

**PLAINS**  
ALL AMERICAN  
PIPELINE, L.P.

**SITE CHARACTERIZATION  
AND  
PROPOSAL FOR RISK-BASED CLOSURE**

**ARROWHEAD GRAYBURG 8" GATHERING**

**PLAINS REF: 2003-00176**

**SE $\frac{1}{4}$  OF THE SE $\frac{1}{4}$  OF SECTION 2, TOWNSHIP 22 SOUTH, RANGE 36 EAST  
LEA COUNTY, NEW MEXICO**

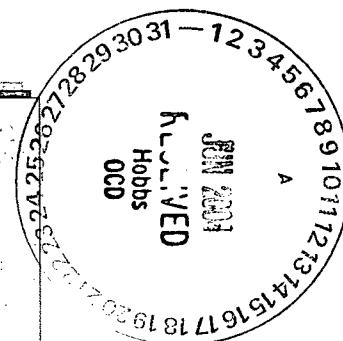
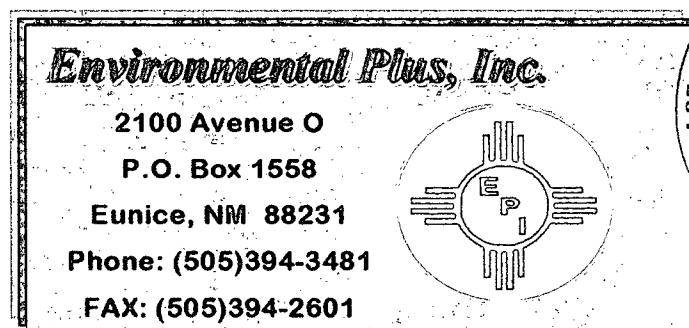
**~4.5 MILES SOUTHWEST (342°) OF  
EUNICE, LEA COUNTY, NEW MEXICO**

**LATITUDE: N32° 24' 55.774"      LONGITUDE: W103° 13' 51.267"**

*Plains - 34053  
incident - nPA C0602634729*

**JUNE 8, 2004**

**PREPARED BY:**





ENVIRONMENTAL PLUS, INC. Micro-Blaze Micro-Blaze Out™

STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

9 June 2004

Mr. Larry Johnson  
NM Energy, Minerals, and Natural Resources Department  
New Mexico Oil Conservation Division – Environmental Bureau  
1625 North French Drive  
Hobbs, NM 88240

Re: Site Characterization and Proposal for Risk-Based Closure #2003-00176  
UL-P Section 2 T22S R36E, Lea County, New Mexico  
Landowner: State of New Mexico

Dear Mr. Johnson,

Environmental Plus, Inc. (EPI), on behalf of Mr. Jimmy Bryant, Plains All American Pipeline, L.P., submits for your consideration this *Site Characterization and Proposal for Risk-Based Closure Report* for the above-referenced site. Based on data collected during the site delineation process, Plains recommends the installation of a clay barrier in the base of the excavation to prevent vertical migration of the remaining contaminants. The excavation will then be backfilled with clean soil and graded to allow natural drainage.

Should you have any questions or comments please call Mr. Ben Miller or me at EPI's offices, or at 505-390-2088 or 505-390-7306 respectively. Mr. Bryant may be contacted through Plain's Midland office at 432-684-3497.

All official correspondence should be addressed to:

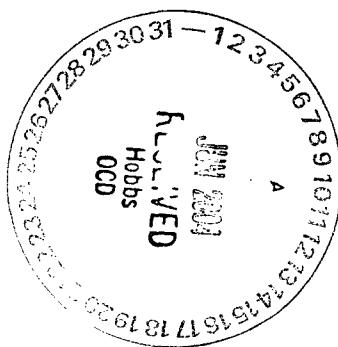
Mr. Jimmy Bryant  
Plains All American Pipeline, L.P.  
P.O. Box 1660  
5805 East Highway 80  
Midland, Texas 79703

Sincerely,

ENVIRONMENTAL PLUS, INC.

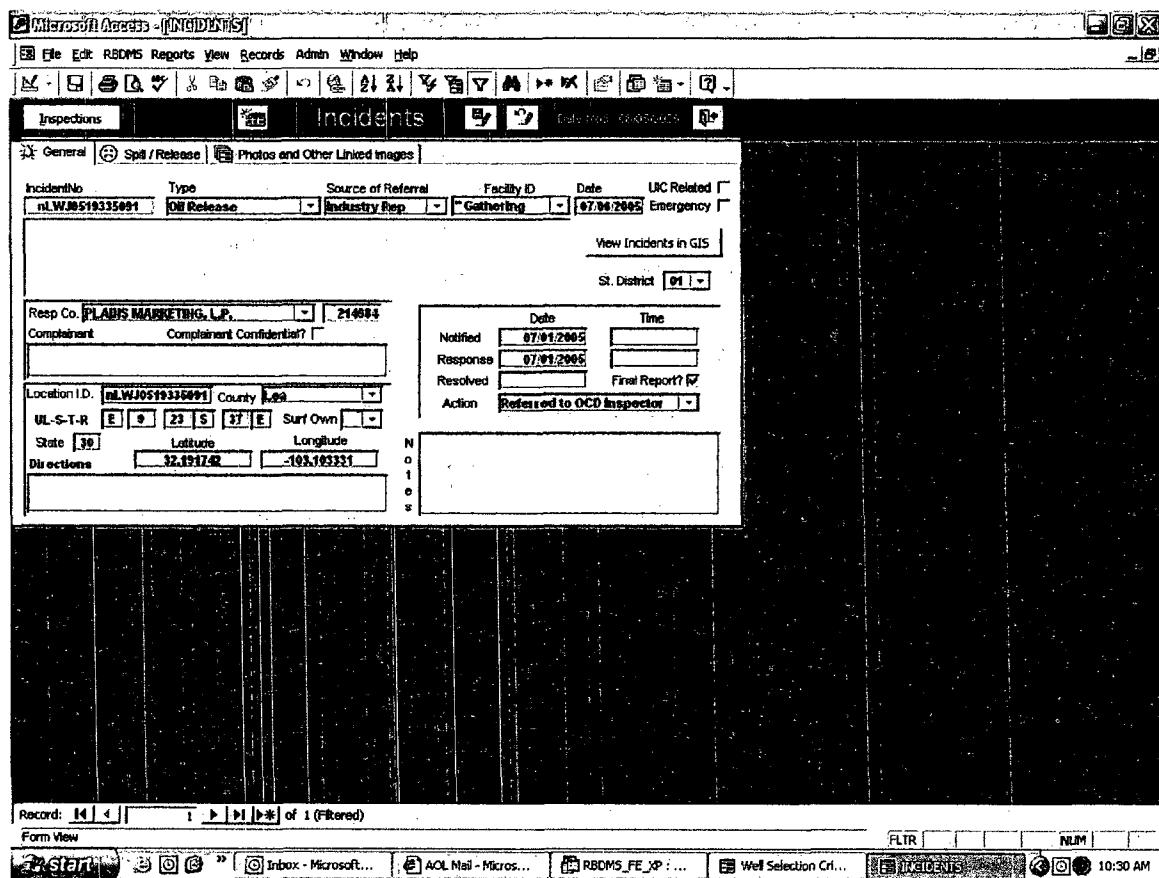


Iain Olness, P.G.  
Hydrogeologist



cc: Jimmy Bryant, Plains – Midland  
Jeff Dann, Plains – Houston  
Sherry Miller, EPI President  
Ben Miller, EPI Vice President and General Manager

P.O. BOX 1558 ••• 2100 AVENUE O ••• EUNICE, NEW MEXICO 88231  
TELEPHONE 505•394•3481 ••• FAX 505•394•2601



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## **1.0 Background**

On June 30, 2003, a release of approximately 20 barrels of crude oil occurred from the Arrowhead Grayburg 8-Inch Gathering Line in Lea County, New Mexico (reference Figures 1 & 2). No product was recovered from the release, which covered an area of approximately 2,100 square feet and was 300 feet by 7 feet.

## **2.0 Site Description**

The site is located approximately 4.5 miles southwest of Eunice, Lea County, New Mexico on property owned by the State of New Mexico.

### **2.1 Historical Use**

The area has historically been used for livestock grazing and access to oil and gas production facilities.

### **2.2 Legal Description**

The legal description for the site is: Unit Letter – P (SE $\frac{1}{4}$  of the SE $\frac{1}{4}$ ), Section 2, Township 22 South, Range 36 East, at latitude N 32° 24' 55.774" and longitude W 103° 13' 51.267". The site is at an elevation of approximately 3,512 feet above mean sea level.

### **2.3 Photographic Documentation**

Photographs are included as Appendix II.

### **2.5 Ecological Description**

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand dunes interspersed with Honey Mesquite (*Prosopis glandulosa*), Harvard Shinoak (*Quercus harvardii*) and typical desert grasses. Mammals represented include Orrd's and Merriam's Kangaroo Rats, Deer Mice, White Throated Wood Rat, Cottontail Rabbit, Blackmailed Jackrabbit, Pronghorn Antelope and Mule Deer. Reptiles, amphibians and birds are numerous and typical of the area. A Survey of *Listed, Threatened or Endangered Species* was not conducted.

## **3.0 Environmental Media Characterization**

Chemical parameters of the soil and groundwater were characterized consistent with the New Mexico Oil Conservation Division (NMOCD) guidelines published in the following documents, as applicable:

- Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993); and

- 
- Unlined Surface Impoundment Closure Guidelines (February 1993)

Acceptable contaminant concentration thresholds for total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and total xylenes (BTEX) are determined based on the following:

- Depth to groundwater from deepest detectable contamination;
- Wellhead protection area (i.e., distance from potable water supply wells); and
- Distance to bodies of surface water.

### **3.1 Area Groundwater Levels**

The New Mexico Office of the State Engineer database indicates there are three water supply wells and one exploratory well within 4,000 feet of the release site (reference Table 3). The closest of these wells (#4399) is located approximately 1,240 feet southeast of the release site. In addition, there is a windmill well located approximately 600 feet east of the release site. Records from the New Mexico Office of the State Engineer indicate an average depth to water of approximately 123 feet below ground surface (bgs) in the vicinity of the release. The water level in the windmill well was measured on June 4, 2004 and recorded at 128.5 feet below the top of casing.

### **3.2 Depth to Groundwater Calculation**

The NMOCD requires the site to be ranked to determine applicable remedial thresholds for TPH, benzene and total BTEX. The depth to groundwater is defined as the vertical distance from the lowermost contaminants to the seasonal high groundwater elevation. Depth to groundwater at the release site is approximately 123 feet bgs. Soil samples collected during the advancement of soil borings at the site indicate contamination to depths of at least 35 feet bgs. The calculated NMOCD depth to groundwater is approximately 88 feet.

### **3.3 Groundwater Gradient**

The groundwater gradient in the area of the release is generally to the southeast according to the USGS Groundwater Report #6 – *Geology and Groundwater Conditions in Southern Lea County, New Mexico* (Nicholson, Jr. and Clebsch, 1961).

### **3.4 Wellhead Protection Area**

There is a windmill well located approximately 600 feet east of the release site. There are no other water wells located within a 1,000-foot radius of the release site, based on information available from the New Mexico Office of the State Engineer.

### **3.5 Distance to Nearest Surface Water Body**

There is a pond associated with the windmill well discussed above, located approximately 600 feet east of the release site.

### **3.6 Identification of Remedial Action Levels**

Remedial goals for the impacted soil at this site were determined in accordance with NMOCD Guidelines. The NMOCD depth to groundwater is calculated to be approximately 88 feet bgs.

#### **3.6.1 Site Ranking**

Based on the information provided above, the site has the following scores and resultant site ranking:

- NMOCD Depth to Groundwater – 50 to 99 feet = 10 points
- Wellhead Protection Area - <1,000 feet from a water source = 20 points
- Distance to Surface Water Body – 200 to 1,000 horizontal feet = 10 points
- **SITE RANKING = 40 POINTS**

#### **3.6.2 Remedial Action Levels**

Based on the Site Ranking, the remedial action levels for the soil at this site according to NMOCD Guidelines are:

Parameter	Remedial Action Levels
Benzene <sup>A</sup>	10 parts per million
BTEX	50 parts per million
TPH	100 parts per million

<sup>A</sup> – 100 ppm field analysis may be substituted for laboratory analyses.

The New Mexico Water Quality Control Commission (NMWQCC) groundwater maximum contaminant levels TPH, BTEX and chloride are as follows:

- TPH – no standard
- Benzene – 10 micrograms per liter ( $\mu\text{g}/\text{L}$ )
- Toluene – 75  $\mu\text{g}/\text{L}$
- Ethylbenzene - 75  $\mu\text{g}/\text{L}$
- Total xylenes – 62  $\mu\text{g}/\text{L}$
- Chloride – 250 milligrams per liter (mg/L)

## **4.0 Site Delineation**

The release occurred in the steel Arrowhead Grayburg 8-inch gathering line on June 30, 2003. Initial site activities consisted of exposing the point of release and repairing the line with a clamp. Once the line was repaired, excavation activities continued to remove hydrocarbon saturated soil at the site. After the saturated soil had been removed from the site, a decision was made to advance soil borings to delineate the vertical and horizontal extents of contamination.

A total of seven soil borings were advanced from September 10 through 12, 2003 to depths ranging from 15 to 35 feet bgs (reference Figure 4). During the advancement of the soil borings, samples were collected at five-foot intervals for field and laboratory analyses. Upon collection of the samples, a portion was immediately placed in laboratory provided containers and placed on ice for transport to an independent laboratory for quantification of total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and total xylenes (BTEX). The remainder of the sample was placed in a one-quart polyethylene bag and screened for the presence of organic vapors utilizing a MiniRae photoionization detector (PID) equipped with a 10.6 electron volt (eV) lamp. The soil borings were advanced until organic vapor concentrations were recorded at <100 parts per million (ppm) for two consecutive samples.

Field analyses of the samples indicated organic vapor concentrations above 100 ppm to depths of 20 feet bgs, with concentrations ranging from 1.7 ppm to 2,999 ppm (reference Table 1). Based on these results, it appeared that the highest levels of contamination were restricted to the near surface and excavation to a depth of 10 feet bgs would remove the majority of the contamination.

Analytical results for these samples indicated that contaminant concentrations were above the NMOCD remedial thresholds to depths of 10 feet bgs (reference Table 1). The only exception was the sample collected from the 25 to 27 foot sampling interval in soil boring BH-4. Analytical results for this sample indicated TPH concentrations of 151 milligrams per kilogram (mg/Kg) and were reported as non-detectable (ND) for BTEX at or above each analytes respective laboratory method detection limit (MDL). Based on these results, it was decided to excavate the hydrocarbon impacted soil to a depth of approximately 10 feet bgs.

### **4.1 Excavation Activities**

Initial excavation activities, conducted on July 1, 2003, included exposing the point of release in order to repair the line with a clamp and removing saturated soil from the site. A total of 290 cubic yards of soil were excavated and transported to the Lea Station Land Farm. The excavation measured approximately 43 feet (north/south) by 18 feet (east/west) by 10 feet deep (reference Figure 3).

Remediation excavation activities commenced on February 16, 2004 and continued through February 18, 2004. A total of 866 cubic yards of soil were excavated during

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this time and transported to the Lea Station Land Farm. On February 18, 2004, the excavation basin was split into five separate sections and composite samples were collected from the excavation floor (reference Figure 5) and analyzed in the field for the presence of organic vapors utilizing an UltraRae PID equipped with 10.6 eV lamp. Results of the field analyses indicated organic vapors present at concentrations ranging from 228 to 1,144 ppm. Samples were not submitted for laboratory analyses due to the elevated levels of organic vapors detected in the field analyses.

Based on the elevated concentrations of organic vapors in the soil samples, a decision was made to complete test trenches in each of the sections and collect soil samples for laboratory analyses to determine the vertical extent of the release. The trenches were completed to depths ranging from 9 to 25 feet bgs, depending on the field analyses completed on February 18, 2004. The samples were collected on February 26, 2004 and submitted to an independent laboratory for quantification of TPH and BTEX. Analytical results indicated concentrations below the remedial goals as set by the NMOCD for all analytes with the exception of TPH in the samples collected from Section A and Section D (reference Table 2). Analytical results for these samples indicated TPH concentrations slightly above the remedial threshold of 100 ppm.

Based on analytical results for the samples collected on February 26, 2004, excavation activities resumed and continued the March 8, 2004. During this time, approximately 508 cubic yards of soil were excavated and transported to the Lea Station Land Farm. The excavation depth varied from 11 feet at the western end to 6 feet at the eastern end; however, the ground surface slopes downward from west to east, so the bottom of the excavation was at approximately the same elevation throughout. The excavation was split into three sections and samples collected from the sidewalls and base of the excavation (reference Figure 6). The samples were submitted to an independent laboratory for quantification of TPH and BTEX. Analytical results for these samples indicated contamination remaining above the remedial thresholds in five of the eight samples.

## **5.0 Soil Remediation**

The excavated soil was transported to the Lea Station Land Farm for treatment.

## **6.0 Groundwater Remediation**

Based on the depth of groundwater and analytical results obtained from soil samples collected during the advancement of the soil borings, it is believed that groundwater was not impacted due to this release. Therefore, no groundwater remediation is required.

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## **7.0 Closure Proposal for Site Soil**

Approximately 1,270 cubic yards of hydrocarbon impacted soil remains at the site and is represented by approximately 15 feet of impacted soil remaining beneath the excavation floor. It is proposed to isolate the remaining source term with an impermeable barrier constructed of dense compactable red clay with a minimum permeability of  $1 \times 10^{-5}$  cm/sec. The barrier will extend a minimum of four feet beyond the edges of soil impacted above the NMOCD remedial thresholds and will be a minimum of one-foot thick. The barrier will be installed in six-inch lifts, compacted and tested to verify that the compaction has achieved a minimum of 95% its Proctor Density. Installation of the clay barrier at a depth of approximately 11 feet bgs will protect the barrier from erosion and human intrusion for a term sufficient to allow natural biodegradation of contaminants in the soil. After the barrier has been installed and tested to be acceptable, the excavation will be backfilled with clean soil from the Lea Station Land Farm. Prior to backfilling the excavation, composite samples will be collected from every 100 cubic yards of backfill material and screened for the presence of organic vapors utilizing an UltraRae PID equipped with a 10.6 eV lamp. Acceptable field headspace readings will be  $\leq 100$  ppm.

## **8.0 Risk / Exposure Assessment**

To support and justify the closure proposal discussed in Section 7.0, a conservative risk/exposure assessment was conducted utilizing RISC Version 4.03, developed by Lynn R. Spence for BP Oil. The analytical information collected and the viable and supportive RISC risk/exposure assessment supports approval of this closure proposal addressing the soil contamination at the Plains All American (formerly Link energy) Arrowhead Grayburg 8" Gathering Line release site.

### **8.1 Contaminated Soil Distribution**

It is estimated that approximately 1,270 cubic yards of hydrocarbon impacted soil remain, extending approximately 15 feet from the base of the current excavation. In addition, there is a limited amount of impacted soil in the sidewalls of the excavation in the vicinity of the point of release. The quantity of impacted soil remaining in the sidewalls has not been calculated; however, it will be removed prior to the placement of the clay barrier.

### **8.2 Engineered Barrier**

The proposed compacted clay barrier will extend a minimum of four feet past the edges of soil impacted above the NMOCD remedial thresholds, will be a minimum of one-foot thick following compaction and will be installed in 6-inch lifts. The oversized barrier will prevent further vertical migration of the hydrocarbon source term. The clay barrier will have a minimum permeability of  $1 \times 10^{-5}$  cm/sec and compacted to 95% of its Proctor Density. The barrier will be installed from 10 to 11 feet bgs and will be sufficiently isolated as to ensure the barrier will not be eroded nor penetrated inadvertently by human activity. A conservative groundwater

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risk/exposure assessment was conducted to demonstrate the effectiveness of the clay barrier in preventing groundwater impacts by isolating the remaining hydrocarbon source term and interrupting the vertical migration pathway.

### **8.3 Conservative Model Inputs**

To ensure that the closure proposal would prevent contaminants from impacting the area groundwater, conservative hydrogeologic parameters were used in the simulations. The input parameters/variables are included in Appendix IV.

### **8.4 Simulation I: No Barrier**

A model was completed to simulate existing conditions to determine if groundwater would be impacted by the release. The input parameters for this model are included in Appendix IV.

Results of this simulation indicate that the groundwater would be impacted in approximately 23 years; however, concentrations would be below the New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standards (reference Tables 3 & 4 and Figures 7 & 8). In addition, this simulation indicated that contaminants would naturally biodegrade over time (reference Tables 3 & 4 and Figures 7 & 8).

### **8.5 Simulation II: Clay Barrier**

A model was completed to simulate the placement of the clay barrier in the excavation at a depth of approximately 10 to 11 feet bgs. The input parameters for this model are included in Appendix IV.

Results of this simulation indicate that the barrier will be effective in eliminating the vertical transport mechanism (i.e., infiltration) and adequately isolate the remaining source term (reference Tables 3 & 4 and Figures 7 & 8).

## **9.0 Conclusions**

The computer modeling efforts illustrate that the installation of an engineered barrier will adequately protect groundwater from future impacts by permanently interrupting the vertical transport mechanism. In addition, the engineered barrier will serve to isolate the hydrocarbon source term from the environment for a duration sufficient to allow natural biodegradation of contaminant concentrations to below acceptable levels.

## **10.0 Recommendations**

Based on the results of the computer modeling efforts, it is recommended that a clay barrier be installed in the base of the excavation. The clay barrier should be installed in 6-inch lifts, compacted and tested to verify the barrier has been compacted to a minimum of

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at least 95% of its Proctor Density. Prior to installing the clay barrier, hydrocarbon impacted soil remaining in the sidewalls of the excavation above the NMOCD remedial thresholds shall be removed and transported to the Lea Station Land Farm. The removal of the aforementioned soil shall be documented via laboratory analyses. Upon documentation that the impacted soil has been removed, the clay barrier should be installed.

Results of these proposed remedial activities will be documented in a final report submitted to Plains and the NMOCD. EPI, on behalf of Plains, requests formal written approval from the NMOCD to implement these proposed remedial activities.

