

2009 ANNUAL SAMPLING REPORT

DEFENSE FUEL SUPPORT POINT-ANCHORAGE
ANCHORAGE, ALASKA

Prepared for

DEFENSE ENERGY SUPPORT CENTER



Prepared by

MICHAEL L. FOSTER & ASSOCIATES, INC.

13135 Old Glenn Highway, Suite 200

Eagle River, Alaska 99577

September 29, 2009

MLFA Job No. DESC-DESC-005-0013



Michael L. Foster & Associates, Inc.

An Alaskan Owned and Operated Company

*Architects • Engineers • Planners • Scientists
Surveyors • General Contracting*

September 29, 2009

Mr. Louis Howard
State of Alaska
Department of Environmental Conservation
Division of Spill Prevention and Response
Contaminated Sites/Site Remediation Program
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Anchorage, AK 99501

2009 Annual Sampling Report
Defense Fuel Support Point - Anchorage
Anchorage, Alaska
MLFA Job No. DESC-DESC-005-0013

Dear Mr. Howard:

On behalf of Defense Energy Support Center, we are pleased to present the following document: *2009 Annual Sampling Report, Defense Fuel Support Point - Anchorage, Anchorage, Alaska*. If you have any questions or need additional information, please do not hesitate to contact us at 696-6200.

Sincerely,

MICHAEL L. FOSTER & ASSOCIATES, INC.

Traci R. Bradford
Project Engineer

Michael L. Foster, P.E.
Project Manager

cc: Jack Appolloni, DESC
Wayne Barnum, DESC-FQ (copy and CD)



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ACRONYMS AND ABBREVIATIONS

| | |
|--------|---|
| ADEC | Alaska Department of Environmental Conservation |
| AK | Alaska Method |
| BTEX | benzene, toluene, ethylbenzene, and total xylenes |
| °C | degrees centigrade |
| DESC | Defense Energy Support Center |
| DFSP-A | Defense Fuel Support Point – Anchorage |
| DRO | diesel range organics |
| EPA | U.S. Environmental Protection Agency |
| GRO | gasoline range organics |
| J | Estimated value |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| LTMP | Long Term Monitoring Plan |
| MDLs | Method Detection Limits |
| MLFA | Michael L. Foster & Associates, Inc. |
| mg/L | milligrams per liter |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| MW | monitoring well |
| ND | not detected |
| PQLs | Practical Quantitation Limits |
| QC | quality control |
| PAH | polynuclear aromatic hydrocarbons |
| RPD | relative percent difference |
| SIMS | secondary ion-mass spectrometry |
| SS | surface-water sample |
| TAH | total aromatic hydrocarbons |
| TAqH | total aqueous hydrocarbons |
| TB | trip blank |
| µg/L | micrograms per liter |

1.0 INTRODUCTION

This Report documents the completion of the 2009 Annual Sampling Event at the Defense Fuel Support Point–Anchorage (DFSP-A) as described in the *Long-Term Monitoring Plan*, dated August 25, 2003. In general, the following items are discussed.

- Completion of field activities.
- Laboratory analyses.
- Data summary.

2.0 FIELD ACTIVITIES

2.1 SAMPLING OF GROUNDWATER MONITORING WELLS AND SURFACE-WATER LOCATIONS

Field activities for the 2009 Annual Sampling Event, which included the sampling of a total of 8 groundwater monitoring wells (MWs) and 3 surface-water sample (SS) locations, were completed during August 2009. Well locations were sampled as described in the Updated Long-Term Monitoring Plan (LTMP), dated April 28, 2008. Figure 1 depicts the locations of the groundwater monitoring wells and surface-water locations sampled during this event. Detailed field notes can be found in Appendix A.

Samples were collected in general accordance with the Alaska Department of Environmental Conservation (ADEC)'s *Underground Storage Tanks Procedures Manual, Guidance for Cleanup of Petroleum Contaminated Soil and Water and Standard Sampling Procedures*, dated November 2002. Sample collection procedures are further detailed below. Table 1 summarizes the sample collection analyses for each groundwater monitoring well and surface-water location.

Each groundwater monitoring well was sampled by first measuring the groundwater depth to 0.01 foot using a water level indicator. These depths were referenced to an established datum so that groundwater elevations could be determined. The water level indicator was decontaminated between monitoring wells using a dilute phosphate detergent and rinsed with distilled water.

Each well was then purged by removing at least three well volumes, or by complete evacuation, using a disposable Teflon bailer. Decontamination water and purge water from wells that exceeded site cleanup levels were disposed of at an ADEC-approved facility.

Table 1—Summary of Sample Collection Analyses

| Groundwater Monitoring Well / Surface Location | Date Sampled | GRO AK 101 | BTEX/TAH EPA 8021B | DRO AK 102 | PAH EPA 8310 |
|--|--------------|------------|--------------------|------------|--------------|
| MW2R | 8/24/09 | X | X | X | - |
| MW4R | 8/24/09 | X | X | X | - |
| MW15R | 8/24/09 | X | X | X | - |
| MW22 | 8/24/09 | X | X | X | - |
| MW23 | 8/24/09 | X | X | X | - |
| MW25A | 8/24/09 | X | X | X | - |
| MW25B | 8/24/09 | X | X | X | - |
| MW25C | 8/24/09 | X | X | X | - |
| SS4 | 8/24/09 | - | X | - | X |
| SS12 | 8/24/09 | - | X | - | X |
| SS14 | 8/24/09 | - | X | - | X |

Notes: BTEX = benzene, toluene, ethylbenzene, and total xylenes
 PAH = polynuclear aromatic hydrocarbons
 DRO = diesel range organics
 SS = Surface-Water Sample
 GRO = gasoline range organics
 TAH = total aromatic hydrocarbons
 MW = Monitoring Well
 MW2R, MW4R, and MW15R are replacement wells.

Groundwater samples were then collected using a new disposable Teflon bailer and placed in appropriate laboratory-supplied containers. Each sample was labeled and transported to SGS Environmental Services of Anchorage, Alaska under standard chain-of-custody procedures. Field duplicate samples were collected at a rate of a minimum of one per test per day, or one per each ten samples collected.

3.0 LABORATORY ANALYTICAL RESULTS

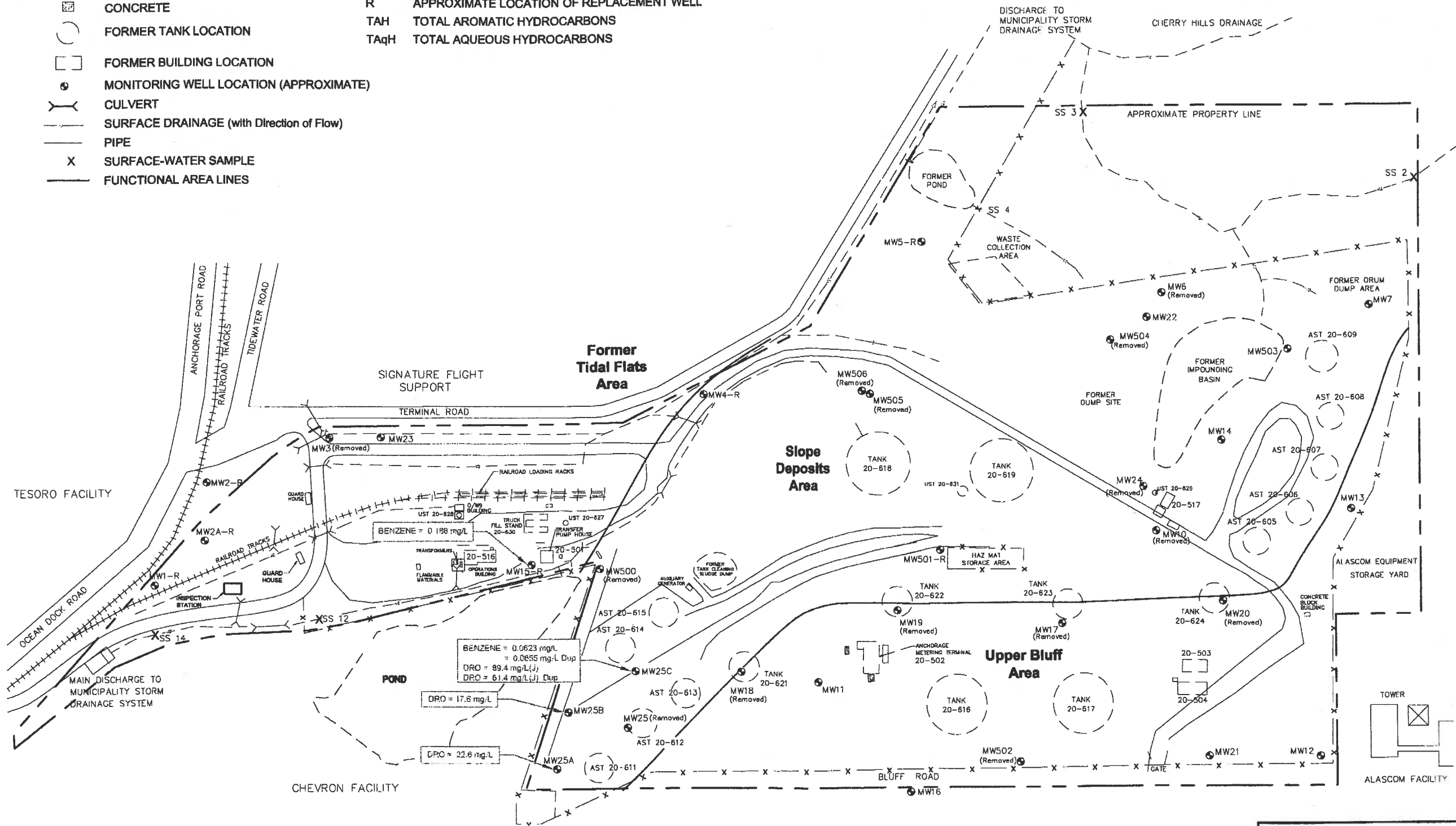
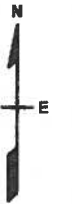
3.1 TEST METHODS

Groundwater samples were analyzed for gasoline range organics (GRO) by Alaska Method (AK) 101, for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by U.S. Environmental Protection Agency (EPA) Method 8021B, and for diesel range organics (DRO) by AK 102. Surface-water samples were analyzed for total aromatic hydrocarbons (TAH), the sum of BTEX analytes by EPA 8021B, and total aqueous hydrocarbons (TAqH), the sum of TAH and polynuclear aromatic hydrocarbons (PAH) by EPA 8270C secondary ion-mass spectrometry (SIMS).

A summary of the groundwater analytical program, including analytical methods, Practical Quantitation Limits (PQLs) and Method Detection Limits (MDLs) for specific analytes is presented in Table 2.

LEGEND AND ABBREVIATIONS

- | | | | |
|------|---|-------|--|
| --- | U.S. ARMY BOUNDARY | mg/L | MILLIGRAMS PER LITER |
| ==== | ROAD | (Dup) | DUPLICATE |
| -x- | FENCE | DRO | DIESEL RANGE ORGANICS |
| ▣ | CONCRETE | R | APPROXIMATE LOCATION OF REPLACEMENT WELL |
| ○ | FORMER TANK LOCATION | TAH | TOTAL AROMATIC HYDROCARBONS |
| □ | FORMER BUILDING LOCATION | TAqH | TOTAL AQUEOUS HYDROCARBONS |
| ⊙ | MONITORING WELL LOCATION (APPROXIMATE) | | |
| ⌒ | CULVERT | | |
| --- | SURFACE DRAINAGE (with Direction of Flow) | | |
| — — | PIPE | | |
| x | SURFACE-WATER SAMPLE | | |
| --- | FUNCTIONAL AREA LINES | | |



NOTE: SINCE MLFA DID NOT RECEIVE ANY LOCATION DATA PERTAINING TO THE REPLACEMENT WELLS, MLFA ASSUMES THE REPLACEMENT WELLS ARE IN THE SAME LOCATIONS AS THE ORIGINAL WELLS.

SOURCE: PROPOSED PLAN (2000)



| | |
|--|------------------------------|
| 2008 ANNUAL SAMPLING DEFENSE FUEL SUPPORT POINT - ANCHORAGE | |
| GROUNDWATER MONITORING WELLS AND SURFACE-WATER SAMPLE LOCATIONS | |
| JOB NO: DESC-DESC-005-0012 | DRAWN: CWS, AM |
| DATE: SEPTEMBER 15, 2008 | FILE: FIG 1_GW MW Spring.dwg |
| Figure 1 | |

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3.2 RESULTS

Analytical results for the groundwater and surface-water samples collected during the 2009 Annual Sampling Event are presented in Tables 3 and 4, respectively. Site-specific groundwater cleanup levels as established in the *Record of Decision for Cleanup* for DFSP-A, are presented in Table 5. Copies of the laboratory reports for the sampling event are presented in Appendix B.

