CES Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107

**ALASKAN OIL, INC.**
**VOLUNTARY CLEANUP AGREEMENT**
**804 STATE STREET**
**WATERTOWN, NEW YORK**

**GROUNDWATER MONITORING/RBCA CLOSURE**
**3RD Quarter 1999**

**SPILL ID #8703871**

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Fax 315-478-2107

# ALASKAN OIL, INC.
# VOLUNTARY CLEANUP AGREEMENT
# 804 STATE STREET
# WATERTOWN, NEW YORK

## SPILL ID #8703871

## GROUNDWATER MONITORING/RBCA CLOSURE
## 3RD Quarter 1999

**PREPARED FOR:**

***Alaskan Oil, Inc.***
***120 Wilkinson Street***
***Syracuse, New York***

***&***

***New York State Department of***
***Environmental Conservation***

**PREPARED BY:**

***Certified Environmental Services, Inc.***
***1401 Erie Boulevard East***
***Syracuse, New York***

**February 21, 2000**

CES Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107

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## *1.0 EXECUTIVE SUMMARY*

On behalf of Alaskan Oil, Inc. (AOI), Certified Environmental Services, Inc. (CES) is pleased to submit this Groundwater Monitoring/RBCA Closure Report associated with the AOI property located on 804 State Street, Watertown, New York. This project was conducted in accordance with the Multi-Site Response Program/Voluntary Cleanup Agreement (Agreement), Index Number D7-0002-95-09, between Alaskan Oil and the New York State Department of Environmental Conservation (NYSDEC). As such, to maintain compliance with the Agreement the site must be closed under either Tier 0, Tier I, Tier II or Tier III as outlined in the Agreement.

The property was purchased by AOI in October 1998 from the previous owner Parish Land Company, Inc. (PLC). PLC formerly leased the parcel to Parish Energy Fuels, Inc. (PEF), who operated a gasoline filling/automobile service station at the parcel when the releases of petroleum were first identified. To date, AOI has not sold, stored or distributed petroleum products from the parcel. In an overview, the property was utilized as a gasoline filling/automobile service station from approximately 1950 through 1991. In 1987, one of the underground storage tanks at the Parish Land Company property failed a routine tightness test. As a result, the NYSDEC assigned spill ID #8703871. The underground storage tanks, formerly located to the northwest of the building, were removed from the site in 1991.

Subsurface investigations have revealed the presence of petroleum contaminated soil and groundwater at the property. In July 1998, AOI conducted a subsurface investigation in an effort to define and delineate site subsurface conditions. The investigation included the advancement of ten (10) soil borings beneath the property with two (2) of the soil borings converted to 2-inch diameter groundwater monitoring wells. With four wells already located on the property, a total of six monitoring wells are now located at the site. The soils retrieved during drilling activities were screened by CES's on-site geologist for total volatile organic vapor concentrations utilizing a PID meter. PID soil headspace readings were not measured above a concentration of 20ppm at soil borings SB-2, 7, 8, and monitoring well MW-5. Soil borings SB-1, 5, 6 indicated soil headspace PID readings measured above a concentration of 20ppm. Soil borings SB-3,

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## *1.0 EXECUTIVE SUMMARY (Cont'd)*

4 and MW-6 revealed individual PID readings greater than 300ppm. These soils were subjected to laboratory analyses to determine if they met the criteria as outlined in Section I.B.2. of the VCA as being *saturated.* Results from laboratory analyses confirmed that the soils are not *saturated* as defined by the VCA. Although the site soil contamination has not been identified at concentrations considered *saturated* and site soils are conducive to a Tier I closure, at the time of the site investigation, removal of the petroleum contaminated material in the vicinity of the former pump island and the mounded soil along the western site boundary was contemplated.

On September 29, 1999 groundwater samples representing the third quarter 1999 were collected from monitoring wells MW-1 through MW-6 by CES personnel. Groundwater samples were submitted to CES's laboratory for analyses by CES or another NYSDOH approved laboratory in accordance with USEPA Methods 8021 and 8100. Results from laboratory analyses conducted on the groundwater samples collected from monitoring wells MW-1 through MW-6 did not reveal concentrations of the *chemicals of concern* which exceed NYSDEC Water Quality Regulations. Results from laboratory analyses are summarized in Appendix B; individual laboratory analytical reports are provided as Appendix C; a summary of the groundwater elevation data is provided as Appendix D. Figure 1 in Appendix A reveals a site map which illustrates the layout of the site including the location of the monitoring wells.

A groundwater elevation contour and flow direction map, provided as Figure 2 in Appendix A, was created utilizing the relative elevation and position survey information and groundwater elevation data collected on September 29, 1999. The contoured groundwater elevation data indicates that the groundwater beneath the facility is generally flowing to the southwest across the site.

Municipal drinking water provided by the City of Watertown services the subject site and surrounding properties. Site soil and groundwater concentrations identified during quarterly groundwater monitoring, the site investigation and the UST removal project are below established Tier I target values for on and off-site indoor and outdoor inhalation

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## 1.0 EXECUTIVE SUMMARY (Cont'd)

values for Tier I target values for applicable Site Conceptual Exposure Scenarios (SCES's). Based on the fact that site soil and groundwater concentrations are found to be below Tier I closure values for the target constituents, a Tier I closure of the site is recommended.

## 2.0 GROUNDWATER MONITORING

### 2.1 GROUNDWATER ANALYTICAL SAMPLING

On September 29, 1999, CES personnel collected groundwater samples from the groundwater monitoring wells associated with AOI property located at 804 State Street in Watertown, New York. The following procedures were utilized to obtain groundwater samples from monitoring wells MW-1 through MW-6:

1. Prior to the initiation of evacuation activities, each well was visually inspected for signs of damage, tampering or any other unusual observations.

2. Water levels were measured to the nearest 1/100th of a foot using an electronic water level indicator. The measurement was noted on the sample characterization sheet to determine the volume of water in the well. The water level indicator probe and associated cable were cleaned between wells to prevent cross contamination.

3. After completing initial field measurements, each well was evacuated using dedicated PVC bailers in a manner which created the least turbidity. CES personnel evacuated approximately three (3) to five (5) well volumes or to dryness from each well. Purged volumes are identified on chain-of-custody information sheets.

4. The wells were allowed to adequately recharge prior to collecting samples. Field parameters were again checked using the portable field instrumentation. Field instrumentation was calibrated at the beginning of the

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## 2.1 GROUNDWATER ANALYTICAL SAMPLING (Cont'd)

day and periodically checked and recalibrated in accordance with the manufacturers specifications.

5. Samples were collected in the appropriate bottles along with the required preservatives for the analyses to be performed.

6. Trip blanks and replicate samples were collected and submitted to the laboratory along with the samples.

7. Sample Characterization/Chain-of-Custody forms were completed prior to samples leaving the site.

8. Samples were packed in shipping cartons and placed on ice to keep samples cool during transport to the laboratory. Upon arriving at the laboratory, the samples were signed for by CES' Log-In personnel to maintain the chain of custody. Each sample was assigned an identification number (Log Number) for tracking purposes.

Upon completing sample acquisition efforts, the collected samples were transported to CES' laboratory facility located at 1401 Erie Boulevard East in Syracuse, New York for analyses. CES is certified by the New York State Department of Health (NYSDOH) under the Department's Environmental Laboratory Approval Program (ELAP -Laboratory ID No. 11246).

## 2.2 GROUNDWATER LABORATORY ANALYSES

Water samples were analyzed utilizing the following methods:

- USEPA Method 8021 (Volatile Organics) STARS Compounds
- USEPA Method 8100 (Semi-Volatile Organics) STARS Compounds

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## 2.2 GROUNDWATER LABORATORY ANALYSES (Cont'd)

The referenced analytical methodology is acceptable to the NYSDOH, the NYSDEC and/or the USEPA.

## 2.3 RESULTS FROM LABORATORY ANALYSES

Results from laboratory analyses conducted on the groundwater samples collected from monitoring wells MW-1 through MW-6 did not reveal concentrations of the *chemicals of concern* which exceed NYSDEC Water Quality Regulations. A concentration of 47ug/L of Methyl T Butyl Ether (MTBE) was identified in MW-1, 7.6 ug/L of MTBE in MW-4. A summary of the analytical data has been included as Appendix B; laboratory analytical reports are provided as Appendix C.

## 2.4 GROUNDWATER ELEVATION DATA

A groundwater elevation contour and flow direction map was created utilizing the relative elevation and position survey information and groundwater elevation data collected by CES on September 29, 1999. The contoured groundwater elevation data indicates a groundwater flow direction to the southwest across the site, see Figure 2 in Appendix A. A summary of groundwater elevation data is provided as Appendix D. Previous groundwater elevation data illustrates a flow pattern to the west and southwest across the site.

# 3.0 RECEPTOR CRITERIA/SITE CLOSURE

Tier I closure involves development of site conceptual exposure scenarios (SCES) for the source-pathway-receptor-route combinations through which potential routes of exposure may result in the human uptake of chemicals.