# **FIGURES**

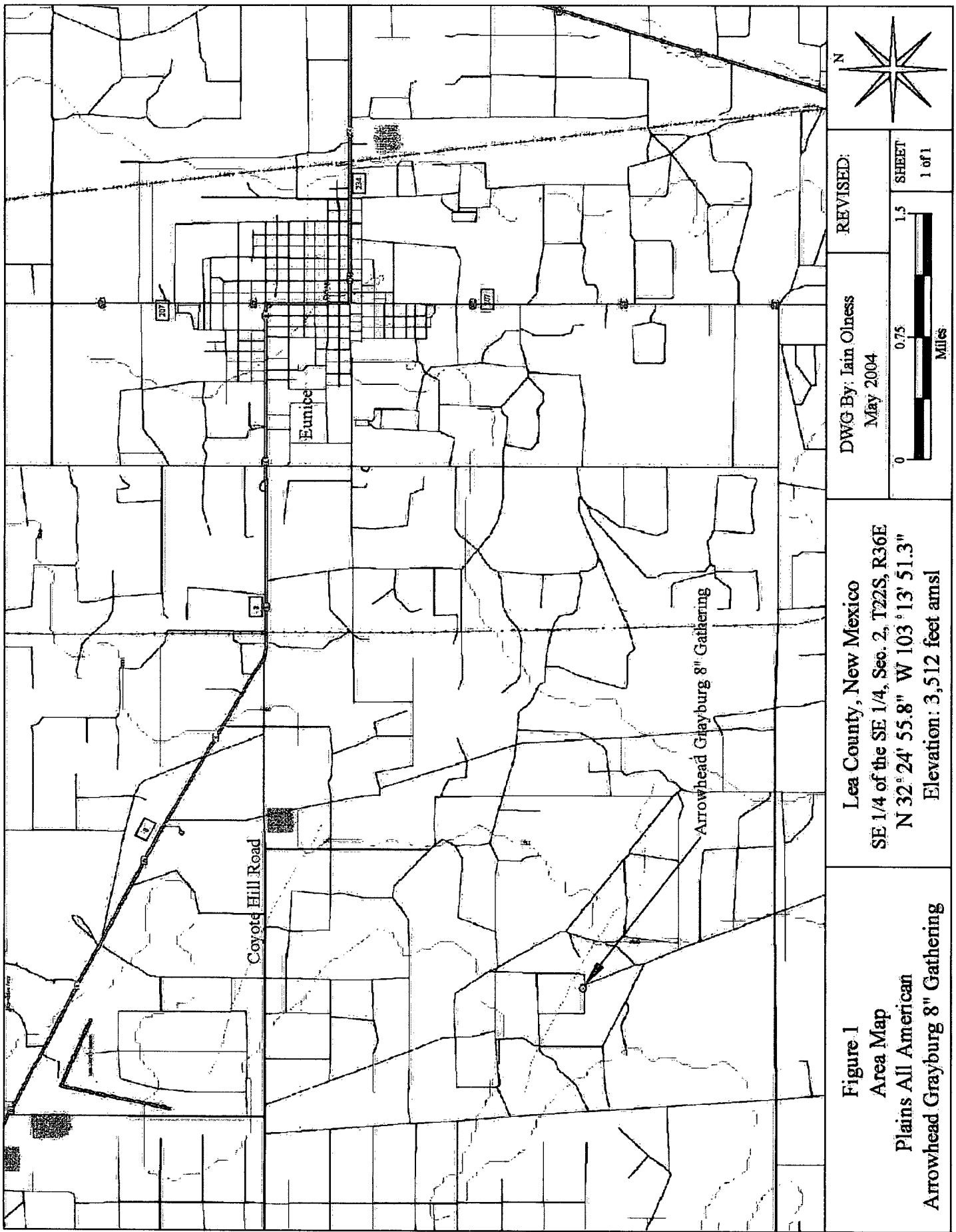
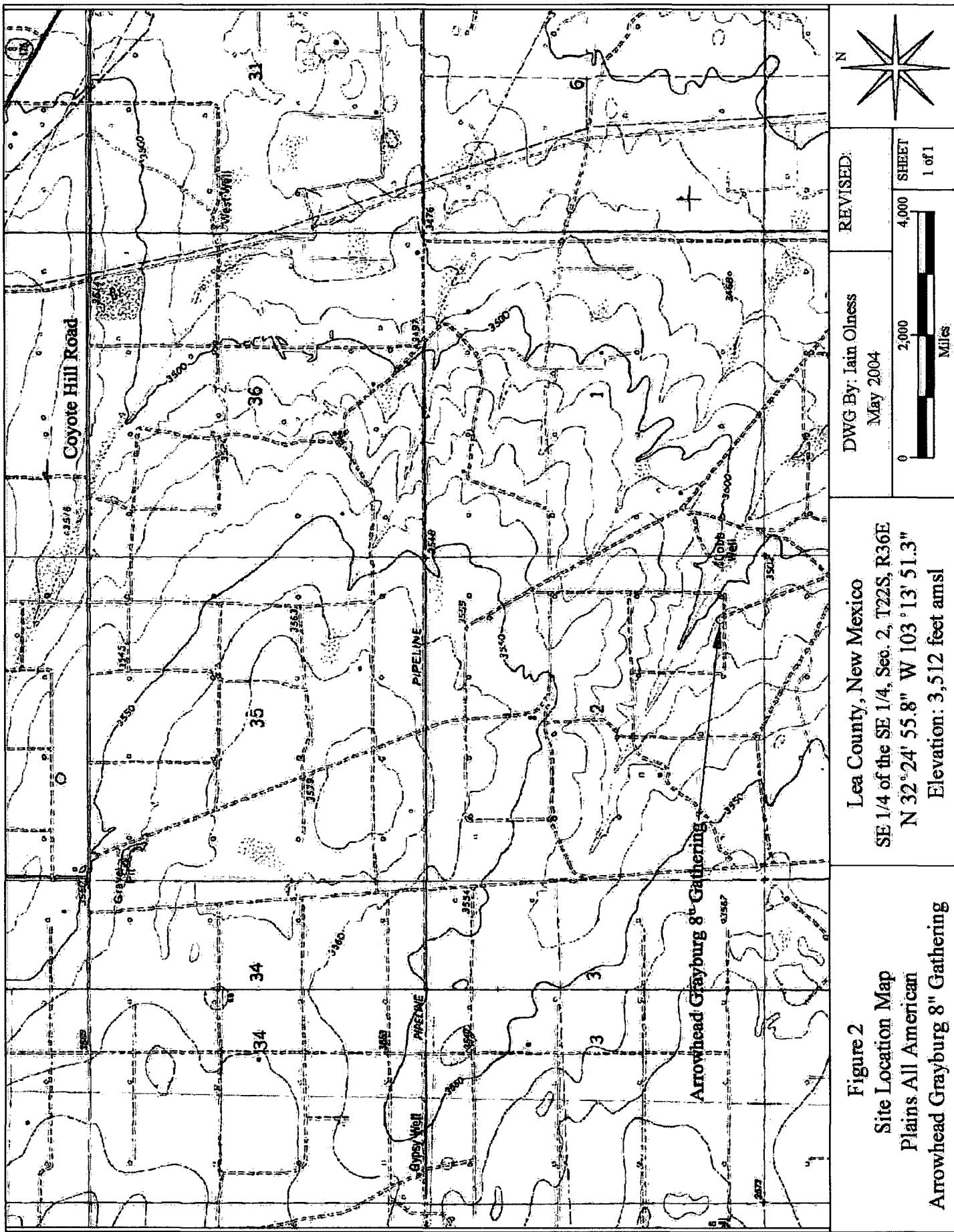
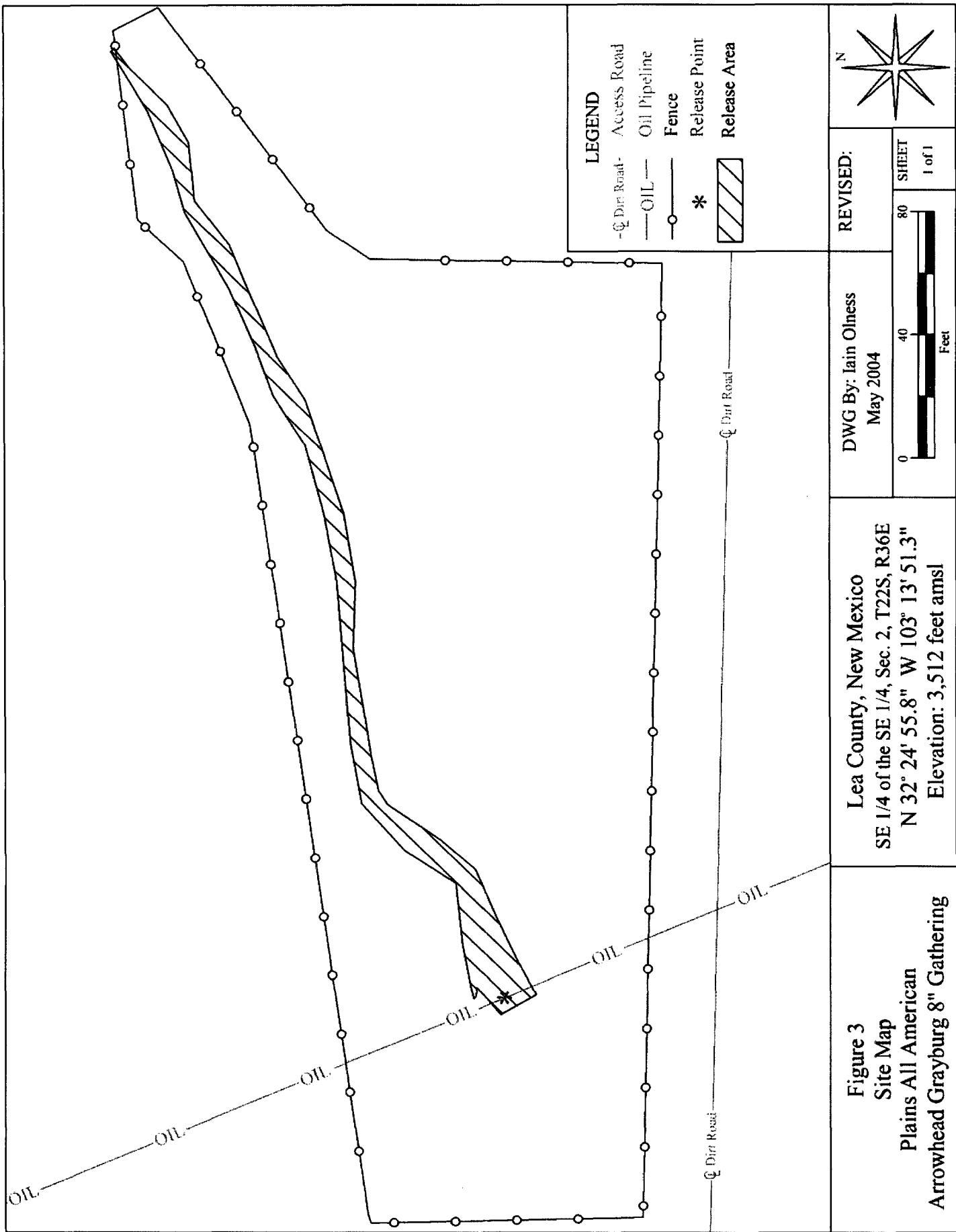
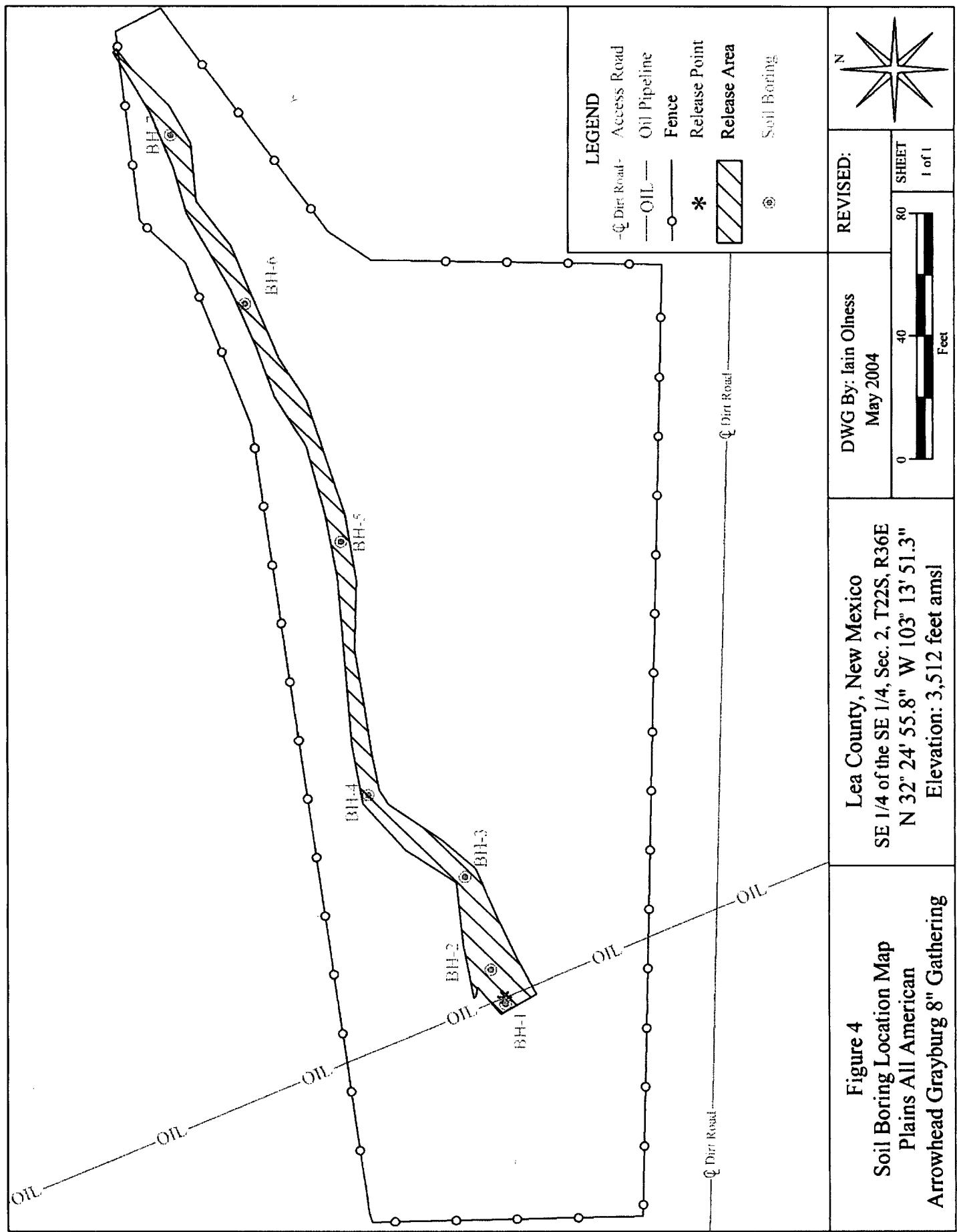
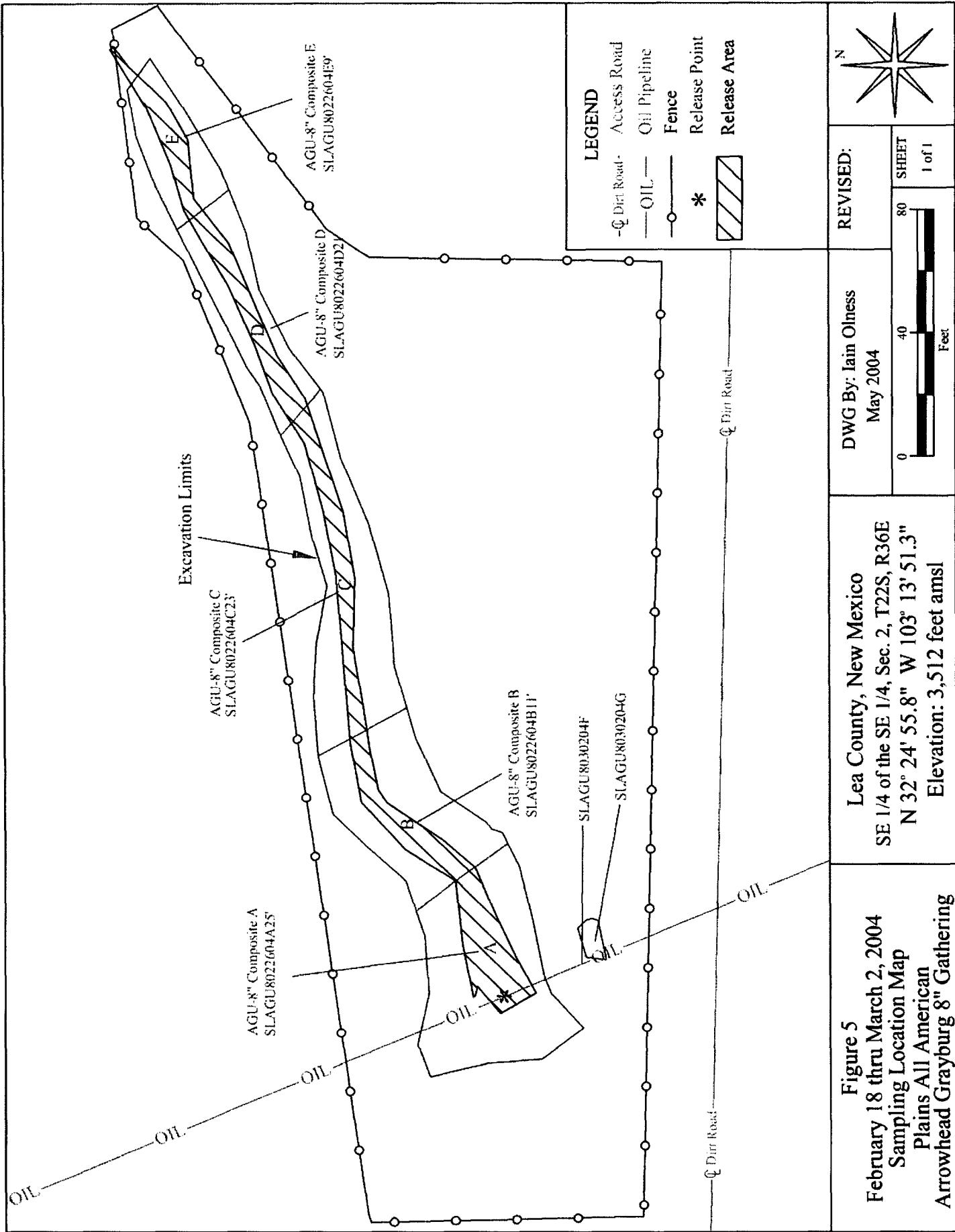


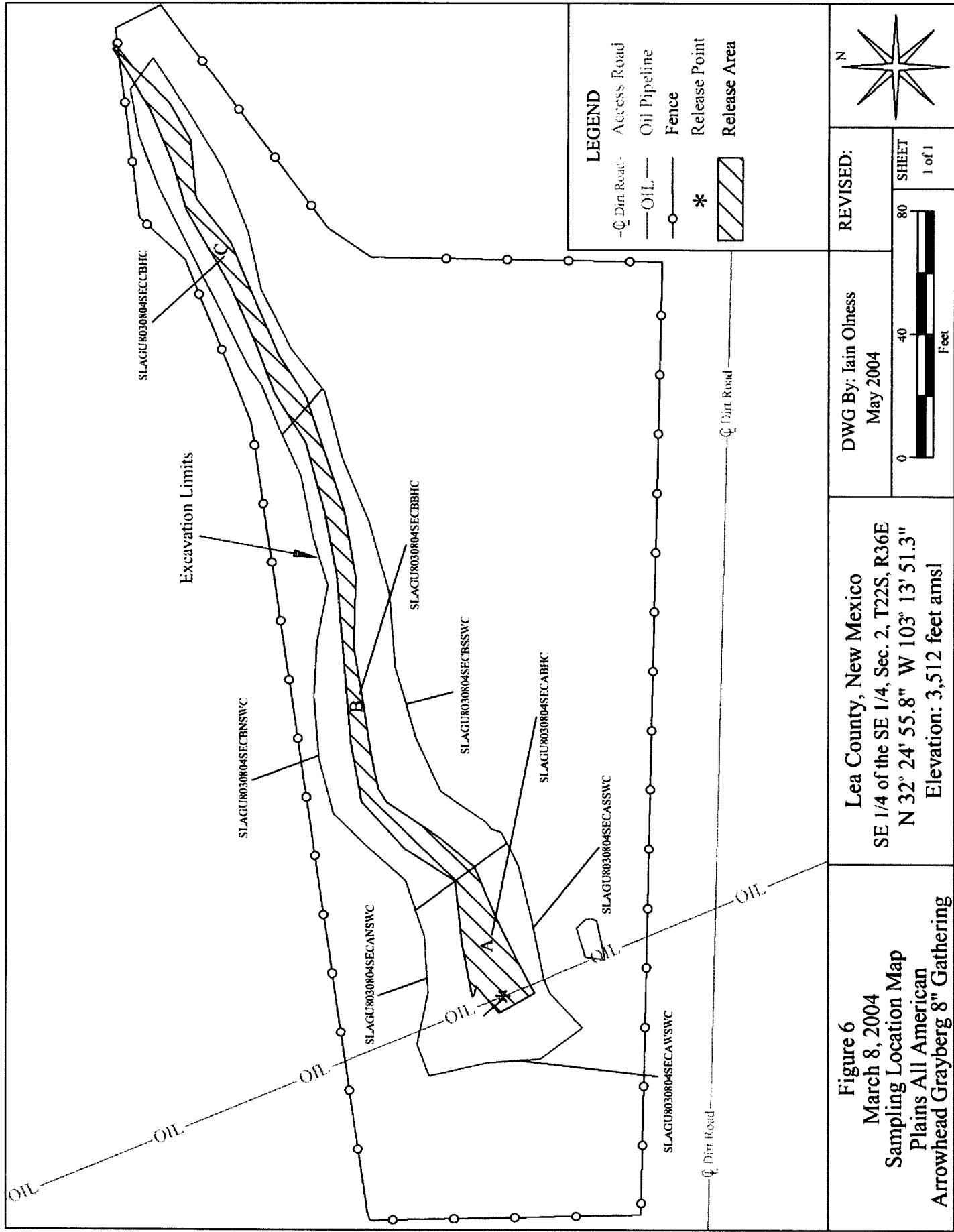
Figure 1  
 Area Map  
 Plains All American  
 Arrowhead Grayburg 8" Gathering











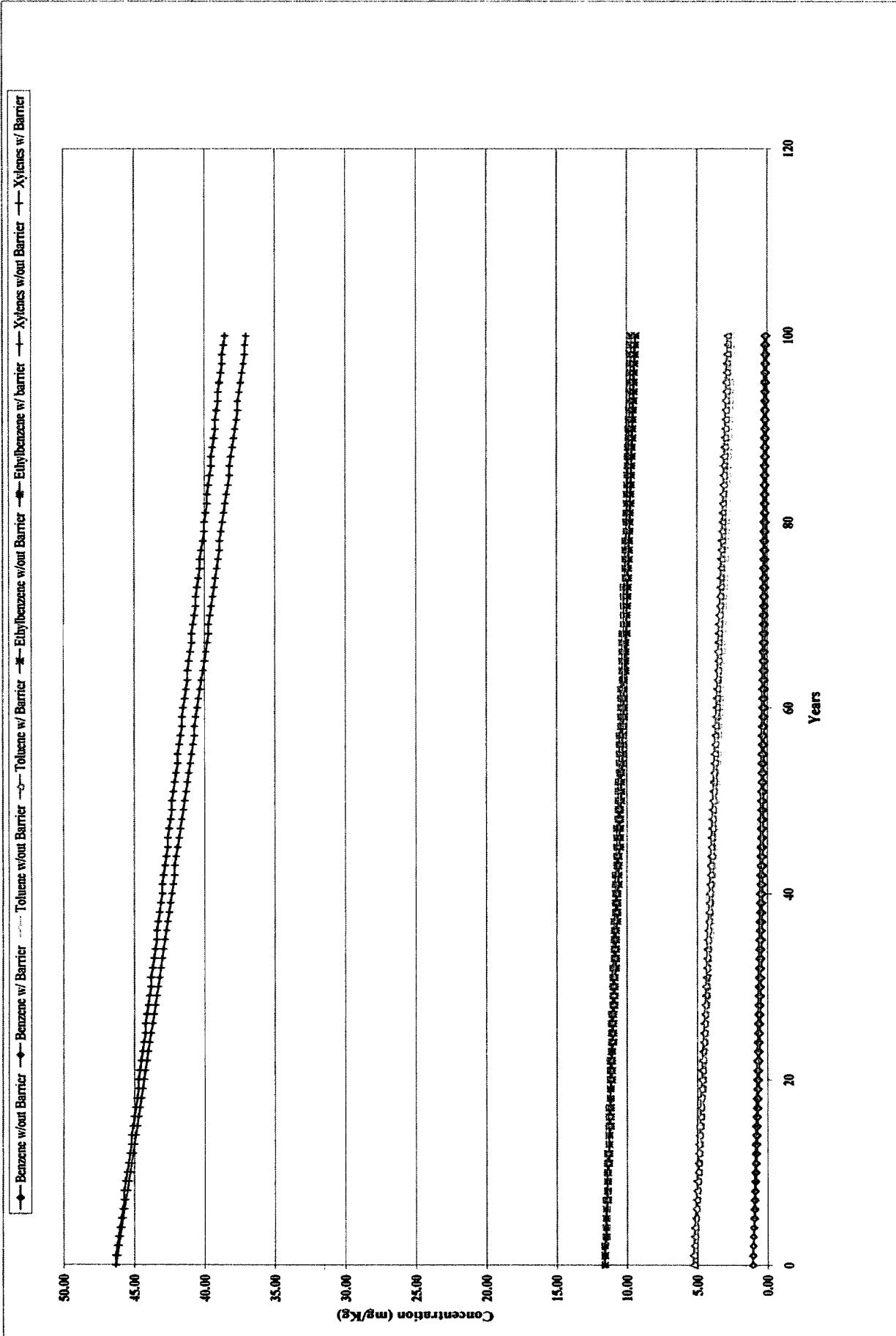


Figure 7: Contaminant Concentrations in the Source Area With and Without an Engineered Barrier.