Monitoring wells were analyzed for GRO, DRO, and BTEX. MW15R exceeded the benzene cleanup level. MW25A, MW25C and MW102 exceeded the DRO cleanup level. MW25A exceeded the GRO cleanup level. DRO ranged from not detected (ND) to 112 (J) milligrams per liter (mg/L). The DRO patterns for the groundwater samples were consistent with a weathered middle distillate. GRO ranged from ND to 18.4 mg/L. Benzene ranged from ND to 0.236 mg/L. Toluene ranged from ND to 0.00677 (J) mg/L. Ethylbenzene ranged from ND to 0.225 mg/L. Total xylenes ranged from ND to 0.566 mg/L.

Surface samples were analyzed for TAH and TAqH. SS14 and SS101 (SS14 Dup) exceeded both the TAH and TAqH cleanup levels. TAH ranged from ND to 0.02612 mg/L. TAqH ranged from 0.0000198 to 0.0265 mg/L.

3.3 DATA VALIDATION

Data verification and quality assurance was performed on the analytical laboratory sample results in accordance with the ADEC Technical Memorandum 06-002, *Environmental Laboratory Data and Quality Assurance Requirements*, dated May 2009. The Laboratory Data Review Checklist for each laboratory work order is provided in Appendix C.

3.3.1 Data Precision

Two field duplicates were collected for eleven samples. Field sample duplicates had a relative percent difference (RPD) greater than 30 percent for DRO for MW25C/MW102. The Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries were outside quality control (QC) criteria (biased high) for SS12, SS14, and SS4.

3.3.2 Data Accuracy

Sample surrogate recoveries for MW25A, MW25C, MW102, and MW15R were biased high due to hydrocarbon interference. The data was accepted as reported.

Table 2 - PQLs and MDLs for Water Analyses

| COMPOUND | Analytical Method | Matrix | Units | Practical Quantitation Limit (PQL) | Method Detection Limit (MDL) |
|--------------------------|-------------------|--------|-------|------------------------------------|------------------------------|
| Gasoline Range Organics | AK101 | Water | µg/L | 0.1 | 0.01 |
| Total BTEX | | | | | |
| Benzene | AK101/8021B | Water | µg/L | 0.5 | 0.15 |
| Toluene | AK101/8021B | Water | µg/L | 2.0 | 0.62 |
| Ethylbenzene | AK101/8021B | Water | µg/L | 2.0 | 0.62 |
| Total Xylenes | AK101/8021B | Water | µg/L | 2.0 | 0.62 |
| Diesel Range Organics | AK102 | Water | mg/L | 0.7 | 0.060 |
| PAH | | | | | |
| acenaphthylene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| 2-methylnaphthalene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| acenaphthene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| fluorene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| phenanthrene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| anthracene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| fluoranthene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| pyrene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| benzo(a)anthracene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| chrysene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| benzo[b] fluoranthene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| benzo[a]pyrene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| indeno[1,2,3-c,d] pyrene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| dibenzo[a,h] anthracene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| benzo[g,h,i] perylene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| naphthalene | 8270 PAHs | Water | µg/L | 0.110 | 0.0341 |
| 1-methylnaphthalene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |
| benzo[k] fluoranthene | 8270 PAHs | Water | µg/L | 0.0549 | 0.0165 |

Notes: AK = Alaska Method
 BTEX = benzene, toluene, ethylbenzene, and total xylenes
 DRO = diesel range organics
 EPA = U.S. Environmental Protection Agency
 GRO = gasoline range organics
 MDLs = Method Detection Limits
 mg/L = milligrams per liter
 PAH = polynuclear aromatic hydrocarbons
 PQLs = Practical Quantitation Limits
 µg/L = micrograms per liter

Table 3 – 2009 Annual Groundwater Sampling Results

| GROUNDWATER MONITORING WELL/SAMPLE LOCATION | DATE SAMPLED | CASING ELEVATION AT MEASURING POINT (feet) | DEPTH TO GROUNDWATER (feet) | GROUNDWATER ELEVATION (feet) | GRO AK 101 (mg/L) | BTEX EPA 8021B | | | | DRO AK 102 (mg/L) |
|---|--------------|--|-----------------------------|------------------------------|-------------------|----------------|----------------|---------------------|----------------------|-------------------|
| | | | | | | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) | |
| Cleanup Levels ⁽¹⁾ | | | | | 13.0 | 0.050 | 10.0 | 7.0 | 100.0 | 15.0 |
| MW2R | 8/24/09 | NA | 4.57 | NA | ND | ND | ND | ND | 0.00073J | 0.432J |
| MW4R | 8/24/09 | NA | 5.77 | NA | 0.0376J | 0.00413 | ND | ND | ND | 0.915 |
| MW15R | 8/24/09 | NA | 4.67 | NA | 2.13 | 0.236 | 0.00454 | 0.225 | 0.23157 | 3.59 |
| MW22 | 8/24/09 | 121.22 | 4.25 | 116.97 | 0.122 | 0.00092 | ND | ND | 0.00082J | ND |
| MW23 | 8/24/09 | 20.40 | 4.90 | 15.50 | ND | 0.000312J | ND | ND | 0.00069J | 0.921 |
| MW25A | 8/24/09 | NA | 46.82 | NA | 18.4 | 0.0156 | ND | 0.095 | 0.466 | 23.9 |
| MW25B | 8/24/09 | NA | 43.40 | NA | 2.79 | 0.0143 | ND | 0.138 | 0.170 | 11.6 |
| MW25C | 8/24/09 | NA | 43.66 | NA | 10.1 | 0.0343 | 0.00677J | 0.176 | 0.548 | 112J |
| MW102 | 8/24/09 | NA | 43.66 | NA | 12.2 | 0.0331 | ND | 0.178 | 0.566 | 76.0J |

Notes: AK = Alaska Method

BTEX = benzene, toluene, ethylbenzene, and total xylenes

DRO = diesel range organics

EPA = U.S. Environmental Protection Agency

GRO = gasoline range organics

mg/L = milligrams per liter

ND = not detected

⁽¹⁾ Cleanup levels are specified in the *Record of Decision for Cleanup and Long-Term Monitoring Plan*.

Bold and shaded areas are greater than cleanup levels.

Table 4 – 2009 Annual Surface-Water Sampling Results

| GROUNDWATER MONITORING WELL/SAMPLE LOCATION | DATE SAMPLED | TAH EPA 8021B (mg/L) | PAH EPA 8270C SIMS (mg/L) | TAqH (mg/L) |
|---|--------------|----------------------|---------------------------|---------------|
| Cleanup Levels ⁽¹⁾ | | 0.010 | | 0.015 |
| SS4 | 8/24/09 | ND | 0.0000937J | 0.0000937 |
| SS12 | 8/24/09 | ND | 0.0000198J | 0.0000198 |
| SS14 | 8/24/09 | 0.02612 | 0.000373 | 0.0265 |
| SS101 | 8/24/09 | 0.02553 | 0.000325 | 0.0259 |

Notes: EPA = U.S. Environmental Protection Agency
 mg/L = milligrams per liter
 ND = not detected
 PAH = polynuclear aromatic hydrocarbons
 TAH = total aromatic hydrocarbons
 TAqH = total aqueous hydrocarbons (TAH plus PAH)
⁽¹⁾ Cleanup levels are specified in the *Record of Decision for Cleanup*.
 Bold and shaded areas are greater than cleanup levels.

Table 5 – Groundwater and Surface-Water Clean-up Levels

| Contaminant | | Cleanup Levels ⁽¹⁾ (mg/L) |
|-----------------------------|---------------|--------------------------------------|
| Gasoline Range Organics | | 13.0 |
| BTEX | Benzene | 0.050 |
| | Toluene | 10.0 |
| | Ethylbenzene | 7.0 |
| | Total Xylenes | 100.0 |
| Diesel Range Organics | | 15.0 |
| Total Aromatic Hydrocarbons | | 0.010 |
| Total Aqueous Hydrocarbons | | 0.015 |

Notes: mg/L = milligrams per liter
⁽¹⁾ Site-specific cleanup levels, as established in the *Record of Decision for Cleanup and Long-Term Monitoring Plan* for DFSP-A.

3.3.3 Data Representativeness

Samples were received in good condition but outside the required 4.0 degrees centigrade (°C) +/- 2.0°C. The groundwater sample patterns were consistent with a weathered middle distillate as described in the Site Characterization Report.

3.3.4 Data Comparability

Standard methods, procedures, quantitation units, and reporting format were used by the laboratory.

3.3.5 Data Completeness

All the data for the 2009 Annual Sampling Event is considered usable. The data was accepted except for the items listed above.

3.3.6 Data Sensitivity

The MDLs and PQLs are less than the cleanup levels stated in the *Record of Decision for Cleanup*. The GRO/BTEX trip blank (TB) were recorded as ND for the analytes at the PQLs.

4.0 SUMMARY

Of the eight groundwater monitoring wells and three surface-water locations sampled, MW15R, MW25A, MW25C, and MW102 exceeded cleanup levels specified in the *Record of Decision for Cleanup and Long-Term Monitoring Plan*. Benzene was detected in MW15R at 0.236 mg/L. DRO was detected in MW25A at 23.9 mg/L, MW25C at 112 (J) mg/L, and MW102 at 76.0 (J) mg/L. GRO was detected in MW25A at 18.4 mg/L. SS14 and SS101 exceeded cleanup levels specified in the *Record of Decision for Cleanup and Long-Term Monitoring Plan*. TAH was detected in SS14 at 0.02612 mg/L and SS101 at 0.02553 mg/L. TAqH was detected in SS14 at 0.0265 mg/L and SS101 at 0.0259 mg/L.

5.0 LIMITATIONS

This 2009 Annual Sampling Report has been prepared for the exclusive use of Defense Energy Support Center (DESC). It is intended to provide an understanding of the potential for environmental contamination by hazardous substances or petroleum products at the property assessed. The findings and recommendations in the Report are based upon data and information obtained during a single water sampling event by Michael L. Foster & Associates, Inc. (MLFA) personnel and the condition of the property on the date of such visit, supplemented by information and data obtained by MLFA and described herein. The findings contained in the Report are based on the expertise and experience of MLFA in conducting similar assessments.

MLFA's objective is to perform our work with care, exercising the customary thoroughness and competence of environmental and engineering consulting professionals, in accordance with the standard for professional services at the time and location those services are rendered. It is important to recognize that even the most comprehensive scope of work may fail to detect environmental liability on a particular site. Therefore, MLFA cannot act as insurers and cannot "certify or underwrite" that a site is free of environmental contamination, and no expressed or implied representation or warranty is included or intended in our reports except that our work was performed within the limits prescribed by our client, with the customary thoroughness and competence of our profession.

Appendix A
MLFA Field Notes

Date: 8/24/09

MW: 25A

Free Product in Well? N (y/n)

Thickness of Nonaqueous layer: inch

A= Depth to Water: 46.82 feet

B= Well Bottom: 53.35 feet

C= Water Column (B-A): 6.53 feet

Well Diameter: 2 inches

E= 0.162 for well diameter = 2"
E= 0.652 for well diameter = 4"
E= 1.47 for well diameter = 6"

D = Well Volume (C*E): 1.05 gallons

Purge Volume = D * 3: 3.1 gallons

(4 bailers/gallon)

Was well bailed dry? N (y/n)

Time began bailing: 11:15

Time finished bailing: 11:20

Time Sample Taken: 11:25

Analysis: DRO/GRO/BTEX

Laboratorie(s): SGS

Sample ID: DESC-05-013-MW 25A

Sampled by: TRB

Water Characteristics (odor, sheen, color, etc.): 200 mg
Full odor
stronger in 5 min

Other Comments: _____

Date: 8/24/09

MW: 25B

Free Product in Well? N (y/n)

Thickness of Nonaqueous layer: inch

A= Depth to Water: 43.25 feet

B= Well Bottom: 49.06 feet

C= Water Column (B-A): 5.81 feet

Well Diameter: 2 inches

E= 0.162 for well diameter = 2"

E= 0.652 for well diameter = 4"

E= 1.47 for well diameter = 6"

D = Well Volume (C*E): 91.6 gallons

Purge Volume = D * 3: 275 gallons

(4 bailers/gallon)

Was well bailed dry? Y (y/n)

Time began bailing: 11:00

Time finished bailing: 11:05

Time Sample Taken: 11:10

Analysis: DRO/GRO/BTEX

Laboratorie(s): SGS

Sample ID: DESC-05-013-MW 25B

Sampled by: TRB

Water Characteristics (odor, sheen, color, etc.): Cloudy

Am. Odor

Light Sheen

Other Comments: _____

Date: 8-24-09

MW: 25C

Free Product in Well? _____ (y/n)

Thickness of Nonaqueous layer: _____ inch

A= Depth to Water: 43.66 feet

B= Well Bottom: 45 feet

C= Water Column (B-A): 1.3 feet

Well Diameter: 2 inches

E= 0.162 for well diameter = 2"

E= 0.652 for well diameter = 4"

E=1.47 for well diameter = 6"

D = Well Volume (C*E): .2 gallons

Purge Volume = D * 3: .6 gallons

(4 bailers/gallon)

Was well bailed dry? N (y/n)