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## 3.0 RECEPTOR CRITERIA/SITE CLOSURE (Cont'd)

Table 1 on the following page illustrates current and potential future source-pathway-receptor routes of exposure at the site:

**Table 1: Current and Potential Future Site Conceptual Exposure Scenarios**

| SOURCE | PATHWAY (Exp. Route) | RECEPTOR (Exp. Point) | EXPOSED POPULATION | SCES SELECTED FOR EVALUATION |
|---|---|---|---|---|
| ***Air Contamination*** | | | | |
| On & Off-Site | Inhalation | Air contamination not evaluated for indoor and outdoor air inhalation due to the absence of air sources of air contamination | | |
| ***Soil Contamination*** | | | | |
| On-Site | Inhalation | Indoor Air | Workers | NO; No buildings w/basements on-site |
| | | | Residences | NO; No buildings w/basements on-site; Site shall remain commercial property |
| | | Outdoor Air | Construction Workers | **YES;** Short term exposure considered |
| | | | Commercial Workers | **YES** |
| | | | Residences | NO; Site shall remain commercial property |
| Off-Site | Inhalation | Soil contamination not evaluated for off-site indoor and outdoor air inhalation (VCA - Section 4.5.1) | | |
| On & Off-Site | Groundwater Consumption | Drinking Water Well | Population | NO; the property and surrounding properties are serviced with municipal drinking water |
| ***Groundwater Contamination*** | | | | |
| On-Site | Inhalation | Indoor | Workers | NO; No buildings w/basements on-site |
| | | | Residences | NO; No buildings w/basements on-site; Site shall remain commercial property |
| | | Outdoor Air | Construction Workers | **YES;** Short term exposure considered |
| | | | Commercial Workers | **YES** |
| Off-Site | Inhalation | Indoor | Workers | **YES** |
| | | | Residences | **YES** |
| | | Outdoor Air | Workers | **YES** |
| | | | Residences | **YES** |
| On & Off-Site | Groundwater Consumption | Drinking Water Well | Population | NO; the property and surrounding properties are serviced with municipal drinking water |

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## *3.0 RECEPTOR CRITERIA/SITE CLOSURE (Cont'd)*

This investigation has taken into consideration current and potential future receptors within a one-quarter (1/4) mile radius of the site for those *chemicals of concern* as listed in the VCA. A receptor survey which focused on the presence of on-site and off-site drinking water supply wells, surface water impoundments and buildings with basements was conducted by CES. In accordance with Section 4.5.1 of the VCA, groundwater is the only material considered for off-site exposure points.

Municipal drinking water services the area including the subject site and surrounding properties. The building located on the subject property does not have a basement. Therefore, indoor air inhalation will not be selected as a SCES for evaluation. Being that the subject property is not paved with asphalt, site soil and groundwater concentrations are compared herein for compliance with Tier I target values for outdoor air inhalation for short term exposure to construction workers and commercial workers. Worst case groundwater concentrations have been evaluated for off-site compliance with Tier I target values for indoor and outdoor air inhalation exposure for commercial and construction workers as well as children and adult residents.

Applicable site concentrations for the SCES's which have been selected for evaluation will be compared to Tier I Risk Based Screening Levels (RBSL's) for the target constituents as follows:

**ON-SITE**

(1) Soil contamination Vs. Outdoor Air Inhalation Tier I Target Values for commercial and construction workers
(2) Groundwater contamination Vs. Outdoor Air Inhalation Tier I Target Values for commercial and construction workers

**OFF-SITE**

(3) Groundwater Contamination Vs. Indoor Air Inhalation Tier I Target Values for workers and residents
(4) Groundwater Contamination Vs. Outdoor Air Inhalation Tier I Target Values for workers and residents.

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## 4.0 SOURCE EVALUATION

The SCES which are applicable for evaluation of current or potential future conditions at this site are outlined in the previous section. Worst case site groundwater concentrations from the previous four quarters of groundwater monitoring are compared herein to Tier I target values, found in Tables 4.4A-D separately for those source-pathway-receptor combinations which have been selected for evaluation. Likewise, worst case site soil concentrations from the samples collected following the UST farm excavation (November 1992) and site investigation (July 1998) are compared to Tier I target values, found in Tables 4.4A-D for those source-pathway-receptor combinations which have been selected for evaluation.

### 4.1 GROUNDWATER EVALUATION

Table 2 summarizes worst case groundwater analytical data from laboratory analyses conducted on groundwater samples collected from MW-1 through 6 over the course of the previous four quarters (4$^{TH}$ 1998 through 3$^{RD}$ 1999) for the RBCA target constituents.

**Table 2: Worst Case Groundwater Analytical Data (ppm)**

| Monitoring Well | Chemical of Concern (ppm) | | | | | |
|---|---|---|---|---|---|---|
| | Benzene | Toluene | Ethylbenzene | Mixed Xylene | Naphthalene | Benzo(a) pyrene |
| MW-1 | <0.0007 | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 |
| MW-2 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-3 | **0.026** | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 |
| MW-4 | <0.0007 | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 |
| MW-5 | <0.0007 | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 |
| MW-6 | <0.0007 | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 |
| ***Worst Case Concentration*** | **0.026** | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |

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### *4.1.1 AIR INHALATION FROM GROUNDWATER*

The following is a comparison of worst case site groundwater concentrations (Column B) from the forth quarter 1998 through the third quarter 1999 and Tier I Risk-Based Screening Levels for potential future on-site conditions for protection of outdoor air inhalation. Column A is the minimum acceptable concentration for worker protection for outdoor air inhalation.

**Table 3: Comparison of Worst Case Potential Future On-Site Conditions to Outdoor Air Inhalation Tier I Target Values**

| *GROUNDWATER CONCENTRATION (mg/L): Outdoor Air Inhalation* | | | | | |
|---|---|---|---|---|---|
| ***Chemical of Concern*** | ***Commercial Worker*** | ***Construction Worker*** | ***Column A Minimum Tier 1 Level*** | ***Column B Actual Site Concentration*** | ***Column (B) Greater Than Column (A)*** |
| Benzene | 18.2 | 321.0 | 18.2 | 0.026 | NO |
| Toluene | 535.0 | 535.0 | 535.0 | <0.005 | NO |
| Ethylbenzene | 152.0 | 152.0 | 152.0 | <0.005 | NO |
| Xylenes | 198.0 | 198.0 | 198.0 | <0.005 | NO |
| Benzo(a)pyrene | 0.0012 | 0.0012 | 0.01 | <0.005 | NO |
| Naphthalene | 3.1 | 3.1 | 3.1 | <0.005 | NO |

NOTE: Practical Quantitation Limit for Benzo(a)pyrene is 0.01ppm
Tier I target values are provided in Tables 4-4a, b, c, d

Table 3 illustrates that worst case site groundwater concentrations are less than worst case Tier I RBSL's for on-site outdoor air inhalation. Therefore, current on-site and current and potential future off-site outdoor air meets Tier I closure requirements for construction and commercial workers.

Table 4 is a comparison of worst case off-site groundwater concentrations (Column B) from the forth quarter 1998 through the third quarter 1999 from downgradient monitoring wells MW-1, 2, 4 and 6 to Tier I Risk-Based Screening Levels for potential future off-site conditions for protection of indoor air inhalation.

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### 4.1.1 AIR INHALATION FROM GROUNDWATER (Cont'd)

**Table 4:Comparison of Worst Case Potential Future Off-Site Conditions to Indoor Air Inhalation Tier I Target Values**

| GROUNDWATER CONCENTRATION (mg/L): Indoor Air Inhalation | | | | | | | |
|---|---|---|---|---|---|---|---|
| Chemical of Concern | Resident | | Commercial Worker | Construction Worker | Column A Minimum Tier 1 Level | Column B Actual Site Concentration | Column (B) Greater Than Column (A) |
| | Adult | Child | | | | | |
| Benzene | 0.00765 | 0.0382 | 0.0739 | 1.3 | 0.00765 | <0.005 | NO |
| Toluene | 23.7 | 10.2 | 81.8 | 81.8 | 10.2 | <0.005 | NO |
| Ethylbenzene | 58.9 | 25.3 | 152.0 | 152.0 | 25.3 | <0.005 | NO |
| Xylenes | 19.8 | 8.48 | 68.3 | 68.3 | 8.48 | <0.005 | NO |
| Benzo(a)pyrene | 0.0012 | 0.0012 | 0.0012 | 0.0012 | 0.01 | <0.005 | NO |
| Naphthalene | 2.67 | 1.14 | 3.1 | 3.1 | 1.14 | <0.005 | NO |

NOTE: Practical Quantitation Limit for Benzo(a)pyrene is 0.01ppm
Tier I target values are provided in Tables 4-4a, b, c, d

Table 4 illustrates that worst case downgradient groundwater concentrations are less than worst case Tier I RBSL's for off-site indoor air inhalation.

The following is a comparison of worst case site groundwater concentrations (Column B) from the forth quarter 1998 and third quarter 1999 and Tier I Risk-Based Screening Levels for potential future off-site conditions for protection of outdoor air inhalation.

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### 4.1.1 AIR INHALATION FROM GROUNDWATER (Cont'd)

**Table 5: Comparison of Worst Case Potential Future Off-Site Conditions to Outdoor Air Inhalation Tier I Target Values**

| GROUNDWATER CONCENTRATION (mg/L): Outdoor Air Inhalation | | | | | |
|---|---|---|---|---|---|
| Chemical of Concern | Adult Resident | Child Resident | Column A Minimum Tier 1 Level | Column B Actual Site Concentration | Column (B) Greater Than Column (A) |
| Benzene | 4.65 | 23.2 | 4.65 | <0.005 | NO |
| Toluene | 535.0 | 535.0 | 535.0 | <0.005 | NO |
| Ethylbenzene | 152.0 | 152.0 | 152.0 | <0.005 | NO |
| Xylenes | 198.0 | 198.0 | 198.0 | <0.005 | NO |
| Benzo(a)pyrene | 0.0012 | 0.0012 | 0.01 | <0.005 | NO |
| Naphthalene | 3.1 | 3.1 | 3.1 | <0.005 | NO |

NOTE: Practical Quantitation Limit for Benzo(a)pyrene is 0.01ppm
Tier I target values are provided in Tables 4-4a, b, c, d

Table 5 illustrates that worst case site groundwater concentrations are less than worst case Tier I RBSL's for off-site outdoor air inhalation by adult and child residents.