—◆— Benzene w/out Barrier —◆— Benzene w/ Barrier —○— Toluene w/out Barrier —○— Toluene w/ Barrier —■— Ethylbenzene w/out Barrier —■— Ethylbenzene w/ Barrier —●— Xylenes w/out Barrier —●— Xylenes w/ Barrier

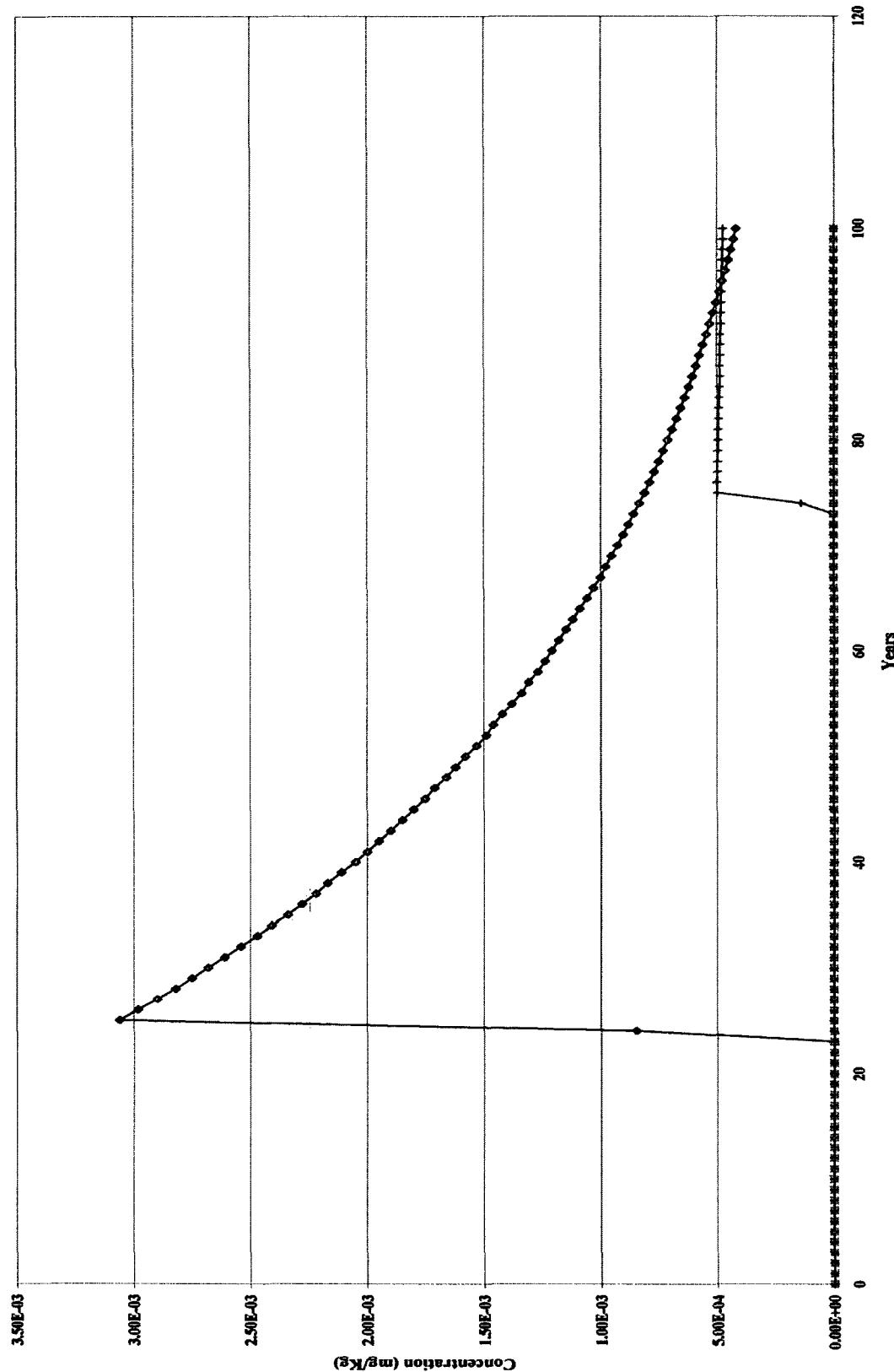


Figure 8: Contaminant Concentrations at the WaterTable With and Without an Engineered Barrier.

# **TABLES**

**TABLE 1**  
**Summary of Soil Boring Analytical Results**

**Arrowhead Grayburg 8" Gathering - Ref. #2003-00176**

Sample Name	Borehole	Interval	PID Analysis (ppm)	TPH (mg/Kg)	BTEX (µg/Kg)	Benzene (µg/Kg)
SEAGU891003BH1-2'	BH-1	2	496	<b>4,844</b>	4,527.8	24.8
SEAGU891003BH1-5'		5	770	<b>32,200</b>	<b>564,400</b>	<b>14,600</b>
SEAGU891003BH1-10'		10	5.7	60.2	<100	<20
SEAGU891003BH1-15'		15	2.4	<5	<100	<20
SEAGU891003BH2-3'	BH-2	3	2,999	<b>12,600</b>	<b>179,170</b>	2,240
SEAGU891003BH2-7'		7	2,765	<b>33,140</b>	<b>683,900</b>	<b>13,100</b>
SEAGU891003BH2-15'		15	450	28.8	<100	<20
SEAGU891003BH2-20'		20	200	5.14	<100	<20
SEAGU891003BH2-25'		25	25.4	11.5	<100	<20
SEAGU891003BH2-35'		35	1.7	28.2	<100	<20
SEAGU891103BH3-2'	BH-3	2	998	<b>18,250</b>	<b>194,290</b>	1,990
SEAGU891103BH3-5'		5	84.7	40.4	<100	<20
SEAGU891103BH3-10		10	48.4	8.06	<100	<20
SEAGU891103BH3-15'		15	50.0	<10	<100	<20
SEAGU891103BH3-20'		20	120	<10	<100	<20
SEAGU891103BH3-25'		25	40.7	10.8	<100	<20
SEAGU891103BH3-30'		30	11.7	<10	<100	<20
SEAGU891103BH4-2'	BH-4	2	973	<b>26,940</b>	<b>327,520</b>	3,520
SEAGU891103BH4-5'		5	550	<b>140.96</b>	93.6	<20
SEAGU891103BH4-10'		10	1,150	<b>950</b>	4,118	<20
SEAGU891103BH4-15'		15	92.4	<10	<100	<20
SEAGU891103BH4-20'		20	35.9	<10	<100	<20
SEAGU891103BH4-25'		25	17.3	<b>151</b>	<100	<20
SEAGU891203BH5-2'	BH-5	2	685	<b>28,630</b>	<b>338,160</b>	2,460
SEAGU891203BH5-5'		5	32.4	<10	<100	<20
SEAGU891203BH5-10'		10	40.7	<10	<100	<20
SEAGU891203BH5-15'		15	19.2	<10	<100	<20
SEAGU891203BH6-2'	BH-6	2	1,250	<b>18,110</b>	<b>244,293</b>	793
SEAGU891203BH6-5'		5	260	234	38.4	<20
SEAGU891203BH6-10'		10	147	<b>214.37</b>	205.8	<20
SEAGU891203BH6-15'		15	34.7	<10	<100	<20
SEAGU891203BH6-20'		20	20.2	43.7	<100	<20
SEAGU891203BH7-2'	BH-7	2	19.4	<10	<100	<20
SEAGU891203BH7-5'		5	36.7	<10	<100	<20
SEAGU891203BH7-10'		10	16.3	<10	<100	<20
SEAGU891203BH7-15'		15	10.2	<10	<100	<20
NMOCD Remedial Thresholds				100	50,000	10,000

ppm = parts per million, which is equivalent to milligrams per kilogram

mg/Kg = milligrams per kilogram, which is equivalent to parts per million

µg/Kg = micrograms per kilogram, which is equivalent to 0.001 milligrams per kilogram

NS = Not Sampled

Results in **Bold** are above the remedial action levels as set by the NMOCD.

**TABLE 2**  
**Summary of Excavation Analytical Results**

**Arrowhead Grayburg 8" Gathering - Ref. #2003-00176**

Sample Name	Date	Sample Type	Depth	Location	PID Analysis (ppm)	TPH (mg/Kg)	BTEX (µg/Kg)	Benzene (µg/Kg)	Chloride (mg/Kg)
AGU-8" Composite A	18-Feb-04	Composite	10	Section A	685	NS	NS	NS	NS
AGU-8" Composite B	18-Feb-04	Composite	5	Section B	967	NS	NS	NS	NS
AGU-8" Composite C	18-Feb-04	Composite	10	Section C	228	NS	NS	NS	NS
AGU-8" Composite D	18-Feb-04	Composite	7	Section D	1,144	NS	NS	NS	NS
AGU-8" Composite E	18-Feb-04	Composite	1.5	Section E	685	NS	NS	NS	NS
<b>SLAGU8022604A25'</b>	<b>26-Feb-04</b>	<b>Composite</b>	<b>25</b>	<b>Section A</b>	<b>NS</b>	<b>242</b>	<b>180</b>	<b>&lt;25</b>	<b>&lt;56</b>
SLAGU8022604B11'	26-Feb-04	Composite	11	Section B	NS	6.79	<125	<25	NA
SLAGU8022604C23'	26-Feb-04	Composite	23	Section C	NS	18.9	<125	<25	NA
SLAGU8022604D21'	26-Feb-04	Composite	21	Section D	NS	161	69.9	<25	NA
SLAGU8022604E9'	26-Feb-04	Composite	9	Section E	NS	<10	<125	<25	NA
SLAGU8030204F	2-Mar-04	Grab	1	Valve	93.2	NS	NS	NS	NS
SLAGU8030204G	2-Mar-04	Grab	1	Sump	84.7	NS	NS	NS	NS
SLAGU8030804SECANSW	8-Mar-04	Composite	3-8	Section A North	4.4	902	56.2	<25	NA
SLAGU8030804SECASSW	8-Mar-04	Composite	3-8	Section A South	144	4,320	3,974	75.2	NA
SLAGU8030804SECAWSW	8-Mar-04	Composite	3-8	Section A West Sidewall	2.9	14.8	<125	<25	NA
<b>SLAGU8030804SECABHC</b>	<b>8-Mar-04</b>	<b>Composite</b>	<b>11</b>	<b>Bottomhole</b> <b>Section A</b>	<b>601</b>	<b>11,200</b>	<b>64,260</b>	<b>1,070</b>	<b>NA</b>
SLAGU8030804SECBNSW	8-Mar-04	Composite	3-6	Section B North	7.9	33.7	<125	<25	NA
SLAGU8030804SECBSWW	8-Mar-04	Composite	3-6	Section B South	6.1	7.27	<125	<25	NA
SLAGU8030804SECBBHC	8-Mar-04	Composite	8	Section B Bottomhole	40.4	654	223	<25	NA
SLAGU8030804SECBBHC	8-Mar-04	Composite	6	Section C Bottomhole	108	2,050	2,642	<25	NA
<b>NMOC Thresholds</b>					100	50,000	10,000	250	

ppm = parts per million, which is equivalent to milligrams per kilogram

mg/Kg = milligrams per kilogram, which is equivalent to parts per million

µg/Kg = micrograms per kilogram, which is equivalent to 0.001 milligrams per kilogram

NS = Not Sampled

NA = Not Analyzed

Results in **Bold** are above the remedial action levels as set by the NMOCD.

TABLE 3

Contaminant Concentrations in the Soil at the Source Area

Arrowhead Grayburg 8" Gathering - Ref. #2003-00176

Time (years)	Benzene		Toluene		Ethylbenzene		Total Xylenes	
	Without Barrier	With Barrier						
	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/ Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
0	1.07E+00	1.07E+00	5.31E+00	5.31E+00	1.16E+01	1.16E+01	4.63E+01	4.63E+01
1	1.05E+00	1.06E+00	5.29E+00	5.29E+00	1.16E+01	1.16E+01	4.62E+01	4.63E+01
2	1.03E+00	1.04E+00	5.25E+00	5.26E+00	1.16E+01	1.16E+01	4.61E+01	4.62E+01
3	1.00E+00	1.02E+00	5.21E+00	5.22E+00	1.15E+01	1.15E+01	4.60E+01	4.61E+01
4	9.74E-01	1.00E+00	5.17E+00	5.19E+00	1.15E+01	1.15E+01	4.59E+01	4.60E+01
5	9.48E-01	9.87E-01	5.13E+00	5.16E+00	1.15E+01	1.15E+01	4.58E+01	4.59E+01
6	9.24E-01	9.70E-01	5.09E+00	5.12E+00	1.15E+01	1.15E+01	4.57E+01	4.58E+01
7	9.00E-01	9.53E-01	5.05E+00	5.09E+00	1.14E+01	1.15E+01	4.56E+01	4.57E+01
8	8.76E-01	9.36E-01	5.02E+00	5.06E+00	1.14E+01	1.14E+01	4.55E+01	4.57E+01
9	8.53E-01	9.20E-01	4.98E+00	5.03E+00	1.14E+01	1.14E+01	4.54E+01	4.56E+01
10	8.31E-01	9.04E-01	4.94E+00	4.99E+00	1.14E+01	1.14E+01	4.53E+01	4.55E+01
11	8.09E-01	8.88E-01	4.90E+00	4.96E+00	1.13E+01	1.14E+01	4.52E+01	4.54E+01
12	7.88E-01	8.73E-01	4.87E+00	4.93E+00	1.13E+01	1.14E+01	4.51E+01	4.53E+01
13	7.67E-01	8.57E-01	4.83E+00	4.90E+00	1.13E+01	1.13E+01	4.50E+01	4.52E+01
14	7.47E-01	8.42E-01	4.80E+00	4.87E+00	1.13E+01	1.13E+01	4.49E+01	4.52E+01
15	7.28E-01	8.28E-01	4.76E+00	4.84E+00	1.12E+01	1.13E+01	4.48E+01	4.51E+01
16	7.09E-01	8.13E-01	4.72E+00	4.81E+00	1.12E+01	1.13E+01	4.47E+01	4.50E+01
17	6.90E-01	7.99E-01	4.69E+00	4.78E+00	1.12E+01	1.13E+01	4.46E+01	4.49E+01
18	6.72E-01	7.85E-01	4.65E+00	4.75E+00	1.12E+01	1.12E+01	4.45E+01	4.48E+01
19	6.54E-01	7.71E-01	4.62E+00	4.71E+00	1.12E+01	1.12E+01	4.44E+01	4.47E+01
20	6.37E-01	7.58E-01	4.58E+00	4.68E+00	1.11E+01	1.12E+01	4.43E+01	4.47E+01
21	6.21E-01	7.44E-01	4.55E+00	4.65E+00	1.11E+01	1.12E+01	4.42E+01	4.46E+01
22	6.04E-01	7.31E-01	4.51E+00	4.63E+00	1.11E+01	1.12E+01	4.41E+01	4.45E+01
23	5.89E-01	7.18E-01	4.48E+00	4.60E+00	1.11E+01	1.11E+01	4.40E+01	4.44E+01
24	5.73E-01	7.06E-01	4.45E+00	4.57E+00	1.10E+01	1.11E+01	4.39E+01	4.43E+01
25	5.58E-01	6.94E-01	4.41E+00	4.54E+00	1.10E+01	1.11E+01	4.38E+01	4.42E+01
26	5.44E-01	6.81E-01	4.38E+00	4.51E+00	1.10E+01	1.11E+01	4.37E+01	4.42E+01
27	5.29E-01	6.69E-01	4.35E+00	4.48E+00	1.10E+01	1.11E+01	4.36E+01	4.41E+01
28	5.16E-01	6.58E-01	4.32E+00	4.45E+00	1.09E+01	1.10E+01	4.35E+01	4.40E+01
29	5.02E-01	6.46E-01	4.28E+00	4.42E+00	1.09E+01	1.10E+01	4.34E+01	4.39E+01
30	4.89E-01	6.35E-01	4.25E+00	4.39E+00	1.09E+01	1.10E+01	4.33E+01	4.38E+01
31	4.76E-01	6.24E-01	4.22E+00	4.37E+00	1.09E+01	1.10E+01	4.32E+01	4.38E+01
32	4.64E-01	6.13E-01	4.19E+00	4.34E+00	1.08E+01	1.10E+01	4.31E+01	4.37E+01
33	4.52E-01	6.02E-01	4.16E+00	4.31E+00	1.08E+01	1.09E+01	4.30E+01	4.36E+01
34	4.40E-01	5.92E-01	4.12E+00	4.28E+00	1.08E+01	1.09E+01	4.29E+01	4.35E+01
35	4.28E-01	5.81E-01	4.09E+00	4.26E+00	1.08E+01	1.09E+01	4.28E+01	4.34E+01
36	4.17E-01	5.71E-01	4.06E+00	4.23E+00	1.08E+01	1.09E+01	4.27E+01	4.34E+01
37	4.06E-01	5.61E-01	4.03E+00	4.20E+00	1.07E+01	1.09E+01	4.26E+01	4.33E+01
38	3.96E-01	5.51E-01	4.00E+00	4.17E+00	1.07E+01	1.08E+01	4.25E+01	4.32E+01
39	3.85E-01	5.42E-01	3.97E+00	4.15E+00	1.07E+01	1.08E+01	4.24E+01	4.31E+01
40	3.75E-01	5.32E-01	3.94E+00	4.12E+00	1.07E+01	1.08E+01	4.23E+01	4.30E+01
41	3.65E-01	5.23E-01	3.91E+00	4.10E+00	1.06E+01	1.08E+01	4.22E+01	4.30E+01
42	3.56E-01	5.14E-01	3.88E+00	4.07E+00	1.06E+01	1.08E+01	4.21E+01	4.29E+01
43	3.46E-01	5.05E-01	3.85E+00	4.04E+00	1.06E+01	1.07E+01	4.21E+01	4.28E+01
44	3.37E-01	4.96E-01	3.83E+00	4.02E+00	1.06E+01	1.07E+01	4.20E+01	4.27E+01
45	3.29E-01	4.87E-01	3.80E+00	3.99E+00	1.05E+01	1.07E+01	4.19E+01	4.26E+01
46	3.20E-01	4.79E-01	3.77E+00	3.97E+00	1.05E+01	1.07E+01	4.18E+01	4.26E+01
47	3.12E-01	4.70E-01	3.74E+00	3.94E+00	1.05E+01	1.07E+01	4.17E+01	4.25E+01
48	3.03E-01	4.62E-01	3.71E+00	3.92E+00	1.05E+01	1.06E+01	4.16E+01	4.24E+01
49	2.96E-01	4.54E-01	3.68E+00	3.89E+00	1.05E+01	1.06E+01	4.15E+01	4.23E+01
50	2.88E-01	4.46E-01	3.66E+00	3.87E+00	1.04E+01	1.06E+01	4.14E+01	4.23E+01
51	2.80E-01	4.38E-01	3.63E+00	3.84E+00	1.04E+01	1.06E+01	4.13E+01	4.22E+01
52	2.73E-01	4.30E-01	3.60E+00	3.82E+00	1.04E+01	1.06E+01	4.12E+01	4.21E+01
53	2.66E-01	4.23E-01	3.58E+00	3.79E+00	1.04E+01	1.05E+01	4.11E+01	4.20E+01
54	2.59E-01	4.16E-01	3.55E+00	3.77E+00	1.03E+01	1.05E+01	4.10E+01	4.19E+01
55	2.52E-01	4.08E-01	3.52E+00	3.74E+00	1.03E+01	1.05E+01	4.09E+01	4.19E+01

TABLE 3

Contaminant Concentrations in the Soil at the Source Area

Arrowhead Grayburg 8" Gathering - Ref. #2003-00176

Time (years)	Benzene		Toluene		Ethylbenzene		Total Xylenes	
	Without Barrier (mg/Kg)	With Barrier (mg/Kg)						
56	2.45E-01	4.01E-01	3.50E+00	3.72E+00	1.03E+01	1.05E+01	4.08E+01	4.18E+01
57	2.39E-01	3.94E-01	3.47E+00	3.70E+00	1.03E+01	1.05E+01	4.07E+01	4.17E+01
58	2.33E-01	3.87E-01	3.44E+00	3.67E+00	1.03E+01	1.04E+01	4.07E+01	4.16E+01
59	2.27E-01	3.80E-01	3.42E+00	3.65E+00	1.02E+01	1.04E+01	4.06E+01	4.16E+01
60	2.21E-01	3.74E-01	3.39E+00	3.63E+00	1.02E+01	1.04E+01	4.05E+01	4.15E+01
61	2.15E-01	3.67E-01	3.37E+00	3.60E+00	1.02E+01	1.04E+01	4.04E+01	4.14E+01
62	2.09E-01	3.61E-01	3.34E+00	3.58E+00	1.02E+01	1.04E+01	4.03E+01	4.13E+01
63	2.04E-01	3.54E-01	3.32E+00	3.56E+00	1.02E+01	1.03E+01	4.02E+01	4.12E+01
64	1.99E-01	3.48E-01	3.29E+00	3.53E+00	1.01E+01	1.03E+01	4.01E+01	4.12E+01
65	1.93E-01	3.42E-01	3.27E+00	3.51E+00	1.01E+01	1.03E+01	4.00E+01	4.11E+01
66	1.88E-01	3.36E-01	3.24E+00	3.49E+00	1.01E+01	1.03E+01	3.99E+01	4.10E+01
67	1.83E-01	3.30E-01	3.22E+00	3.47E+00	1.01E+01	1.03E+01	3.98E+01	4.09E+01
68	1.79E-01	3.25E-01	3.19E+00	3.44E+00	1.00E+01	1.03E+01	3.97E+01	4.09E+01
69	1.74E-01	3.19E-01	3.17E+00	3.42E+00	1.00E+01	1.02E+01	3.97E+01	4.08E+01
70	1.69E-01	3.13E-01	3.15E+00	3.40E+00	1.00E+01	1.02E+01	3.96E+01	4.07E+01
71	1.65E-01	3.08E-01	3.12E+00	3.38E+00	9.98E+00	1.02E+01	3.95E+01	4.06E+01
72	1.61E-01	3.02E-01	3.10E+00	3.36E+00	9.96E+00	1.02E+01	3.94E+01	4.06E+01
73	1.56E-01	2.97E-01	3.08E+00	3.34E+00	9.94E+00	1.02E+01	3.93E+01	4.05E+01
74	1.52E-01	2.92E-01	3.05E+00	3.31E+00	9.92E+00	1.01E+01	3.92E+01	4.04E+01
75	1.48E-01	2.87E-01	3.03E+00	3.29E+00	9.90E+00	1.01E+01	3.91E+01	4.03E+01
76	1.44E-01	2.82E-01	3.01E+00	3.27E+00	9.87E+00	1.01E+01	3.90E+01	4.03E+01
77	1.41E-01	2.77E-01	2.98E+00	3.25E+00	9.85E+00	1.01E+01	3.89E+01	4.02E+01
78	1.37E-01	2.72E-01	2.96E+00	3.23E+00	9.83E+00	1.01E+01	3.89E+01	4.01E+01
79	1.33E-01	2.67E-01	2.94E+00	3.21E+00	9.81E+00	1.00E+01	3.88E+01	4.00E+01
80	1.30E-01	2.63E-01	2.92E+00	3.19E+00	9.79E+00	1.00E+01	3.87E+01	4.00E+01
81	1.27E-01	2.58E-01	2.90E+00	3.17E+00	9.77E+00	1.00E+01	3.86E+01	3.99E+01
82	1.23E-01	2.53E-01	2.87E+00	3.15E+00	9.75E+00	9.99E+00	3.85E+01	3.98E+01
83	1.20E-01	2.49E-01	2.85E+00	3.13E+00	9.73E+00	9.98E+00	3.84E+01	3.98E+01
84	1.17E-01	2.45E-01	2.83E+00	3.11E+00	9.71E+00	9.96E+00	3.83E+01	3.97E+01
85	1.14E-01	2.40E-01	2.81E+00	3.09E+00	9.69E+00	9.94E+00	3.82E+01	3.96E+01
86	1.11E-01	2.36E-01	2.79E+00	3.07E+00	9.67E+00	9.92E+00	3.82E+01	3.95E+01
87	1.08E-01	2.32E-01	2.77E+00	3.05E+00	9.65E+00	9.90E+00	3.81E+01	3.95E+01
88	1.05E-01	2.28E-01	2.75E+00	3.03E+00	9.63E+00	9.89E+00	3.80E+01	3.94E+01
89	1.02E-01	2.24E-01	2.73E+00	3.01E+00	9.60E+00	9.87E+00	3.79E+01	3.93E+01
90	9.97E-02	2.20E-01	2.71E+00	2.99E+00	9.58E+00	9.85E+00	3.78E+01	3.92E+01
91	9.71E-02	2.16E-01	2.69E+00	2.97E+00	9.56E+00	9.83E+00	3.77E+01	3.92E+01
92	9.46E-02	2.12E-01	2.67E+00	2.95E+00	9.54E+00	9.81E+00	3.76E+01	3.91E+01
93	9.21E-02	2.09E-01	2.65E+00	2.93E+00	9.52E+00	9.80E+00	3.76E+01	3.90E+01
94	8.97E-02	2.05E-01	2.63E+00	2.92E+00	9.50E+00	9.78E+00	3.75E+01	3.90E+01
95	8.73E-02	2.01E-01	2.61E+00	2.90E+00	9.48E+00	9.76E+00	3.74E+01	3.89E+01
96	8.50E-02	1.98E-01	2.59E+00	2.88E+00	9.46E+00	9.74E+00	3.73E+01	3.88E+01
97	8.28E-02	1.94E-01	2.57E+00	2.86E+00	9.44E+00	9.72E+00	3.72E+01	3.87E+01
98	8.07E-02	1.91E-01	2.55E+00	2.84E+00	9.42E+00	9.71E+00	3.71E+01	3.87E+01
99	7.85E-02	1.88E-01	2.53E+00	2.82E+00	9.40E+00	9.69E+00	3.71E+01	3.86E+01
100	7.65E-02	1.84E-01	2.51E+00	2.81E+00	9.38E+00	9.67E+00	3.70E+01	3.85E+01