Time began bailing: 10:45

Time finished bailing: 10:50

Time Sample Taken: 10:50 | 10:55

Analysis: DRO/GRO/BTEX

Laboratorie(s): SGS

Sample ID: DESC-05-013-MW 25C

Sampled by: TRB

MW 102

Water Characteristics (odor, sheen, color, etc.): cloudy

pink color

heavy sheen

Other Comments: _____

Date: 8/24/09

MW: 22

Free Product in Well? N (y/n)

Thickness of Nonaqueous layer: inch

A= Depth to Water: 4.25 feet

B= Well Bottom: 13.35 feet

C= Water Column (B-A): 9.10 feet

Well Diameter: 2 inches

E= 0.162 for well diameter = 2"

E= 0.652 for well diameter = 4"

E=1.47 for well diameter = 6"

D = Well Volume (C*E): 13.47 gallons

Purge Volume = D * 3: 40.41 gallons

(4 bailers/gallon)

Was well bailed dry? N (y/n)

Time began bailing: 11:55

Time finished bailing: 1:40

Time Sample Taken: 11:45

Analysis: DRO/GRO/BTEX

Laboratorie(s): SGS

Sample ID: DESC-05-013-MW 22

Sampled by: TRB

Water Characteristics (odor, sheen, color, etc.):

cloudy

no odor

no sheen

Other Comments: _____

Date: 8-2-09

MW: 23

Free Product in Well? N (y/n)

Thickness of Nonaqueous layer: inch

A= Depth to Water: 49 feet

B= Well Bottom: 107 feet

C= Water Column (B-A): 58 feet

Well Diameter: 2 inches

E= 0.162 for well diameter = 2"

E= 0.652 for well diameter = 4"

E=1.47 for well diameter = 6"

D = Well Volume (C*E): 94 gallons

Purge Volume = D * 3: 28 gallons

(4 bailers/gallon)

Was well bailed dry? N (y/n)

Time began bailing: 12:00

Time finished bailing: 12:05

Time Sample Taken: 12:00

Analysis: DRO/GRO/BTEX

Laboratorie(s): SGS

Sample ID: DESC-05-013-MW 23

Sampled by: TRB

Water Characteristics (odor, sheen, color, etc.): cloudy

no odor

no sheen

Other Comments: _____

Date: 8/24/09

MW: 4R

Free Product in Well? N (y/n)

Thickness of Nonaqueous layer: 0 inch

A= Depth to Water: 5.7 feet

B= Well Bottom: 13.54 feet

C= Water Column (B-A): 7.77 feet

Well Diameter: 4 inches

E= 0.162 for well diameter = 2"

E= 0.652 for well diameter = 4"

E= 1.47 for well diameter = 6"

D = Well Volume (C*E): 5.1 gallons

Purge Volume = D * 3: 15.3 gallons

(4 bailers/gallon)

Was well bailed dry? Y (y/n) @ 0.3 gal

Time began bailing: 12:15

Time finished bailing: 12:25

Time Sample Taken: ~~12:30~~ 1:50

Analysis: DRO/GRO/BTEX

Laboratorie(s): SGS

Sample ID: DESC-05-013-MW 4R

Sampled by: TRB

Water Characteristics (odor, sheen, color, etc.): Cloudy
no odor
no sheen

Other Comments: _____

Date: 8/24/09

MW: 15R

Free Product in Well? N (y/n)

Thickness of Nonaqueous layer: — inch

A= Depth to Water: 4.67 feet

B= Well Bottom: 12.84 feet

C= Water Column (B-A): 8.17 feet

Well Diameter: 4 inches

E= 0.162 for well diameter = 2"

E= 0.652 for well diameter = 4"

E= 1.47 for well diameter = 6"

D = Well Volume (C*E): 4.9 gallons

Purge Volume = D * 3: 14.7 gallons

(4 bailers/gallon)

Was well bailed dry? N (y/n)

Time began bailing: 1245

Time finished bailing: 1:00

Time Sample Taken: 1:10

Analysis: DRO/GRO/BTEX

Laboratorie(s): SGS

Sample ID: DESC-05-013-MW 15R

Sampled by: TRB

Water Characteristics (odor, sheen, color, etc.): Cloudy
Fuel odor
Light + Sheen

Other Comments: _____

Date: 8/24/09

MW: 2R

Free Product in Well? N (y/n)

Thickness of Nonaqueous layer: inch

A= Depth to Water: 4.57 feet

B= Well Bottom: 14.62 feet

C= Water Column (B-A): 10.05 feet

Well Diameter: 4 inches

E= 0.162 for well diameter = 2"

E= 0.652 for well diameter = 4"

E= 1.47 for well diameter = 6"

D = Well Volume (C*E): 6.25 gallons

Purge Volume = D * 3: 19.5 gallons

(4 bailers/gallon)

Was well bailed dry? N (y/n)

Time began bailing: 120

Time finished bailing: 135

Time Sample Taken: 140

Analysis: DRO/GRO/BTEX

Laboratorie(s): SGS

Sample ID: DESC-05-013-MW 2R

Sampled by: TRB

Water Characteristics (odor, sheen, color, etc.): cloudy
no odor
no sheen

Other Comments: _____

Date: 8/24/09

SS: 04

Time Sample Taken: 1230

Analysis: BTEX/PAH

Laboratorie(s): SGS

Sample ID: DESC-05-013-SS 04

Sampled by: TRB

Water Characteristics (odor, sheen, color, etc.): Water
no fuel odor
no sheen

Other Comments: _____

Date: 8/24/09

SS: 12

Time Sample Taken: 125

Analysis: BTEX/PAH

Laboratory(ies): SGS

Sample ID: DESC-05-013-SS 12

Sampled by: TRB

Water Characteristics (odor, sheen, color, etc.): clean
biogenic sheen; organic
no fuel odor

Other Comments: _____

Date: 8/24/09

SS: 14

Time Sample Taken: 10:20/10:25

Analysis: BTEX/PAH

Laboratorie(s): SGS

Sample ID: DESC-05-013-SS 14
SS-101

Sampled by: TRB

Water Characteristics (odor, sheen, color, etc.): clear
broken odor
NO sheen

Other Comments: _____

Appendix B
Analytical Laboratory Reports
Work Order 1094420



SGS North America Inc.
Alaska Division
Level II Laboratory Data Report

Project: DESC0050013 Anchorage 09 Annual
Client: Michael L Foster & Associates
SGS Work Order: 1094420

Released by:

Contents:

Cover Page
Case Narrative
Final Report Pages
Quality Control Summary Forms
Chain of Custody/Sample Receipt Forms

Note:
Unless otherwise noted, all quality assurance/quality control criteria is in compliance with the standards set forth by the proper regulatory authority, the SGS Quality Assurance Program Plan, and the National Environmental Accreditation Conference.



CASE NARRATIVE

Print Date: 9/23/2009

Client Name: Michael L Foster & Associates
Project Name: DESC0050013Anchorage 09 Annual
Workorder No.: 1094420

Sample Comments

Refer to the sample receipt form for information on sample condition.

| <u>Lab Sample ID</u> | <u>Sample Type</u> | <u>Client Sample ID</u> |
|----------------------|--|---------------------------------|
| 1094420001 | PS | DESC-05-013-MW 25A |
| | AK101/8021B - BFB (surrogate) recovery does not meet QC criteria (biased high) due to hydrocarbon interference. AK102 - The pattern is consistent with a weathered middle distillate. | |
| 1094420002 | PS | DESC-05-013-MW 25B |
| | AK102 - The pattern is consistent with a weathered middle distillate. | |
| 1094420003 | PS | DESC-05-013-MW 25C |
| | AK101/8021B - BFB (surrogate) recovery does not meet QC criteria (biased high) due to hydrocarbon interference. AK102 - The pattern is consistent with a weathered middle distillate. | |
| 1094420004 | PS | DESC-05-013-MW 102 |
| | AK101/8021B - BFB (surrogate) recovery does not meet QC criteria (biased high) due to hydrocarbon interference. AK102 - The pattern is consistent with a weathered middle distillate. | |
| 1094420006 | PS | DESC-05-013-MW 23 |
| | AK102 - Unknown hydrocarbon with several peaks is present. | |
| 1094420007 | PS | DESC-05-013-MW 4R |
| | AK102 - Unknown hydrocarbon with several peaks is present. | |
| 1094420008 | PS | DESC-05-013-MW 15R |
| | AK101/8021B - BFB (surrogate) recovery does not meet QC criteria (biased high) due to hydrocarbon interference. AK102 - The pattern is consistent with a weathered middle distillate. | |
| 918994 | LCS | LCS for HBN 219097 [XXX/21530] |
| | 8270D SIM - LCS recovery for benzo[ghi]perylene is outside of QC criteria (biased high). This analyte was not detected above the PQL in the associated samples. | |
| 918995 | LCSD | LCSD for HBN 219097 [XXX/21530] |
| | 8270D SIM - LCSD recovery for indeno[1,2,3-c,d] pyrene and benzo[ghi]perylene is outside of QC criteria (biased high). These analytes were not detected above the PQL in the associated samples. | |



Laboratory Analytical Report

Client: **Michael L Foster & Associates**
13135 Old Glenn Hwy., Ste. 210
Eagle River, AK 99577

Attn: **Traci Bradford**
T: (907) 696-6200 F:(907) 696-6202
trb@mlfaalaska.com

Project: **DESC0050013Anchorage 09 Annual**

Workorder No.: **1094420**

Certification:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, other than the conditions noted on the sample data sheet(s) and/or the case narrative. This certification applies only to the tested parameters and the specific sample(s) received at the laboratory.

If you have any questions regarding this report, or if we can be of further assistance, please contact your SGS Project Manager.

Tamara Rentz
tamara.rentz@sgs.com
Project Manager

Enclosed are the analytical results associated with this workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Assurance Plan (QAP), which outlines this program is available at your request.

The Laboratory certification numbers are AK971-05 (DW), UTS-005 (CS) and AK00971 (Micro) for ADEC and AK100001 for NELAP (RCRA methods: 1020A, 1311, 6010B, 7470A, 7471A, 9040B, 9045C, 9056, 9060, 8015B, 8021B, 8081A/8082, 8260B, 8270C).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP, the National Environmental Laboratory Accreditation Program and, when applicable, other regulatory authorities.

If you have any questions regarding this report or if we can be of any assistance, please contact your SGS Project Manager at 907-562-2343. All work is being provided under SGS general terms and conditions (http://www.sgs.com/terms_and_conditions.htm)

The following descriptors may be found on your report which will serve to further qualify the data.

| | |
|-----------|--|
| MDL | Method Detection Limit |
| PQL | Practical Quantitation Limit (reporting limit). |
| CL | Control Limit |
| U | Indicates the analyte was analyzed for but not detected. |
| F | Indicates value that is greater than or equal to the MDL. |
| J | The quantitation is an estimation. |
| ND | Indicates the analyte is not detected |
| B | Indicates the analyte is found in a blank associated with the sample. |
| * | The analyte has exceeded allowable regulatory or control limits. |
| D | The analyte concentration is the result of dilution. |
| GT | Greater Than |
| LT | Less Than |
| Q | QC parameter out of acceptance range. |
| M | A matrix effect was present. |
| E | The analyte result is above the calibrated range. |
| R | Rejected |
| DF | Analytical Dilution Factor |
| JL | The analyte was positively identified, but the quantitation is a low estimation. |
| <Surr> | Surrogate QC spiked standard |
| <Surr/IS> | Surrogate / Internal Standard QC spiked standard |
| QC | Quality Control |
| QA | Quality Assurance |
| MB | Method Blank |
| LCS (D) | Laboratory Control Sample (Duplicate) |
| MS(D) | Matrix Spike (Duplicate) |
| BMS(D) | Site Specific Matrix Spike (Duplicate) |
| RPD | Relative Percent Difference |
| ICV | Initial Calibration Verification |
| CCV | Continuous Calibration Verification |
| MSA | Method of Standard Addition |

Notes: Soil samples are reported on a dry weight basis unless otherwise specified
All DRO/RRO analyses are integrated per SOP.