### 4.2 SUBSURFACE SOIL

The Site Conceptual Exposure Scenario (SCES) involving the short term outdoor air inhalation exposure to an on-site construction worker has been selected for evaluation, see Table 1. The subsurface investigation which was conducted by AOI in July 1998 included the advancement of ten (10) soil borings and installation of two (2) groundwater monitoring wells. Soil samples collected from six (6) of the soil borings were submitted to CES's laboratory for analysis. Analytical data was also generated following the removal of six UST's in December 1992. Table 6 is a summary of the soil analytical results from the samples collected by CES during the 1998 site investigation and by Op-Tech Environmental Services in 1992 following the UST removal project.

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## 4.2 SUBSURFACE SOIL (Cont'd)

### Table 6: Summary of Soil Analytical Data for RBCA Target Constituents

| Sample ID | Benzene | Ethylbenzene | Toluene | Mixed Xylene | Naphthalene | Benzo(a) pyrene |
|---|---|---|---|---|---|---|
| MW-5 | <0.014 | <0.05 | <0.05 | <0.05 | <0.2 | <0.1 |
| MW-6 | <0.014 | <0.05 | <0.05 | <0.05 | <0.2 | <0.1 |
| SB-1 | <10.0 | **18.0** | **14.0** | **128.0** | **5.50** | <0.1 |
| SB-3 | **0.060** | <0.10 | <0.10 | **0.120** | <0.2 | <0.1 |
| SB-4 | **0.050** | **0.105** | <0.10 | **1.630** | <1.0 | <0.1 |
| SB-7 | <0.014 | <0.05 | <0.05 | <0.05 | <0.2 | <0.1 |
| UST Farm Excavation | | | | | | |
| North Sidewall | <0.100 | <0.100 | <0.100 | **1.277** | **0.304** | NC |
| South Sidewall | <0.200 | **0.241** | <0.200 | **0.905** | <0.200 | NC |
| East Sidewall | <0.001 | **0.00287** | **0.00242** | **0.0252** | <0.001 | NC |
| West Sidewall | <0.002 | **0.00786** | <0.002 | **0.0406** | **0.0308** | NC |
| **Worst Case Concentrations** | **0.060** | **18.0** | **14.0** | **128.0** | **5.50** | <0.1 |

NOTE: Analytical concentrations are in parts per million (PPM)
NC: Not Conducted

Table 7 is a comparison of worst case site soil concentrations, as tabulated from Table 6, and Tier I RBSL's for potential future on-site protection of construction workers from outdoor air inhalation exposure.

**Table 7: Site Soil Concentrations Vs. Outdoor Air Inhalation Tier I Target Values**

| SOIL CONCENTRATION (mg/kg): | Outdoor Soil Vapor Inhalation | | |
|---|---|---|---|
| Chemical of Concern | Construction Worker | Column B Actual Site Concentration | Column (B) Greater Than Column (A) |
| Benzene | 1.2 | 0.060 | NO |
| Toluene | 218.0 | 14.0 | NO |
| Ethylbenzene | 1980.0 | 18.0 | NO |
| Xylenes | 310.0 | 128.0 | NO |
| Benzo(a)pyrene | 4.67 | <0.1 | NO |
| Naphthalene | 40.2 | 5.50 | NO |

NOTE: Practical Quantitation Limit for Benzo(a)pyrene is 0.01ppm

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### *4.2 SUBSURFACE SOIL (Cont'd)*

As illustrated in Table 7, worst case site soil concentrations are less than Tier I target values for on-site outdoor air inhalation for construction workers.

## *5.0 CONCLUSIONS AND RECOMMENDATIONS*

Site groundwater concentrations identified from laboratory analyses conducted during the last four quarters of groundwater monitoring ($4^{TH}$ 1999 through $3^{RD}$ 1999) indicate contaminate concentrations at compliance monitoring points below established Tier I target values for those SCES selected for evaluation. Groundwater concentrations have been found to be below Tier I target values for off-site indoor and outdoor inhalation values for workers and area residents. Site soil concentrations from samples collected during site investigation and UST removal are below Tier I target values for inhalation of outdoor air volatiles from on-site soils for construction workers. Based on the fact that worst case soil and groundwater concentrations are currently below Tier I closure values for the target constituents for applicable SCES's, CES recommends a Tier I closure of spill ID #8703871 without further action.

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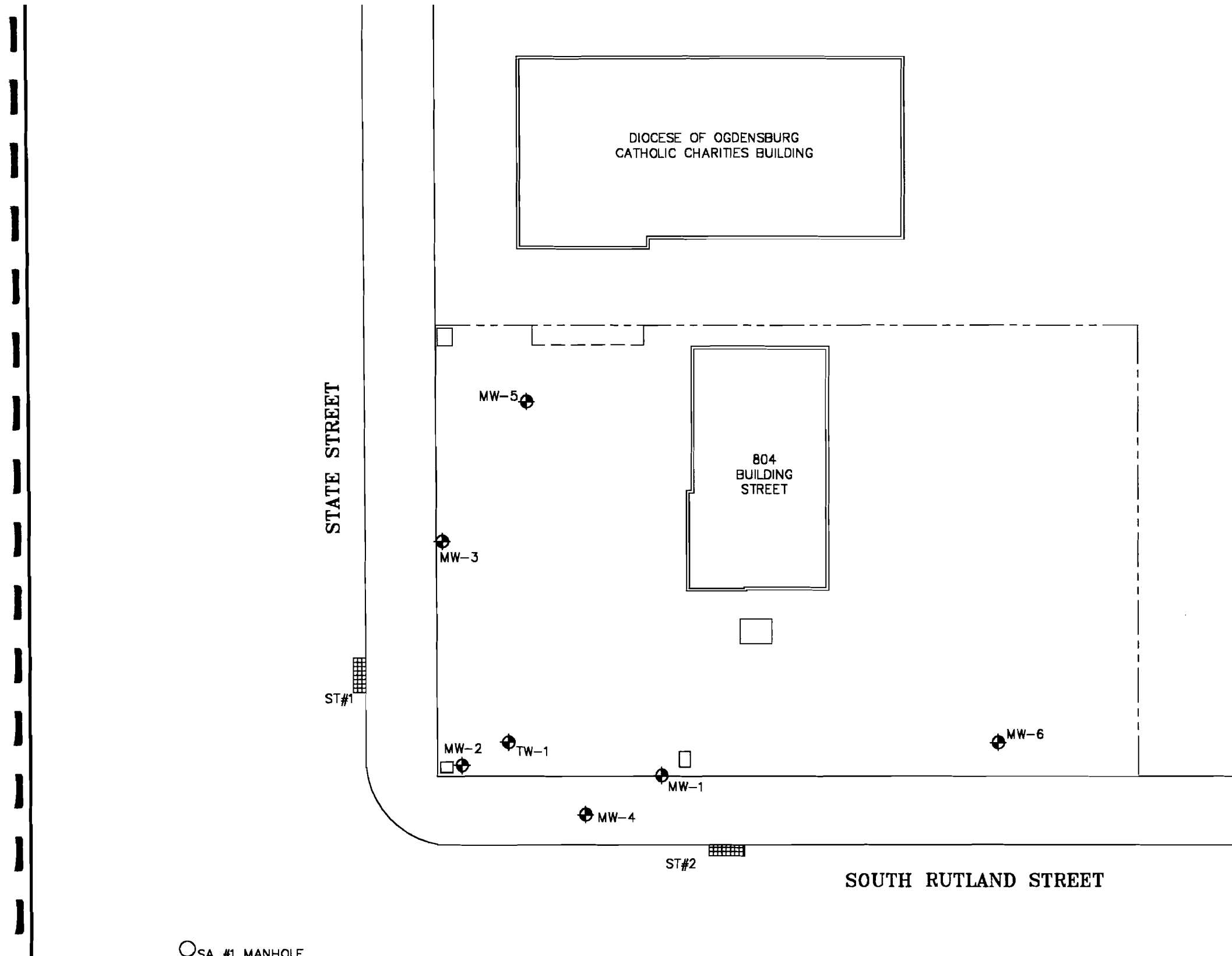
# APPENDIX A

***Figure 1 - Site Map***

***Figure 2 - Groundwater Elevation Map (September 29, 1999)***


DIOCESE OF OGDENSBURG
CATHOLIC CHARITIES BUILDING
804
BUILDING
STREET
STATE STREET
SOUTH RUTLAND STREET
MW-5
MW-3
MW-2
TW-1
MW-1
MW-4
MW-6
ST#1
ST#2