**TABLE 4**

**TABLE 4**  
**Contaminant Concentrations in the Soil at the Watertable**  
**Arrowhead Grayburg 8" Gathering - Ref. #2003-00176**

Time (years)	Benzene		Toluene		Ethylbenzene		Total Xylenes	
	Without Barrier (mg/Kg)	With Barrier (mg/Kg)	Without Barrier (mg/Kg)	With Barrier (mg/Kg)	Without Barrier (mg/ Kg)	With Barrier (mg/Kg)	Without Barrier (mg/Kg)	With Barrier (mg/Kg)
56	1.34E-03	0.00E+00	9.90E-49	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
57	1.31E-03	0.00E+00	3.74E-33	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
58	1.27E-03	0.00E+00	2.41E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
59	1.24E-03	0.00E+00	2.79E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
60	1.21E-03	0.00E+00	2.77E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
61	1.18E-03	0.00E+00	2.75E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
62	1.15E-03	0.00E+00	2.73E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
63	1.12E-03	0.00E+00	2.71E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
64	1.09E-03	0.00E+00	2.69E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
65	1.06E-03	0.00E+00	2.67E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
66	1.03E-03	0.00E+00	2.65E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
67	1.00E-03	0.00E+00	2.63E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
68	9.78E-04	0.00E+00	2.61E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
69	9.52E-04	0.00E+00	2.59E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
70	9.27E-04	0.00E+00	2.57E-31	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
71	9.03E-04	0.00E+00	2.55E-31	0.00E+00	0.00E+00	0.00E+00	7.97E-58	0.00E+00
72	8.80E-04	0.00E+00	2.53E-31	0.00E+00	0.00E+00	0.00E+00	4.29E-27	0.00E+00
73	8.57E-04	0.00E+00	2.52E-31	0.00E+00	0.00E+00	0.00E+00	6.15E-10	0.00E+00
74	8.34E-04	0.00E+00	2.50E-31	0.00E+00	0.00E+00	0.00E+00	1.40E-04	0.00E+00
75	8.12E-04	0.00E+00	2.48E-31	0.00E+00	0.00E+00	0.00E+00	4.99E-04	0.00E+00
76	7.91E-04	0.00E+00	2.46E-31	0.00E+00	0.00E+00	0.00E+00	5.01E-04	0.00E+00
77	7.70E-04	0.00E+00	2.44E-31	0.00E+00	0.00E+00	0.00E+00	4.99E-04	0.00E+00
78	7.50E-04	0.00E+00	2.42E-31	0.00E+00	0.00E+00	0.00E+00	4.98E-04	0.00E+00
79	7.31E-04	0.00E+00	2.40E-31	0.00E+00	0.00E+00	0.00E+00	4.97E-04	0.00E+00
80	7.12E-04	0.00E+00	2.39E-31	0.00E+00	0.00E+00	0.00E+00	4.96E-04	0.00E+00
81	6.93E-04	0.00E+00	2.37E-31	0.00E+00	0.00E+00	0.00E+00	4.95E-04	0.00E+00
82	6.75E-04	0.00E+00	2.35E-31	0.00E+00	0.00E+00	0.00E+00	4.94E-04	0.00E+00
83	6.57E-04	0.00E+00	2.33E-31	0.00E+00	0.00E+00	0.00E+00	4.93E-04	0.00E+00
84	6.40E-04	0.00E+00	2.32E-31	0.00E+00	0.00E+00	0.00E+00	4.92E-04	0.00E+00
85	6.23E-04	0.00E+00	2.30E-31	0.00E+00	0.00E+00	0.00E+00	4.90E-04	0.00E+00
86	6.07E-04	0.00E+00	2.28E-31	0.00E+00	0.00E+00	0.00E+00	4.89E-04	0.00E+00
87	5.91E-04	0.00E+00	2.26E-31	0.00E+00	0.00E+00	0.00E+00	4.88E-04	0.00E+00
88	5.76E-04	0.00E+00	2.25E-31	0.00E+00	0.00E+00	0.00E+00	4.87E-04	0.00E+00
89	5.61E-04	0.00E+00	2.23E-31	0.00E+00	0.00E+00	0.00E+00	4.86E-04	0.00E+00
90	5.46E-04	0.00E+00	2.21E-31	0.00E+00	0.00E+00	0.00E+00	4.85E-04	0.00E+00
91	5.32E-04	0.00E+00	2.20E-31	0.00E+00	0.00E+00	0.00E+00	4.84E-04	0.00E+00
92	5.18E-04	0.00E+00	2.18E-31	0.00E+00	0.00E+00	0.00E+00	4.83E-04	0.00E+00
93	5.04E-04	0.00E+00	2.16E-31	0.00E+00	0.00E+00	0.00E+00	4.82E-04	0.00E+00
94	4.91E-04	0.00E+00	2.15E-31	0.00E+00	0.00E+00	0.00E+00	4.81E-04	0.00E+00
95	4.78E-04	0.00E+00	2.13E-31	0.00E+00	0.00E+00	0.00E+00	4.80E-04	0.00E+00
96	4.66E-04	0.00E+00	2.12E-31	0.00E+00	0.00E+00	0.00E+00	4.78E-04	0.00E+00
97	4.53E-04	0.00E+00	2.10E-31	0.00E+00	0.00E+00	0.00E+00	4.77E-04	0.00E+00
98	4.42E-04	0.00E+00	2.08E-31	0.00E+00	0.00E+00	0.00E+00	4.76E-04	0.00E+00
99	4.30E-04	0.00E+00	2.07E-31	0.00E+00	0.00E+00	0.00E+00	4.75E-04	0.00E+00
100	4.19E-04	0.00E+00	2.05E-31	0.00E+00	0.00E+00	0.00E+00	4.74E-04	0.00E+00

# **APPENDICES**

**APPENDIX A**

**LABORATORY ANALYTICAL REPORTS**

**AND**

**CHAIN-OF-CUSTODY FORMS**

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**NM** 88231  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<b>4540</b>	mg/Kg	25	<25	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	---	mg/Kg	---	---	09/23/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	<b>304</b>	mg/Kg	25	<25	09/24/03	8015 mod.	---	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	---		---	---	09/22/03	8260b(5030/5035)	---	---	---	---	---
Benzene	<b>24.8</b>	µg/Kg	20	<20	09/22/03	8260b	---	1.3	81.1	98.7	89.6
Ethylbenzene	<b>580</b>	µg/Kg	20	<20	09/22/03	8260b	---	0.5	107.6	112.1	104.7
m,p-Xylenes	<b>2700</b>	µg/Kg	20	<20	09/22/03	8260b	---	0.2	104.4	110.4	102.9
o-Xylene	<b>896</b>	µg/Kg	20	<20	09/22/03	8260b	---	0.4	102.7	112.8	102
Toluene	<b>327</b>	µg/Kg	20	<20	09/22/03	8260b	---	3.9	85.4	102.8	89.1

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

  
 Richard Laster

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD and PDS recoveries exceed advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. S3 =MS and/or MSD and PDS recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

**CHROMS**  
INC.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client:	Environmental Plus, Inc.	Project ID:	2003-00176
Attn:	Pat McCasland	Sample Name:	SEAGU891003BHL-2

Report#/ <i>Lab ID#:</i> 147387
Sample Matrix: soil

#### REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	none/diluted	diluted @ 5X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 5X	D
1,2-Dichloroethane-d4	8260b	94.7	65-115	---
Toluene-d8	8260b	104	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147387	Matrix: soil
Client: Environmental Plus, Inc.	Attn: Pat McCasland
Project ID: 2003-00176	
Sample Name: SEAGU891003BH1-2'	

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

- Sample received in appropriate container(s) and appear to be appropriately preserved.
- Sample received in appropriate container(s). State of sample preservation unknown.
- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.
1-Chlorooctane	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels).
1-Chlorooctane	D	Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels).
p-Terphenyl	D	Surrogate recoveries not accurately quantifiable.

### Notes:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481      **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	20000	mg/Kg	125	<125	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	---	---	---	---	09/23/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	12200	mg/Kg	50	<50	09/24/03	8015 mod.	---	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	---	µg/Kg	---	---	09/20/03	8260b(5030/5035)	---	---	---	---	---
Benzene	14600	µg/Kg	1000	<1000	09/20/03	8260b	---	1.3	81.1	98.7	89.6
Ethylbenzene	103000	µg/Kg	1000	<1000	09/20/03	8260b	---	0.5	107.6	112.1	104.7
m,p-Xylenes	296000	µg/Kg	1000	<1000	09/20/03	8260b	---	0.2	104.4	110.4	102.9
o-Xylene	62100	µg/Kg	1000	<1000	09/20/03	8260b	---	0.4	102.7	112.8	102
Toluene	88700	µg/Kg	1000	<1000	09/20/03	8260b	---	3.9	85.4	102.8	89.1

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

*Richard Laster*  
 Richard Laster

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**Environmental**

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891003BH1-5'

Report# / Lab ID#: 147388  
Sample Matrix: soil

#### REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
I-Chlorooctane	8015 mod.	none/diluted	diluted @ 10X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 25X	D
1,2-Dichloroethane-d4	8260b	none/diluted	diluted @ 50X	D
Toluene-d8	8260b	none/diluted	diluted @ 50X	D

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147388	Matrix: soil
Client: Environmental Plus, Inc.	Attn: Pat McCasland
Project ID: 2003-00176	
Sample Name: SEAGU891003BH1-5'	

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg., the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.
1,2-Dichloroethane-d4	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1,2-Dichloroethane-d4	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
Toluene-d8	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
Toluene-d8	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.

Notes: \_\_\_\_\_

**AnalySys**  
fTC

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2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland  
Address: 2100 Ave. O  
Eunice  
Phone: (505) 394-3481 FAX: (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	60.2	mg/Kg	5	<5	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	---	---	---	09/23/03	3570m	---	---	---	---	---	---
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	---	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	---	---	---	09/19/03	8260b(5030/5035)	---	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	09/19/03	8260b	---	0.8	83	97.3	95.1
Ethylbenzene	<20	µg/Kg	20	<20	09/19/03	8260b	---	9.7	96.1	111.7	114.5
m,p-Xylenes	<20	µg/Kg	20	<20	09/19/03	8260b	---	9.8	94.4	112.1	112
o-Xylene	<20	µg/Kg	20	<20	09/19/03	8260b	---	11	93.1	112.7	112.1
Toluene	<20	µg/Kg	20	<20	09/19/03	8260b	---	0.7	82.4	94.9	94.2

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*Richard Laster*  
Richard Laster

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Client: Environmental Plus, Inc.	Project ID: 2003-00176
Attn: Pat McCasland	Sample Name: SEAGU891003BH1-10'

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod. 8015 mod.	70.9 105	50-150 50-150	---
p-Terphenyl				---
1,2-Dichloroethane-d4	8260b	85.3	65-115	---
Toluene-d8	8260b	99.3	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Report# /Lab ID#: 147389

Sample Matrix: soil

## Exceptions Report:

Report #/Lab ID#: 147389   Matrix: soil  
Client: Environmental Plus, Inc.   Attn: Pat McCasland  
Project ID: 2003-00176  
Sample Name: SEAGU891003BH1-10'

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S, M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.

Notes:

**AnalySys**  
finc.

3512 Montopolis Drive, Austin, TX 78744 &  
 2209 N. Padre Island Dr., Corpus Christi, TX 78408  
 (512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

**REPORT OF ANALYSIS**

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method 6	Data Qual 7	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	J,S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	--	mg/Kg	--	--	09/23/03	3570m	--	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	--	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	--		--		09/19/03	8260b(5030/5035)	--	--	--	--	--
Benzene	<20	µg/Kg	20	>20	09/19/03	8260b	--	0.8	83	97.3	95.1
Ethylbenzene	<20	µg/Kg	20	>20	09/19/03	8260b	--	9.7	96.1	111.7	114.5
m,p-Xylenes	<20	µg/Kg	20	>20	09/19/03	8260b	--	9.8	94.4	112.1	112
o-Xylene	<20	µg/Kg	20	>20	09/19/03	8260b	--	11	93.1	112.7	112.1
Toluene	<20	µg/Kg	20	>20	09/19/03	8260b	--	0.7	82.4	94.9	94.2

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

*Richard Laster*  
Richard Laster

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**CHROMSYS**  
f/n E.

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2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891003BH1-15'

Report#/Lab ID#: 147390  
Sample Matrix: soil

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	71.2	50-150	---
p-Terphenyl	8015 mod.	70.8	50-150	---
1,2-Dichloroethane-d4	8260b	79.6	65-115	---
Toluene-d8	8260b	101	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

**Exceptions Report:**

Report #/Lab ID#: 147390	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2003-00176		
Sample Name: SEAGU891003BH1-15'		

**Sample Temperature/Condition <=6°C**

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

**Sample Bottles & Preservation**

- Sample received in appropriate container(s) and appear to be appropriately preserved.
- Sample received in appropriate container(s). State of sample preservation unknown.
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**J flag Discussion**

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

**Comments pertaining to Data Qualifiers and QC data:**

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.
TPH by GC (as diesel)	J	See J-flag discussion above.

**Notes:**

**AnalySys**  
f/k/a CEC

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 (512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
 Attn: Pat McCasland  
 Address: 2100 Ave. O  
 Eunice NM 88231  
 Phone: (505) 394-3481 FAX: (505) 394-2601

**REPORT OF ANALYSIS**

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	8890	mg/Kg	50	<50	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	---	mg/Kg	---	---	09/23/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	3710	mg/Kg	25	<25	09/24/03	8015 mod.	---	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	---	µg/Kg	---	---	09/22/03	8260b(5030/5035)	---	---	---	---	---
Benzene	2240	µg/Kg	2000	<2000	09/22/03	8260b	---	1.3	81.1	98.7	89.6
Ethylbenzene	8930	µg/Kg	2000	<2000	09/22/03	8260b	---	0.5	107.6	112.1	104.7
m,p-Xylenes	123000	µg/Kg	2000	<2000	09/22/03	8260b	---	0.2	104.4	110.4	102.9
o-Xylene	30300	µg/Kg	2000	<2000	09/22/03	8260b	---	0.4	102.7	112.8	102
Toluene	14700	µg/Kg	2000	<2000	09/22/03	8260b	---	3.9	85.4	102.8	89.1

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*Richard Laster*  
Richard Laster

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**Analytics**  
INC.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891003BH2-3'

Report# / Lab ID#: 147391  
Sample Matrix: soil

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	none/diluted	diluted @ 5X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 10X	D
1,2-Dichloroethane-d4	8260b	none/diluted	diluted @ 100X	D
Toluene-d8	8260b	none/diluted	diluted @ 100X	D

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147391	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2003-00176		
Sample Name: SEAGU891003BH2-3'		

### Sample Temperature/Condition <=6°C

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### J flag Discussion

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.
1,2-Dichloroethane-d4	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1,2-Dichloroethane-d4	D	Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Surrogate recoveries not accurately quantifiable.
Toluene-d8	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
Toluene-d8	D	Surrogate recoveries not accurately quantifiable.

Notes:



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**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
Eunice  
NM 88231  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	23500	mg/Kg	12.5	<12.5	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	--	mg/Kg	--	--	09/23/03	3570m	--	--	--	--	--
TPH by GC (as gasoline)	9640	mg/Kg	50	<50	09/24/03	8015 mod.	--	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	--		--	--	09/22/03	8260b(5030/5035)	--	--	--	--	--
Benzene	13100	µg/Kg	5000	<5000	09/22/03	8260b	--	1.3	81.1	98.7	89.6
Ethylbenzene	123000	µg/Kg	5000	<5000	09/22/03	8260b	--	0.5	107.6	112.1	104.7
m,p-Xylenes	376000	µg/Kg	5000	<5000	09/22/03	8260b	--	0.2	104.4	110.4	102.9
o-Xylene	79300	µg/Kg	5000	<5000	09/22/03	8260b	--	0.4	102.7	112.8	102
Toluene	92500	µg/Kg	5000	<5000	09/22/03	8260b	--	3.9	85.4	102.8	89.1

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Respectfully Submitted,

*Richard Laster*

Richard Laster

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**Surrogates**  
m/sec.

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2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891003BH2-7'

Report#/Lab ID#: 147392  
Sample Matrix: soil

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	none/diluted	diluted @ 10X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 25X	D
1,2-Dichloroethane-d4	8260b	none/diluted	diluted @ 250X	D
Toluene-d8	8260b	none/diluted	diluted @ 250X	D

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147392	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2003-00176		
Sample Name: SEAGU891003BH2-7'		

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

- Sample received in appropriate container(s) and appear to be appropriately preserved.
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- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (e.g. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.
1,2-Dichloroethane-d4	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1,2-Dichloroethane-d4	D	Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Surrogate recoveries not accurately quantifiable.
Toluene-d8	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
Toluene-d8	D	Surrogate recoveries not accurately quantifiable.

Notes:

**AnalySys**3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland  
Address: 2100 Ave. O  
Eunice  
Phone: (505) 394-3481 FAX: (505) 394-2601

**REPORT OF ANALYSIS**

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	28.8	mg/Kg	5	<5	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	---	mg/Kg	---	---	09/23/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	---	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	---	µg/Kg	---	---	09/19/03	8260b(5030/5035)	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	09/19/03	8260b	---	0.8	83	97.3	95.1
Ethylbenzene	<20	µg/Kg	20	<20	09/19/03	8260b	---	9.7	96.1	111.7	114.5
m,p-Xylenes	<20	µg/Kg	20	<20	09/19/03	8260b	---	9.8	94.4	112.1	112
o-Xylene	<20	µg/Kg	20	<20	09/19/03	8260b	---	11	93.1	112.7	112.1
Toluene	<20	µg/Kg	20	<20	09/19/03	8260b	---	0.7	82.4	94.9	94.2

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*Richard Laster*  
Richard Laster

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**Analysts**  
Inc.

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(512) 385-5886 • FAX (512) 385-7411

**REPORT OF SURROGATE RECOVERY**

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891003BH2-15'

Report#/Lab ID#: 147393  
Sample Matrix: soil

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	73.3	50-150	---
p-Terphenyl	8015 mod.	89.9	50-150	---
1,2-Dichloroethane-d4	8260b	86.5	65-115	---
Toluene-d8	8260b	100	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Sample Temperature/Condition <= 6°C

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## Comments pertaining to Data Qualifiers and QC data:

Comments pertaining to data Quantities and QC data.		
Parameter	Qualif	Comment
LCTPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.

1



**CHI**L<sup>Y</sup>S<sup>Y</sup>S  
f/n/c.

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2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891003BH2-20'

Report# / Lab ID#: 147394  
Sample Matrix: soil

#### REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	73.7	50-150	---
p-Terphenyl	8015 mod.	77	50-150	---
1,2-Dichloroethane-d4	8260b	80.6	65-115	---
Toluene-d8	8260b	99.1	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147394	Matrix: soil	
Client: Environmental Plus, Inc.		Attn: Pat McCasland
Project ID: 2003-00176		
Sample Name: SEAGU891003BH2-20'		

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.
TPH by GC (as gasoline)	J	See J-flag discussion above.

### Notes:

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	11.5	mg/Kg	5	<5	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	---	---	---	09/23/03	3570m	---	---	---	---	---	---
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	J	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	---	---	---	09/19/03	8260b/5030/5035	---	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	09/19/03	8260b	---	0.8	83	97.3	95.1
Ethylbenzene	<20	µg/Kg	20	<20	09/19/03	8260b	---	9.7	96.1	111.7	114.5
m,p-Xylenes	<20	µg/Kg	20	<20	09/19/03	8260b	---	9.8	94.4	112.1	112
o-Xylene	<20	µg/Kg	20	<20	09/19/03	8260b	---	11	93.1	112.7	112.1
Toluene	<20	µg/Kg	20	<20	09/19/03	8260b	---	0.7	82.4	94.9	94.2

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Respectfully Submitted,  
 Richard Laster  
 Richard Laster  
 Richard Laster

Richard Laster  
 Richard Laster  
 Richard Laster

Richard Laster  
 Richard Laster  
 Richard Laster

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL, B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceeds advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. M =Matrix interference.

**Analysts**  
f/c

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2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891003BH2-25

Report# /Lab ID#: 147395  
Sample Matrix: soil

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	70.1	50-150	---
p-Terphenyl	8015 mod.	69.7	50-150	---
1,2-Dichloroethane-d4	8260b	74.9	65-115	---
Toluene-d8	8260b	100	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147395	Matrix: soil
Client: Environmental Plus, Inc.	Attn: Pat McCasland
Project ID: 2003-00176	
Sample Name: SEAGU891003BH2-25'	

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

- Sample received in appropriate container(s) and appear to be appropriately preserved.
- Sample received in appropriate container(s). State of sample preservation unknown.
- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.
TPH by GC (as gasoline)	J	See J-flag discussion above.

