Received by/Co.:	Date/Time/Temp:

Were Samples Received in Good Condition? ☐ Yes ☐ No — Samples on Ice? ☐ Yes ☐ No — Method of Shipment: ______ Page ___ of ___

Note: By relinquishing samples to Test America, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of the invoice. Sample(s) will be disposed of after 30 days.

White: Test America **Yellow:** Test America **Pink:** Client

Test America Cooler Receipt Form

WORK ORDER # AQJ0065 CLIENT: CRA PROJECT: 100-1467

Date /Time Cooler Arrived 10 / 09 / 07 15 : 50 Cooler signed for by: Race Brenton (Print name)

Preliminary Examination Phase:

Date cooler opened: [X] same as date received or ___/___/___

Cooler opened by (print) Race Brenton (sign) Race Brenton

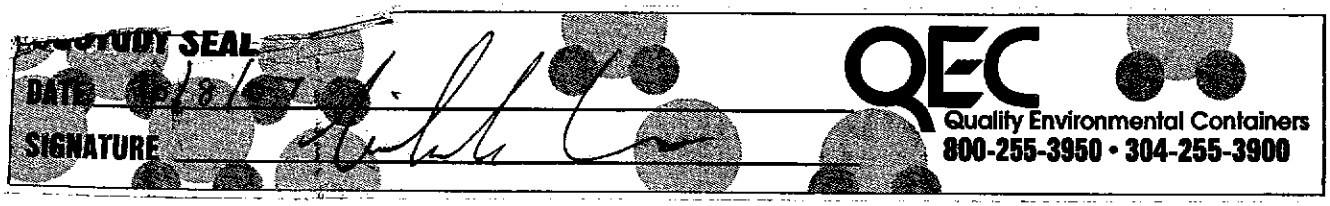
1. Delivered by [X] ALASKA AIRLINES [ ] Fed-Ex [ ] UPS [ ] NAC [ ] LYNDEN [ ] CLIENT [ ] Other: ______
   Shipment Tracking # if applicable ______ (include copy of shipping papers in file)
2. Number of Custody Seals 1 Signed by see back Date 10 / 08 / 07
   Were custody seals unbroken and intact on arrival? [X] Yes [ ] No
3. Were custody papers sealed in a plastic bag? [X] Yes [ ] No
4. Were custody papers filled out properly (ink, signed, etc.)? [X] Yes [ ] No
5. Did you sign the custody papers in the appropriate place? [X] Yes [ ] No
6. Was ice used? [X] Yes [ ] No Type of ice: [ ] blue ice [X] gel ice [ ] real ice [ ] dry ice Condition of Ice: solid
   Temperature by Digi-Thermo Probe 1.6 °C Thermometer # Rec # 4
   Acceptance Criteria: 0 - 6°C
7. Packing in Cooler: [X] bubble wrap [ ] styrofoam [X] cardboard [ ] Other: ______
8. Did samples arrive in plastic bags? [ ] Yes [X] No
9. Did all bottles arrive unbroken, and with labels in good condition? [X] Yes [ ] No
10. Are all bottle labels complete (ID, date, time, etc.) [X] Yes [ ] No
11. Do bottle labels and Chain of Custody agree? [X] Yes [ ] No
12. Are the containers and preservatives correct for the tests indicated? [X] Yes [ ] No
13. Is there adequate volume for the tests requested? [X] Yes [ ] No
14. Were VOA vials free of bubbles? [X] N/A [ ] Yes [ ] No
    If "No" which containers contained "head space" or bubbles? ______

Log-in Phase:

Date of sample log-in 10 / 11 / 07

Samples logged in by (print) Race Brenton (sign) Race Brenton

1. Was project identifiable from custody papers? [X] Yes [ ] No
2. Do Turn Around Times and Due Dates agree? [X] Yes [ ] No
3. Was the Project Manager notified of status? [X] Yes [ ] No
4. Was the Lab notified of status? [X] Yes [ ] No
5. Was the COC scanned and copied? [X] Yes [ ] No