SA #1 MANHOLE

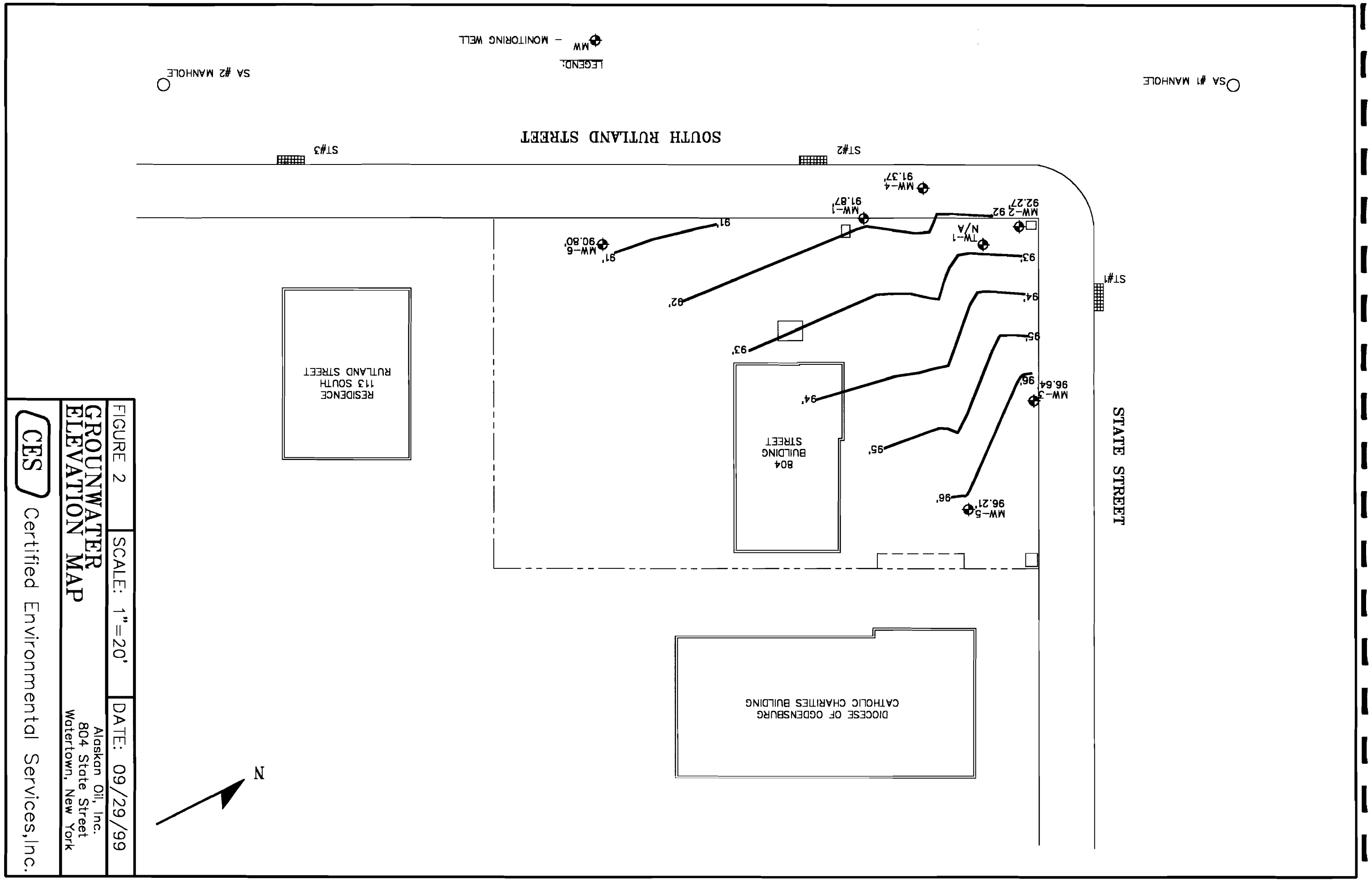



FIGURE 2

GROUNWATER ELEVATION MAP

| SCALE: 1"=20' | DATE: 09/29/99 |
|---|---|

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804 State Street
Watertown, New York

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# APPENDIX B

***Summary of Groundwater Analytical Results***

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## *Alaskan Oil, Inc.*
## *804 State Street*
## *Watertown, New York*

## *Summary of Groundwater Analytical Results for MW-1*

| Chemicals of Concern | NYSDEC Water Quality Regulations | 1st 1998 (in ug/L) 02/09/98 | 2nd 1998 (in ug/L) 05/13/98 | 3rd 1998 (in ug/L) 07/21/98 | 4th 1998 (in ug/L) 12/31/98 | 1st 1999 (in ug/L) 03/11/99 | 2nd 1999 (in ug/L) 06/22/99 | 3rd 1999 (in ug/L) 09/29/99 |
|---|---|---|---|---|---|---|---|---|
| Benzene | 1 ug/L | < 0.7 | **7.6** | **3.0** | NS | NS | < 0.7 | < 0.7 |
| Toluene | 5 ug/L | < 1.0 | < 1.0 | < 2.0 | NS | NS | < 1.0 | < 1.0 |
| Ethylbenzene | 5 ug/L | < 1.0 | 4.9 | **34** | NS | NS | < 1.0 | < 1.0 |
| M-Xylene & P-Xylene | 5 ug/L | < 1.0 | < 1.0 | **17** | NS | NS | < 1.0 | < 1.0 |
| O-Xylene | 5 ug/L | < 1.0 | < 1.0 | < 2.0 | NS | NS | < 1.0 | < 1.0 |
| Naphthalene | 10 ug/L | < 5.0 | < 5.0 | **11** | NS | NS | < 5.0 | < 5.0 |
| Benzo(a)Pyrene | ND | < 5 | < 5 | < 5 | NS | NS | < 5 | < 5 |

BTEX analyzed in accordance with USEPA Method 8021.

Naphthalene analyzed in accordance with USEPA Method 8021 and 8100.

The higher concentration of Naphthalene is reported in all cases.

Benzo(a)Pyrene analyzed in accordance with USEPA Method 8100.

ND = Not Detectable (Practical Quantitation Limit for Benzo(a)Pyrene is 10ug/L.)

NS = Not Sampled

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## *804 State Street*
## *Watertown, New York*

## *Summary of Groundwater Analytical Results for MW-2*

| Chemicals of Concern | NYSDEC Water Quality Regulations | 1st 1998 (in ug/L) 02/09/98 | 2nd 1998 (in ug/L) 05/13/98 | 3rd 1998 (in ug/L) 07/21/98 | 4th 1998 (in ug/L) 12/31/98 | 1st 1999 (in ug/L) 03/11/99 | 2nd 1999 (in ug/L) 06/22/99 | 3rd 1999 (in ug/L) 09/29/99 |
|---|---|---|---|---|---|---|---|---|
| Benzene | 1 ug/L | < 0.7 | < 5.0 | < 0.7 | < 0.7 | NS | < 5.0 | < 0.7 |
| Toluene | 5 ug/L | < 1.0 | < 5.0 | < 1.0 | < 1.0 | NS | < 5.0 | < 1.0 |
| Ethylbenzene | 5 ug/L | < 1.0 | < 5.0 | < 1.0 | < 1.0 | NS | < 5.0 | < 1.0 |
| M-Xylene & P-Xylene | 5 ug/L | < 1.0 | < 5.0 | < 1.0 | < 1.0 | NS | < 5.0 | < 1.0 |
| O-Xylene | 5 ug/L | < 1.0 | < 5.0 | < 1.0 | < 1.0 | NS | < 5.0 | < 1.0 |
| Naphthalene | 10 ug/L | < 5.0 | < 5.0 | < 5.0 | < 5.0 | NS | < 5.0 | < 5.0 |
| Benzo(a)Pyrene | ND | < 5 | < 5 | < 5 | < 5 | NS | < 5 | < 5 |

BTEX analyzed in accordance with USEPA Method 8021.

Naphthalene analyzed in accordance with USEPA Method 8021 and 8100.

The higher concentration of Naphthalene is reported in all cases.

Benzo(a)Pyrene analyzed in accordance with USEPA Method 8100.

ND = Not Detectable (Practical Quantitation Limit for Benzo(a)Pyrene is 10ug/L.)

NS = Not Sampled

CES

## *Alaskan Oil, Inc.*
## *804 State Street*
## *Watertown, New York*

## *Summary of Groundwater Analytical Results for MW-3*

| Chemicals of Concern | NYSDEC Water Quality Regulations | 1st 1998 (in ug/L) 02/09/98 | 2nd 1998 (in ug/L) 05/13/98 | 3rd 1998 (in ug/L) 07/21/98 | 4th 1998 (in ug/L) 12/31/98 | 1st 1999 (in ug/L) 03/11/99 | 2nd 1999 (in ug/L) 06/22/99 | 3rd 1999 (in ug/L) 09/29/99 |
|---|---|---|---|---|---|---|---|---|
| Benzene | 1 ug/L | < 0.7 | < 0.7 | < 0.7 | **1.1** | **3.8** | **26** | < 0.7 |
| Toluene | 5 ug/L | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Ethylbenzene | 5 ug/L | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| M-Xylene & P-Xylene | 5 ug/L | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| O-Xylene | 5 ug/L | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Naphthalene | 10 ug/L | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Benzo(a)Pyrene | ND | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |

BTEX analyzed in accordance with USEPA Method 8021.

Naphthalene analyzed in accordance with USEPA Method 8021 and 8100.

The higher concentration of Naphthalene is reported in all cases.

Benzo(a)Pyrene analyzed in accordance with USEPA Method 8100.

ND = Not Detectable (Practical Quantitation Limit for Benzo(a)Pyrene is 10ug/L.)

N/A = Not Analyzed

NS = Not Sampled

CES

## *Alaskan Oil, Inc.*
## *804 State Street*
## *Watertown, New York*

## *Summary of Groundwater Analytical Results for MW-4*

| Chemicals of Concern | NYSDEC Water Quality Regulations | 1st 1998 (in ug/L) 02/09/98 | 2nd 1998 (in ug/L) 05/13/98 | 3rd 1998 (in ug/L) 07/21/98 | 4th 1998 (in ug/L) 12/31/98 | 1st 1999 (in ug/L) 03/11/99 | 2nd 1999 (in ug/L) 06/22/99 | 3rd 1999 (in ug/L) 09/29/99 |
|---|---|---|---|---|---|---|---|---|
| Benzene | 1 ug/L | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 |
| Toluene | 5 ug/L | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Ethylbenzene | 5 ug/L | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| M-Xylene & P-Xylene | 5 ug/L | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| O-Xylene | 5 ug/L | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Naphthalene | 10 ug/L | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Benzo(a)Pyrene | ND | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |

BTEX analyzed in accordance with USEPA Method 8021.

Naphthalene analyzed in accordance with USEPA Method 8021 and 8100.

The higher concentration of Naphthalene is reported in all cases.

Benzo(a)Pyrene analyzed in accordance with USEPA Method 8100.

ND = Not Detectable (Practical Quantitation Limit for Benzo(a)Pyrene is 10ug/L.)