### Notes:

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<b>Client:</b>	Environmental Plus, Inc.	
<b>Attn:</b>	Pat McCasland	
<b>Address:</b>	2100 Ave. O	
	Eunice	NM 88231
<b>Phone:</b>	(505) 394-3481	<b>FAX:</b> (505) 394-2601

## REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	28.2	mg/Kg	5	<5	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	--	---	--	--	09/23/03	3570m	--	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	--	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	--	---	--	--	09/19/03	8260b(5030/5035)	--	--	--	--	--
Benzene	<20	µg/Kg	20	<20	09/19/03	8260b	--	0.8	83	97.3	95.1
Ethylbenzene	<20	µg/Kg	20	<20	09/19/03	8260b	--	9.7	96.1	111.7	114.5
m,p-Xylenes	<20	µg/Kg	20	<20	09/19/03	8260b	--	9.8	94.4	112.1	112
o-Xylene	<20	µg/Kg	20	<20	09/19/03	8260b	--	11	93.1	112.7	112.7
Toluene	<20	µg/Kg	20	<20	09/19/03	8260b	--	0.7	82.4	94.9	94.2

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Especially submedial,

Richard Easter

Richard Laster

1. Quality assurance data is for the sample batch which included this sample.
2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements.
3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample.
4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix.
5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method.
6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions.
7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL, B = Analyte detected in associated method blank(s), S1 = MS and/or MSD recovery exceed advisory limits, S2 = Post digestion spike (PDS) recovery exceeds advisory limit, S3 = MS and/or MSD and PDS recoveries exceed advisory limits, P = Precision higher than advisory limit, M = Matrix interference.

**Q77L45y5**

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891003BH2-35'

Report# / Lab ID#: 147396  
Sample Matrix: soil

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	61.6	50-150	---
p-Terphenyl	8015 mod.	74.6	50-150	---
1,2-Dichloroethane-d4	8260b	83.4	65-115	---
Toluene-d8	8260b	97.8	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

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(512) 385-5886 • FAX (512) 385-7411

## Exceptions Report:

Report #/Lab ID#: 147396	Matrix: soil
Client: Environmental Plus, Inc.	Attn: Pat McCasland
Project ID: 2003-00176	
Sample Name: SEAGU891003BH2-35'	

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

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- Sample received in appropriate container(s). State of sample preservation unknown.
- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (e.g. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S.M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.

Notes:



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**REPORT OF ANALYSIS**

<b>Client:</b> Environmental Plus, Inc.	<b>Attn:</b> Pat McCasland
<b>Address:</b> 2100 Ave. O	<b>NM</b> 88231
<b>Phone:</b> (505) 394-3481	<b>FAX:</b> (505) 394-2601

Report#/ <b>Lab ID#:</b> 147397		Report Date: 09/30/03	
Project ID:	2003-00176	Date Received:	09/18/2003
Sample Name:	SEAGU891103BH3-2'	Date Sampled:	09/11/2003
Sample Matrix:	soil	Time:	10:30
		Time:	07:20

<b>Parameter</b>	<b>Result</b>	<b>Units</b>	<b>RQL<sup>5</sup></b>	<b>Blank</b>	<b>Date</b>	<b>Method<sup>6</sup></b>	<b>Data Qual<sup>7</sup></b>	<b>Prec.<sup>2</sup></b>	<b>Recov.<sup>3</sup></b>	<b>CCV<sup>4</sup></b>	<b>LCS<sup>4</sup></b>
TPH by GC (as diesel)	13500	mg/Kg	50	<50	09/25/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	---	mg/Kg	--	--	09/23/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	4750	mg/Kg	25	<25	09/24/03	8015 mod.	---	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	---	ug/Kg	--	--	09/20/03	8260b(5030/5035)	---	---	---	---	---
Benzene	1990	ug/Kg	1000	<1000	09/20/03	8260b	---	1.3	81.1	98.7	89.6
Ethylbenzene	25300	ug/Kg	1000	<1000	09/20/03	8260b	---	0.5	107.6	112.1	104.7
m,p-Xylenes	117000	ug/Kg	1000	<1000	09/20/03	8260b	---	0.2	104.4	110.4	102.9
o-Xylene	28700	ug/Kg	1000	<1000	09/20/03	8260b	---	0.4	102.7	112.8	102
Toluene	21300	ug/Kg	1000	<1000	09/20/03	8260b	---	3.9	85.4	102.8	89.1

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Respectfully Submitted,  
**Richard Laster**  
 Richard Laster

**CHI**TY'S  
HIC

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2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891103BH3-2'

Report# / Lab ID#: 147397  
Sample Matrix: soil

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	none/diluted	diluted @ 5X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 10X	D
1,2-Dichloroethane-d4	8260b	none/diluted	diluted @ 50X	D
Toluene-d8	8260b	none/diluted	diluted @ 50X	D

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#:147397	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2003-00176		
Sample Name: SEAGU891103BH3-2'		

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.
1,2-Dichloroethane-d4	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1,2-Dichloroethane-d4	D	Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Surrogate recoveries not accurately quantifiable.
Toluene-d8	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
Toluene-d8	D	Surrogate recoveries not accurately quantifiable.

### Notes:



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Client: Environmental Plus, Inc.  
Attn: Pat McCasland  
Address: 2100 Ave. O  
Eunice  
Phone: (505) 394-3481 FAX: (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	40.4	mg/Kg	5	<5	09/25/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	--	mg/Kg	--	--	09/23/03	3570m	--	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/25/03	8015 mod.	--	9.7	82.9	87.1	79.2
Volatile organics-S260b/BTEX	--		--		09/19/03	8260b(5030/5035)	--	--	--	--	--
Benzene	<20	µg/Kg	20	<20	09/19/03	8260b	--	0.8	83	97.3	95.1
Ethylbenzene	<20	µg/Kg	20	<20	09/19/03	8260b	--	9.7	96.1	111.7	114.5
m,p-Xylenes	<20	µg/Kg	20	<20	09/19/03	8260b	--	9.8	94.4	112.1	112
o-Xylene	<20	µg/Kg	20	<20	09/19/03	8260b	--	11	93.1	112.7	112.1
Toluene	<20	µg/Kg	20	<20	09/19/03	8260b	--	0.7	82.4	94.9	94.2

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Respectfully Submitted,

*Richard Laster*

Richard Laster

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Report# / Lab ID#: 147398	Report Date: 09/30/03
Project ID: 2003-00176	
Sample Name: SEAGU891103BH3-5'	
Sample Matrix: soil	
Date Received: 09/18/2003	Time: 10:30
Date Sampled: 09/11/2003	Time: 07:30

#### QUALITY ASSURANCE DATA<sup>1</sup>

**CHROMASYS**  
/MC

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client:	Environmental Plus, Inc.	Project ID:	2003-00176
Attn:	Pat McCasland	Sample Name:	SEAGU891103BH3-5'

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
I-Chlorooctane	8015 mod.	70.7	50-150	---
p-Terphenyl	8015 mod.	92.8	50-150	---
1,2-Dichloroethane-d4	8260b	75.6	65-115	---
Toluene-d8	8260b	106	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Report# / Lab ID#: 147398  
Sample Matrix: soil

## Exceptions Report:

Report #/Lab ID#: 147398	Matrix: soil	
Client: Environmental Plus, Inc.		Attn: Pat McCasland
Project ID: 2003-00176		
Sample Name: SEAGU891103BH3-5'		

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.

### Notes:

**AnalySys**  
fMRI

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2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
Eunice  
NM 88231  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	8.06	mg/Kg	5	<5	09/25/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	---	mg/Kg	---	<5	09/23/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	---	mg/Kg	5	<5	09/25/03	8015 mod.	J	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	---	ug/Kg	---	---	09/19/03	8260b(5030/5035)	---	---	---	---	---
Benzene	<20	ug/Kg	20	<20	09/19/03	8260b	---	0.8	83	97.3	95.1
Ethylbenzene	<20	ug/Kg	20	<20	09/19/03	8260b	---	9.7	96.1	111.7	114.5
m,p-Xylenes	<20	ug/Kg	20	<20	09/19/03	8260b	---	9.8	94.4	112.1	112
o-Xylene	<20	ug/Kg	20	<20	09/19/03	8260b	---	11	93.1	112.7	112.1
Toluene	<20	ug/Kg	20	<20	09/19/03	8260b	---	0.7	82.4	94.9	94.2

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

*Richard Laster*  
Richard Laster

Richard Laster

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analytes from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B =Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceed advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. S3 =MS and/or MSD and PDS recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

<b>Report#/<b>Lab ID#:</b> 147399</b>		<b>Report Date:</b> 09/30/03	
<b>Project ID:</b>	2003-00176		
<b>Sample Name:</b>	SEAGU891103BH3-10		
<b>Sample Matrix:</b>	soil		
<b>Date Received:</b>	09/18/2003	<b>Time:</b>	10:30
<b>Date Sampled:</b>	09/11/2003	<b>Time:</b>	07:50

#### QUALITY ASSURANCE DATA<sup>1</sup>

**Analytics**  
MC

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client:	Environmental Plus, Inc.	Project ID:	2003-00176
Attn:	Pat McCasland	Sample Name:	SEAGU891103BH3-10

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	79.5	50-150	---
p-Terphenyl	8015 mod.	81	50-150	---
1,2-Dichloroethane-d4	8260b	84.8	65-115	---
Toluene-d8	8260b	103	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Report# / Lab ID#: 147399

Sample Matrix: soil

## Exceptions Report:

Report #/Lab ID#: 147399 Matrix: soil  
Client: Environmental Plus, Inc. Attn: Pat McCasland  
Project ID: 2003-00176  
Sample Name: SEAGU891103BH3-10

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

- Sample received in appropriate container(s) and appear to be appropriately preserved.
- Sample received in appropriate container(s). State of sample preservation unknown.
- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.
TPH by GC (as gasoline)	J	See J-flag discussion above.

### Notes:

**AnalySys**  
f/n TC

3512 Montopolis Drive, Austin, TX 78744 &  
 2209 N. Padre Island Dr., Corpus Christi, TX 78408  
 (512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**NM** 88231  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

**REPORT OF ANALYSIS**

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	--	mg/Kg	--	--	09/23/03	3570m	--	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	--	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	--		--	--	09/19/03	8260b(5030/5035)	--	--	--	--	--
Benzene	<20	µg/Kg	20	<20	09/19/03	8260b	--	0.8	83	97.3	95.1
Ethylbenzene	<20	µg/Kg	20	<20	09/19/03	8260b	--	9.7	96.1	111.7	114.5
m,p-Xylenes	<20	µg/Kg	20	<20	09/19/03	8260b	--	9.8	94.4	112.1	112
o-Xylene	<20	µg/Kg	20	<20	09/19/03	8260b	--	11	93.1	112.7	112.1
Toluene	<20	µg/Kg	20	<20	09/19/03	8260b	--	0.7	82.4	94.9	94.2

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Respectfully Submitted,

*Richard Laster*  
Richard Laster

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**CHROMATICS**  
HPLC

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891103BH3-15'

Report# /Lab ID#: 147400  
Sample Matrix: soil

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	71.8	50-150	---
p-Terphenyl	8015 mod.	74	50-150	---
1,2-Dichloroethane-d4	8260b	86.2	65-115	---
Toluene-d8	8260b	110	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147400	Matrix: soil	
Client: Environmental Plus, Inc.		Attn: Pat McCasland
Project ID: 2003-00176		
Sample Name: SEAGU891103BH3-15'		

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

- Sample received in appropriate container(s) and appear to be appropriately preserved.
- Sample received in appropriate container(s). State of sample preservation unknown.
- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.

### Notes:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Send Report To:

Bill to (if different):

卷之三

Company Name Enviro-Health Plus  
Address 123 8th St.

City Elmwood State WV Zip 88234

ATTN: Pat n Gaskins

Rush Status (must be confirmed with lab m/r): None Seb. 222-2222 Fax Seb. 322-0660

**Project Name/PO#:** 2003.00126      **Sampled:**

Project Name/PO#: 2003-00126 Sampler: Reilly, S.

Company Name ETT Energy  
Address 5555 10th Street, Suite 1000, Denver, CO 80203

4221 Friedrich Lane, Suite 190, Austin, TX 787  
(512) 444-5886

## **Analyses Requested (1)**

Please attach explanatory information as required.

Description/Identification	Date Sampled	Time Sampled	No. of Containers	Soil	Water	Waste	Lab I.D. # (Lab only)	Comments
Sample Relinquished By	Name	Affiliation	Date	Time	Name	Affiliation	Date	Time
SEAGC 8/11/03 BH3-2	9-11-03	7:20	1	X			147397	X X
SEAGC 8/11/03 BH3-5	9-11-03	7:30	1	X			147398	X X
SEAGC 8/11/03 BH3-10	9-11-03	7:50	1	X			147399	X X
SEAGC 8/11/03 BH3-15	9-11-03	8:10	1	X			147400	X X
SEAGC 8/11/03 BH3-20	9-11-03	8:35	1	X			147401	X X
SEAGC 8/11/03 BH3-25	9-11-03	9:00	1	X			147402	X X
SEAGC 8/11/03 BH3-30	9-11-03	10:20	1	X			147403	X X
SEAGC 8/11/03 BH3-30	9-11-03	11:10	1	X			147404	X X
SEAGC 8/11/03 BH3-44-5	9-11-03	11:25	1	X			147405	X X
SEAGC 8/9/10 3BH4-10	9-11-03	12:00	1	X			147406	X X

(1) Unless specifically requested otherwise on this Chain-of-custody and/or attached documentation, all analyses will be conducted using ASI's method of choice and all data will be reported to ASI's normal reporting limits (MDL/PQL). For GC/MS volatiles and extractables, unless specific analytical parameter lists are specified on this chain-of-custody or attached to this chain-of-custody, ASI will default to Priority Pollutants ASI's HSL list at ASI's option. Specific compound lists must be supplied for all GC procedures.

Sample Relinquished By			Sample Received By		
Name	Affiliation	Date	Name	Affiliation	Date
Brenda M. Hause	Environmental Test	9/11/03	Patricia Hauseberg	AnalySys Inc.	9/18/03
					10:30

[Tendering of above described samples to AnalySys, Inc. for analytical testing constitutes agreement by buyer/sampler to AnalySys Inc.'s standard terms.]

**Send Report To:**

Company Name EuroEnvironmental Plus

Address 200 Ave C

City Euence State VA Zip 22231

ATTN: Pat McCasland

Phone 505 394-3481 Fax 505.394-3662

Rush Status (must be confirmed with lab mgr.):

Project Name/PO#:

2003.00126

Sampler: Patricia McCasland

**Bill to (if different):**

Company Name Serr Energy

Address 5005 Hwy 50

City Midland State Tx Zip 79701

ATTN: Frank Hernandez

Phone 915.638-3797 Fax

**Analyses Requested (1)**  
Please attach explanatory information as required

Client Sample No. Description/Identification	Date Sampled	Time Sampled	No. of Containers	Soil Water Waste	Lab ID. # (Lab only)	Analyses Requested (1)		Comments
						147387	147388	
SEAGU 891003BH1-2	9-10-03	7:45	1	X	147387	X	X	
SEAGU 891003BH4-5	9-10-03	8:00	1	X	147388	X	X	
SEAGU 891003BH1-10	9-10-03	8:20	1	X	147389	X	X	
SEAGU 891003BH1-15	9-10-03	8:45	1	X	147390	X	X	
SEAGU 891003BH2-3	9-10-03	9:10	1	X	147391	X	X	
SEAGU 891003BH2-7	9-10-03	9:20	1	X	147392	X	X	
SEAGU 891003BH2-15	9-10-03	10:35	1	X	147393	X	X	
SEAGU 891003BH2-26	9-10-03	11:45	1	X	147394	X	X	
SEAGU 891003BH2-25	9-10-03	1:10	1	X	147395	X	X	
SEAGU 891003BH2-35	9-10-03	3:00	1	X	147396	X	X	

(1) Unless specifically requested otherwise on this Chain-of-custody and/or attached documentation, all analyses will be conducted using ASI's method of choice and all data will be reported to ASI's normal reporting limits (MDL/PQL). For GC/MS volatiles and extractables, unless specific analytical parameter lists are specified on this chain-of-custody or attached to this chain-of-custody, ASI will default to Priority Pollutants ASI's HSL list at ASI's option. Specific compound lists must be supplied for all GC procedures.

**Sample Relinquished By**

Name Patricia McCasland

Affiliation Environmental Plus

Date 9-10-03

Time 7:45

Name Patricia McCasland

Affiliation Environmental Plus

Date 9-10-03

Time 1:10

Name Patricia McCasland

Affiliation Environmental Plus

Date 9-10-03

Time 3:00

[Tendering of above described samples to AnalySys, Inc. for analytical testing constitutes agreement by buyer/sampler to AnalySys, Inc.'s standard terms.]

4221 Friedrich Lane, Suite 190, Austin, TX 78741

(512) 444-5896

## Exceptions Report:

Report #/Lab ID#:147422 Matrix: soil  
Client: Environmental Plus, Inc. Attn: Pat McCasland  
Project ID: 2003-00176  
Sample Name: SEAGU891203BH7-15

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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### J flag Discussion

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as gasoline)	J	See J-flag discussion above.

Notes:

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice

NM 88231

**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

3512 Montopolis Drive, Austin, TX 78744 &  
 2209 N. Padre Island Dr., Corpus Christi, TX 78408  
 (512) 385-5886 • FAX (512) 385-7411

Report#/Lab ID#:	147420	Report Date:	09/30/03
Project ID:	2003-00176		
Sample Name:	SEAGU891203BH7-5		
Sample Matrix:	soil		
Date Received:	09/18/2003	Time:	10:30
Date Sampled:	09/12/2003	Time:	13:10

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec <sup>2</sup>	Recov <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	---	5.1	78	94.8	82
TPH by GC (as diesel-ext)	--	---	--	--	09/25/03	3570m	---	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	J	1.7	71.7	86.9	70.7
Volatile organics-8260b/BTEX	--				09/24/03	8260b(5030/5035)	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	1.4	84.9	94.8	78.4
Ethylbenzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	2.2	99.1	111.1	97.5
m,p-Xylenes	<20	µg/Kg	20	<20	09/24/03	8260b	---	0.9	99.1	109.6	94.5
o-Xylene	<20	µg/Kg	20	<20	09/24/03	8260b	---	1.5	97.5	111.2	94.3
Toluene	<20	µg/Kg	20	<20	09/24/03	8260b	---	0.5	87.6	97.4	79.4

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Respectfully Submitted,

*Richard Laster*  
 Richard Laster

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## Exceptions Report:

Report #/Lab ID#: 147419 Matrix: soil

Client: Environmental Plus, Inc.

Project ID: 2003-0176

Sample Name: SEAGU891203BH7-2'

Attn: Pat McCasland

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as gasoline)	J	See J-flag discussion above.

Notes:



Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891203BH7-2'

Report#/Lab ID#: 147419  
Sample Matrix: soil

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	64.6	50-150	---
p-Terphenyl	8015 mod.	63	50-150	---
1,2-Dichloroethane-d4	8260b	68.5	65-115	---
Toluene-d8	8260b	95.3	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Client: Environmental Plus, Inc.  
Attn: Pat McCasland  
Address: 2100 Ave. O  
Eunice

NM 88231

Phone: (505) 394-3481 FAX: (505) 394-2601

**REPORT OF ANALYSIS**

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	---	5.1	78	94.8	82
TPH by GC (as diesel-ext)	--	---	--	--	09/25/03	3570m	---	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	J	1.7	71.7	86.9	70.7
Volatile organics-8260b/BTEX	--	---	--	--	09/24/03	8260b(5030/5035)	---	--	--	--	--
Benzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	1.4	84.9	94.8	78.4
Ethylbenzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	2.2	99.1	111.1	97.5
m,p-Xylenes	<20	µg/Kg	20	<20	09/24/03	8260b	---	0.9	99.1	109.6	94.5
o-Xylene	<20	µg/Kg	20	<20	09/24/03	8260b	---	1.5	97.5	111.2	94.3
Toluene	<20	µg/Kg	20	<20	09/24/03	8260b	---	0.5	87.6	97.4	79.4

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Respectfully Submitted,

*Richard Laster*  
Richard Laster

**QUALITY ASSURANCE DATA<sup>1</sup>**

Project ID:	2003-00176	Report Date:	09/30/03
Sample Name:	SEAGU891203BH7-2'		
Sample Matrix:	soil		
Date Received:	09/18/2003	Time:	10:30
Date Sampled:	09/12/2003	Time:	13:00

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ('<') values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analytic potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceed advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. M =Matrix interference.

## Exceptions Report:

Report #/Lab ID#: 147418 Matrix: soil  
Client: Environmental Plus, Inc.  
Project ID: 2003-00176  
Sample Name: SEAGU891203BH6-20'

Attn: Pat McCasland

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

- Sample received in appropriate container(s) and appear to be appropriately preserved.
- Sample received in appropriate container(s). State of sample preservation unknown.
- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination) though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as gasoline)	J	See J-flag discussion above.

Notes:



3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.

Attn: Pat McCasland

Project ID: 2003-00176

Sample Name: SEAGU891203BH6-20'

Report#/Lab ID#: 147418

Sample Matrix: soil

#### REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chloroocane	8015 mod. 8015 mod.	61.6 84.9	50-150 50-150	---
p-Terphenyl				
1,2-Dichloroethane-d4	8260b 8260b	82.6 94.2	65-115 50-120	---
Toluene-d8				

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
 NM 88231

**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	43.7	mg/Kg	5	<5	09/26/03	8015 mod.	--	5.1	78	94.8	82
TPH by GC (as diesel-ext)	---	---	---	---	09/25/03	3570m	--	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	J	1.7	71.7	86.9	70.7
Volatile organics:8260b/BTEX	---	---	---	09/24/03	8260b(5030/5035)	--	--	--	--	--	--
Benzene	<20	µg/Kg	20	<20	09/24/03	8260b	--	1.4	84.9	94.8	78.4
Ethylbenzene	<20	µg/Kg	20	<20	09/24/03	8260b	--	2.2	99.1	111.1	97.5
m,p-Xylenes	<20	µg/Kg	20	<20	09/24/03	8260b	--	0.9	99.1	109.6	94.5
o-Xylene	<20	µg/Kg	20	<20	09/24/03	8260b	--	1.5	97.5	111.2	94.3
Toluene	<20	µg/Kg	20	<20	09/24/03	8260b	--	0.5	87.6	97.4	79.4

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Respectfully Submitted,

*Richard Laster*  
 Richard Laster

Report#/Lab ID#:	147418	Report Date:	09/30/03		
Project ID:	2003-00176	Sample Name:	SEAGU891203BH6-20'		
Sample Matrix:	soil	Date Received:	09/18/2003	Time:	10:30
Date Sampled:	09/12/2003	Time:	11:00		

#### QUALITY ASSURANCE DATA<sup>1</sup>

1. Quality assurance data is for the sample batch which included this sample.
2. Precision (PREC) is the absolute value of the relative percent (%), difference between duplicate measurements.
3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample.
4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix.
5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method.
6. Method numbers typically denote USEPA procedures.
7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceed advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. S3 =MS and/or MSD and PDS recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

## Exceptions Report:

Report #/Lab ID#: 147417 Matrix: soil

Client: Environmental Plus, Inc.

Project ID: 2003-00176

Sample Name: SEAGU891203BH6-15'

Attn: Pat McCasland

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as gasoline)	J	See J-flag discussion above.