SEAL
DATE
SIGNATURE
QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

Test America Cooler Receipt Form

WORK ORDER # AQJ0065 CLIENT: CRA PROJECT: 100-1467

Date /Time Cooler Arrived 10 / 09 / 07 16 : 55 Cooler signed for by: Race Barton (Print name)

Preliminary Examination Phase:

Date cooler opened: ☒ same as date received or ___/___/___

Cooler opened by (print) Race Barton (sign) Race Barton

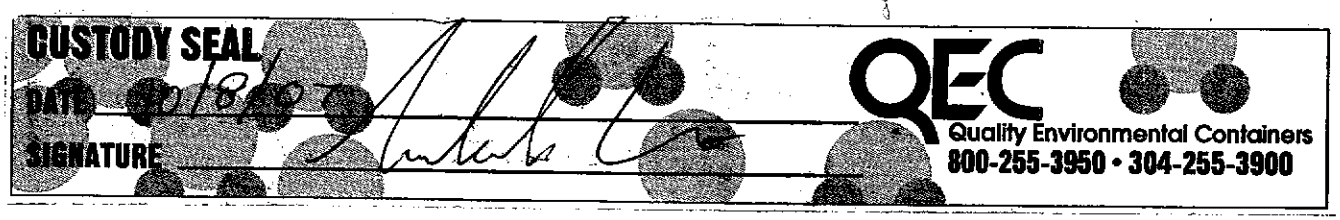
1. Delivered by ☒ ALASKA AIRLINES ☐ Fed-Ex ☐ UPS ☐ NAC ☐ LYNDEN ☐ CLIENT ☐ Other: ______
   Shipment Tracking # if applicable goldstreak ______ (include copy of shipping papers in file)
2. Number of Custody Seals 1 Signed by See back Date 10/08/07
   Were custody seals unbroken and intact on arrival? ☒ Yes ☐ No
3. Were custody papers sealed in a plastic bag? ☒ Yes ☐ No
4. Were custody papers filled out properly (ink, signed, etc.)? ☒ Yes ☐ No
5. Did you sign the custody papers in the appropriate place? ☒ Yes ☐ No
6. Was ice used? ☒ Yes ☐ No Type of ice: ☐ blue ice ☒ gel ice ☐ real ice ☐ dry ice Condition of Ice: Solid
   Temperature by Digi-Thermo Probe 2.2 °C Thermometer # Rue #4
   Acceptance Criteria: 0 - 6°C
7. Packing in Cooler: ☒ bubble wrap ☐ styrofoam ☒ cardboard ☐ Other: ______
8. Did samples arrive in plastic bags? ☐ Yes ☒ No
9. Did all bottles arrive unbroken, and with labels in good condition? ☒ Yes ☐ No
10. Are all bottle labels complete (ID, date, time, etc.) ☒ Yes ☐ No
11. Do bottle labels and Chain of Custody agree? ☒ Yes ☐ No
12. Are the containers and preservatives correct for the tests indicated? ☒ Yes ☐ No
13. Is there adequate volume for the tests requested? ☒ Yes ☐ No
14. Were VOA vials free of bubbles? ☒ N/A ☐ Yes ☐ No
    If "No" which containers contained "head space" or bubbles? ______

Log-in Phase:

Date of sample log-in 10 / 11 / 07

Samples logged in by (print) Race Barton (sign) Race Barton

1. Was project identifiable from custody papers? ☒ Yes ☐ No
2. Do Turn Around Times and Due Dates agree? ☒ Yes ☐ No
3. Was the Project Manager notified of status? ☒ Yes ☐ No
4. Was the Lab notified of status? ☒ Yes ☐ No
5. Was the COC scanned and copied? ☒ Yes ☐ No


CUSTODY SEAL
DATE 10/8/97
SIGNATURE
QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CASE NARRATIVE for AQJ0065

Client: Conestoga-Rovers & Associates
Project Manager: Nicholas Greco
Project Name: None provided
Project Number: 100-1467

The samples in this report were analyzed by a laboratory that was certified by the state of Alaska at the time of analysis.