NS = Not Sampled

CES

## *Alaskan Oil, Inc.*
## *804 State Street*
## *Watertown, New York*

## *Summary of Groundwater Analytical Results for MW-5*

| Chemicals of Concern | NYSDEC Water Quality Regulations | 1st 1998 (in ug/L) 02/09/98 | 2nd 1998 (in ug/L) 05/13/98 | 3rd 1998 (in ug/L) 07/21/98 | 4th 1998 (in ug/L) 12/31/98 | 1st 1999 (in ug/L) 03/11/99 | 2nd 1999 (in ug/L) 06/22/99 | 3rd 1999 (in ug/L) 09/29/99 |
|---|---|---|---|---|---|---|---|---|
| Benzene | 1 ug/L | NS | NS | **1.6** | < 0.7 | < 0.7 | < 0.7 | < 0.7 |
| Toluene | 5 ug/L | NS | NS | **7.5** | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Ethylbenzene | 5 ug/L | NS | NS | 1.9 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| M-Xylene & P-Xylene | 5 ug/L | NS | NS | **24** | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| O-Xylene | 5 ug/L | NS | NS | **13** | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Naphthalene | 10 ug/L | NS | NS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Benzo(a)Pyrene | ND | NS | NS | < 5 | < 5 | < 5 | < 5 | < 5 |

BTEX analyzed in accordance with USEPA Method 8021.

Naphthalene analyzed in accordance with USEPA Method 8021 and 8100.

The higher concentration of Naphthalene is reported in all cases.

Benzo(a)Pyrene analyzed in accordance with USEPA Method 8100.

ND = Not Detectable (Practical Quantitation Limit for Benzo(a)Pyrene is 10ug/L.)

NS = Not Sampled (well not installed until 3rd Quarter 1998)

CES

## *Alaskan Oil, Inc.*
## *804 State Street*
## *Watertown, New York*

## *Summary of Groundwater Analytical Results for MW-6*

| Chemicals of Concern | NYSDEC Water Quality Regulations | 1st 1998 (in ug/L) 02/09/98 | 2nd 1998 (in ug/L) 05/13/98 | 3rd 1998 (in ug/L) 07/21/98 | 4th 1998 (in ug/L) 12/31/98 | 1st 1999 (in ug/L) 03/11/99 | 2nd 1999 (in ug/L) 06/22/99 | 3rd 1999 (in ug/L) 09/29/99 |
|---|---|---|---|---|---|---|---|---|
| Benzene | 1 ug/L | NS | NS | < 0.7 | NS | NS | < 0.7 | < 0.7 |
| Toluene | 5 ug/L | NS | NS | < 1.0 | NS | NS | < 1.0 | < 1.0 |
| Ethylbenzene | 5 ug/L | NS | NS | < 1.0 | NS | NS | < 1.0 | < 1.0 |
| M-Xylene & P-Xylene | 5 ug/L | NS | NS | < 1.0 | NS | NS | < 1.0 | < 1.0 |
| O-Xylene | 5 ug/L | NS | NS | < 1.0 | NS | NS | < 1.0 | < 1.0 |
| Naphthalene | 10 ug/L | NS | NS | < 5.0 | NS | NS | < 5.0 | < 5.0 |
| Benzo(a)Pyrene | ND | NS | NS | < 5 | NS | NS | < 5 | < 5 |

BTEX analyzed in accordance with USEPA Method 8021.

Naphthalene analyzed in accordance with USEPA Method 8021 and 8100.

The higher concentration of Naphthalene is reported in all cases.

Benzo(a)Pyrene analyzed in accordance with USEPA Method 8100.

ND = Not Detectable (Practical Quantitation Limit for Benzo(a)Pyrene is 10ug/L.)

NS = Not Sampled (well not installed until 3rd Quarter 1998)

CES

# APPENDIX C

***Groundwater Analytical Laboratory Reports***

CES Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107

# REPORT OF ANALYSES

ALASKAN OIL, INC.
120 WILKINSON ST.
SYRACUSE, NY 13204-
Attn: MR. RICH NEUGEBAUER

PROJECT NAME: AOI/PEF #345 Watertown-State
DATE: 10/28/99

SAMPLE NUMBER- 199509 SAMPLE ID- MW-1 SAMPLE MATRIX- WA
DATE SAMPLED- 09/29/99 TIME SAMPLED- 1505
DATE RECEIVED- 09/30/99 SAMPLER- Dan Leone RECEIVED BY- DJS
TIME RECEIVED- 1630 DELIVERED BY- Dan Leone TYPE SAMPLE- Grab



| ANALYSIS | METHOD | SAMPLE PREP DATE | BY | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|---|---|
| EPA 8021 Scan | EPA 8021 | | | 10/11/99 | | ELS | | |
| Benzene | EPA 8021 | | | 10/11/99 | | ELS | < 0.7 | ug/L |
| Toluene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Ethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| m-Xylene & p-Xylene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| o-Xylene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Isopropylbenzene | EPA 8021 | | | 10/11/99 | | ELS | 3.5 | ug/L |
| n-Propylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,3,5-Trimethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| tert-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,2,4-Trimethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| sec-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| p-Isopropyltoluene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| n-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Naphthalene | EPA 8021 | | | 10/11/99 | | ELS | < 5.0 | ug/L |
| Methyl-t-Butyl Ether | EPA 8021 | | | 10/11/99 | | ELS | 47 | ug/L |
| EPA 8100 Scan | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | | |
| Naphthalene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Acenaphthylene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Acenaphthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Fluorene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |

CES Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107



CONTINUATION OF DATA FOR SAMPLE NUMBER 199509

| ANALYSIS | METHOD | SAMPLE PREP DATE | BY | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|---|---|
| Phenanthrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(a)Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Chrysene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(b)Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(k)Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(a)Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Indeno(1,2,3-cd)Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Dibenzo(a,h)Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(ghi)Perylene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |

Note: EPA 8021 analysis performed by ELAP #11375, using Method EPA 8260.

NYSDOH LAB ID NO. 11246 APPROVED BY:

CES Certified Environmental Services, Inc.

# MONITORING WELL SAMPLE CHARACTERIZATION & CHAIN-OF-CUSTODY

1401 Erie Boulevard East
Syracuse, New York 13210
Ph (315) 478-2374 Fax (315) 478-2107

34008

CLIENT: AlasKan Oil, INC. LOG NO. 199509

CONTACT: Richard Neugebauer WELL NO. MW-1

LOCATION: AOI/PEF #345 Watertown-State St. WELL TYPE/SIZE: 2" PVC

WELL PURGING & SAMPLING: Date: 9-29-99 Purge Start Time: 13:50 Purge End Time: 14:00

Total Well Depth 14.75' # Well Volumes Purged 4 Color Lt. BRN. / → / BRN.

Depth to Water 5.59' Total Volume Purged 5.5 gal. Turbidity L / L / M

Well Volume 1.4 Final Depth to Water N/A Odor NONE

Purge Method Bailer SAMPLE COLLECTED: Time 15:05 Date 9-29-99

WEATHER CONDITIONS:

| FIELD PARAMETERS: | pH | pH Calibration | Conductivity | Temperature |
|---|---|---|---|---|
| Initial Reading | | @ 4.0 Std = | | |
| Intermediate Reading | | @ 7.0 Std = | | Redox |
| Final Reading | 7.3 | @ ___ Std = | | |

SAMPLE PRESERVATION:

Date 9-28-99 Time 8:05 By Dan Leone

Preservative: ☐ $H_2SO_4$ ☐ $HNO_3$ ☐ NaOH ☑ HCl ☐ $Na_2S_2O_3$ ☑ Cooled to 4° C

☐ Other (Identify)

Was Sample Filtered? ☑ No ☐ Yes Date: Time:

SAMPLE CONTAINERS & QUANTITIES:

| | | | |
|---|---|---|---|
| ☑ Quart Jar (Glass w/Teflon Liner) | 2 | ☑ 40 ml Vial with Teflon Liner | 2 |
| ☐ 500 ml Plastic Cylinder | | ☐ Pint Jar (Glass w/Teflon Liner | |
| ☐ ½ Gallon (Plastic) | | ☐ Other | |

PARAMETERS: ☐ See Attached Proposal/List

| | | | |
|---|---|---|---|
| ☐ NYSDEC Part 360 Routine | ☐ NYSDOH 310-13 | ☑ EPA 8021 | ☐ EPA 502.2 |
| ☐ 8270 (Base Neutrals) | ☐ EPA 624 | ☑ EPA 8100 | ☐ EPA 601/602 |

NOTES:

Collected By Dan Leone Date 9-29-99

Delivered By Dan Leone Date 9-29-99 Time 16:30

Received By Deborah Squires Date 9-29-99 Time 1630

CES Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107

# REPORT OF ANALYSES

ALASKAN OIL, INC.
120 WILKINSON ST.
SYRACUSE, NY 13204-
Attn: MR. RICH NEUGEBAUER

PROJECT NAME: AOI/PEF #345 Watertown-State
DATE: 10/28/99

SAMPLE NUMBER- 199510 SAMPLE ID- MW-2 SAMPLE MATRIX- WA
DATE SAMPLED- 09/29/99 TIME SAMPLED- 1520
DATE RECEIVED- 09/30/99 SAMPLER- Dan Leone RECEIVED BY- DJS
TIME RECEIVED- 1630 DELIVERED BY- Dan Leone TYPE SAMPLE- Grab



| ANALYSIS | METHOD | SAMPLE PREP DATE | BY | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|---|---|
| EPA 8021 Scan | EPA 8021 | | | 10/11/99 | | ELS | | |
| Benzene | EPA 8021 | | | 10/11/99 | | ELS | < 0.7 | ug/L |
| Toluene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Ethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| m-Xylene & p-Xylene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| o-Xylene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Isopropylbenzene | EPA 8021 | | | 10/11/99 | | ELS | 4.7 | ug/L |
| n-Propylbenzene | EPA 8021 | | | 10/11/99 | | ELS | 12 | ug/L |
| 1,3,5-Trimethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| tert-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,2,4-Trimethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | 1.4 | ug/L |
| sec-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | 3.3 | ug/L |
| p-Isopropyltoluene | EPA 8021 | | | 10/11/99 | | ELS | 1.2 | ug/L |
| n-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | 3.3 | ug/L |
| Naphthalene | EPA 8021 | | | 10/11/99 | | ELS | < 5.0 | ug/L |
| Methyl-t-Butyl Ether | EPA 8021 | | | 10/11/99 | | ELS | < 5.0 | ug/L |
| EPA 8100 Scan | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | | |
| Naphthalene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Acenaphthylene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Acenaphthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Fluorene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |

CES Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107



CONTINUATION OF DATA FOR SAMPLE NUMBER 199510

| ANALYSIS | METHOD | SAMPLE PREP DATE | BY | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|---|---|
| Phenanthrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(a)Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Chrysene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(b)Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(k)Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(a)Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Indeno(1,2,3-cd)Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Dibenzo(a,h)Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(ghi)Perylene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |

Note: EPA 8021 analysis performed by ELAP #11375, using Method EPA 8260.