SAMPLE SUMMARY

Print Date: 9/23/2009 3:41 pm

Client Name: Michael L Foster & Associates
Project Name: DESC0050013Anchorage 09 Annual
Workorder No.: 1094420

Analytical Methods

| <u>Method Description</u> | <u>Analytical Method</u> |
|--|--------------------------|
| 8270 PAH SIM Semi-Vol GC/MS Liq/Liq ext. | 8270D SIMS |
| AK101/8021 Combo. | AK101 |
| AK101/8021 Combo. | SW8021B |
| BTEX 8021 | SW8021B |
| DRO Low Volume (W) | AK102 |

Sample ID Cross Reference

| <u>Lab Sample ID</u> | <u>Client Sample ID</u> |
|----------------------|-------------------------|
| 1094420001 | DESC-05-013-MW 25A |
| 1094420002 | DESC-05-013-MW 25B |
| 1094420003 | DESC-05-013-MW 25C |
| 1094420004 | DESC-05-013-MW 102 |
| 1094420005 | DESC-05-013-MW 22 |
| 1094420006 | DESC-05-013-MW 23 |
| 1094420007 | DESC-05-013-MW 4R |
| 1094420008 | DESC-05-013-MW 15R |
| 1094420009 | DESC-05-013-MW 2R |
| 1094420010 | DESC-05-013-SS 04 |
| 1094420011 | DESC-05-013-SS 12 |
| 1094420012 | DESC-05-013-SS 14 |
| 1094420013 | DESC-05-013-SS 101 |
| 1094420014 | DESC-05-013-TB1 |



Client Sample ID: **DESC-05-013-MW 25A**

SGS Ref. #: 1094420001

Project ID: DESC0050013Anchorage 09 Annual

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 08/24/09 11:25

Receipt Date/Time: 08/25/09 13:20

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Gasoline Range Organics | 18.4 | 1.00 | 0.310 | mg/L | 10 | VFC9628 | VXX19916 | |
| Benzene | 15.6 | 5.00 | 1.50 | ug/L | 10 | VFC9628 | VXX19916 | |
| Toluene | ND | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| Ethylbenzene | 95.0 | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| o-Xylene | 219 | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| P & M -Xylene | 247 | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| 4-Bromofluorobenzene <surr> | 298 | * 50-150 | | % | 10 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 101 | 80-120 | | % | 10 | VFC9628 | VXX19916 | |

Batch Information

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: AK101 | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/02/09 22:58 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420001-A |
| Dilution Factor: 10 | | Analyst: KPW |

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: SW8021B | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/02/09 22:58 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420001-A |
| Dilution Factor: 10 | | Analyst: KPW |



Michael L Foster & Associates

Print Date: 9/23/2009 3:41 pm

Client Sample ID: **DESC-05-013-MW 25A**

SGS Ref. #: 1094420001

Collection Date/Time: 08/24/09 11:25

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Semivolatile Organic Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical</u> <u>Batch</u> | <u>Prep</u> <u>Batch</u> | <u>Qualifiers</u> |
|-----------------------|---------------|---------------|------------|--------------|-----------|-----------------------------------|-----------------------------|-------------------|
| Diesel Range Organics | 23.9 | 0.769 | 0.240 | mg/L | 1 | XFC8863 | XXX21540 | |
| 5a Androstane <sur> | 84.1 | 50-150 | | % | 1 | XFC8863 | XXX21540 | |

Batch Information

Analytical Batch: XFC8863

Prep Batch: XXX21540

Initial Prep Wt./Vol.: 260 mL

Analytical Method: AK102

Prep Method: SW3520C

Prep Extract Vol.: 1 mL

Analysis Date/Time: 09/18/09 01:12

Prep Date/Time: 08/28/09 10:00

Container ID:1094420001-D

Dilution Factor: 1

Analyst: KDC



Client Sample ID: **DESC-05-013-MW 25B**
 SGS Ref. #: 1094420002
 Project ID: DESC0050013Anchorage 09 Annual
 Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 08/24/09 11:10
 Receipt Date/Time: 08/25/09 13:20

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Gasoline Range Organics | 2.79 | 1.00 | 0.310 | mg/L | 10 | VFC9628 | VXX19916 | |
| Benzene | 14.3 | 5.00 | 1.50 | ug/L | 10 | VFC9628 | VXX19916 | |
| Toluene | ND | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| Ethylbenzene | 138 | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| o-Xylene | 10.1 J | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| P & M -Xylene | 160 | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| 4-Bromofluorobenzene <surr> | 147 | 50-150 | | % | 10 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 89.1 | 80-120 | | % | 10 | VFC9628 | VXX19916 | |

Batch Information

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: AK101 | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/02/09 23:23 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420002-A |
| Dilution Factor: 10 | | Analyst: KPW |

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: SW8021B | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/02/09 23:23 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420002-A |
| Dilution Factor: 10 | | Analyst: KPW |



Client Sample ID: **DESC-05-013-MW 25B**

SGS Ref. #: 1094420002

Collection Date/Time: 08/24/09 11:10

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Semivolatile Organic Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Diesel Range Organics | 11.6 | 0.714 | 0.223 | mg/L | 1 | XFC8863 | XXX21540 | |
| 5a Androstane <sur> | 78.2 | 50-150 | | % | 1 | XFC8863 | XXX21540 | |

Batch Information

Analytical Batch: XFC8863

Prep Batch: XXX21540

Initial Prep Wt./Vol.: 280 mL

Analytical Method: AK102

Prep Method: SW3520C

Prep Extract Vol.: 1 mL

Analysis Date/Time: 09/18/09 01:21

Prep Date/Time: 08/28/09 10:00

Container ID:1094420002-D

Dilution Factor: 1

Analyst: KDC



Michael L Foster & Associates

Print Date: 9/23/2009 3:41 pm

Client Sample ID: **DESC-05-013-MW 25C**

SGS Ref. #: 1094420003

Collection Date/Time: 08/24/09 10:50

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Gasoline Range Organics | 10.1 | 1.00 | 0.310 | mg/L | 10 | VFC9628 | VXX19916 | |
| Benzene | 34.3 | 5.00 | 1.50 | ug/L | 10 | VFC9628 | VXX19916 | |
| Toluene | 6.77 J | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| Ethylbenzene | 176 | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| o-Xylene | 57.5 | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| P & M -Xylene | 491 | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| 4-Bromofluorobenzene <surr> | 194 | * 50-150 | | % | 10 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 97 | 80-120 | | % | 10 | VFC9628 | VXX19916 | |

Batch Information

Analytical Batch: VFC9628
Analytical Method: AK101
Analysis Date/Time: 09/02/09 23:48
Dilution Factor: 10

Prep Batch: VXX19916
Prep Method: SW5030B
Prep Date/Time: 09/02/03 14:29

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID: 1094420003-A
Analyst: KPW

Analytical Batch: VFC9628
Analytical Method: SW8021B
Analysis Date/Time: 09/02/09 23:48
Dilution Factor: 10

Prep Batch: VXX19916
Prep Method: SW5030B
Prep Date/Time: 09/02/03 14:29

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID: 1094420003-A
Analyst: KPW



Client Sample ID: **DESC-05-013-MW 25C**

SGS Ref. #: 1094420003

Collection Date/Time: 08/24/09 10:50

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Semivolatile Organic Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical</u> <u>Batch</u> | <u>Prep</u> <u>Batch</u> | <u>Qualifiers</u> |
|-----------------------|---------------|---------------|------------|--------------|-----------|-----------------------------------|-----------------------------|-------------------|
| Diesel Range Organics | 112 | 2.86 | 0.893 | mg/L | 4 | XFC8872 | XXX21540 | |
| 5a Androstane <sur> | 84.9 | 50-150 | | % | 4 | XFC8872 | XXX21540 | |

Batch Information

Analytical Batch: XFC8872

Prep Batch: XXX21540

Initial Prep Wt./Vol.: 280 mL

Analytical Method: AK102

Prep Method: SW3520C

Prep Extract Vol.: 1 mL

Analysis Date/Time: 09/22/09 07:57

Prep Date/Time: 08/28/09 10:00

Container ID:1094420003-D

Dilution Factor: 4

Analyst: KDC



Client Sample ID: **DESC-05-013-MW 102**

SGS Ref. #: 1094420004

Collection Date/Time: 08/24/09 10:55

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Gasoline Range Organics | 12.2 | 1.00 | 0.310 | mg/L | 10 | VFC9628 | VXX19916 | |
| Benzene | 33.1 | 5.00 | 1.50 | ug/L | 10 | VFC9628 | VXX19916 | |
| Toluene | ND | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| Ethylbenzene | 178 | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| o-Xylene | 73.0 | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| P & M -Xylene | 493 | 20.0 | 6.20 | ug/L | 10 | VFC9628 | VXX19916 | |
| 4-Bromofluorobenzene <surr> | 217 | * 50-150 | | % | 10 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 97.2 | 80-120 | | % | 10 | VFC9628 | VXX19916 | |

Batch Information

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: AK101 | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/03/09 00:12 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420004-A |
| Dilution Factor: 10 | | Analyst: KPW |

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: SW8021B | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/03/09 00:12 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420004-A |
| Dilution Factor: 10 | | Analyst: KPW |



Client Sample ID: **DESC-05-013-MW 102**

SGS Ref. #: 1094420004

Collection Date/Time: 08/24/09 10:55

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Semivolatile Organic Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Diesel Range Organics | 76.0 | 2.86 | 0.893 | mg/L | 4 | XFC8872 | XXX21540 | |
| 5a Androstane <sur> | 83.1 | 50-150 | | % | 4 | XFC8872 | XXX21540 | |

Batch Information

Analytical Batch: XFC8872

Prep Batch: XXX21540

Initial Prep Wt./Vol.: 280 mL

Analytical Method: AK102

Prep Method: SW3520C

Prep Extract Vol.: 1 mL

Analysis Date/Time: 09/22/09 08:06

Prep Date/Time: 08/28/09 10:00

Container ID:1094420004-D

Dilution Factor: 4

Analyst: KDC



Client Sample ID: **DESC-05-013-MW 22**

SGS Ref. #: 1094420005

Project ID: DESC0050013Anchorage 09 Annual

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 08/24/09 11:45

Receipt Date/Time: 08/25/09 13:20

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Gasoline Range Organics | 0.122 | 0.100 | 0.0310 | mg/L | 1 | VFC9628 | VXX19916 | |
| Benzene | 0.924 | 0.500 | 0.150 | ug/L | 1 | VFC9628 | VXX19916 | |
| Toluene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| Ethylbenzene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| o-Xylene | 0.818 J | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| P & M -Xylene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| 4-Bromofluorobenzene <surr> | 102 | 50-150 | | % | 1 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 94 | 80-120 | | % | 1 | VFC9628 | VXX19916 | |

Batch Information

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: AK101 | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/02/09 19:13 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420005-A |
| Dilution Factor: 1 | | Analyst: KPW |

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: SW8021B | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/02/09 19:13 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420005-A |
| Dilution Factor: 1 | | Analyst: KPW |



Client Sample ID: **DESC-05-013-MW 22**

SGS Ref. #: 1094420005

Collection Date/Time: 08/24/09 11:45

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Semivolatile Organic Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Diesel Range Organics | ND | 0.800 | 0.250 | mg/L | 1 | XFC8863 | XXX21540 | |
| 5a Androstane <sur> | 79.9 | 50-150 | | % | 1 | XFC8863 | XXX21540 | |

Batch Information

Analytical Batch: XFC8863

Prep Batch: XXX21540

Initial Prep Wt./Vol.: 250 mL

Analytical Method: AK102

Prep Method: SW3520C

Prep Extract Vol.: 1 mL

Analysis Date/Time: 09/18/09 01:49

Prep Date/Time: 08/28/09 10:00

Container ID:1094420005-D

Dilution Factor: 1

Analyst: KDC



Client Sample ID: **DESC-05-013-MW 23**

SGS Ref. #: 1094420006

Collection Date/Time: 08/24/09 12:10

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Gasoline Range Organics | ND | 0.100 | 0.0310 | mg/L | 1 | VFC9630 | VXX19922 | |
| Benzene | 0.312 J | 0.500 | 0.150 | ug/L | 1 | VFC9630 | VXX19922 | |
| Toluene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9630 | VXX19922 | |
| Ethylbenzene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9630 | VXX19922 | |
| o-Xylene | 0.692 J | 2.00 | 0.620 | ug/L | 1 | VFC9630 | VXX19922 | |
| P & M -Xylene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9630 | VXX19922 | |
| 4-Bromofluorobenzene <surr> | 106 | 50-150 | | % | 1 | VFC9630 | VXX19922 | |
| 1,4-Difluorobenzene <surr> | 89.4 | 80-120 | | % | 1 | VFC9630 | VXX19922 | |

Batch Information

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9630 | Prep Batch: VXX19922 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: AK101 | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/03/09 23:02 | Prep Date/Time: 09/03/09 14:03 | Container ID:1094420006-B |
| Dilution Factor: 1 | | Analyst: KPW |

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9630 | Prep Batch: VXX19922 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: SW8021B | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/03/09 23:02 | Prep Date/Time: 09/03/09 14:03 | Container ID:1094420006-B |
| Dilution Factor: 1 | | Analyst: KPW |



Client Sample ID: **DESC-05-013-MW 23**

SGS Ref. #: 1094420006

Collection Date/Time: 08/24/09 12:10

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Semivolatile Organic Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical</u> <u>Batch</u> | <u>Prep</u> <u>Batch</u> | <u>Qualifiers</u> |
|-----------------------|---------------|---------------|------------|--------------|-----------|-----------------------------------|-----------------------------|-------------------|
| Diesel Range Organics | 0.921 | 0.714 | 0.223 | mg/L | 1 | XFC8863 | XXX21540 | |
| 5a Androstane <sur> | 74 | 50-150 | | % | 1 | XFC8863 | XXX21540 | |