Notes:



RTE

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891203BH6-15'

Report#/Lab ID#: 147417  
Sample Matrix: soil

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	64.3	50-150	--
p-Terphenyl	8015 mod.	64.5	50-150	--
1,2-Dichloroethane-d4	8260b	75.8	65-115	--
Toluene-d8	8260b	95	50-120	--

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
Eunice  
NM 88231

**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

**REPORT OF ANALYSIS**

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	---	5.1	78	94.8	82
TPH by GC (as diesel-ext)	--	---	--	--	09/25/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	J	1.7	71.7	86.9	70.7
Volatile organics-8260b/BTEX	--	---	--	--	09/24/03	8260b(5030/5035)	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	1.4	84.9	94.8	78.4
Ethylbenzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	2.2	99.1	111.1	97.5
m,p-Xylenes	<20	µg/Kg	20	<20	09/24/03	8260b	---	0.9	99.1	109.6	94.5
o-Xylene	<20	µg/Kg	20	<20	09/24/03	8260b	---	1.5	97.5	111.2	94.3
Toluene	<20	µg/Kg	20	<20	09/24/03	8260b	---	0.5	87.6	97.4	79.4

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Respectfully Submitted,

*Richard Laster*  
Richard Laster

**QUALITY ASSURANCE DATA<sup>1</sup>**

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceed advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. S3 =MS and/or MSD and PDS recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

Report#/Lab ID#:	147417	Report Date:	09/30/03
Project ID:	2003-00176		
Sample Name:	SEAGU891203BH6-15'		
Sample Matrix:	soil		
Date Received:	09/18/2003	Time:	10:30
Date Sampled:	09/12/2003	Time:	10:20

**OnLyS<sup>ys</sup>**  
ME.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland

**Project ID:** 2003-00176  
**Sample Name:** SEAGU891203BH6-10'

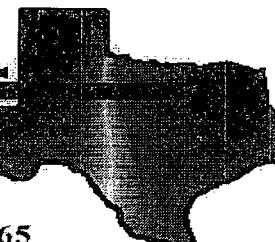
**Report#/Lab ID#:** 147416  
**Sample Matrix:** soil

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	64	50-150	---
p-Terphenyl	8015 mod.	128	50-150	---
1,2-Dichloroethane-d4	8260b	85	65-115	---
Toluene-d8	8260b	91.3	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

**ENVIRONMENTAL  
LAB OF**



**12600 West I-20 East - Odessa, Texas 79765**

## **Analytical Report**

**Prepared for:**

Frank Hernandez

Link Energy Pipeline

P.O. Box 1660

Midland, TX 79702

Project: Arrowhead Greyberg Unit 8

Project Number: 2003-00176

Location: None Given

Lab Order Number: 4C09002

Report Date: 03/15/04

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: Arrowhead Greyberg Unit 8  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/15/04 16:26

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SLAGU8030804SECANSWC	4C09002-01	Soil	03/08/04 09:05	03/09/04 12:20
SLAGU8030804SECASSWC	4C09002-02	Soil	03/08/04 09:15	03/09/04 12:20
SLAGU8030804SECAWSWC	4C09002-03	Soil	03/08/04 09:25	03/09/04 12:20
SLAGU8030804SECABHC	4C09002-04	Soil	03/08/04 09:40	03/09/04 12:20
SLAGU8030804SECBNSWC	4C09002-05	Soil	03/08/04 09:55	03/09/04 12:20
SLAGU8030804SECBSSWC	4C09002-06	Soil	03/08/04 10:10	03/09/04 12:20
SLAGU8030804SECBBHC	4C09002-07	Soil	03/08/04 10:25	03/09/04 12:20
SLAGU8030804SECCBBHC	4C09002-08	Soil	03/08/04 10:45	03/09/04 12:20

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: Arrowhead Greyberg Unit 8  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/15/04 16:26

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SLAGU8030804SECANSWC (4C09002-01)</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC41506	03/12/04	03/12/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	<b>0.0562</b>	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene	95.7 %	80-120		"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	93.6 %	80-120		"	"	"	"	"	
Gasoline Range Organics C6-C12	<b>36.6</b>	10.0	mg/kg dry	1	EC40903	03/09/04	03/09/04	EPA 8015M	
Diesel Range Organics >C12-C35	<b>865</b>	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	<b>902</b>	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane	100 %	70-130		"	"	"	"	"	
Surrogate: 1-Chlorooctadecane	99.2 %	70-130		"	"	"	"	"	
<b>SLAGU8030804SECASSWC (4C09002-02)</b>									
Benzene	<b>0.0752</b>	0.0500	mg/kg dry	50	EC41506	03/12/04	03/12/04	EPA 8021B	
Toluene	<b>0.277</b>	0.0500	"	"	"	"	"	"	
Ethylbenzene	<b>0.713</b>	0.0500	"	"	"	"	"	"	
Xylene (p/m)	<b>2.40</b>	0.0500	"	"	"	"	"	"	
Xylene (o)	<b>0.509</b>	0.0500	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene	129 %	80-120		"	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene	104 %	80-120		"	"	"	"	"	
Gasoline Range Organics C6-C12	<b>402</b>	10.0	mg/kg dry	1	EC40903	03/09/04	03/09/04	EPA 8015M	
Diesel Range Organics >C12-C35	<b>3920</b>	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	<b>4320</b>	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane	119 %	70-130		"	"	"	"	"	
Surrogate: 1-Chlorooctadecane	109 %	70-130		"	"	"	"	"	
<b>SLAGU8030804SECAWSWC (4C09002-03)</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC41506	03/12/04	03/12/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene	92.9 %	80-120		"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	98.7 %	80-120		"	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC40903	03/09/04	03/09/04	EPA 8015M	
Diesel Range Organics >C12-C35	<b>14.8</b>	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	<b>14.8</b>	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane	101 %	70-130		"	"	"	"	"	
Surrogate: 1-Chlorooctadecane	102 %	70-130		"	"	"	"	"	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory.. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

*Rolan A. Muñoz*  
Quality Assurance Review

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: Arrowhead Greyberg Unit 8  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/15/04 16:26

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SLAGU8030804SECABHC (4C09002-04)</b>									
Benzene	1.07	0.100	mg/kg dry	100	EC41506	03/12/04	03/12/04	EPA 8021B	
Toluene	5.31	0.100	"	"	"	"	"	"	
Ethylbenzene	11.6	0.100	"	"	"	"	"	"	
Xylene (p/m)	36.8	0.100	"	"	"	"	"	"	
Xylene (o)	9.48	0.100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene	278 %	80-120		"	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene	113 %	80-120		"	"	"	"	"	
Gasoline Range Organics C6-C12	2400	10.0	mg/kg dry	1	EC40903	03/09/04	03/09/04	EPA 8015M	
Diesel Range Organics >C12-C35	8750	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	11200	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane	167 %	70-130		"	"	"	"	"	S-04
Surrogate: 1-Chlorooctadecane	116 %	70-130		"	"	"	"	"	
<b>SLAGU8030804SECBNSWC (4C09002-05)</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC41506	03/12/04	03/12/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene	97.2 %	80-120		"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	80-120		"	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC40903	03/09/04	03/09/04	EPA 8015M	
Diesel Range Organics >C12-C35	33.7	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	33.7	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane	88.0 %	70-130		"	"	"	"	"	
Surrogate: 1-Chlorooctadecane	87.0 %	70-130		"	"	"	"	"	
<b>SLAGU8030804SECBSSWC (4C09002-06)</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC41506	03/12/04	03/12/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene	89.0 %	80-120		"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	92.0 %	80-120		"	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC40903	03/09/04	03/09/04	EPA 8015M	
Diesel Range Organics >C12-C35	J [7.27]	10.0	"	"	"	"	"	"	J
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane	94.0 %	70-130		"	"	"	"	"	
Surrogate: 1-Chlorooctadecane	92.6 %	70-130		"	"	"	"	"	

Environmental Lab of Texas

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*Roland K. Jao*  
Quality Assurance Review

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: Arrowhead Greyberg Unit 8  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/15/04 16:26

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SLAGU8030804SECBBHC (4C09002-07)</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC41506	03/12/04	03/12/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	"
Ethylbenzene	<b>0.0347</b>	0.0250	"	"	"	"	"	"	"
Xylene (p/m)	<b>0.142</b>	0.0250	"	"	"	"	"	"	"
Xylene (o)	<b>0.0460</b>	0.0250	"	"	"	"	"	"	"
<i>Surrogate: a,a,a-Trifluorotoluene</i>		93.4 %	80-120		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	80-120		"	"	"	"	"
<b>Gasoline Range Organics C6-C12</b>	<b>52.0</b>	10.0	mg/kg dry	1	EC40903	03/09/04	03/09/04	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>602</b>	10.0	"	"	"	"	"	"	"
<b>Total Hydrocarbon C6-C35</b>	<b>654</b>	10.0	"	"	"	"	"	"	"
<i>Surrogate: 1-Chlorooctane</i>		93.0 %	70-130		"	"	"	"	"
<i>Surrogate: 1-Chlorooctadecane</i>		90.8 %	70-130		"	"	"	"	"
<b>SLAGU8030804SECCBBHC (4C09002-08)</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC41506	03/12/04	03/12/04	EPA 8021B	
Toluene	<b>0.167</b>	0.0250	"	"	"	"	"	"	"
Ethylbenzene	<b>0.369</b>	0.0250	"	"	"	"	"	"	"
Xylene (p/m)	<b>1.57</b>	0.0250	"	"	"	"	"	"	"
Xylene (o)	<b>0.536</b>	0.0250	"	"	"	"	"	"	"
<i>Surrogate: a,a,a-Trifluorotoluene</i>		103 %	80-120		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	80-120		"	"	"	"	"
<b>Gasoline Range Organics C6-C12</b>	<b>300</b>	10.0	mg/kg dry	1	EC40903	03/09/04	03/09/04	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>1750</b>	10.0	"	"	"	"	"	"	"
<b>Total Hydrocarbon C6-C35</b>	<b>2050</b>	10.0	"	"	"	"	"	"	"
<i>Surrogate: 1-Chlorooctane</i>		114 %	70-130		"	"	"	"	"
<i>Surrogate: 1-Chlorooctadecane</i>		101 %	70-130		"	"	"	"	"

Environmental Lab of Texas

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Randal K. Hul  
Quality Assurance Review

Page 4 of 11

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: Arrowhead Greyberg Unit 8  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/15/04 16:26

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SLAGU8030804SECANSWC (4C09002-01)</b>									
% Solids	92.0		%	1	EC41004	03/09/04	03/10/04		% calculation
<b>SLAGU8030804SECASSWC (4C09002-02)</b>									
% Solids	94.0		%	1	EC41004	03/09/04	03/10/04		% calculation
<b>SLAGU8030804SECAWSWC (4C09002-03)</b>									
% Solids	94.0		%	1	EC41004	03/09/04	03/10/04		% calculation
<b>SLAGU8030804SECABHC (4C09002-04)</b>									
% Solids	88.0		%	1	EC41004	03/09/04	03/10/04		% calculation
<b>SLAGU8030804SECBNSWC (4C09002-05)</b>									
% Solids	91.0		%	1	EC41004	03/09/04	03/10/04		% calculation
<b>SLAGU8030804SECBSSWC (4C09002-06)</b>									
% Solids	91.0		%	1	EC41004	03/09/04	03/10/04		% calculation
<b>SLAGU8030804SECBBHC (4C09002-07)</b>									
% Solids	91.0		%	1	EC41004	03/09/04	03/10/04		% calculation
<b>SLAGU8030804SECCBBHC (4C09002-08)</b>									
% Solids	90.0		%	1	EC41004	03/09/04	03/10/04		% calculation

Environmental Lab of Texas

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Ronald K. Houch  
Quality Assurance Review

Page 5 of 11

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: Arrowhead Greyberg Unit 8  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/15/04 16:26

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EC40903 - Solvent Extraction (GC)</b>										
<b>Blank (EC40903-BLK1)</b> Prepared & Analyzed: 03/09/04										
Gasoline Range Organics C6-C12 ND 10.0 mg/kg wet										
Diesel Range Organics >C12-C35 ND 10.0 "										
Total Hydrocarbon C6-C35 ND 10.0 "										
Surrogate: <i>I</i> -Chlorooctane 38.9 mg/kg 50.0 77.8 70-130										
Surrogate: <i>I</i> -Chlorooctadecane 38.4 " 50.0 76.8 70-130										
<b>Blank (EC40903-BLK2)</b> Prepared: 03/09/04 Analyzed: 03/10/04										
Gasoline Range Organics C6-C12 ND 10.0 mg/kg wet										
Diesel Range Organics >C12-C35 ND 10.0 "										
Total Hydrocarbon C6-C35 ND 10.0 "										
Surrogate: <i>I</i> -Chlorooctane 40.4 mg/kg 50.0 80.8 70-130										
Surrogate: <i>I</i> -Chlorooctadecane 42.8 " 50.0 85.6 70-130										
<b>LCS (EC40903-BS1)</b> Prepared: 03/09/04 Analyzed: 03/10/04										
Gasoline Range Organics C6-C12 396 mg/kg 500 79.2 75-125										
Diesel Range Organics >C12-C35 504 " 500 101 75-125										
Total Hydrocarbon C6-C35 900 " 1000 90.0 75-125										
Surrogate: <i>I</i> -Chlorooctane 53.8 " 50.0 108 70-130										
Surrogate: <i>I</i> -Chlorooctadecane 44.2 " 50.0 88.4 70-130										
<b>LCS (EC40903-BS2)</b> Prepared: 03/09/04 Analyzed: 03/10/04										
Gasoline Range Organics C6-C12 408 10.0 mg/kg wet 500 81.6 75-125										
Diesel Range Organics >C12-C35 473 10.0 " 500 94.6 75-125										
Total Hydrocarbon C6-C35 881 10.0 " 1000 88.1 75-125										
Surrogate: <i>I</i> -Chlorooctane 54.7 mg/kg 50.0 109 70-130										
Surrogate: <i>I</i> -Chlorooctadecane 44.6 " 50.0 89.2 70-130										
<b>Calibration Check (EC40903-CCV1)</b> Prepared & Analyzed: 03/09/04										
Gasoline Range Organics C6-C12 443 mg/kg 500 88.6 80-120										
Diesel Range Organics >C12-C35 519 " 500 104 80-120										
Total Hydrocarbon C6-C35 962 " 1000 96.2 80-120										
Surrogate: <i>I</i> -Chlorooctane 59.8 " 50.0 120 70-130										
Surrogate: <i>I</i> -Chlorooctadecane 48.1 " 50.0 96.2 70-130										

Environmental Lab of Texas

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*Roland Hernandez*  
Quality Assurance Review

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Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: Arrowhead Greyberg Unit 8  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

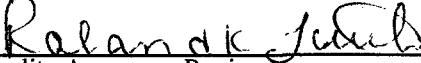
Fax: (432) 682-9719  
Reported:  
03/15/04 16:26

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EC40903 - Solvent Extraction (GC)</b>										
<b>Calibration Check (EC40903-CCV2)</b>										
Prepared & Analyzed: 03/09/04										
Gasoline Range Organics C6-C12	437		mg/kg	500		87.4	80-120			
Diesel Range Organics >C12-C35	527		"	500		105	80-120			
Total Hydrocarbon C6-C35	964		"	1000		96.4	80-120			
Surrogate: 1-Chlorooctane	59.2		"	50.0		118	70-130			
Surrogate: 1-Chlorooctadecane	48.4		"	50.0		96.8	70-130			
<b>Matrix Spike (EC40903-MS1)</b>										
Source: 4C09001-03 Prepared: 03/09/04 Analyzed: 03/10/04										
Gasoline Range Organics C6-C12	496		mg/kg	500	ND	99.2	75-125			
Diesel Range Organics >C12-C35	518		"	500	ND	104	75-125			
Total Hydrocarbon C6-C35	1010		"	1000	ND	101	75-125			
Surrogate: 1-Chlorooctane	55.2		"	50.0		110	70-130			
Surrogate: 1-Chlorooctadecane	49.9		"	50.0		99.8	70-130			
<b>Matrix Spike (EC40903-MS2)</b>										
Source: 4C09008-01 Prepared: 03/09/04 Analyzed: 03/10/04										
Gasoline Range Organics C6-C12	527	10.0	mg/kg dry	538	ND	98.0	75-125			
Diesel Range Organics >C12-C35	774	10.0	"	538	203	106	75-125			
Total Hydrocarbon C6-C35	1300	10.0	"	1080	203	102	75-125			
Surrogate: 1-Chlorooctane	57.6		mg/kg	50.0		115	70-130			
Surrogate: 1-Chlorooctadecane	50.2		"	50.0		100	70-130			
<b>Matrix Spike Dup (EC40903-MSD1)</b>										
Source: 4C09001-03 Prepared: 03/09/04 Analyzed: 03/10/04										
Gasoline Range Organics C6-C12	476		mg/kg	500	ND	95.2	75-125	4.12	20	
Diesel Range Organics >C12-C35	537		"	500	ND	107	75-125	3.60	20	
Total Hydrocarbon C6-C35	1010		"	1000	ND	101	75-125	0.00	20	
Surrogate: 1-Chlorooctane	55.2		"	50.0		110	70-130			
Surrogate: 1-Chlorooctadecane	49.9		"	50.0		99.8	70-130			
<b>Matrix Spike Dup (EC40903-MSD2)</b>										
Source: 4C09008-01 Prepared: 03/09/04 Analyzed: 03/10/04										
Gasoline Range Organics C6-C12	522	10.0	mg/kg dry	538	ND	97.0	75-125	0.953	20	
Diesel Range Organics >C12-C35	777	10.0	"	538	203	107	75-125	0.387	20	
Total Hydrocarbon C6-C35	1300	10.0	"	1080	203	102	75-125	0.00	20	
Surrogate: 1-Chlorooctane	57.0		mg/kg	50.0		114	70-130			
Surrogate: 1-Chlorooctadecane	50.2		"	50.0		100	70-130			

Environmental Lab of Texas

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Quality Assurance Review

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: Arrowhead Greyberg Unit 8  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/15/04 16:26

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD Limit	Notes
<b>Batch EC41506 - EPA 5030C (GC)</b>								
<b>Blank (EC41506-BLK1)</b> Prepared & Analyzed: 03/12/04								
Benzene	ND	0.0250	mg/kg wet					
Toluene	ND	0.0250	"					
Ethylbenzene	ND	0.0250	"					
Xylene (p/m)	ND	0.0250	"					
Xylene (o)	ND	0.0250	"					
Surrogate: <i>a,a,a-Trifluorotoluene</i>	99.2		ug/kg	100		99.2	80-120	
Surrogate: <i>4-Bromofluorobenzene</i>	101		"	100		101	80-120	
<b>LCS (EC41506-BS1)</b> Prepared & Analyzed: 03/12/04								
Benzene	101		ug/kg	100		101	80-120	
Toluene	98.3		"	100		98.3	80-120	
Ethylbenzene	97.9		"	100		97.9	80-120	
Xylene (p/m)	197		"	200		98.5	80-120	
Xylene (o)	98.5		"	100		98.5	80-120	
Surrogate: <i>a,a,a-Trifluorotoluene</i>	108		"	100		108	80-120	
Surrogate: <i>4-Bromofluorobenzene</i>	101		"	100		101	80-120	
<b>Calibration Check (EC41506-CCV1)</b> Prepared: 03/12/04 Analyzed: 03/15/04								
Benzene	95.3		ug/kg	100		95.3	80-120	
Toluene	93.3		"	100		93.3	80-120	
Ethylbenzene	93.1		"	100		93.1	80-120	
Xylene (p/m)	185		"	200		92.5	80-120	
Xylene (o)	95.8		"	100		95.8	80-120	
Surrogate: <i>a,a,a-Trifluorotoluene</i>	97.5		"	100		97.5	80-120	
Surrogate: <i>4-Bromofluorobenzene</i>	98.2		"	100		98.2	80-120	
<b>Matrix Spike (EC41506-MS1)</b> Source: 4C11003-03 Prepared: 03/12/04 Analyzed: 03/15/04								
Benzene	104		ug/kg	100	ND	104	80-120	
Toluene	101		"	100	ND	101	80-120	
Ethylbenzene	101		"	100	ND	101	80-120	
Xylene (p/m)	201		"	200	ND	100	80-120	
Xylene (o)	102		"	100	ND	102	80-120	
Surrogate: <i>a,a,a-Trifluorotoluene</i>	104		"	100		104	80-120	
Surrogate: <i>4-Bromofluorobenzene</i>	99.5		"	100		99.5	80-120	

Environmental Lab of Texas

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Roland K. Hensel  
Quality Assurance Review

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Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: Arrowhead Greyberg Unit 8  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/15/04 16:26

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EC41506 - EPA 5030C (GC)</b>										
<b>Matrix Spike Dup (EC41506-MSD1)</b>										
					Source: 4C11003-03	Prepared: 03/12/04	Analyzed: 03/15/04			
Benzene	99.3		ug/kg	100	ND	99.3	80-120	4.62	20	
Toluene	94.6	"		100	ND	94.6	80-120	6.54	20	
Ethylbenzene	95.7	"		100	ND	95.7	80-120	5.39	20	
Xylene (p/m)	192	"		200	ND	96.0	80-120	4.08	20	
Xylene (o)	96.4	"		100	ND	96.4	80-120	5.65	20	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	93.2	"		100		93.2	80-120			
Surrogate: 4-Bromofluorobenzene	93.9	"		100		93.9	80-120			

Environmental Lab of Texas

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Frank Hernandez  
Quality Assurance Review

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Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: Arrowhead Greyberg Unit 8  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/15/04 16:26

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Limit Notes
<b>Batch EC41004 - % Solids</b>									
<b>Blank (EC41004-BLK1)</b>									Prepared: 03/09/04 Analyzed: 03/10/04
% Solids	100		%						
<b>Duplicate (EC41004-DUP1)</b>									Source: 4C08007-03 Prepared: 03/09/04 Analyzed: 03/10/04
% Solids	90.0		%		90.0			0.00	20

Environmental Lab of Texas

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Raland K. Juels  
Quality Assurance Review

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Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: Arrowhead Greyberg Unit 8  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

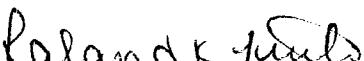
Fax: (432) 682-9719  
Reported:  
03/15/04 16:26

### Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

Environmental Lab of Texas

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Quality Assurance Review

Page 11 of 11

Environmental Lab of Texas, Inc.

2600 West I-20 East  
Odessa Texas 79763

Phone: 915-563-1800  
Fax: 915-563-1713

Phone: 915-563-1800  
Fax: 915-563-1713

Project Manager: Frank Hernandez

Company Name: Link Energy

Company Address:

City/State/Zip:

Telephone No: 505-631-3095

Sampler Signature:

TCLP		TOTAL		Standard TAT	
Date Sampled	Time Sampled	No. of Contaminers	Other (Specify)	Soil	Water
SLAGU8030804SECANSWC 21	03/08/2004 9:05	1	X	X	
SLAGU8030804SECASSWC 22	03/08/2004 9:15	1	X	X	
SLAGU8030804SECAWSWC 23	03/08/2004 9:25	1	X	X	
SLAGU8030804SECABHC 24	03/08/2004 9:40	1	X	X	
SLAGU8030804SECBNSWC 25	03/08/2004 9:55	1	X	X	
SLAGU8030804SECBSWWC 26	03/08/2004 10:10	1	X	X	
SLAGU8030804SECBBHC 27	03/08/2004 10:25	1	X	X	
SLAGU8030804SECCBHC 28	03/08/2004 10:45	1	X	X	

### **Special Instructions**

FAX RESULTS TO PAT MCCASLAND ASAP

CHM6142@aoi.com

## Temperature Upon Request

lboratory Comments:  
Rec 3.50C

**Environmental Lab of Texas**  
**Variance / Corrective Action Report – Sample Log-In**

Client: Link Energy

Date/Time: 3-9-04 12:20

Order #: 4C09002

Initials: KA

**Sample Receipt Checklist**

Temperature of container/cooler?	<input checked="" type="checkbox"/> Yes	No	3.5	C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	No		
Custody Seals intact on shipping container/cooler?	<input checked="" type="checkbox"/> Yes	No	Not present	
Custody Seals intact on sample bottles?	<input checked="" type="checkbox"/> Yes	No	Not present	
Chain of custody present?	<input checked="" type="checkbox"/> Yes	No		
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No		
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	No		
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	No		
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	No		
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	No		
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	No		
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	No		
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	No		
Preservations documented on Chain of Cusfody?	<input checked="" type="checkbox"/> Yes	No		
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No		
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	No		
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	No		
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	No	Not Applicable	

Other observations:

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**Variance Documentation:**

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_

Regarding:

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Corrective Action Taken:

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**AnalySys**  
INC.