NYSDOH LAB ID NO. 11246 APPROVED BY: _____

CES
Certified Environmental Services, Inc.

# MONITORING WELL SAMPLE CHARACTERIZATION & CHAIN-OF-CUSTODY

1401 Erie Boulevard East
Syracuse, New York 13210
Ph (315) 478-2374 Fax (315) 478-2107

34008

CLIENT: AlasKan Oil, INC. LOG NO. 199510
CONTACT: Richard Neugebauer WELL NO. MW-2
LOCATION: AOI/PEF #345 Watertown State St. WELL TYPE/SIZE: 2" PVC

WELL PURGING & SAMPLING: Date: 9-29-99 Purge Start Time: 14:20 Purge End Time: 14:25

Total Well Depth 12.90' # Well Volumes Purged 4 Color Clear / → / Grey
Depth to Water 5.88' Total Volume Purged 4 gal. Turbidity L / L / M
Well Volume 1.1 Final Depth to Water N/A Odor NONE
Purge Method Bailer SAMPLE COLLECTED: Time 15:20 Date 9-29-99

WEATHER CONDITIONS:

| FIELD PARAMETERS: | pH | pH Calibration | Conductivity | Temperature |
|---|---|---|---|---|
| Initial Reading | | @ 4.0 Std = | | |
| Intermediate Reading | | @ 7.0 Std = | | Redox |
| Final Reading | 7.4 | @ ___ Std = | | |

SAMPLE PRESERVATION:

Date 9-28-99 Time 8:05 By Dan Leone

Preservative: ☐ $H_2SO_4$ ☐ $HNO_3$ ☐ NaOH ☑ HCl ☐ $Na_2S_2O_3$ ☑ Cooled to 4° C

☐ Other (Identify)

Was Sample Filtered? ☑ No ☐ Yes Date: Time:

SAMPLE CONTAINERS & QUANTITIES:

| | | | |
|---|---|---|---|
| ☑ Quart Jar (Glass w/Teflon Liner) | 2 | ☑ 40 ml Vial with Teflon Liner | 2 |
| ☐ 500 ml Plastic Cylinder | | ☐ Pint Jar (Glass w/Teflon Liner | |
| ☐ ½ Gallon (Plastic) | | ☐ Other | |

PARAMETERS: ☐ See Attached Proposal/List

| | | | |
|---|---|---|---|
| ☐ NYSDEC Part 360 Routine | ☐ NYSDOH 310-13 | ☑ EPA 8021 | ☐ EPA 502.2 |
| ☐ 8270 (Base Neutrals) | ☐ EPA 624 | ☑ EPA 8100 | ☐ EPA 601/602 |

NOTES:

Collected By Dan Leone Date 9-29-99
Delivered By Dan Leone Date 9-29-99 Time 16:30
Received By Deborah Squires Date 9-29-99 Time 16 30

Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107

# REPORT OF ANALYSES

ALASKAN OIL, INC.
120 WILKINSON ST.
SYRACUSE, NY 13204-
Attn: MR. RICH NEUGEBAUER

PROJECT NAME: AOI/PEF #345 Watertown-State
DATE: 10/28/99

SAMPLE NUMBER- 199511 SAMPLE ID- MW-3 SAMPLE MATRIX- WA
DATE SAMPLED- 09/29/99 TIME SAMPLED- 1525
DATE RECEIVED- 09/30/99 SAMPLER- Dan Leone RECEIVED BY- DJS
TIME RECEIVED- 1630 DELIVERED BY- Dan Leone TYPE SAMPLE- Grab



| ANALYSIS | METHOD | SAMPLE PREP DATE | BY | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|---|---|
| EPA 8021 Scan | EPA 8021 | | | 10/11/99 | | ELS | | |
| Benzene | EPA 8021 | | | 10/11/99 | | ELS | < 0.7 | ug/L |
| Toluene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Ethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| m-Xylene & p-Xylene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| o-Xylene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Isopropylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| n-Propylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,3,5-Trimethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| tert-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,2,4-Trimethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| sec-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| p-Isopropyltoluene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| n-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Naphthalene | EPA 8021 | | | 10/11/99 | | ELS | < 5.0 | ug/L |
| Methyl-t-Butyl Ether | EPA 8021 | | | 10/11/99 | | ELS | < 5.0 | ug/L |
| EPA 8100 Scan | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | | |
| Naphthalene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Acenaphthylene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Acenaphthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Fluorene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |

CES Certified Environmental Services, Inc.

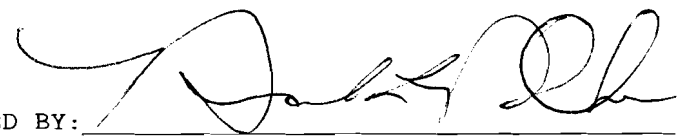
1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107



CONTINUATION OF DATA FOR SAMPLE NUMBER 199511

| ANALYSIS | METHOD | SAMPLE PREP DATE | BY | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|---|---|
| Phenanthrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(a)Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Chrysene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(b)Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(k)Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(a)Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Indeno(1,2,3-cd)Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Dibenzo(a,h)Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(ghi)Perylene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |

Note: EPA 8021 analysis performed by ELAP #11375, using Method EPA 8260.

NYSDOH LAB ID NO. 11246 APPROVED BY: 

CES Certified Environmental Services, Inc.

# MONITORING WELL SAMPLE CHARACTERIZATION & CHAIN-OF-CUSTODY

1401 Erie Boulevard East
Syracuse, New York 13210
Ph (315) 478-2374 Fax (315) 478-2107

34008

CLIENT: AlasKan Oil, INC. LOG NO. - 199511
CONTACT: Richard Neugebauer WELL NO. MW-3
LOCATION: AOI/PEF #345 Watertown State St. WELL TYPE/SIZE: 2" PVC

WELL PURGING & SAMPLING: Date: 9-29-99 Purge Start Time: 14:35 Purge End Time: 14:45

Total Well Depth 15.25' # Well Volumes Purged 4 Color LT BRN / → / BRN
Depth to Water 2.69' Total Volume Purged 5 gal. Turbidity L / M / H
Well Volume 2.0 Final Depth to Water N/A Odor NONE
Purge Method Bailer SAMPLE COLLECTED: Time 15:25 Date 9-29-99

WEATHER CONDITIONS:

| FIELD PARAMETERS: | pH | pH Calibration | Conductivity | Temperature |
|---|---|---|---|---|
| Initial Reading | | @ 4.0 Std = | | |
| Intermediate Reading | | @ 7.0 Std = | | Redox |
| Final Reading | 7.4 | @ ___ Std = | | |

SAMPLE PRESERVATION:
Date 9-28-99 Time 8:05 By Dan Leone
Preservative: ☐ $H_2SO_4$ ☐ $HNO_3$ ☐ NaOH ☑ HCl ☐ $Na_2S_2O_3$ ☑ Cooled to 4° C
☐ Other (Identify)
Was Sample Filtered? ☑ No ☐ Yes Date: Time:

SAMPLE CONTAINERS & QUANTITIES:

| | | | |
|---|---|---|---|
| ☑ Quart Jar (Glass w/Teflon Liner) | 2 | ☑ 40 ml Vial with Teflon Liner | 2 |
| ☐ 500 ml Plastic Cylinder | | ☐ Pint Jar (Glass w/Teflon Liner | |
| ☐ ½ Gallon (Plastic) | | ☐ Other | |

PARAMETERS: ☐ See Attached Proposal/List

| | | | |
|---|---|---|---|
| ☐ NYSDEC Part 360 Routine | ☐ NYSDOH 310-13 | ☑ EPA 8021 | ☐ EPA 502.2 |
| ☐ 8270 (Base Neutrals) | ☐ EPA 624 | ☑ EPA 8100 | ☐ EPA 601/602 |

NOTES:

Collected By Dan Leone Date 9-29-99
Delivered By Dan Leone Date 9-29-99 Time 16:30
Received By Deborah Squires Date 9-29-99 Time 1630

CES Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107

# REPORT OF ANALYSES

ALASKAN OIL, INC.
120 WILKINSON ST.
SYRACUSE, NY 13204-
Attn: MR. RICH NEUGEBAUER

PROJECT NAME: AOI/PEF #345 Watertown-State
DATE: 10/28/99

SAMPLE NUMBER- 199512 SAMPLE ID- MW-4 SAMPLE MATRIX- WA
DATE SAMPLED- 09/29/99 TIME SAMPLED- 1515
DATE RECEIVED- 09/30/99 SAMPLER- Dan Leone RECEIVED BY- DJS
TIME RECEIVED- 1630 DELIVERED BY- Dan Leone TYPE SAMPLE- Grab



| ANALYSIS | METHOD | SAMPLE PREP DATE | BY | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|---|---|
| EPA 8021 Scan | EPA 8021 | | | 10/11/99 | | ELS | | |
| Benzene | EPA 8021 | | | 10/11/99 | | ELS | < 0.7 | ug/L |
| Toluene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Ethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| m-Xylene & p-Xylene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| o-Xylene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Isopropylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| n-Propylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,3,5-Trimethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| tert-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,2,4-Trimethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| sec-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| p-Isopropyltoluene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| n-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Naphthalene | EPA 8021 | | | 10/11/99 | | ELS | < 5.0 | ug/L |
| Methyl-t-Butyl Ether | EPA 8021 | | | 10/11/99 | | ELS | 7.6 | ug/L |
| EPA 8100 Scan | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | | |
| Naphthalene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Acenaphthylene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Acenaphthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Fluorene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |

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Fax 315-478-2107



CONTINUATION OF DATA FOR SAMPLE NUMBER 199512

| ANALYSIS | METHOD | SAMPLE PREP DATE | BY | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|---|---|
| Phenanthrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(a)Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Chrysene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(b)Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(k)Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(a)Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Indeno(1,2,3-cd)Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Dibenzo(a,h)Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(ghi)Perylene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |

Note: EPA 8021 analysis performed by ELAP #11375, using Method EPA 8260.