Batch Information

Analytical Batch: XFC8863

Prep Batch: XXX21540

Initial Prep Wt./Vol.: 280 mL

Analytical Method: AK102

Prep Method: SW3520C

Prep Extract Vol.: 1 mL

Analysis Date/Time: 09/18/09 01:58

Prep Date/Time: 08/28/09 10:00

Container ID:1094420006-D

Dilution Factor: 1

Analyst: KDC



Client Sample ID: **DESC-05-013-MW 4R**

SGS Ref. #: 1094420007

Collection Date/Time: 08/24/09 13:50

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Gasoline Range Organics | 0.0376J | 0.100 | 0.0310 | mg/L | 1 | VFC9628 | VXX19916 | |
| Benzene | 4.13 | 0.500 | 0.150 | ug/L | 1 | VFC9628 | VXX19916 | |
| Toluene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| Ethylbenzene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| o-Xylene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| P & M -Xylene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| 4-Bromofluorobenzene <surr> | 102 | 50-150 | | % | 1 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 95.5 | 80-120 | | % | 1 | VFC9628 | VXX19916 | |

Batch Information

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: AK101 | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/02/09 19:38 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420007-A |
| Dilution Factor: 1 | | Analyst: KPW |

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: SW8021B | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/02/09 19:38 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420007-A |
| Dilution Factor: 1 | | Analyst: KPW |



Client Sample ID: **DESC-05-013-MW 4R**
SGS Ref. #: 1094420007
Project ID: DESC0050013Anchorage 09 Annual
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 08/24/09 13:50
Receipt Date/Time: 08/25/09 13:20

Semivolatile Organic Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical</u> <u>Batch</u> | <u>Prep</u> <u>Batch</u> | <u>Qualifiers</u> |
|-----------------------|---------------|---------------|------------|--------------|-----------|-----------------------------------|-----------------------------|-------------------|
| Diesel Range Organics | 0.915 | 0.769 | 0.240 | mg/L | 1 | XFC8863 | XXX21540 | |
| 5a Androstane <sur> | 75.4 | 50-150 | | % | 1 | XFC8863 | XXX21540 | |

Batch Information

Analytical Batch: XFC8863
Analytical Method: AK102
Analysis Date/Time: 09/18/09 02:08
Dilution Factor: 1

Prep Batch: XXX21540
Prep Method: SW3520C
Prep Date/Time: 08/28/09 10:00

Initial Prep Wt./Vol.: 260 mL
Prep Extract Vol.: 1 mL
Container ID:1094420007-D
Analyst: KDC



Client Sample ID: **DESC-05-013-MW 15R**
 SGS Ref. #: 1094420008
 Project ID: DESC0050013Anchorage 09 Annual
 Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 08/24/09 13:10
 Receipt Date/Time: 08/25/09 13:20

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Gasoline Range Organics | 2.13 | 0.100 | 0.0310 | mg/L | 1 | VFC9628 | VXX19916 | |
| Benzene | 236 | 0.500 | 0.150 | ug/L | 1 | VFC9628 | VXX19916 | |
| Toluene | 4.54 | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| Ethylbenzene | 225 | 20.0 | 6.20 | ug/L | 10 | VFC9632 | VXX19925 | |
| o-Xylene | 8.57 | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| P & M -Xylene | 223 | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| 4-Bromofluorobenzene <surr> | 226 | * 50-150 | | % | 1 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 96.7 | 80-120 | | % | 1 | VFC9628 | VXX19916 | |

Batch Information

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: AK101 | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/02/09 22:32 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420008-A |
| Dilution Factor: 1 | | Analyst: KPW |
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: SW8021B | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/02/09 22:32 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420008-A |
| Dilution Factor: 1 | | Analyst: KPW |
| Analytical Batch: VFC9632 | Prep Batch: VXX19925 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: SW8021B | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/04/09 18:06 | Prep Date/Time: 09/04/09 15:11 | Container ID:1094420008-B |
| Dilution Factor: 10 | | Analyst: KPW |



Client Sample ID: **DESC-05-013-MW 15R**

SGS Ref. #: 1094420008

Collection Date/Time: 08/24/09 13:10

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Semivolatile Organic Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Diesel Range Organics | 3.59 | 0.714 | 0.223 | mg/L | 1 | XFC8863 | XXX21540 | |
| 5a Androstane <sur> | 75.8 | 50-150 | | % | 1 | XFC8863 | XXX21540 | |

Batch Information

Analytical Batch: XFC8863

Prep Batch: XXX21540

Initial Prep Wt./Vol.: 280 mL

Analytical Method: AK102

Prep Method: SW3520C

Prep Extract Vol.: 1 mL

Analysis Date/Time: 09/18/09 02:17

Prep Date/Time: 08/28/09 10:00

Container ID:1094420008-D

Dilution Factor: 1

Analyst: KDC



Client Sample ID: **DESC-05-013-MW 2R**

SGS Ref. #: 1094420009

Project ID: DESC0050013Anchorage 09 Annual

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 08/24/09 13:40

Receipt Date/Time: 08/25/09 13:20

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Gasoline Range Organics | ND | 0.100 | 0.0310 | mg/L | 1 | VFC9628 | VXX19916 | |
| Benzene | ND | 0.500 | 0.150 | ug/L | 1 | VFC9628 | VXX19916 | |
| Toluene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| Ethylbenzene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| o-Xylene | 0.735 J | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| P & M -Xylene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| 4-Bromofluorobenzene <surr> | 105 | 50-150 | | % | 1 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 95.4 | 80-120 | | % | 1 | VFC9628 | VXX19916 | |

Batch Information

Analytical Batch: VFC9628 Prep Batch: VXX19916 Initial Prep Wt./Vol.: 5 mL
Analytical Method: AK101 Prep Method: SW5030B Prep Extract Vol.: 5 mL
Analysis Date/Time: 09/02/09 20:02 Prep Date/Time: 09/02/03 14:29 Container ID:1094420009-A
Dilution Factor: 1 Analyst: KPW

Analytical Batch: VFC9628 Prep Batch: VXX19916 Initial Prep Wt./Vol.: 5 mL
Analytical Method: SW8021B Prep Method: SW5030B Prep Extract Vol.: 5 mL
Analysis Date/Time: 09/02/09 20:02 Prep Date/Time: 09/02/03 14:29 Container ID:1094420009-A
Dilution Factor: 1 Analyst: KPW



Michael L Foster & Associates

Print Date: 9/23/2009 3:41 pm

Client Sample ID: **DESC-05-013-MW 2R**

SGS Ref. #: 1094420009

Collection Date/Time: 08/24/09 13:40

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Semivolatile Organic Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Diesel Range Organics | 0.432 J | 0.714 | 0.223 | mg/L | 1 | XFC8863 | XXX21540 | |
| 5a Androstane <sur> | 76.2 | 50-150 | | % | 1 | XFC8863 | XXX21540 | |

Batch Information

Analytical Batch: XFC8863

Prep Batch: XXX21540

Initial Prep Wt./Vol.: 280 mL

Analytical Method: AK102

Prep Method: SW3520C

Prep Extract Vol.: 1 mL

Analysis Date/Time: 09/18/09 02:26

Prep Date/Time: 08/28/09 10:00

Container ID:1094420009-D

Dilution Factor: 1

Analyst: KDC



Michael L Foster & Associates

Print Date: 9/23/2009 3:41 pm

Client Sample ID: **DESC-05-013-SS 04**

SGS Ref. #: 1094420010

Collection Date/Time: 08/24/09 12:30

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Benzene | ND | 0.500 | 0.150 | ug/L | 1 | VFC9628 | VXX19916 | |
| Toluene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| Ethylbenzene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| o-Xylene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| P & M -Xylene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 93.9 | 80-120 | | % | 1 | VFC9628 | VXX19916 | |

Batch Information

Analytical Batch: VFC9628

Prep Batch: VXX19916

Initial Prep Wt./Vol.: 5 mL

Analytical Method: SW8021B

Prep Method: SW5030B

Prep Extract Vol.: 5 mL

Analysis Date/Time: 09/02/09 20:27

Prep Date/Time: 09/02/03 14:29

Container ID:1094420010-A

Dilution Factor: 1

Analyst: KPW

Client Sample ID: **DESC-05-013-SS 04**

SGS Ref. #: 1094420010

Project ID: DESC0050013Anchorage 09 Annual

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 08/24/09 12:30

Receipt Date/Time: 08/25/09 13:20

Polynuclear Aromatics GC/MS

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical</u> <u>Batch</u> | <u>Prep</u> <u>Batch</u> | <u>Qualifiers</u> |
|--------------------------|---------------|---------------|------------|--------------|-----------|-----------------------------------|-----------------------------|-------------------|
| Acenaphthylene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Acenaphthene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Fluorene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Phenanthrene | 0.0301 J | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Anthracene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Fluoranthene | 0.0216 J | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Pyrene | 0.0223 J | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo(a)Anthracene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Chrysene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[b]Fluoranthene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[k]fluoranthene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[a]pyrene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Indeno[1,2,3-c,d] pyrene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Dibenzo[a,h]anthracene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[g,h,i]perylene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Naphthalene | ND | 0.110 | 0.0341 | ug/L | 1 | XMS5083 | XXX21530 | |
| 1-Methylnaphthalene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| 2-Methylnaphthalene | 0.0197 J | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Terphenyl-d14 <surr> | 68.8 | 50-135 | | % | 1 | XMS5083 | XXX21530 | |

Batch Information

Analytical Batch: XMS5083

Analytical Method: 8270D SIMS

Analysis Date/Time: 09/16/09 06:53

Dilution Factor: 1

Prep Batch: XXX21530

Prep Method: SW3520C

Prep Date/Time: 08/27/09 09:15

Initial Prep Wt./Vol.: 910 mL

Prep Extract Vol.: 1 mL

Container ID:1094420010-D

Analyst: MCM



Michael L Foster & Associates

Print Date: 9/23/2009 3:41 pm

Client Sample ID: **DESC-05-013-SS 12**

SGS Ref. #: 1094420011

Collection Date/Time: 08/24/09 12:50

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Benzene | ND | 0.500 | 0.150 | ug/L | 1 | VFC9628 | VXX19916 | |
| Toluene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| Ethylbenzene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| o-Xylene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| P & M -Xylene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 94 | 80-120 | | % | 1 | VFC9628 | VXX19916 | |

Batch Information

Analytical Batch: VFC9628

Prep Batch: VXX19916

Initial Prep Wt./Vol.: 5 mL

Analytical Method: SW8021B

Prep Method: SW5030B

Prep Extract Vol.: 5 mL

Analysis Date/Time: 09/02/09 20:53

Prep Date/Time: 09/02/03 14:29

Container ID:1094420011-A

Dilution Factor: 1

Analyst: KPW



Michael L Foster & Associates

Print Date: 9/23/2009 3:41 pm

Client Sample ID: **DESC-05-013-SS 12**

SGS Ref. #: 1094420011

Collection Date/Time: 08/24/09 12:50

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Polynuclear Aromatics GC/MS

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|--------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Acenaphthylene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Acenaphthene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Fluorene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Phenanthrene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Anthracene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Fluoranthene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Pyrene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo(a)Anthracene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Chrysene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[b]Fluoranthene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[k]fluoranthene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[a]pyrene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Indeno[1,2,3-c,d] pyrene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Dibenzo[a,h]anthracene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[g,h,i]perylene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Naphthalene | ND | 0.100 | 0.0310 | ug/L | 1 | XMS5083 | XXX21530 | |
| 1-Methylnaphthalene | 0.0198 J | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| 2-Methylnaphthalene | ND | 0.0500 | 0.0150 | ug/L | 1 | XMS5083 | XXX21530 | |
| Terphenyl-d14 <surr> | 87.2 | 50-135 | | % | 1 | XMS5083 | XXX21530 | |

Batch Information

Analytical Batch: XMS5083

Prep Batch: XXX21530

Initial Prep Wt./Vol.: 1000 mL

Analytical Method: 8270D SIMS

Prep Method: SW3520C

Prep Extract Vol.: 1 mL

Analysis Date/Time: 09/16/09 07:25

Prep Date/Time: 08/27/09 09:15

Container ID:1094420011-D

Dilution Factor: 1

Analyst: MCM



Michael L Foster & Associates

Print Date: 9/23/2009 3:41 pm

Client Sample ID: **DESC-05-013-SS 14**

SGS Ref. #: 1094420012

Collection Date/Time: 08/24/09 10:20

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Benzene | ND | 0.500 | 0.150 | ug/L | 1 | VFC9628 | VXX19916 | |
| Toluene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| Ethylbenzene | 1.41 J | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| o-Xylene | 6.71 | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| P & M -Xylene | 18.0 | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 93.8 | 80-120 | | % | 1 | VFC9628 | VXX19916 | |