1.0 COMMENTS ON SAMPLE RECEIPT

Nine soil samples were received by TestAmerica Anchorage on October 9, 2007 for analysis of GRO/BTEX, and DRO/RRO including silica gel cleanup. The sample temperature at receipt was 1.6 °C for the cooler containing GRO/BTEX samples and 2.2 °C for the cooler containing DRO/RRO samples. Sample containers were received in proper condition and preservation. Samples requiring GRO/BTEX analysis were subcontracted to TestAmerica Seattle.

2.0 PREPARATION AND ANALYSIS

No anomalies were associated with sample preparation and analysis. All criteria for acceptable QC measurements were met.

3.0 QC SUMMARY

All associated QC (including Blank, LCS, matrix spikes & sample duplicates) met criteria.

4.0 STATEMENT OF NOTES & DEFINITIONS

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of this report.

Rachel James
Quality Assurance Manager
TestAmerica

Attachment D

ADEC Quality Control Summary and Laboratory Data Review Checklist

Laboratory Data Review Checklist

1. Laboratory

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

   ☒ Yes ☐ No Comments:

   Test America Analytical Testing Corporation, Anchorage, Alaska

   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 Comments:

   Samples needing GRO/BTEX analysis were submitted to TestAmerica Seattle

2. Chain of Custody (COC)

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

   ☒ Yes ☐ No Comments:

   COC signed and completed

   b. Correct analyses requested?

   ☒ Yes ☐ No Comments:

   GRO by Alaska Series Method AK 101, DRO by Alaska Series Method AK 102, RRO by Alaska Series Method AK 103, BTEX by EPA method 8021B

3. Laboratory Sample Receipt Documentation

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

   ☒ Yes ☐ No Comments:

   Sample/coolers temperature documented and within range at 1.6 C and 2.2 C

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

   ☒ Yes ☐ No Comments:

   Methanol and surrogate

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

   ☒ Yes ☐ No Comments:

   All bottleware intact

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 Comments:

No discrepancies noted.

e. Data quality or usability affected? Explain.

Comments:

Data quality or usability NOT affected.

4. Case Narrative

a. Present and understandable?

☉ Yes ☐ No Comments:

Case narrative clear and concise.

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

☐ Yes ☐ No Comments:

No discrepancies, errors or QC failures identified by the lab in case narrative

c. Were all corrective actions documented?

☐ Yes ☐ No Comments:

Not applicable

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

Comments:

Data quality/usability NOT affected.

5. Samples Results

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

☉ Yes ☐ No Comments:

b. All applicable holding times met?

☉ Yes ☐ No Comments:

c. All soils reported on a dry weight basis?

☑ Yes ☐ No Comments:

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

☐ Yes ☑ No Comments:

Reported PQLs are less than the Cleanup Level for the project with the exception of benzene samples that were above the Cleanup Level.

e. Data quality or usability affected? Explain.

Comments:

Data quality or usability NOT affected.

6. QC Samples

a. Method Blank

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

☑ Yes ☐ No Comments:

ii. All method blank results less than PQL?

☑ Yes ☐ No Comments:

iii. If above PQL, what samples are affected?

Comments:

PQL not exceeded

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

☐ Yes ☐ No Comments:

No affected samples

v. Data quality or usability affected? Explain.

Comments:

Data quality or usability NOT affected

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

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples?

☑ Yes ☐ No Comments:

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

☐ Yes ☐ No Comments:

Not applicable

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 Comments:

All percent recoveries reported and within laboratory limits.

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

☑ Yes ☐ No Comments:

All relative percent differences reported and within laboratory limits.

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

Comments:

%R and RPD NOT outside of acceptable limits.

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

☐ Yes ☐ No Comments:

No affected samples

vii. Data quality or usability affected? Explain.

Comments:

Data quality or usability NOT affected.

c. Surrogates – Organics Only

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

☑ Yes ☐ No Comments:

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

☐ Yes ☒ No Comments:

a,a,a-TFT (FID) surrogate recovery for GRO/BTEX was 49.1%, all other surrogate recoveries were within laboratory limits.