NYSDOH LAB ID NO. 11246 APPROVED BY: _____

CES Certified Environmental Services, Inc.

# MONITORING WELL SAMPLE CHARACTERIZATION & CHAIN-OF-CUSTODY

1401 Erie Boulevard East
Syracuse, New York 13210
Ph (315) 478-2374 Fax (315) 478-2107

34008

CLIENT: AlasKan Oil, INC. LOG NO. - 199512
CONTACT: Richard Neugebauer WELL NO. MW-4
LOCATION: AOI/PEF #345 Watertown State St. WELL TYPE/SIZE: 2" PVC

WELL PURGING & SAMPLING: Date: 9-29-99 Purge Start Time: 14:05 Purge End Time: 14:15

Total Well Depth 12.75' # Well Volumes Purged 4 Color Clear/ → / Clear
Depth to Water 6.28' Total Volume Purged 4 gal. Turbidity L / L / L
Well Volume 1.0 Final Depth to Water N/A Odor NONE
Purge Method Bailer SAMPLE COLLECTED: Time 15:15 Date 9-29-99

WEATHER CONDITIONS:

| FIELD PARAMETERS: | pH | pH Calibration | Conductivity | Temperature |
|---|---|---|---|---|
| Initial Reading | | @ 4.0 Std = | | |
| Intermediate Reading | | @ 7.0 Std = | | Redox |
| Final Reading | 7.1 | @ ___ Std = | | |

SAMPLE PRESERVATION:
Date 9-28-99 Time 8:05 By Dan Leone
Preservative: ☐ $H_2SO_4$ ☐ $HNO_3$ ☐ NaOH ☑ HCl ☐ $Na_2S_2O_3$ ☑ Cooled to 4° C
☐ Other (Identify)
Was Sample Filtered? ☑ No ☐ Yes Date: Time:

SAMPLE CONTAINERS & QUANTITIES:

| | | | |
|---|---|---|---|
| ☑ Quart Jar (Glass w/Teflon Liner) | 2 | ☑ 40 ml Vial with Teflon Liner | *3 |
| ☐ 500 ml Plastic Cylinder | | ☐ Pint Jar (Glass w/Teflon Liner | |
| ☐ ½ Gallon (Plastic) | | ☐ Other | |

PARAMETERS: ☐ See Attached Proposal/List

| | | | |
|---|---|---|---|
| ☐ NYSDEC Part 360 Routine | ☐ NYSDOH 310-13 | ☑ EPA 8021 | ☐ EPA 502.2 |
| ☐ 8270 (Base Neutrals) | ☐ EPA 624 | ☑ EPA 8100 | ☐ EPA 601/602 |

NOTES: *Q.C. collected

Collected By Dan Leone Date 9-29-99
Delivered By Dan Leone Date 9-29-99 Time 16:30
Received By Deborah Squires Date 9-29-99 Time 16:30

CES Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107

# REPORT OF ANALYSES

ALASKAN OIL, INC.
120 WILKINSON ST.
SYRACUSE, NY 13204-
Attn: MR. RICH NEUGEBAUER

PROJECT NAME: AOI/PEF #345 Watertown-State
DATE: 10/28/99

SAMPLE NUMBER- 199513 SAMPLE ID- MW-5 SAMPLE MATRIX- WA
DATE SAMPLED- 09/29/99 TIME SAMPLED- 1530
DATE RECEIVED- 09/30/99 SAMPLER- Dan Leone RECEIVED BY- DJS
TIME RECEIVED- 1630 DELIVERED BY- Dan Leone TYPE SAMPLE- Grab



| ANALYSIS | METHOD | SAMPLE PREP DATE | BY | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|---|---|
| EPA 8021 Scan | EPA 8021 | | | 10/11/99 | | ELS | | |
| Benzene | EPA 8021 | | | 10/11/99 | | ELS | < 0.7 | ug/L |
| Toluene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Ethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| m-Xylene & p-Xylene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| o-Xylene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Isopropylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| n-Propylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,3,5-Trimethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| tert-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,2,4-Trimethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| sec-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| p-Isopropyltoluene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| n-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Naphthalene | EPA 8021 | | | 10/11/99 | | ELS | < 5.0 | ug/L |
| Methyl-t-Butyl Ether | EPA 8021 | | | 10/11/99 | | ELS | < 5.0 | ug/L |
| EPA 8100 Scan | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | | |
| Naphthalene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Acenaphthylene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Acenaphthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Fluorene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |

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Phone 315-478-2374
Fax 315-478-2107



CONTINUATION OF DATA FOR SAMPLE NUMBER 199513

| ANALYSIS | METHOD | SAMPLE PREP DATE | BY | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|---|---|
| Phenanthrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(a)Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Chrysene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(b)Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(k)Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(a)Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Indeno(1,2,3-cd)Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Dibenzo(a,h)Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(ghi)Perylene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |

Note: EPA 8021 analysis performed by ELAP #11375, using Method EPA 8260.

NYSDOH LAB ID NO. 11246 APPROVED BY: _____

CES
Certified Environmental Services, Inc.

# MONITORING WELL SAMPLE CHARACTERIZATION & CHAIN-OF-CUSTODY

1401 Erie Boulevard East
Syracuse, New York 13210
Ph (315) 478-2374 Fax (315) 478-2107

34008

CLIENT: AlasKan Oil, INC. LOG NO. 199513
CONTACT: Richard Neugebauer WELL NO. MW-5
LOCATION: A01/PEF #345 Watertown State St. WELL TYPE/SIZE: 2" PVC

WELL PURGING & SAMPLING: Date: 9-29-99 Purge Start Time: 14:50 Purge End Time: 14:55

Total Well Depth 12.50' # Well Volumes Purged 4 Color clear → Lt. BRN.
Depth to Water 3.22' Total Volume Purged 5.5 gal. Turbidity L/L/M
Well Volume 1.4 Final Depth to Water N/A Odor NONE
Purge Method Bailer SAMPLE COLLECTED: Time 15:30 Date 9-29-99

WEATHER CONDITIONS:

| FIELD PARAMETERS: | pH | pH Calibration | Conductivity | Temperature |
|---|---|---|---|---|
| Initial Reading | | @ 4.0 Std = | | |
| Intermediate Reading | | @ 7.0 Std = | | Redox |
| Final Reading | 7.4 | @ ___ Std = | | |

SAMPLE PRESERVATION:

Date 9-28-99 Time 8:05 By Dan Leone

Preservative: ☐ $H_2SO_4$ ☐ $HNO_3$ ☐ NaOH ☑ HCl ☐ $Na_2S_2O_3$ ☑ Cooled to 4° C

☐ Other (Identify)

Was Sample Filtered? ☑ No ☐ Yes Date: Time:

SAMPLE CONTAINERS & QUANTITIES:

| | | | |
|---|---|---|---|
| ☑ Quart Jar (Glass w/Teflon Liner) | 2 | ☑ 40 ml Vial with Teflon Liner | 2 |
| ☐ 500 ml Plastic Cylinder | | ☐ Pint Jar (Glass w/Teflon Liner | |
| ☐ ½ Gallon (Plastic) | | ☐ Other | |

PARAMETERS: ☐ See Attached Proposal/List

| | | | |
|---|---|---|---|
| ☐ NYSDEC Part 360 Routine | ☐ NYSDOH 310-13 | ☑ EPA 8021 | ☐ EPA 502.2 |
| ☐ 8270 (Base Neutrals) | ☐ EPA 624 | ☑ EPA 8100 | ☐ EPA 601/602 |

NOTES:

Collected By Dan Leone Date 9-29-99
Delivered By Dan Leone Date 9-29-99 Time 16:30
Received By Deborah Squires Date 9-29-99 Time 16 30

CES Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107

# REPORT OF ANALYSES

ALASKAN OIL, INC.
120 WILKINSON ST.
SYRACUSE, NY 13204-
Attn: MR. RICH NEUGEBAUER

PROJECT NAME: AOI/PEF #345 Watertown-State
DATE: 10/28/99

SAMPLE NUMBER- 199514 SAMPLE ID- MW-6 SAMPLE MATRIX- WA
DATE SAMPLED- 09/29/99 TIME SAMPLED- 1500
DATE RECEIVED- 09/30/99 SAMPLER- Dan Leone RECEIVED BY- DJS
TIME RECEIVED- 1630 DELIVERED BY- Dan Leone TYPE SAMPLE- Grab



| ANALYSIS | METHOD | SAMPLE PREP DATE | BY | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|---|---|
| EPA 8021 Scan | EPA 8021 | | | 10/11/99 | | ELS | | |
| Benzene | EPA 8021 | | | 10/11/99 | | ELS | < 0.7 | ug/L |
| Toluene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Ethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| m-Xylene & p-Xylene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| o-Xylene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Isopropylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| n-Propylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,3,5-Trimethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| tert-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,2,4-Trimethylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| sec-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| p-Isopropyltoluene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| n-Butylbenzene | EPA 8021 | | | 10/11/99 | | ELS | < 1.0 | ug/L |
| Naphthalene | EPA 8021 | | | 10/11/99 | | ELS | < 5.0 | ug/L |
| Methyl-t-Butyl Ether | EPA 8021 | | | 10/11/99 | | ELS | < 5.0 | ug/L |
| EPA 8100 Scan | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | | |
| Naphthalene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Acenaphthylene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Acenaphthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Fluorene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |

CES Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107



CONTINUATION OF DATA FOR SAMPLE NUMBER 199514

| ANALYSIS | METHOD | SAMPLE PREP DATE | BY | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|---|---|
| Phenanthrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(a)Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Chrysene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(b)Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(k)Fluoranthene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(a)Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Indeno(1,2,3-cd)Pyrene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Dibenzo(a,h)Anthracene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |
| Benzo(ghi)Perylene | EPA 8100 | 10/06/99 | KMS | 10/25/99 | | BJC | < 5 | ug/L |

Note: EPA 8021 analysis performed by ELAP #11375, using Method EPA 8260.