Batch Information

Analytical Batch: VFC9628

Prep Batch: VXX19916

Initial Prep Wt./Vol.: 5 mL

Analytical Method: SW8021B

Prep Method: SW5030B

Prep Extract Vol.: 5 mL

Analysis Date/Time: 09/02/09 21:18

Prep Date/Time: 09/02/03 14:29

Container ID:1094420012-A

Dilution Factor: 1

Analyst: KPW

Client Sample ID: **DESC-05-013-SS 14**

SGS Ref. #: 1094420012

Project ID: DESC0050013Anchorage 09 Annual

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 08/24/09 10:20

Receipt Date/Time: 08/25/09 13:20

Polynuclear Aromatics GC/MS

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical</u> <u>Batch</u> | <u>Prep</u> <u>Batch</u> | <u>Qualifiers</u> |
|--------------------------|---------------|---------------|------------|--------------|-----------|-----------------------------------|-----------------------------|-------------------|
| Acenaphthylene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Acenaphthene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Fluorene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Phenanthrene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Anthracene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Fluoranthene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Pyrene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo(a)Anthracene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Chrysene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[b]Fluoranthene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[k]fluoranthene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[a]pyrene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Indeno[1,2,3-c,d] pyrene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Dibenzo[a,h]anthracene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[g,h,i]perylene | ND | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Naphthalene | 0.122 | 0.110 | 0.0341 | ug/L | 1 | XMS5083 | XXX21530 | |
| 1-Methylnaphthalene | 0.163 | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| 2-Methylnaphthalene | 0.0878 | 0.0549 | 0.0165 | ug/L | 1 | XMS5083 | XXX21530 | |
| Terphenyl-d14 <surr> | 87.5 | 50-135 | | % | 1 | XMS5083 | XXX21530 | |

Batch Information

Analytical Batch: XMS5083

Analytical Method: 8270D SIMS

Analysis Date/Time: 09/16/09 07:58

Dilution Factor: 1

Prep Batch: XXX21530

Prep Method: SW3520C

Prep Date/Time: 08/27/09 09:15

Initial Prep Wt./Vol.: 910 mL

Prep Extract Vol.: 1 mL

Container ID:1094420012-D

Analyst: MCM



Michael L Foster & Associates

Print Date: 9/23/2009 3:41 pm

Client Sample ID: **DESC-05-013-SS 101**

SGS Ref. #: 1094420013

Collection Date/Time: 08/24/09 10:25

Project ID: DESC0050013Anchorage 09 Annual

Receipt Date/Time: 08/25/09 13:20

Matrix: Water (Surface, Eff., Ground)

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical</u> <u>Batch</u> | <u>Prep</u> <u>Batch</u> | <u>Qualifiers</u> |
|----------------------------|---------------|---------------|------------|--------------|-----------|-----------------------------------|-----------------------------|-------------------|
| Benzene | ND | 0.500 | 0.150 | ug/L | 1 | VFC9628 | VXX19916 | |
| Toluene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| Ethylbenzene | 1.36 J | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| o-Xylene | 6.57 | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| P & M -Xylene | 17.6 | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 94.2 | 80-120 | | % | 1 | VFC9628 | VXX19916 | |

Batch Information

Analytical Batch: VFC9628

Prep Batch: VXX19916

Initial Prep Wt./Vol.: 5 mL

Analytical Method: SW8021B

Prep Method: SW5030B

Prep Extract Vol.: 5 mL

Analysis Date/Time: 09/02/09 21:43

Prep Date/Time: 09/02/03 14:29

Container ID:1094420013-A

Dilution Factor: 1

Analyst: KPW

Client Sample ID: **DESC-05-013-SS 101**

SGS Ref. #: 1094420013

Project ID: DESC0050013Anchorage 09 Annual

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 08/24/09 10:25

Receipt Date/Time: 08/25/09 13:20

Polynuclear Aromatics GC/MS

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical</u> <u>Batch</u> | <u>Prep</u> <u>Batch</u> | <u>Qualifiers</u> |
|--------------------------|---------------|---------------|------------|--------------|-----------|-----------------------------------|-----------------------------|-------------------|
| Acenaphthylene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Acenaphthene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Fluorene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Phenanthrene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Anthracene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Fluoranthene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Pyrene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo(a)Anthracene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Chrysene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[b]Fluoranthene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[k]fluoranthene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[a]pyrene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Indeno[1,2,3-c,d] pyrene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Dibenzo[a,h]anthracene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Benzo[g,h,i]perylene | ND | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Naphthalene | 0.102 J | 0.108 | 0.0333 | ug/L | 1 | XMS5083 | XXX21530 | |
| 1-Methylnaphthalene | 0.145 | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| 2-Methylnaphthalene | 0.0778 | 0.0538 | 0.0161 | ug/L | 1 | XMS5083 | XXX21530 | |
| Terphenyl-d14 <surr> | 85.9 | 50-135 | | % | 1 | XMS5083 | XXX21530 | |

Batch Information

Analytical Batch: XMS5083

Analytical Method: 8270D SIMS

Analysis Date/Time: 09/16/09 08:30

Dilution Factor: 1

Prep Batch: XXX21530

Prep Method: SW3520C

Prep Date/Time: 08/27/09 09:15

Initial Prep Wt./Vol.: 930 mL

Prep Extract Vol.: 1 mL

Container ID:1094420013-D

Analyst: MCM



Client Sample ID: **DESC-05-013-TB1**

SGS Ref. #: 1094420014

Project ID: DESC0050013Anchorage 09 Annual

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 08/24/09 14:00

Receipt Date/Time: 08/25/09 13:20

Volatile Fuels Department

| <u>Parameter</u> | <u>Result</u> | <u>PQL/CL</u> | <u>MDL</u> | <u>Units</u> | <u>DF</u> | <u>Analytical Batch</u> | <u>Prep Batch</u> | <u>Qualifiers</u> |
|-----------------------------|---------------|---------------|------------|--------------|-----------|-------------------------|-------------------|-------------------|
| Gasoline Range Organics | ND | 0.100 | 0.0310 | mg/L | 1 | VFC9628 | VXX19916 | |
| Benzene | ND | 0.500 | 0.150 | ug/L | 1 | VFC9628 | VXX19916 | |
| Toluene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| Ethylbenzene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| o-Xylene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| P & M -Xylene | ND | 2.00 | 0.620 | ug/L | 1 | VFC9628 | VXX19916 | |
| 4-Bromofluorobenzene <surr> | 102 | 50-150 | | % | 1 | VFC9628 | VXX19916 | |
| 1,4-Difluorobenzene <surr> | 95.8 | 80-120 | | % | 1 | VFC9628 | VXX19916 | |

Batch Information

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: AK101 | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/02/09 17:33 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420014-A |
| Dilution Factor: 1 | | Analyst: KPW |

| | | |
|------------------------------------|--------------------------------|-----------------------------|
| Analytical Batch: VFC9628 | Prep Batch: VXX19916 | Initial Prep Wt./Vol.: 5 mL |
| Analytical Method: SW8021B | Prep Method: SW5030B | Prep Extract Vol.: 5 mL |
| Analysis Date/Time: 09/02/09 17:33 | Prep Date/Time: 09/02/03 14:29 | Container ID:1094420014-A |
| Dilution Factor: 1 | | Analyst: KPW |



SGS Ref.# 918993 Method Blank
Client Name Michael L Foster & Associates
Project Name/# DESC0050013 Anchorage 09 Annual
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/23/2009 15:41
Prep Batch XXX21530
Method SW3520C
Date 08/27/2009

QC results affect the following production samples:
 1094420010, 1094420011, 1094420012, 1094420013

| Parameter | Results | Reporting/Control Limit | MDL | Units | Analysis Date |
|---|----------------------|----------------------------|--------|-------|------------------|
| <u>Polynuclear Aromatics GC/MS</u> | | | | | |
| Acenaphthylene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Acenaphthene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Fluorene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Phenanthrene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Anthracene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Fluoranthene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Pyrene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Benzo(a)Anthracene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Chrysene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Benzo[b]Fluoranthene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Benzo[k]fluoranthene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Benzo[a]pyrene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Indeno[1,2,3-c,d] pyrene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Dibenzo[a,h]anthracene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Benzo[g,h,i]perylene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Naphthalene | ND | 0.100 | 0.0310 | ug/L | 09/16/09 |
| 1-Methylnaphthalene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| 2-Methylnaphthalene | ND | 0.0500 | 0.0150 | ug/L | 09/16/09 |
| Surrogates | | | | | |
| Terphenyl-d14 <surr> | 89.8 | 50-135 | | % | 09/16/09 |
| Batch | XMS5083 | | | | |
| Method | 8270D SIMS | | | | |
| Instrument | HP 6890/5973 MS SVQA | | | | |



| | | | | | |
|-----------------------|---------------------------------|--------------|--------------------------|------------------|----------|
| SGS Ref.# | 919306 | Method Blank | Printed Date/Time | 09/23/2009 15:41 | |
| Client Name | Michael L Foster & Associates | | Prep | Batch | XXX21540 |
| Project Name/# | DESC0050013 Anchorage 09 Annual | | Method | SW3520C | |
| Matrix | Water (Surface, Eff., Ground) | | Date | 08/28/2009 | |

QC results affect the following production samples:

1094420001, 1094420002, 1094420003, 1094420004, 1094420005, 1094420006, 1094420007, 1094420008, 1094420009

| Parameter | Results | Reporting/Control Limit | MDL | Units | Analysis Date |
|-----------|---------|----------------------------|-----|-------|------------------|
|-----------|---------|----------------------------|-----|-------|------------------|

Semivolatile Organic Fuels Department

| | | | | | |
|-----------------------|----|-------|-------|------|----------|
| Diesel Range Organics | ND | 0.800 | 0.250 | mg/L | 09/18/09 |
|-----------------------|----|-------|-------|------|----------|

Surrogates

| | | | | | |
|----------------------|------|--------|--|---|----------|
| 5a Androstane <surr> | 82.6 | 60-120 | | % | 09/18/09 |
|----------------------|------|--------|--|---|----------|

| | |
|-------------------|------------------------------|
| Batch | XFC8863 |
| Method | AK102 |
| Instrument | HP 6890 Series II FID SV D R |



| | | | | |
|-----------------------|---------------------------------|--------------|--------------------------|------------------|
| SGS Ref.# | 921192 | Method Blank | Printed Date/Time | 09/23/2009 15:41 |
| Client Name | Michael L Foster & Associates | | Prep | VXX19916 |
| Project Name/# | DESC0050013 Anchorage 09 Annual | | Method | SW5030B |
| Matrix | Water (Surface, Eff., Ground) | | Date | 09/02/2003 |

QC results affect the following production samples:

1094420001, 1094420002, 1094420003, 1094420004, 1094420005, 1094420007, 1094420008, 1094420009, 1094420010, 1094420011, 1094420012, 1094420013, 1094420014

| Parameter | Results | Reporting/Control Limit | MDL | Units | Analysis Date |
|-----------|---------|-------------------------|-----|-------|---------------|
|-----------|---------|-------------------------|-----|-------|---------------|

Volatile Fuels Department

| | | | | | |
|-------------------------|----|-------|--------|------|----------|
| Gasoline Range Organics | ND | 0.100 | 0.0310 | mg/L | 09/02/09 |
|-------------------------|----|-------|--------|------|----------|

Surrogates

| | | | | | |
|-----------------------------|-----|--------|--|---|----------|
| 4-Bromofluorobenzene <surr> | 100 | 50-150 | | % | 09/02/09 |
|-----------------------------|-----|--------|--|---|----------|

Batch VFC9628
Method AK101
Instrument HP 5890 Series II PID+HECD VBA

| | | | | | |
|---------------|----|-------|-------|------|----------|
| Benzene | ND | 0.500 | 0.150 | ug/L | 09/02/09 |
| Toluene | ND | 2.00 | 0.620 | ug/L | 09/02/09 |
| Ethylbenzene | ND | 2.00 | 0.620 | ug/L | 09/02/09 |
| o-Xylene | ND | 2.00 | 0.620 | ug/L | 09/02/09 |
| P & M -Xylene | ND | 2.00 | 0.620 | ug/L | 09/02/09 |

Surrogates

| | | | | | |
|----------------------------|------|--------|--|---|----------|
| 1,4-Difluorobenzene <surr> | 96.2 | 80-120 | | % | 09/02/09 |
|----------------------------|------|--------|--|---|----------|

Batch VFC9628
Method SW8021B
Instrument HP 5890 Series II PID+HECD VBA



| | | | | |
|-----------------------|---------------------------------|--------------|--------------------------|------------------|
| SGS Ref.# | 921655 | Method Blank | Printed Date/Time | 09/23/2009 15:41 |
| Client Name | Michael L Foster & Associates | | Prep | VXX19922 |
| Project Name/# | DESC0050013 Anchorage 09 Annual | | Batch | SW5030B |
| Matrix | Water (Surface, Eff., Ground) | | Method | 09/03/2009 |
| | | | Date | |