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

☐ Yes ☐ No Comments:

Sample results with failed surrogate recoveries have data flags. Data flags are clearly defined.

iv. Data quality or usability affected? Explain.

Comments:

Data quaity or usability NOT affected.

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

i. One trip blank reported per matrix, analysis and cooler?

☒ Yes ☐ No Comments:

ii. All results less than PQL?

☒ Yes ☐ No Comments:

All results were below laboratory detection limits. All laboratory detection limits were below PQL.

iii. If above PQL, what samples are affected?

Comments:

No affected samples

iv. Data quality or usability affected? Explain.

Comments:

Data quality or usability NOT affected.

e. Field Duplicate

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

☑ Yes ☐ No Comments:

A field duplicated labeled DUP-1 was collected with sample TP-8-07-4.0

ii. Submitted blind to lab?

☑ Yes ☐ No Comments:

Labeled DUP-1

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 Comments:

RPD for benzene is more than the specified DQO at 74.8%

iv. Data quality or usability affected? Explain.

Comments:

Data quality or usability NOT affected.

f. Decontamination or Equipment Blank (if applicable)

☐ Yes ☐ No ☑ Not Applicable

i. All results less than PQL?

☐ Yes ☐ No Comments:

Not applicable. Disposable soil scoops used.

ii. If above PQL, what samples are affected?

Comments:

Not applicable

iii. Data quality or usability affected? Explain.

Comments:

Data quality or usability NOT affected.

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

a. Defined and appropriate?

☐ Yes ☐ No Comments:

No other data flags or qualifiers.

Completed by: Susan Lear

Title: Staff Geologist

Date: October 23, 2007

CS Report Name: 2007 Subsurface Investigation and Well Decomissioning Report

Report Date: January 11, 2008

Consultant Firm: Conestoga-Rovers & Associates

Laboratory Name: Test America Analytical Testing Corporation

Laboratory Report Number: AQJ0065

ADEC File Number: 1994130128401

ADEC RecKey Number: 1529.38.004

QUALITY ASSURANCE SUMMARY
Delta Western Wrangell 100-1467,
2007 Subsurface Investigation and Well Decommissioning Report

Precision

Field Duplicates: Eight soil samples and one soil duplicate sample were collected during sampling activities. Duplicate sample Dup-1 was collected from TP-8-07-4.0 and submitted blind to the laboratory for analysis.

Laboratory Sample Duplicates and/or Spike Duplicates: Laboratory sample duplicates and matrix spike duplicates were analyzed and reported with all analyzed samples.

Accuracy

Laboratory QC Samples Percent Recoveries–Spikes: All laboratory QC percent recoveries were within accepted values.

Surrogate Percent Recoveries: All surrogate sample percent recoveries were within accepted values, except a,a,a-TFT (PID) surrogate recovery for GRO and BTEX at 49.1%.

Representativeness

Site Condition Characterization: Soil samples collected during the sampling event accurately characterize subsurface conditions only in areas in which the sampling occurred.

Consistency with Conceptual Site Model (CSM) and Data Quality Objectives: Soil sample results are consistent with ADEC approved CSM and data quality objectives (DQOs).

Comparability

Field Screening vs. Laboratory Data Correlation: There were no noted irregularities or observations on submitted field sheets.

Laboratory Standardization: Test America Analytical Testing Corporation conducted all sample analysis.

Completeness

Percent Completeness: The 85% minimum completeness goal per the ADEC UST Procedures Manual was met:

%Completeness = (Number of Valid samples/Number of total) * 100%

- %Completeness = (8/8) * 100% = 100% Complete

Sensitivity

Limits of Detection: The laboratory limits of detection were less than the regulatory cleanup levels established in Groundwater Cleanup Levels, Table C (ADEC, 18 AAC 75.345) for all constituents.

Blank Results: The trip blank limits of detection were less than the PQL.