NYSDOH LAB ID NO. 11246 APPROVED BY:_____

CES
Certified Environmental Services, Inc.

# MONITORING WELL SAMPLE CHARACTERIZATION & CHAIN-OF-CUSTODY

1401 Erie Boulevard East
Syracuse, New York 13210
Ph (315) 478-2374 Fax (315) 478-2107

34008

CLIENT: AlasKan Oil, INC. LOG NO. 199514

CONTACT: Richard Neugebauer WELL NO. MW-6

LOCATION: AOI/PEF #345 Watertown State St. WELL TYPE/SIZE: 2" PVC

WELL PURGING & SAMPLING: Date: 9-29-99 Purge Start Time: 13:30 Purge End Time: 13:40

Total Well Depth 12.50' # Well Volumes Purged 4 Color LT BRN / → / BRN

Depth to Water 5.50' Total Volume Purged 4.5 gal. Turbidity L/M/M

Well Volume 1.1 Final Depth to Water N/A Odor NONE

Purge Method Bailer SAMPLE COLLECTED: Time 15:00 Date 9-29-99

WEATHER CONDITIONS:

| FIELD PARAMETERS: | pH | pH Calibration | Conductivity | Temperature |
|---|---|---|---|---|
| Initial Reading | | @ 4.0 Std = | | |
| Intermediate Reading | | @ 7.0 Std = | | Redox |
| Final Reading | 7.3 | @ ___ Std = | | |

SAMPLE PRESERVATION:

Date 9-28-99 Time 6:05 By Dan Leone

Preservative: ☐ $H_2SO_4$ ☐ $HNO_3$ ☐ NaOH ☑ HCl ☐ $Na_2S_2O_3$ ☑ Cooled to 4° C

Other (Identify)

Was Sample Filtered? ☑ No ☐ Yes Date: Time:

SAMPLE CONTAINERS & QUANTITIES:

| | | | |
|---|---|---|---|
| ☑ Quart Jar (Glass w/Teflon Liner) | 2 | ☑ 40 ml Vial with Teflon Liner | 2 |
| ☐ 500 ml Plastic Cylinder | | ☐ Pint Jar (Glass w/Teflon Liner | |
| ☐ ½ Gallon (Plastic) | | ☐ Other | |

PARAMETERS: ☐ See Attached Proposal/List

| | | | |
|---|---|---|---|
| ☐ NYSDEC Part 360 Routine 8270 (Base Neutrals) | ☐ NYSDOH 310-13 ☐ EPA 624 | ☑ EPA 8021 ☑ EPA 8100 | ☐ EPA 502.2 ☐ EPA 601/602 |

NOTES:

Collected By Dan Leone Date 9-29-99

Delivered By Dan Leone Date 9-29-99 Time 16:30

Received By Deborah Squires Date 9-29-99 Time 16 30

CES Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107

# REPORT OF ANALYSES

ALASKAN OIL, INC.
120 WILKINSON ST.
SYRACUSE, NY 13204-
Attn: MR. RICH NEUGEBAUER

PROJECT NAME: AOI/PEF #345 Watertown-State
DATE: 10/28/99

SAMPLE NUMBER- 199515 SAMPLE ID- Trip Blank SAMPLE MATRIX- WA
DATE SAMPLED- 09/28/99 TIME SAMPLED- 1530
DATE RECEIVED- 09/30/99 SAMPLER- Dan Leone RECEIVED BY- DJS
TIME RECEIVED- 1630 DELIVERED BY- Dan Leone TYPE SAMPLE- Grab



| ANALYSIS | METHOD | ANALYSIS DATE | TIME | BY | RESULT | UNITS |
|---|---|---|---|---|---|---|
| EPA 8021 Scan | EPA 8021 | 10/11/99 | | ELS | | |
| Benzene | EPA 8021 | 10/11/99 | | ELS | < 0.7 | ug/L |
| Toluene | EPA 8021 | 10/11/99 | | ELS | < 1.0 | ug/L |
| Ethylbenzene | EPA 8021 | 10/11/99 | | ELS | < 1.0 | ug/L |
| m-Xylene & p-Xylene | EPA 8021 | 10/11/99 | | ELS | < 1.0 | ug/L |
| o-Xylene | EPA 8021 | 10/11/99 | | ELS | < 1.0 | ug/L |
| Isopropylbenzene | EPA 8021 | 10/11/99 | | ELS | < 1.0 | ug/L |
| n-Propylbenzene | EPA 8021 | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,3,5-Trimethylbenzene | EPA 8021 | 10/11/99 | | ELS | < 1.0 | ug/L |
| tert-Butylbenzene | EPA 8021 | 10/11/99 | | ELS | < 1.0 | ug/L |
| 1,2,4-Trimethylbenzene | EPA 8021 | 10/11/99 | | ELS | < 1.0 | ug/L |
| sec-Butylbenzene | EPA 8021 | 10/11/99 | | ELS | < 1.0 | ug/L |
| p-Isopropyltoluene | EPA 8021 | 10/11/99 | | ELS | < 1.0 | ug/L |
| n-Butylbenzene | EPA 8021 | 10/11/99 | | ELS | < 1.0 | ug/L |
| Naphthalene | EPA 8021 | 10/11/99 | | ELS | < 5.0 | ug/L |
| Methyl-t-Butyl Ether | EPA 8021 | 10/11/99 | | ELS | < 5.0 | ug/L |

Note: Analysis performed by ELAP #11375, using Method EPA 8260.

NYSDOH LAB ID NO. 11246

APPROVED BY: _____

CES Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107

## SAMPLE CHARACTERIZATION/CHAIN-OF-CUSTODY

34008

CLIENT: Alaskan Oil, Inc. LOG NO. 199515

CONTACT: Richard Neugebauer PH# ( )

SAMPLING INFORMATION:

SAMPLE ID: Trip Blank LOCATION: A01/PEF #345 Watertown State St

SAMPLE TYPE: ☐ Soil ☑ Water ☐ Oil ☐ Wipe ☐ Air ☐ _____

COLLECTION TECHNIQUE: ☐ Composite ☑ Grab ☐ Wipe ☐ Flow Composite ☐ _____

COMPOSITE: (Start) Date _____ Time _____ By _____

(Finish) Date _____ Time _____ By _____

GRAB: Date 9-28-99 Time 15:30 By Dan Leone

SAMPLE PRESERVATION:

Date 9-28-99 Time 15:30 By Dan Leone

Preservative: ☐ $H_2SO_4$ ☐ $HNO_3$ ☐ NaOH ☑ HCl ☐ $Na_2S_2O_3$ ☑ Cooled to 4° C

☐ Other (Identify) _____

SAMPLE CONTAINERS:

| Container | Qty | | Qty |
|---|---|---|---|
| ☐ Quart Jar (Glass w/Teflon Liner) | ___ | ☑ 40 ml Vial with Teflon Liner | 1 |
| ☐ 500 ml Plastic Cylinder | ___ | ☐ Quart Jar (Glass w/o Teflon Liner) | ___ |
| ☐ ½ Gallon (Plastic) | ___ | ☐ Pint Jar (Glass w/Teflon Liner) | ___ |
| ☐ Coliform Cup | ___ | ☐ Pint Jar (Glass w/o Teflon Liner) | ___ |
| ☐ Other _____ | ___ | | |

PARAMETERS: See Attached Proposal/List

EPA 8021

NOTES: _____

Collected By Dan Leone Date 9-29-99

Delivered By Dan Leone Date 9-29-99 Time :

Received By _____ Date _____ Time _____

Received By Deborah Squires Date 9-29-99 Time 1630

CES

# APPENDIX D

***Summary of Groundwater Elevation Data***

CES

# *Summary of Groundwater Elevation Data*

**ALASKAN OIL, INC.**
**804 STATE STREET**
**WATERTOWN, NEW YORK**

| Sample Location | Top of Casing Elevation | Top of Screen Elevation | GROUNDWATER ELEVATION DATA | | |
|---|---|---|---|---|---|
| | | | 03/11/99 | 06/22/99 | 09/29/99 |
| MW-1 | 97.46 | NA | NA | NA | 91.87 |
| MW-2 | 98.15 | NA | NA | NA | 92.27 |
| MW-3 | 99.33 | NA | 95.17 | NA | 96.64 |
| MW-4 | 97.65 | NA | 91.35 | NA | 91.37 |
| MW-5 | 99.43 | 96.43 | 95.12 | NA | 96.21 |
| MW-6 | 96.30 | 93.30 | NA | NA | 90.80 |

Note: All measurements recorded in feet
Monitoring wells re-surveyed by CES in July 1998
Groundwater elevations are measured from the top of the PVC monitoring well casing.
NA = Not Available