QC results affect the following production samples:
1094420006

| Parameter | Results | Reporting/Control Limit | MDL | Units | Analysis Date |
|---|--------------------------------|----------------------------|--------|-------|------------------|
| <u>Volatile Fuels Department</u> | | | | | |
| Gasoline Range Organics | ND | 0.100 | 0.0310 | mg/L | 09/03/09 |
| Surrogates | | | | | |
| 4-Bromofluorobenzene <surr> | 105 | 50-150 | | % | 09/03/09 |
| Batch | VFC9630 | | | | |
| Method | AK101 | | | | |
| Instrument | HP 5890 Series II PID+HECD VBA | | | | |
| Benzene | ND | 0.500 | 0.150 | ug/L | 09/03/09 |
| Toluene | ND | 2.00 | 0.620 | ug/L | 09/03/09 |
| Ethylbenzene | ND | 2.00 | 0.620 | ug/L | 09/03/09 |
| o-Xylene | ND | 2.00 | 0.620 | ug/L | 09/03/09 |
| P & M -Xylene | ND | 2.00 | 0.620 | ug/L | 09/03/09 |
| Surrogates | | | | | |
| 1,4-Difluorobenzene <surr> | 92.2 | 80-120 | | % | 09/03/09 |
| Batch | VFC9630 | | | | |
| Method | SW8021B | | | | |
| Instrument | HP 5890 Series II PID+HECD VBA | | | | |



SGS Ref.# 921793 Method Blank
Client Name Michael L Foster & Associates
Project Name/# DESC0050013 Anchorage 09 Annual
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/23/2009 15:41
Prep Batch VXX19925
Method SW5030B
Date 09/04/2009

QC results affect the following production samples:
 1094420008

| Parameter | Results | Reporting/Control Limit | MDL | Units | Analysis Date |
|-----------|---------|----------------------------|-----|-------|------------------|
|-----------|---------|----------------------------|-----|-------|------------------|

Volatile Fuels Department

Surrogates

| | | | | | |
|-----------------------------|--------------------------------|--------|--|---|----------|
| 4-Bromofluorobenzene <surr> | 109 | 50-150 | | % | 09/04/09 |
| Batch | VFC9632 | | | | |
| Method | AK101 | | | | |
| Instrument | HP 5890 Series II PID+HECD VBA | | | | |

| | | | | | |
|--------------|----|------|-------|------|----------|
| Ethylbenzene | ND | 2.00 | 0.620 | ug/L | 09/04/09 |
|--------------|----|------|-------|------|----------|

Surrogates

| | | | | | |
|----------------------------|--------------------------------|--------|--|---|----------|
| 1,4-Difluorobenzene <surr> | 109 | 80-120 | | % | 09/04/09 |
| Batch | VFC9632 | | | | |
| Method | SW8021B | | | | |
| Instrument | HP 5890 Series II PID+HECD VBA | | | | |



SGS Ref.# 918994 Lab Control Sample
 918995 Lab Control Sample Duplicate
Client Name Michael L Foster & Associates
Project Name/# DESC0050013 Anchorage 09 Annual
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/23/2009 15:41
Prep Batch XXX21530
Method SW3520C
Date 08/27/2009

QC results affect the following production samples:

1094420010, 1094420011, 1094420012, 1094420013

| Parameter | QC Results | Pct Recov | LCS/LCSD Limits | RPD | RPD Limits | Spiked Amount | Analysis Date |
|---|------------|-----------|-----------------|------------|------------|---------------|---------------|
| <u>Polynuclear Aromatics GC/MS</u> | | | | | | | |
| Acenaphthylene | LCS | 0.408 | 82 | (50-105) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.386 | 77 | | 5 (< 30) | 0.5 ug/L | 09/16/2009 |
| Acenaphthene | LCS | 0.412 | 82 | (45-110) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.390 | 78 | | 6 (< 30) | 0.5 ug/L | 09/16/2009 |
| Fluorene | LCS | 0.422 | 84 | (50-110) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.408 | 82 | | 3 (< 30) | 0.5 ug/L | 09/16/2009 |
| Phenanthrene | LCS | 0.429 | 86 | (50-115) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.432 | 87 | | 1 (< 30) | 0.5 ug/L | 09/16/2009 |
| Anthracene | LCS | 0.428 | 86 | (55-110) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.431 | 86 | | 1 (< 30) | 0.5 ug/L | 09/16/2009 |
| Fluoranthene | LCS | 0.456 | 91 | (55-125) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.474 | 95 | | 4 (< 30) | 0.5 ug/L | 09/16/2009 |
| Pyrene | LCS | 0.445 | 89 | (50-130) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.463 | 93 | | 4 (< 30) | 0.5 ug/L | 09/16/2009 |
| Benzo(a)Anthracene | LCS | 0.477 | 96 | (55-120) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.503 | 101 | | 5 (< 30) | 0.5 ug/L | 09/16/2009 |
| Chrysene | LCS | 0.475 | 95 | (55-120) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.490 | 98 | | 3 (< 30) | 0.5 ug/L | 09/16/2009 |
| Benzo[b]Fluoranthene | LCS | 0.498 | 100 | (46-130) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.526 | 105 | | 6 (< 30) | 0.5 ug/L | 09/16/2009 |
| Benzo[k]fluoranthene | LCS | 0.510 | 102 | (60-125) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.521 | 104 | | 2 (< 30) | 0.5 ug/L | 09/16/2009 |
| Benzo[a]pyrene | LCS | 0.530 | 106 | (55-120) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.549 | 110 | | 3 (< 30) | 0.5 ug/L | 09/16/2009 |
| Indeno[1,2,3-c,d] pyrene | LCS | 0.626 | 125 | (45-125) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.647 | 129 * | | 3 (< 30) | 0.5 ug/L | 09/16/2009 |



| | | | |
|-----------------------|-------------------------------------|--------------------------|------------------|
| SGS Ref.# | 918994 Lab Control Sample | Printed Date/Time | 09/23/2009 15:41 |
| | 918995 Lab Control Sample Duplicate | Prep | XXX21530 |
| Client Name | Michael L Foster & Associates | Batch | SW3520C |
| Project Name/# | DESC0050013 Anchorage 09 Annual | Method | 08/27/2009 |
| Matrix | Water (Surface, Eff., Ground) | Date | |

| Parameter | QC Results | Pct Recov | LCS/LCSD Limits | RPD | RPD Limits | Spiked Amount | Analysis Date |
|------------------------------------|------------|-----------|-----------------|------------|------------|---------------|---------------------|
| Polynuclear Aromatics GC/MS | | | | | | | |
| Dibenzo[a,h]anthracene | LCS | 0.624 | 125 | (41-140) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.643 | 129 | | 3 | (< 30) | 0.5 ug/L 09/16/2009 |
| Benzo[g,h,i]perylene | LCS | 0.629 | 126 * | (46-125) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.644 | 129 * | | 2 | (< 30) | 0.5 ug/L 09/16/2009 |
| Naphthalene | LCS | 0.471 | 94 | (42-100) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.381 | 76 | | 21 | (< 30) | 0.5 ug/L 09/16/2009 |
| 1-Methylnaphthalene | LCS | 0.445 | 89 | (46-115) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.381 | 76 | | 15 | (< 30) | 0.5 ug/L 09/16/2009 |
| 2-Methylnaphthalene | LCS | 0.430 | 86 | (45-105) | | 0.5 ug/L | 09/16/2009 |
| | LCSD | 0.367 | 74 | | 16 | (< 30) | 0.5 ug/L 09/16/2009 |
| Surrogates | | | | | | | |
| Terphenyl-d14 <surr> | LCS | | 85 | (50-135) | | | 09/16/2009 |
| | LCSD | | 93 | | 9 | | 09/16/2009 |

Batch XMS5083
Method 8270D SIMS
Instrument HP 6890/5973 MS SVQA



| | | | |
|-----------------------|-------------------------------------|--------------------------|-----------------------|
| SGS Ref.# | 919307 Lab Control Sample | Printed Date/Time | 09/23/2009 15:41 |
| | 919308 Lab Control Sample Duplicate | Prep | Batch XXX21540 |
| Client Name | Michael L Foster & Associates | Method | SW3520C |
| Project Name/# | DESC0050013 Anchorage 09 Annual | Date | 08/28/2009 |
| Matrix | Water (Surface, Eff., Ground) | | |

QC results affect the following production samples:

1094420001, 1094420002, 1094420003, 1094420004, 1094420005, 1094420006, 1094420007, 1094420008, 1094420009

| Parameter | QC Results | Pct Recov | LCS/LCSD Limits | RPD | RPD Limits | Spiked Amount | Analysis Date |
|-----------|------------|-----------|-----------------|-----|------------|---------------|---------------|
|-----------|------------|-----------|-----------------|-----|------------|---------------|---------------|

Semivolatile Organic Fuels Department

| | | | | | | | |
|-----------------------|------|------|----|------------|----|---------|--------------------|
| Diesel Range Organics | LCS | 16.3 | 82 | (75-125) | | 20 mg/L | 09/18/2009 |
| | LCSD | 19.0 | 95 | | 16 | (< 20) | 20 mg/L 09/18/2009 |

Surrogates

| | | | | | | | |
|----------------------|------|--|----|------------|----|--|------------|
| 5a Androstane <surr> | LCS | | 78 | (60-120) | | | 09/18/2009 |
| | LCSD | | 93 | | 17 | | 09/18/2009 |

Batch XFC8863
Method AK102
Instrument HP 6890 Series II FID SV D R



| | | | |
|-----------------------|-------------------------------------|--------------------------|------------------|
| SGS Ref.# | 921193 Lab Control Sample | Printed Date/Time | 09/23/2009 15:41 |
| | 921194 Lab Control Sample Duplicate | Prep | VXX19916 |
| Client Name | Michael L Foster & Associates | Method | SW5030B |
| Project Name/# | DESC0050013 Anchorage 09 Annual | Date | 09/02/2003 |
| Matrix | Water (Surface, Eff., Ground) | | |

QC results affect the following production samples:

1094420001, 1094420002, 1094420003, 1094420004, 1094420005, 1094420007, 1094420008, 1094420009, 1094420010, 1094420011, 1094420012, 1094420013, 1094420014

| Parameter | QC Results | Pct Recov | LCS/LCSD Limits | RPD | RPD Limits | Spiked Amount | Analysis Date |
|---|------------|-----------|-----------------|------------|------------|---------------|---------------|
| <u>Volatile Fuels Department</u> | | | | | | | |
| Benzene | LCS | 97.5 | 98 | (80-120) | | 100 ug/L | 09/02/2009 |
| | LCSD | 96.5 | 97 | | 1 | (< 20) | 09/03/2009 |
| Toluene | LCS | 102 | 102 | (80-120) | | 100 ug/L | 09/02/2009 |
| | LCSD | 102 | 102 | | 0 | (< 20) | 09/03/2009 |
| Ethylbenzene | LCS | 107 | 107 | (87-125) | | 100 ug/L | 09/02/2009 |
| | LCSD | 107 | 107 | | 0 | (< 20) | 09/03/2009 |
| o-Xylene | LCS | 103 | 103 | (85-120) | | 100 ug/L | 09/02/2009 |
| | LCSD | 103 | 103 | | 0 | (< 20) | 09/03/2009 |
| P & M -Xylene | LCS | 215 | 108 | (87-125) | | 200 ug/L | 09/02/2009 |
| | LCSD | 214 | 107 | | 0 | (< 20) | 09/03/2009 |
| Surrogates | | | | | | | |
| 1,4-Difluorobenzene <surr> | LCS | | 92 | (80-120) | | | 09/02/2009 |
| | LCSD | | 89 | | 3 | | 09/03/2009 |

Batch VFC9628
Method SW8021B
Instrument HP 5890 Series II PID+HECD VBA



| | | | |
|-----------------------|-------------------------------------|--------------------------|-----------------------|
| SGS Ref.# | 921195 Lab Control Sample | Printed Date/Time | 09/23/2009 15:41 |
| | 921196 Lab Control Sample Duplicate | Prep | Batch VXX19916 |
| Client Name | Michael L Foster & Associates | Method | SW5030B |
| Project Name/# | DESC0050013 Anchorage 09 Annual | Date | 09/02/2003 |
| Matrix | Water (Surface, Eff., Ground) | | |

QC results affect the following production samples:

1094420001, 1094420002, 1094420003, 1094420004, 1094420005, 1094420007, 1094420008, 1094420009, 1094420010, 1094420011, 1094420012, 1094420013, 1094420014

| Parameter | QC Results | Pct Recov | LCS/LCSD Limits | RPD | RPD Limits | Spiked Amount | Analysis Date |
|---|------------|-----------|-----------------|------------|------------|---------------|-----------------------|
| <u>Volatile Fuels Department</u> | | | | | | | |
| Gasoline Range Organics | LCS | 0.199 | 99 | (60-120) | | 0.200 mg/L | 09/02/2009 |
| | LCSD | 0.191 | 95 | | 4 | (< 20) | 0.200 mg/L 09/03/2009 |
| Surrogates | | | | | | | |
| 4-Bromofluorobenzene <surr> | LCS | | 101 | (50-150) | | | 09/02/2009 |
| | LCSD | | 103 | | 2 | | 09/03/2009 |

Batch VFC9628
Method AK101
Instrument HP 5890 Series II PID+HECD VBA



SGS Ref.# 921656 Lab Control Sample
 921657 Lab Control Sample Duplicate
Client Name Michael L Foster & Associates
Project Name/# DESC0050013 Anchorage 09 Annual
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/23/2009 15:41
Prep Batch VXX19922
Method SW5030B
Date 09/03/2009