Client: Environmental Plus, Inc.  
 Attn: Pat McCasland  
 Address: 2100 Ave. O  
 Eunice  
 NM 88231  
 Phone: (505) 394-3481 FAX: (505) 394-2601

**REPORT OF ANALYSIS**

Report#/ <b>Lab ID#:</b> 147401		Report Date: 09/30/03	
Project ID:	2003-00176	Date Received:	09/18/2003
Sample Name:	SEAGU891103BH3-20'	Date Sampled:	09/11/2003
Sample Matrix:	soil	Time:	10:30
		Time:	08:35

**QUALITY ASSURANCE DATA<sup>1</sup>**

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	--	---	--	--	09/23/03	3570m	--	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	--	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	--	µg/Kg	--	--	09/19/03	8260b(5030/5035)	--	--	--	--	--
Benzene	<20	µg/Kg	20	<20	09/19/03	8260b	--	0.8	83	97.3	95.1
Ethylbenzene	<20	µg/Kg	20	<20	09/19/03	8260b	--	9.7	96.1	111.7	114.5
m,p-Xylenes	<20	µg/Kg	20	<20	09/19/03	8260b	--	9.8	94.4	112.1	112
o-Xylene	<20	µg/Kg	20	<20	09/19/03	8260b	--	11	93.1	112.7	112.1
Toluene	<20	µg/Kg	20	<20	09/19/03	8260b	--	0.7	82.4	94.9	94.2

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

*Richard Laster*  
Richard Laster

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceed advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. S3 =MS and/or MSD and PDS recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

**Analysys**  
INC.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891103BH3-20'

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chloroocane	8015 mod.	70.9	50-150	---
p-Terphenyl	8015 mod.	74.3	50-150	---
1,2-Dichloroethane-d4	8260b	84.3	65-115	---
Toluene-d8	8260b	108	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147401	Matrix: soil	
Client: Environmental Plus, Inc.		Attn: Pat McCasland
Project ID: 2003-00176		
Sample Name: SEAGU891103BH3-20'		

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

- Sample received in appropriate container(s) and appear to be appropriately preserved.
- Sample received in appropriate container(s). State of sample preservation unknown.
- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (e.g. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.

Notes:

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**AnalySys**  
INC.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	10.8	mg/Kg	5	<5	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	--	mg/Kg	--	--	09/23/03	3570m	--	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	--	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	--		--	--	09/23/03	8260b(5030/5035)	--	--	--	--	--
Benzene	<20	µg/Kg	20	<20	09/23/03	8260b	--	3.9	95.2	92.7	92.2
Ethylbenzene	<20	µg/Kg	20	<20	09/23/03	8260b	--	4.8	99.1	105.1	99.9
m,p-Xylenes	<20	µg/Kg	20	<20	09/23/03	8260b	--	4.7	100.4	106.1	100.4
o-Xylene	<20	µg/Kg	20	<20	09/23/03	8260b	--	3.5	102.2	106.2	103.3
Toluene	<20	µg/Kg	20	<20	09/23/03	8260b	--	4.8	100.6	100.2	97.8

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

Richard Laster  
Richard Laster

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceed advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. S3 =MS and/or MSD and PDS recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

**CHROMASYS**  
INC.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland

**Project ID:** 2003-00176  
**Sample Name:** SEAGU891103BH3-25'

**Report# /Lab ID#:** 147402  
**Sample Matrix:** soil

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	71.6	50-150	---
p-Terphenyl	8015 mod.	80.3	50-150	---
1,2-Dichloroethane-d4	8260b	113	65-115	---
Toluene-d8	8260b	97.3	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147402 Matrix: soil  
Client: Environmental Plus, Inc. Attn: Pat McCasland  
Project ID: 2003-00176  
Sample Name: SEAGU891103BH3-25'

### Sample Temperature/Condition <=6°C

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### J flag Discussion

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.

Notes:



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 2209 N. Padre Island Dr., Corpus Christi, TX 78408  
 (512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	---	---	---	---	09/23/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/24/03	8015 mod.	---	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	---	---	---	---	09/23/03	8260b(5030/5035)	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	09/23/03	8260b	---	3.9	95.2	92.7	92.2
Ethylbenzene	<20	µg/Kg	20	<20	09/23/03	8260b	---	4.8	99.1	105.1	99.9
m,p-Xylenes	<20	µg/Kg	20	<20	09/23/03	8260b	---	4.7	100.4	106.1	100.4
o-Xylene	<20	µg/Kg	20	<20	09/23/03	8260b	---	3.5	102.2	106.2	103.3
Toluene	<20	µg/Kg	20	<20	09/23/03	8260b	---	4.8	100.6	100.2	97.8

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Respectfully Submitted,

*Richard Laster*  
Richard Laster

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**Analysts**  
ATLIC

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891103BH3-30'

Report# /Lab ID#: 147403  
Sample Matrix: soil

#### REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	73.2	50-150	---
p-Terphenyl	8015 mod.	74.9	50-150	---
1,2-Dichloroethane-d4	8260b	92	65-115	---
Toluene-d8	8260b	94.5	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147403	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2003-00176		
Sample Name: SEAGU891103BH3-30'		

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.

Notes:

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**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	18600	mg/Kg	125	<125	09/25/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	---	mg/Kg	---	---	09/23/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	8340	mg/Kg	50	<50	09/25/03	8015 mod.	---	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	---	µg/Kg	---	---	09/25/03	8260b(5030/5035)	---	---	---	---	---
Benzene	3520	µg/Kg	1000	<1000	09/25/03	8260b	---	1.4	84.9	94.8	78.4
Ethylbenzene	59600	µg/Kg	1000	<1000	09/25/03	8260b	---	2.2	99.1	111.1	97.5
m,p-Xylenes	182000	µg/Kg	1000	<1000	09/25/03	8260b	---	0.9	99.1	109.6	94.5
o-Xylene	38200	µg/Kg	1000	<1000	09/25/03	8260b	---	1.5	97.5	111.2	94.3
Toluene	44200	µg/Kg	1000	<1000	09/25/03	8260b	---	0.5	87.6	97.4	79.4

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Respectfully Submitted,

*Richard Laster*  
 Richard Laster

**CHROMSYS**  
INC.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland

**Project ID:** 2003-00176  
**Sample Name:** SEAGU891103BH4-2'

**Report# / Lab ID#:** 147404  
**Sample Matrix:** soil

#### **REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod. 8015 mod.	none/diluted none/diluted	diluted @ 10X diluted @ 25X	D D
p-Terphenyl				
1,2-Dichloroethane-d4	8260b 8260b	none/diluted none/diluted	diluted @ 50X diluted @ 50X	D D
Toluene-d8				

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147404	Matrix: soil
Client: Environmental Plus, Inc.	Attn: Pat McCasland
Project ID: 2003-00176	
Sample Name: SEAGU891103BH4-2'	

### Sample Temperature/Condition <=6°C

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.
1,2-Dichloroethane-d4	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1,2-Dichloroethane-d4	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
Toluene-d8	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
Toluene-d8	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.

Notes:

**AnalySys**

Client: Environmental Plus, Inc.  
 Attn: Pat McCasland  
 Address: 2100 Ave. O  
 Eunice  
 NM 88231  
 Phone: (505) 394-3481 FAX: (505) 394-2601

**REPORT OF ANALYSIS**

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>
TPH by GC (as diesel)	1.33	mg/Kg	5	<5	09/24/03	8015 mod.
TPH by GC (as diesel-ext)	---	---	---	---	09/23/03	3570m
TPH by GC (as gasoline)	7.96	mg/Kg	5	<5	09/24/03	8015 mod.
Volatile organics-8260b/BTEX	---	µg/Kg	---	---	09/25/03	8260b(5030/5035)
Benzene	<20	µg/Kg	20	<20	09/25/03	8260b
Ethylbenzene	<20	µg/Kg	20	<20	09/25/03	8260b
m,p-Xylenes	71.8	µg/Kg	20	<20	09/25/03	8260b
o-Xylene	21.8	µg/Kg	20	<20	09/25/03	8260b
Toluene	<20	µg/Kg	20	<20	09/25/03	8260b

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Respectfully Submitted,

*Richard Laster*  
Richard Laster

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(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891103BH4-5'

Report#/Lab ID#: 147405  
Sample Matrix: soil

#### REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	74.9	50-150	---
p-Terphenyl	8015 mod.	126	50-150	---
1,2-Dichloroethane-d4	8260b	82.8	65-115	---
Toluene-d8	8260b	88.4	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147405	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2003-00176		
Sample Name: SEAGU891103BH4-5'		

### Sample Temperature/Condition <=6°C

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S,M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.
Ethylbenzene	J	See J-flag discussion above.

### Notes:

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**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	844	mg/Kg	5	<5	09/24/03	8015 mod.	S,M	19.1	84.1	96.6	86.9
TPH by GC (as diesel-ext)	---	mg/Kg	---	---	09/23/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	106	mg/Kg	5	<5	09/24/03	8015 mod.	---	9.7	82.9	87.1	79.2
Volatile organics-8260b/BTEX	---	---	---	---	09/25/03	8260b(5030/5035)	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	09/25/03	8260b	---	1.4	84.9	94.8	78.4
Ethylbenzene	729	µg/Kg	20	<20	09/25/03	8260b	---	2.2	99.1	111.1	97.5
m,p-Xylenes	2570	µg/Kg	20	<20	09/25/03	8260b	---	0.9	99.1	109.6	94.5
o-Xylene	670	µg/Kg	20	<20	09/25/03	8260b	---	1.5	97.5	111.2	94.3
Toluene	149	µg/Kg	20	<20	09/25/03	8260b	---	0.5	87.6	97.4	79.4

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Respectfully Submitted,  
*Richard Laster*  
 Richard Laster

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# Analysis

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891103BH4-10'

Report#/Lab ID#: 147406  
Sample Matrix: soil

## REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	111	50-150	---
p-Terphenyl	8015 mod.	203	50-150	X
1,2-Dichloroethane-d4	8260b	94.3	65-115	---
Toluene-d8	8260b	92.7	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147406 Matrix: soil  
Client: Environmental Plus, Inc. Attn: Pat McCasland  
Project ID: 2003-00176  
Sample Name: SEAGU891103BH4-10'

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

- Sample received in appropriate container(s) and appear to be appropriately preserved.
- Sample received in appropriate container(s). State of sample preservation unknown.
- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (e.g. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	S.M	MS and/or MSD recoveries outside advisory/acceptance limits. LCS recovery in-limits; indicative of matrix interference as evidenced by M-flag.
p-Terphenyl	X	Surrogate recovery outside advisory/acceptance limits. Typically verified by reanalysis or reextraction & reanalysis. In some well known matrices (sample sources with known interferences) and for some conditions, reextraction and/or reanalysis may be at analysts discretion.
p-Terphenyl	X	

Notes:

# AnalySys Inc.

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
**Eunice**  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

## REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<5	mg/Kg	5	<5	09/25/03	8015 mod. 3570m	J	5.1	78	94.8	82
TPH by GC (as diesel-ext)	--	mg/Kg	--	--	09/25/03	8015 mod.	--	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/24/03	8260b(5030/5035)	J	1.7	71.7	86.9	70.7
Volatile organics-8260b/BTEX	--		--			--	--	--	--	--	--
Benzene	<20	µg/Kg	20	<20	09/24/03	8260b	--	3.9	95.2	92.7	92.2
Ethylbenzene	<20	µg/Kg	20	<20	09/24/03	8260b	--	4.8	99.1	105.1	99.9
m,p-Xylenes	<20	µg/Kg	20	<20	09/24/03	8260b	--	4.7	100.4	106.1	100.4
o-Xylene	<20	µg/Kg	20	<20	09/24/03	8260b	--	3.5	102.2	106.2	103.3
Toluene	<20	µg/Kg	20	<20	09/24/03	8260b	--	4.8	100.6	100.2	97.8

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Respectfully Submitted,

*Richard Laster*  
Richard Laster

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3512 Montopolis Drive, Austin, TX 78744 &  
 2209 N. Padre Island Dr., Corpus Christi, TX 78408  
 (512) 385-5886 • FAX (512) 385-7411

Report#/ <b>Lab ID#:</b> 147407	<b>Report Date:</b> 09/30/03
Project ID: 2003-00176	
Sample Name: SEAGU891103BH4-15	
Sample Matrix: soil	
Date Received: 09/18/2003	Time: 10:30
Date Sampled: 09/11/2003	Time: 12:40

## QUALITY ASSURANCE DATA<sup>1</sup>

**Analytics**  
WTC

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client:	Environmental Plus, Inc.	Project ID:	2003-00176
Attn:	Pat McCasland	Sample Name:	SEAGU891103BH4-15'

#### REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	60.5	50-150	---
p-Terphenyl	8015 mod.	60.8	50-150	---
1,2-Dichloroethane-d4	8260b	100	65-115	---
Toluene-d8	8260b	88.9	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147407	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2003-00176		
Sample Name: SEAGU891103BH4-15'		

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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### J flag Discussion

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	J	See J-flag discussion above.
TPH by GC (as gasoline)	J	See J-flag discussion above.

Notes:

**AnalySys**  
m/eC

3512 Montopolis Drive, Austin, TX 78744 &  
 2209 N. Padre Island Dr., Corpus Christi, TX 78408  
 (512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

**REPORT OF ANALYSIS**

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<5	mg/Kg	5	<5	09/25/03	8015 mod.	---	5.1	78	94.8	82
TPH by GC (as diesel-ext)	--	mg/Kg	--	--	09/25/03	3570m	---	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/25/03	8015 mod.	J	1.7	71.7	86.9	70.7
Volatile organics-8260b/BTEX	--		--	--	09/24/03	8260b(5030/5035)	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	3.9	95.2	92.7	92.2
Ethylbenzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.8	99.1	105.1	99.9
m,p-Xylenes	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.7	100.4	106.1	100.4
o-Xylene	<20	µg/Kg	20	<20	09/24/03	8260b	---	3.5	102.2	106.2	103.3
Toluene	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.8	100.6	100.2	97.8

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Respectfully Submitted,

*Richard Laster*  
Richard Laster

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# Otolysis

Attn: Pat McCasland  
Client: Environmental Plus, Inc.

Project ID: 2003-00176  
Sample Name: SEAGU891103BH4-20'

Report# / Lab ID#: 147408  
Sample Matrix: soil

## REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	62.8	50-150	---
p-Terphenyl	8015 mod.	58.3	50-150	---
1,2-Dichloroethane-d4	8260b	102	65-115	---
Toluene-d8	8260b	88.8	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

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(512) 385-5886 • FAX (512) 385-7411

**Exceptions Report:**

Report #/Lab ID#: 147408	Matrix: soil
Client: Environmental Plus, Inc.	Attn: Pat McCasland
Project ID: 2003-00176	
Sample Name: SEAGU891103BH4-20'	

**Sample Temperature/Condition <=6°C**

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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**J flag Discussion**

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**Comments pertaining to Data Qualifiers and QC data:**

Parameter	Qualif	Comment
TPH by GC (as gasoline)	J	See J-flag discussion above.

**Notes:**

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	151	mg/Kg	5	<5	09/25/03	8015 mod.	---	5.1	78	94.8	82
TPH by GC (as diesel-ext)	---	mg/Kg	---	---	09/25/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/25/03	8015 mod.	J	1.7	71.7	86.9	70.7
Volatile organics-8260b/BTEX	---		---	---	09/24/03	8260b(5030/5035)	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	3.9	95.2	92.7	92.2
Ethylbenzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.8	99.1	105.1	99.9
m,p-Xylenes	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.7	100.4	106.1	100.4
o-Xylene	<20	µg/Kg	20	<20	09/24/03	8260b	---	3.5	102.2	106.2	103.3
Toluene	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.8	100.6	100.2	97.8

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Respectfully Submitted,  
*Richard Laster*  
 Richard Laster

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**Analysts**  
WTC

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891103BH4-25'

Report#/Lab ID#: 147409  
Sample Matrix: soil

#### REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	63.5	50-150	---
p-Terphenyl	8015 mod.	120	50-150	---
1,2-Dichloroethane-d4	8260b	101	65-115	---
Toluene-d8	8260b	89	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147409	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2003-00176		
Sample Name: SEAGU891103BH4-25'		

### Sample Temperature/Condition <=6°C

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as gasoline)	J	See J-flag discussion above.

### Notes:



3512 Montopolis Drive, Austin, TX 78744 &  
 2209 N. Padre Island Dr., Corpus Christi, TX 78408  
 (512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**NM** 88231  
**Phone:** (505) 394-3481 **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	22200	mg/Kg	125	<125	09/26/03	8015 mod.	---	5.1	78	94.8	82
TPH by GC (as diesel-ext)	---	mg/Kg	---	---	09/25/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	6430	mg/Kg	25	<25	09/26/03	8015 mod.	---	1.7	71.7	86.9	70.7
Volatile organics-8260b/BTEX	---	---	---	---	09/25/03	8260b(5030/5035)	---	---	---	---	---
Benzene	2460	µg/Kg	1000	<1000	09/25/03	8260b	---	1.4	84.9	94.8	78.4
Ethylbenzene	61900	µg/Kg	1000	<1000	09/25/03	8260b	---	2.2	99.1	111.1	97.5
m,p-Xylenes	192000	µg/Kg	1000	<1000	09/25/03	8260b	---	0.9	99.1	109.6	94.5
o-Xylene	41500	µg/Kg	1000	<1000	09/25/03	8260b	---	1.5	97.5	111.2	94.3
Toluene	40300	µg/Kg	1000	<1000	09/25/03	8260b	---	0.5	87.6	97.4	79.4

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Respectfully Submitted,

*Richard Laster*  
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Report#/ <b>Lab ID#:</b> 147410	<b>Report Date:</b> 09/30/03
<b>Project ID:</b> 2003-00176	
<b>Sample Name:</b> SEAGU891203BH5-2'	
<b>Sample Matrix:</b> soil	
<b>Date Received:</b> 09/18/2003	<b>Time:</b> 10:30
<b>Date Sampled:</b> 09/12/2003	<b>Time:</b> 07:15

#### QUALITY ASSURANCE DATA<sup>1</sup>

# Analytics

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891203BH5-2'

Report# /Lab ID#: 147410  
Sample Matrix: soil

## REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	none/diluted	diluted @ 5X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 25X	D
1,2-Dichloroethane-d4	8260b	none/diluted	diluted @ 50X	D
Toluene-d8	8260b	none/diluted	diluted @ 50X	D

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

## Exceptions Report:

Report #/Lab ID#: 147410	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2003-00176		
Sample Name: SEAGU891203BH5-2		

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

- Sample received in appropriate container(s) and appear to be appropriately preserved.
- Sample received in appropriate container(s). State of sample preservation unknown.
- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (e.g. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
1,2-Dichloroethane-d4	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1,2-Dichloroethane-d4	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
Toluene-d8	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
Toluene-d8	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.

Notes:



3512 Montopolis Drive, Austin, TX 78744 &  
 2209 N. Padre Island Dr., Corpus Christi, TX 78408  
 (512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method 6	Data Qual 7	Precov. <sup>2</sup>	CCV <sup>3</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	---	5.1	78	94.8
TPH by GC (as diesel-ext)	---	---	---	---	09/25/03	3570m	---	---	---	82
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	J	1.7	71.7	86.9
Volatile organics-8260b/BTEX	---	---	---	---	09/24/03	8260b(5030/5035)	---	---	---	70.7
Benzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	3.9	95.2	92.7
Ethylbenzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.8	99.1	105.1
m,p-Xylenes	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.7	100.4	106.1
o-Xylene	<20	µg/Kg	20	<20	09/24/03	8260b	---	3.5	102.2	106.2
Toluene	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.8	100.6	100.2

This analytical Report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

*Richard Laster*  
Richard Laster

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceed advisory limits. S3 =MS and/or MSD and PDS recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

**QualityS**  
#7E.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176

Sample Name: SEAGU891203BH5-5'

Report#/Lab ID#: 147411

Sample Matrix: soil

**REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	66.3	50-150	---
p-Terphenyl	8015 mod.	69.3	50-150	---
1,2-Dichloroethane-d4	8260b	99.7	65-115	---
Toluene-d8	8260b	89.7	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147411	Matrix: soil
Client: Environmental Plus, Inc.	Attn: Pat McCasland
Project ID: 2003-00176	
Sample Name: SEAGU891203BH5-5	

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

- Sample received in appropriate container(s) and appear to be appropriately preserved.
- Sample received in appropriate container(s). State of sample preservation unknown.
- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as gasoline)	J	See J-flag discussion above.

Notes:

**AnalySys**  
Inc.

3512 Montopolis Drive, Austin, TX 78744 &  
 2209 N. Padre Island Dr., Corpus Christi, TX 78401  
 (512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

**REPORT OF ANALYSIS**

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	J	5.1	78	94.8	82
TPH by GC (as diesel-ext)	--	mg/Kg	--	--	09/25/03	3570m	--	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	J	1.7	71.7	86.9	70.7
Volatile organics-8260b/BTEX	--		--	--	09/24/03	8260b(5030/5035)	--	--	--	--	--
Benzene	<20	µg/Kg	20	<20	09/24/03	8260b	--	1.4	84.9	94.8	78.4
Ethylbenzene	<20	µg/Kg	20	<20	09/24/03	8260b	--	2.2	99.1	111.1	97.5
m,p-Xylenes	<20	µg/Kg	20	<20	09/24/03	8260b	--	0.9	99.1	109.6	94.5
o-Xylene	<20	µg/Kg	20	<20	09/24/03	8260b	--	1.5	97.5	111.2	94.3
Toluene	<20	µg/Kg	20	<20	09/24/03	8260b	--	0.5	87.6	97.4	79.4

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

*Richard Laster*  
Richard Laster

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recoveries exceed advisory limits. S3 =MS and/or PDS recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

Report# / Lab ID#: 147412	Report Date: 09/30/03
Project ID: 2003-00176	
Sample Name: SEAGU891203BH5-10'	
Sample Matrix: soil	
Date Received: 09/18/2003	Time: 10:30
Date Sampled: 09/12/2003	Time: 07:45

**QUALITY ASSURANCE DATA<sup>1</sup>**

# CHROMSYS

ME.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891203BH5-10'

Report# / Lab ID#: 147412  
Sample Matrix: soil

## REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	60.8	50-150	---
p-Terphenyl	8015 mod.	57.2	50-150	---
1,2-Dichloroethane-d4	8260b	92.7	65-115	---
Toluene-d8	8260b	92.6	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147412	Matrix: soil
Client: Environmental Plus, Inc.	Attn: Pat McCasland
Project ID: 2003-00176	
Sample Name: SEAGU891203BH5-10'	

**Sample Temperature/Condition <=6°C**

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

**Sample Bottles & Preservation**

- Sample received in appropriate container(s) and appear to be appropriately preserved.
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- Sample received in inappropriate container(s) and/or with unknown state of preservation.

**J flag Discussion**

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

**Comments pertaining to Data Qualifiers and QC data:**

Parameter	Qualif	Comment
TPH by GC (as diesel)	J	See J-flag discussion above.
TPH by GC (as gasoline)	J	See J-flag discussion above.