QC results affect the following production samples:

1094420006

| Parameter | QC Results | Pct Recov | LCS/LCSD Limits | RPD | RPD Limits | Spiked Amount | Analysis Date |
|---|------------|-----------|-----------------|-----|------------|---------------|---------------|
| <u>Volatile Fuels Department</u> | | | | | | | |
| Benzene | LCS 102 | 102 | (80-120) | | | 100 ug/L | 09/03/2009 |
| | LCSD 111 | 111 | | 9 | (< 20) | 100 ug/L | 09/03/2009 |
| Toluene | LCS 105 | 105 | (80-120) | | | 100 ug/L | 09/03/2009 |
| | LCSD 111 | 111 | | 6 | (< 20) | 100 ug/L | 09/03/2009 |
| Ethylbenzene | LCS 109 | 109 | (87-125) | | | 100 ug/L | 09/03/2009 |
| | LCSD 115 | 115 | | 6 | (< 20) | 100 ug/L | 09/03/2009 |
| o-Xylene | LCS 106 | 106 | (85-120) | | | 100 ug/L | 09/03/2009 |
| | LCSD 111 | 111 | | 5 | (< 20) | 100 ug/L | 09/03/2009 |
| P & M -Xylene | LCS 220 | 110 | (87-125) | | | 200 ug/L | 09/03/2009 |
| | LCSD 230 | 115 | | 5 | (< 20) | 200 ug/L | 09/03/2009 |
| Surrogates | | | | | | | |
| 1,4-Difluorobenzene <surr> | LCS | 88 | (80-120) | | | | 09/03/2009 |
| | LCSD | 85 | | 4 | | | 09/03/2009 |

Batch VFC9630
Method SW8021B
Instrument HP 5890 Series II PID+HECD VBA



SGS Ref.# 921658 Lab Control Sample
 921659 Lab Control Sample Duplicate
Client Name Michael L Foster & Associates
Project Name/# DESC0050013 Anchorage 09 Annual
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/23/2009 15:41
Prep Batch VXX19922
Method SW5030B
Date 09/03/2009

QC results affect the following production samples:

1094420006

| Parameter | QC Results | Pct Recov | LCS/LCSD Limits | RPD | RPD Limits | Spiked Amount | Analysis Date |
|-----------|------------|-----------|-----------------|-----|------------|---------------|---------------|
|-----------|------------|-----------|-----------------|-----|------------|---------------|---------------|

Volatile Fuels Department

| | | | | | | | |
|-------------------------|------|-------|-----|------------|---|------------|-----------------------|
| Gasoline Range Organics | LCS | 0.201 | 101 | (60-120) | | 0.200 mg/L | 09/03/2009 |
| | LCSD | 0.193 | 97 | | 4 | (< 20) | 0.200 mg/L 09/04/2009 |

Surrogates

| | | | | | | | |
|-----------------------------|------|--|-----|------------|---|--|------------|
| 4-Bromofluorobenzene <surr> | LCS | | 105 | (50-150) | | | 09/03/2009 |
| | LCSD | | 106 | | 1 | | 09/04/2009 |

Batch VFC9630
Method AK101
Instrument HP 5890 Series II PID+HECD VBA



SGS Ref.# 921794 Lab Control Sample
921795 Lab Control Sample Duplicate
Client Name Michael L Foster & Associates
Project Name/# DESC0050013 Anchorage 09 Annual
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/23/2009 15:41
Prep Batch VXX19925
Method SW5030B
Date 09/04/2009

QC results affect the following production samples:
1094420008

| Parameter | QC Results | Pct Recov | LCS/LCSD Limits | RPD | RPD Limits | Spiked Amount | Analysis Date |
|-----------|------------|-----------|-----------------|-----|------------|---------------|---------------|
|-----------|------------|-----------|-----------------|-----|------------|---------------|---------------|

Volatile Fuels Department

| | | | | | | | |
|--------------|----------|-----|------------|---|---------|----------|------------|
| Ethylbenzene | LCS 105 | 105 | (87-125) | | | 100 ug/L | 09/04/2009 |
| | LCSD 108 | 108 | | 3 | (< 20) | 100 ug/L | 09/04/2009 |

Surrogates

| | | | | | | | |
|----------------------------|------|-----|------------|---|--|--|------------|
| 1,4-Difluorobenzene <surr> | LCS | 104 | (80-120) | | | | 09/04/2009 |
| | LCSD | 104 | | 0 | | | 09/04/2009 |

Batch VFC9632
Method SW8021B
Instrument HP 5890 Series II PID+HECD VBA

1094420



Chain of Custody

Michael L. Foster & Associates

An Alaskan Owned and Operated Company

Engineers • Planners • Scientists

Contact: Traci Bradford
 Project: DESC-Anchorage 2009-Annual Sampling
 Project No.: DESC-005-0013
 Reports to: Traci Bradford
 Invoice to: Dale E. Tuttle
 EDDs to: Traci Bradford

Quote: Defense Energy

Phone No.: 907-696-6200
 Fax No.: 907-696-6202

| Sample ID | Date | Time | Matrix | # of Bottle | DR by AK 102 | GRO/BTEX by AK101/8021B | | | | | | Remarks | |
|--------------------|---------|------|--------|-------------|--------------|-------------------------|---------|-------|--|--|--|---------|--|
| DESC-05-013-MW 25A | 8/24/09 | 1125 | W | 5 | X | X | | | | | | | |
| DESC-05-013-MW 25B | | 1110 | W | 5 | X | X | | | | | | | |
| DESC-05-013-MW 25C | | 1050 | W | 5 | X | X | | | | | | | |
| DESC-05-013-MW 102 | | 1055 | W | 5 | X | X | | | | | | | |
| DESC-05-013-MW 22 | | 1145 | W | 5 | X | X | | | | | | | |
| DESC-05-013-MW 23 | | 1210 | W | 5 | X | X | | | | | | | |
| DESC-05-013-MW 4R | | 150 | W | 5 | X | X | | | | | | | |
| DESC-05-013-MW 15R | | 110 | W | 5 | X | X | | | | | | | |
| DESC-05-013-MW 2R | | 140 | W | 5 | X | X | | | | | | | |
| DESC-05-013-TB1 | | 200 | W | 3 | | X | | | | | | | |
| Traci R Bradford | | | | | Received by: | Date/Time | 8-25-09 | 10:25 | Samples Received Cold? Yes/No 700 Temp? 5.2 | | | | |
| | | | | | Received by: | Date/Time | | | Data Deliverables Required : Level I Data Deliverables | | | | |
| | | | | | Received by: | Date/Time | | | EDDs Required: CTE EDDs provided as excel spreadsheet | | | | |
| | | | | | Received by: | Date/Time | | | Requested TAT: Standard TAT | | | | |
| | | | | | Received by: | Date/Time | | | Special Instructions: | | | | |



SAMPLE RECEIPT FORM

SGS WO#:

- Yes No NA Are samples **RUSH**, priority or w/in 72 hrs of hold time?
- If yes, have you done e-mail **ALERT** notification?
- Are samples *within 24 hrs.* of hold time or due date?
- If yes, have you also *spoken with supervisor*?
- Archiving bottles: Are lids marked w/ red "X"?
- Were samples collected with proper preservative?
- Any problems (ID, cond'n, HT, etc)? Explain: _____

TAT (circle one): Standard -or- Rush
 Received Date: 8-25-09
 Received Time: 1320

| Cooler ID | Temperature | Measured w/ (Therm/IR ID#) |
|-----------|---------------|----------------------------|
| <u>1</u> | <u>5.2</u> °C | <u>70d</u> |
| <u>2</u> | <u>5.8</u> °C | <u>70d</u> |
| | | |
| | | |

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):
 Client / Alert Courier / Lynden / SGS
 UPS / FedEx / USPS / DHL / Carfile
 AkAir Goldstreak / NAC / ERA / PenAir
 Other: _____

Additional Sample Remarks: (✓ if applicable)

- Extra Sample Volume?
- Limited Sample Volume?
- Multi-Incremental Samples?
- Lab-filtered for dissolved _____
- Ref Lab required for _____
- Foreign Soil?

- If this is for PWS, provide PWSID: _____
- Payment received: \$ _____ by Check or Credit Card
- Will courier charges apply?
- Data package required? (Level: 1 2 / 3 / 4)
 Notes: EMIS
- Is this a DoD project? (USACE, Navy, AFCEE)

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

| Yes | No | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Is received temperature <6°C? |
| <input type="checkbox"/> | <input type="checkbox"/> | Were containers ice-free? <i>Notify PM immediately of any ice in samples.</i> If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected |
| <input type="checkbox"/> | <input type="checkbox"/> | Was there an airbill? <i>(If "yes," see attached.)</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | Was cooler sealed with custody seals & were they intact? # / where: _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | Was there a COC with cooler? |
| <input type="checkbox"/> | <input type="checkbox"/> | Was COC sealed in plastic bag & taped inside lid of cooler? |
| <input type="checkbox"/> | <input type="checkbox"/> | Was the COC filled out properly? Did labels correspond? |
| <input type="checkbox"/> | <input type="checkbox"/> | Did the COC indicate USACE / Navy / AFCEE project? |
| <input type="checkbox"/> | <input type="checkbox"/> | Samples were packed to prevent breakage with <i>(circle one)</i> : Bubble Wrap Vermiculite Other (specify): _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | Were all samples sealed in separate plastic bags? |
| <input type="checkbox"/> | <input type="checkbox"/> | Were all VOCs free of headspace and/or MeOH preserved? |
| <input type="checkbox"/> | <input type="checkbox"/> | Were correct container / sample sizes submitted? |
| <input type="checkbox"/> | <input type="checkbox"/> | Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client? |

This section must be completed if problems are noted

Was client notified of problems? Yes / No _____

By (SGS PM): _____

Individual contacted: _____

Via: Phone / Fax / E-mail *(circle one)* _____

Date/Time: _____

Reason for contact: _____

Change Order Required? Yes / No _____

Notes: SAMPLE ② D,E PH = 5 / 60

Completed by (sign): [Signature] (print): JAMES DOUGHERTY

Login proof: Self-check completed [Signature] Peer-reviewer's Initials all

Appendix C
Laboratory Data Review Checklist
Work Order 1094420

Laboratory Data Review Checklist

| | |
|---------------------------|--------------------------------------|
| Completed by: | Traci Bradford |
| Title: | Project Engineer |
| Date: | September 24, 2009 |
| CS Report Name: | 2009 Annual Sampling Report |
| Report Date: | September 23, 2009 |
| Consultant Firm: | Michael L. Foster & Associates, Inc. |
| Laboratory Name: | SGS North America Inc. |
| Laboratory Report Number: | 1094420 |
| ADEC File Number: | |
| ADEC RecKey Number: | |

1. Laboratory

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

Yes No Comments:

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

Yes No Comments:

NA

2. Chain of Custody (COC)

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

Yes No Comments:

b. Correct analyses requested?

Yes No Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ} \text{C}$)?

Yes No Comments:

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

Yes No Comments:

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

Yes No Comments:

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

Yes No Comments:

Not applicable.

e. Data quality or usability affected? Explain.

Comments:

Data usability not affected.

4. Case Narrative

a. Present and understandable?

Yes No Comments:

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

Yes No Comments:

c. Were all corrective actions documented?

Yes No Comments:

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

Comments:

MW25A, MW25C, MW102, MW15R, AK101/8021B BFB surrogate recovery biased high due to hydrocarbon interference. Associated results may be biased high.

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:

NA

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

Yes No

Comments:

e. Data quality or usability affected?

Comments:

DRO results may be biased high for MW25C & MW102.

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:

NA

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

Yes No Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

Data quality not affected.

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

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

Yes No Comments:

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

Yes No Comments:

NA

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes No Comments:

Indeno[1,2,3-c,d]pyrene & benzo[g,h,i]perylene LCS/LCSD outside QC limits.

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

Yes No Comments:

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

Comments:

No samples affected since analyte not detected in associated sample.

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

Yes No Comments:

NA

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

Comments:

Data quality 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:

BFB surrogate recoveries biased high AK101/8021B for MW25A, MW25C, MW102.

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

Yes No

Comments:

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

Comments:

Biased high due to hydrocarbon interference. Results may be biased high for associated samples.

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

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

Yes No

Comments:

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

Yes No

Comments:

All VOA in Cooler 2.

iii. All results less than PQL?

Yes No

Comments:

iv. If above PQL, what samples are affected?

Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

Data quality not affected.

e. Field Duplicate

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

Yes No

Comments:

ii. Submitted blind to lab?

Yes No

Comments:

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

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

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes No

Comments:

DRO for MW25C/MW102 are greater than 30%

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

Comments:

DRO results for MW25C, MW102 are considered estimated.

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

Yes No Not Applicable

i. All results less than PQL?

Yes No Comments:

NA

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? Explain.

Comments:

NA – Not required by client as DoD project.

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

a. Defined and appropriate?

Yes No Comments:

NA