**Notes:**

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	---	5.1	78	94.8	82
TPH by GC (as diesel-ext)	--	mg/Kg	--	--	09/25/03	3570m	---	--	--	--	--
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	J	1.7	71.7	86.9	70.7
Volatile organics-8260b/BTEX	--		--		09/24/03	8260b/5030/5035	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	3.9	95.2	92.7	92.2
Ethylbenzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.8	99.1	105.1	99.9
m,p-Xylenes	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.7	100.4	106.1	100.4
o-Xylene	<20	µg/Kg	20	<20	09/24/03	8260b	---	3.5	102.2	106.2	103.3
Toluene	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.8	100.6	100.2	97.8

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

Richard Laster

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**Analysts**  
INC.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc. Attn: Pat McCasland	Project ID: 2003-00176 Sample Name: SEAGU891203BHS-15'	Report#/Lab ID#: 147413 Sample Matrix: soil
---	---	--

#### REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	61.5	50-150	---
p-Terphenyl	8015 mod.	55.7	50-150	---
1,2-Dichloroethane-d4	8260b	100	65-115	---
Toluene-d8	8260b	88.9	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147413	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2003-00176		
Sample Name: SEAGU891203BH5-15'		

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

- Sample received in appropriate container(s) and appear to be appropriately preserved.
- Sample received in appropriate container(s). State of sample preservation unknown.
- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg., the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as gasoline)	J	See J-flag discussion above.

### Notes:

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	14100	mg/Kg	50	<50	09/26/03	8015 mod.	---	5.1	78	94.8	82
TPH by GC (as diesel-ext)	---	mg/Kg	---	---	09/25/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	4010	mg/Kg	25	<25	09/26/03	8015 mod.	---	1.7	71.7	86.9	70.7
Volatile organics-8260b/BTEX	---	---	---	---	09/25/03	8260b(5030/5035)	---	---	---	---	---
Benzene	793	µg/Kg	100	<100	09/25/03	8260b	---	1.4	84.9	94.8	78.4
Ethylbenzene	45700	µg/Kg	1000	<1000	09/25/03	8260b	---	2.2	99.1	111.1	97.5
m,p-Xylenes	143000	µg/Kg	1000	<1000	09/25/03	8260b	---	0.9	99.1	109.6	94.5
o-Xylene	31800	µg/Kg	1000	<1000	09/25/03	8260b	---	1.5	97.5	111.2	94.3
Toluene	23000	µg/Kg	100	<100	09/25/03	8260b	---	0.5	87.6	97.4	79.4

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceed advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. S3 =MS and/or MSD and PDS recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

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Respectfully Submitted,

*Richard Lester*  
 Richard Lester

# Chem Sys

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2003-00176  
Sample Name: SEAGU891203BH6-2'

Report# /Lab ID#: 147414  
Sample Matrix: soil

## REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chloroocane	8015 mod.	none/diluted	diluted @ 5X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 10X	D
1,2-Dichloroethane-d4	8260b	113	65-115	---
Toluene-d8	8260b	108	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#:	147414	Matrix:	soil
Client:	Environmental Plus, Inc.		Attn: Pat McCasland
Project ID:	2003-00176		
Sample Name:	SEAGU891203BH6-2'		

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <=6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

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### J flag Discussion

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### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
1-Chlorooctane	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
1-Chlorooctane	D	
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	

Notes:

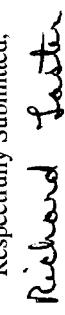
**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	23.4	mg/Kg	5	<5	09/26/03	8015 mod.	---	5.1	78	94.8	82
TPH by GC (as diesel-ext)	---	---	---	---	09/25/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	09/26/03	8015 mod.	J	1.7	71.7	86.9	70.7
Volatile organics-8260b/BTEX	---	---	---	---	09/24/03	8260b(5030/5035)	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	3.9	95.2	92.7	92.2
Ethylbenzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.8	99.1	105.1	99.9
m,p-Xylenes	<b>38.4</b>	µg/Kg	20	<20	09/24/03	8260b	---	4.7	100.4	106.1	100.4
o-Xylene	<20	µg/Kg	20	<20	09/24/03	8260b	J	3.5	102.2	106.2	103.3
Toluene	<20	µg/Kg	20	<20	09/24/03	8260b	---	4.8	100.6	100.2	97.8

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Respectfully Submitted,

  
 Richard Laster  
 Richard Laster

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC.) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceed advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. S3 =MS and/or MSD and PDS recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

**OnSite**  
MC

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client:	Environmental Plus, Inc.	Project ID:	2003-00176
Attn:	Pat McCasland	Sample Name:	SEAGU891203BH6-5'

Report# / Lab ID#:	147415
Sample Matrix:	soil

#### REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	62.4	50-150	---
p-Terphenyl	8015 mod.	137	50-150	---
1,2-Dichloroethane-d4	8260b	99.2	65-115	---
Toluene-d8	8260b	87.3	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

## Exceptions Report:

Report #/Lab ID#: 147415	Matrix: soil	
Client: Environmental Plus, Inc.		Attn: Pat McCasland
Project ID: 2003-00176		
Sample Name: SEAGU891203BH6-5'		

### Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

### Sample Bottles & Preservation

- Sample received in appropriate container(s) and appear to be appropriately preserved.
- Sample received in appropriate container(s). State of sample preservation unknown.
- Sample received in inappropriate container(s) and/or with unknown state of preservation.

### J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (e.g., the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

### Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as gasoline)	J	See J-flag discussion above.
o-Xylene	J	See J-flag discussion above.

### Notes:



3512 Montopolis Drive, Austin, TX 78744 &  
 2209 N. Padre Island Dr., Corpus Christi, TX 78408  
 (512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
TPH by GC (as diesel)	206	mg/Kg	5	<5	09/26/03	8015 mod.	---	5.1	78	94.8	82
TPH by GC (as diesel-ext)	---	mg/Kg	---	---	09/25/03	3570m	---	---	---	---	---
TPH by GC (as gasoline)	8.37	mg/Kg	5	<5	09/26/03	8015 mod.	---	1.7	71.7	86.9	70.7
Volatile organics-8260b/BTEX	---	---	---	---	09/24/03	8260b(5030/5035)	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	09/24/03	8260b	---	1.4	84.9	94.8	78.4
Ethylbenzene	33.3	µg/Kg	20	<20	09/24/03	8260b	---	2.2	99.1	111.1	97.5
m,p-Xylenes	134	µg/Kg	20	<20	09/24/03	8260b	---	0.9	99.1	109.6	94.5
o-Xylene	38.5	µg/Kg	20	<20	09/24/03	8260b	---	1.5	97.5	111.2	94.3
Toluene	<20	µg/Kg	20	<20	09/24/03	8260b	---	0.5	87.6	97.4	79.4

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceed advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. S3 =MS and/or MSD and PDS recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

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Respectfully Submitted,  
*Richard Laster*  
 Richard Laster

**Sam Kepner's Test**  
**Company Name Environmental Plus**  
**Address 2100 Ave O**  
**City El Paso**  
**ATTN: Patti McCasland**  
**Phone 951-384-3882 Fax 505-394-2601**

Rush Status (must be confirmed with lab mgr.):  
**Project Name/PO#: 2003-00196 Sampler: Bradley Blew**

**Bill different**  
**Company Name EOTT Energy**  
**Address 5805 Hwy 50**  
**City Midland**  
**State TX Zip 79701**  
**ATTN: Frank Heneweller**  
**Phone 915-638-3799 Fax**

4221 Friedrich Lane, Suite 1 Austin, TX 78744  
 (512) 444-5896

**Analyses Requested (1)**

Please attach explanatory information as required

Client Sample No. Description/Identification	Date Sampled	Time Sampled	No. of Containers	Soil	Water/Waste	Lab I.D. # (Lab only)	Comments
SEAGU 891103 B44-15	9-11-03	12:40	1	X		147407	X X
SEAGU 891103 B44-20	9-11-03	1:15	1	X		147408	X X
SEAGU 891103 B44-25	9-11-03	2:40	1	X		147409	X X

(1) Unless specifically requested otherwise on this Chain-of-custody and/or attached documentation, all analyses will be conducted using ASI's method of choice and all data will be reported to ASI's normal reporting formats (MDL/PQL). For GC/MS volatiles and extractables, unless specific analytical parameter lists are specified on this chain-of-custody or attached to this chain-of-custody, ASI will default to Priority Pollutants ASI's RSL list at ASI's option. Specific compound lists must be supplied for all GC procedures.

Sample Received By			
Name	Affiliation	Date	Time
Bradley Blew		9-12-03	3:30

Tendering of above described samples to AnalySys, Inc. for analytical testing constitutes agreement by buyer/sampler to AnalySys, Inc.'s standard terms.]

## Send Report To:

Company Name Environmental Plus  
 Address 2100 Ave O  
 City Service State TX Zip 78231  
 ATTN: Pat McCashard  
 Phone 512-344-3449 Fax 512-460-  
 Rush Status (must be confirmed with lab mgr.):  
 Project Name/PO#: 2003-00126

Bill to (if diff.):

Company Name EOTT Energy  
 Address 5805 Hwy 50  
 City Midland State TX Zip 79701

ATTN: Frank Hernandez

Phone 254-638-3109 Fax 512-460-  
 Sampler: Bentley Bl.

## Analyses Requested (1)

Please attach explanatory information as required

Client Sample No. Description/Identification	Date Sampled	Time Sampled	No. of Containers	Soil	Water/Waste	Lab I.D. (Lab only)	Comments
SEAGU 891203BHG-2	9-12-03	7:15	1	X		147410	X X
SEAGU 891203BHG-5'	9-12-03	7:30	1	X		147411	X X
SEAGU 891203BHG-10	9-12-03	7:45	1	X		147412	X X
SEAGU 891203BHG-15	9-12-03	8:10	1	X		147413	X X
SEAGU 891203BHG-2	9-12-03	8:30	1	X		147414	X X
SEAGU 891203BHG-5	9-12-03	8:45	1	X		147415	X X
SEAGU 891203BHG-10	9-12-03	9:25	1	X		147416	X X
SEAGU 891203BHG-15	9-12-03	10:20	1	X		147417	X X
SEAGU 891203BHG-20	9-12-03	11:00	1	X		147418	X X
SEAGU 891203BHG-25	9-12-03	1:00	1	X		147419	X X

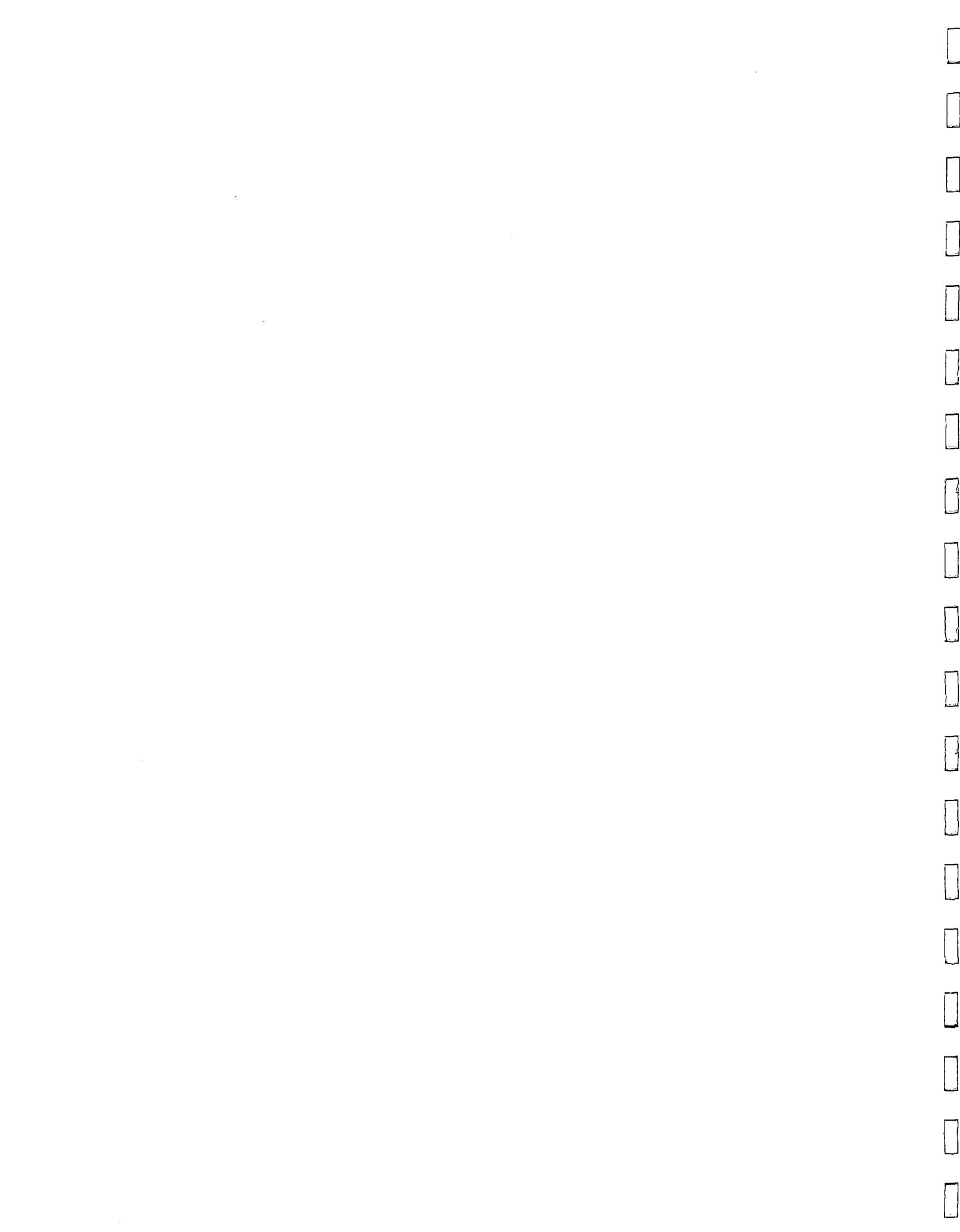
(1) Unless specifically requested otherwise on this Chain-of-custody and/or attached documentation, all analyses will be conducted using ASI's method of choice and all data will be reported to ASI's normal report limits (MDL/PQL). For GC/MS volatiles and extractables, unless specific analytical parameter lists are specified on this chain-of-custody or attached to this chain-of-custody, ASI will default to Priority Pollutants ASI's HSL list at ASI's option. Specific compound lists must be supplied for all GC procedures.

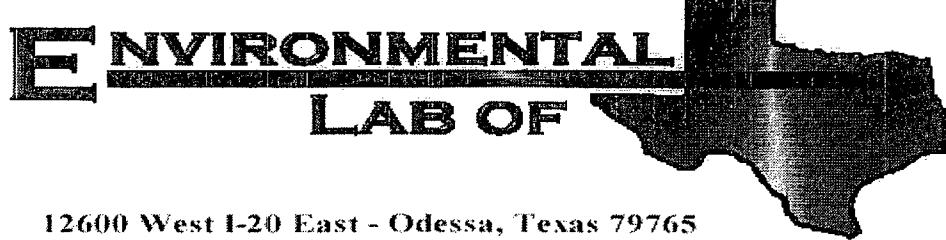
## Sample Relinquished By

Name	Affiliation	Date	Time	Name	Affiliation	Date	Time
<u>Bentley Bl.</u>	<u>Environmental Plus</u>	<u>9-12-03</u>		<u>Melanie Hernandez</u>	<u>ASI</u>	<u>9-18-03</u>	<u>10:30</u>

[Tendering of above described samples to AnalySys, Inc. for analytical testing constitutes agreement by buyer/sampler to AnalySys, Inc.'s standard terms.]







## Analytical Report

**Prepared for:**

Frank Hernandez  
Link Energy Pipeline  
P.O. Box 1660  
Midland, TX 79702

Project: AGU 8 inch #4  
Project Number: 2003-00176  
Location: None Given

Lab Order Number: 4B27003

Report Date: 03/01/04

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: AGU 8 inch #4  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719

Reported:  
03/01/04 16:16

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SLAGU8022604A25'	4B27003-01	Soil	02/26/04 09:35	02/27/04 10:50
SLAGU8022604B11'	4B27003-02	Soil	02/26/04 09:45	02/27/04 10:50
SLAGU8022604C23'	4B27003-03	Soil	02/26/04 13:05	02/27/04 10:50
SLAGU8022604D21'	4B27003-04	Soil	02/26/04 14:12	02/27/04 10:50
SLAGU8022604E9'	4B27003-05	Soil	02/26/04 14:35	02/27/04 10:50

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: AGU 8 inch #4  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/01/04 16:16

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SLAGU8022604A25' (4B27003-01)</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC40119	02/27/04	02/27/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0330	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.124	0.0250	"	"	"	"	"	"	
Xylene (o)	J [0.0229]	0.0250	"	"	"	"	"	"	J
Surrogate: a,a,a-Trifluorotoluene		88.0 %	80-120	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	80-120	"	"	"	"	"	
Gasoline Range Organics C6-C12	25.0	10.0	mg/kg dry	1	EB42707	02/27/04	02/27/04	EPA 8015M	
Diesel Range Organics >C12-C35	217	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	242	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		105 %	70-130	"	"	"	"	"	
Surrogate: 1-Chlorooctadecane		106 %	70-130	"	"	"	"	"	
<b>SLAGU8022604B11' (4B27003-02)</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC40119	02/27/04	02/27/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		85.3 %	80-120	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.7 %	80-120	"	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EB42707	02/27/04	02/27/04	EPA 8015M	
Diesel Range Organics >C12-C35	J [6.79]	10.0	"	"	"	"	"	"	J
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		97.0 %	70-130	"	"	"	"	"	
Surrogate: 1-Chlorooctadecane		98.8 %	70-130	"	"	"	"	"	
<b>SLAGU8022604C23' (4B27003-03)</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC40119	02/27/04	02/27/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		87.5 %	80-120	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	80-120	"	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EB42707	02/27/04	02/27/04	EPA 8015M	
Diesel Range Organics >C12-C35	18.9	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	18.9	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		105 %	70-130	"	"	"	"	"	
Surrogate: 1-Chlorooctadecane		107 %	70-130	"	"	"	"	"	

Environmental Lab of Texas

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Quality Assurance Review

Page 2 of 9

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: AGU 8 inch #4  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

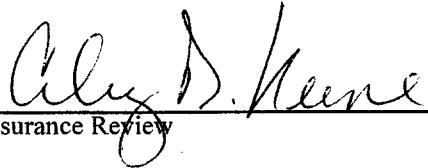
Fax: (432) 682-9719  
Reported:  
03/01/04 16:16

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SLAGU8022604D21' (4B27003-04)</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC40119	02/27/04	02/27/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	J [0.0171]	0.0250	"	"	"	"	"	"	J
Xylene (p/m)	<b>0.0528</b>	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		81.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.2 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	<b>15.9</b>	10.0	mg/kg dry	1	EB42707	02/27/04	02/27/04	EPA 8015M	
Diesel Range Organics >C12-C35	<b>145</b>	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	<b>161</b>	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		98.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		99.6 %	70-130		"	"	"	"	
<b>SLAGU8022604E9' (4B27003-05)</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC40119	02/27/04	02/27/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		83.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EB42707	02/27/04	02/27/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		85.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		86.4 %	70-130		"	"	"	"	

Environmental Lab of Texas

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Quality Assurance Review

Page 3 of 9

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: AGU 8 inch #4  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/01/04 16:16

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SLAGU8022604A25' (4B27003-01)</b>									
Chloride	156	20.0	mg/kg Wet	2	EB42708	02/27/04	02/27/04	SW 846 9253	
% Solids	96.0		%	1	EC40108	03/01/04	03/01/04	% calculation	
<b>SLAGU8022604B11' (4B27003-02)</b>									
% Solids	96.0		%	1	EC40108	03/01/04	03/01/04	% calculation	
<b>SLAGU8022604C23' (4B27003-03)</b>									
% Solids	96.0		%	1	EC40108	03/01/04	03/01/04	% calculation	
<b>SLAGU8022604D21' (4B27003-04)</b>									
% Solids	96.0		%	1	EC40108	03/01/04	03/01/04	% calculation	
<b>SLAGU8022604E9' (4B27003-05)</b>									
% Solids	95.0		%	1	EC40108	03/01/04	03/01/04	% calculation	

Environmental Lab of Texas

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Quality Assurance Review

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: AGU 8 inch #4  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

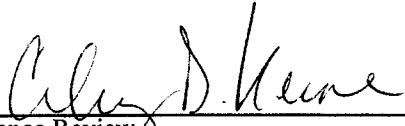
Fax: (432) 682-9719  
Reported:  
03/01/04 16:16

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
<b>Batch EB42707 - Solvent Extraction (GC)</b>										
<b>Blank (EB42707-BLK1)</b> Prepared & Analyzed: 02/27/04										
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	40.0		mg/kg	50.0		80.0	70-130			
Surrogate: 1-Chlorooctadecane	42.1		"	50.0		84.2	70-130			
<b>LCS (EB42707-BS1)</b> Prepared & Analyzed: 02/27/04										
Gasoline Range Organics C6-C12	421	10.0	mg/kg wet	500		84.2	75-125			
Diesel Range Organics >C12-C35	493	10.0	"	500		98.6	75-125			
Total Hydrocarbon C6-C35	914	10.0	"	1000		91.4	75-125			
Surrogate: 1-Chlorooctane	45.7		mg/kg	50.0		91.4	70-130			
Surrogate: 1-Chlorooctadecane	41.6		"	50.0		83.2	70-130			
<b>Calibration Check (EB42707-CCV1)</b> Prepared & Analyzed: 02/27/04										
Gasoline Range Organics C6-C12	468		mg/kg	500		93.6	80-120			
Diesel Range Organics >C12-C35	512		"	500		102	80-120			
Total Hydrocarbon C6-C35	980		"	1000		98.0	80-120			
Surrogate: 1-Chlorooctane	56.9		"	50.0		114	70-130			
Surrogate: 1-Chlorooctadecane	53.4		"	50.0		107	70-130			
<b>Matrix Spike (EB42707-MS1)</b> Source: 4B25003-17 Prepared & Analyzed: 02/27/04										
Gasoline Range Organics C6-C12	543	10.0	mg/kg dry	549	ND	98.9	75-125			
Diesel Range Organics >C12-C35	620	10.0	"	549	80.9	98.2	75-125			
Total Hydrocarbon C6-C35	1160	10.0	"	1100	80.9	98.1	75-125			
Surrogate: 1-Chlorooctane	59.0		mg/kg	50.0		118	70-130			
Surrogate: 1-Chlorooctadecane	55.8		"	50.0		112	70-130			
<b>Matrix Spike Dup (EB42707-MSD1)</b> Source: 4B25003-17 Prepared & Analyzed: 02/27/04										
Gasoline Range Organics C6-C12	515	10.0	mg/kg dry	549	ND	93.8	75-125	5.29	20	
Diesel Range Organics >C12-C35	601	10.0	"	549	80.9	94.7	75-125	3.11	20	
Total Hydrocarbon C6-C35	1120	10.0	"	1100	80.9	94.5	75-125	3.51	20	
Surrogate: 1-Chlorooctane	61.4		mg/kg	50.0		123	70-130			
Surrogate: 1-Chlorooctadecane	54.5		"	50.0		109	70-130			

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.



Quality Assurance Review

Page 5 of 9

Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: AGU 8 inch #4  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719

Reported:  
03/01/04 16:16

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
<b>Batch EC40119 - EPA 5030C (GC)</b>										
<b>Blank (EC40119-BLK1)</b> Prepared & Analyzed: 02/27/04										
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: <i>a,a,a</i> -Trifluorotoluene	91.6		ug/kg	100		91.6	80-120			
Surrogate: 4-Bromofluorobenzene	94.3		"	100		94.3	80-120			
<b>LCS (EC40119-BS1)</b> Prepared & Analyzed: 02/27/04										
Benzene	91.7		ug/kg	100		91.7	80-120			
Toluene	90.1		"	100		90.1	80-120			
Ethylbenzene	90.7		"	100		90.7	80-120			
Xylene (p/m)	178		"	200		89.0	80-120			
Xylene (o)	87.7		"	100		87.7	80-120			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	95.0		"	100		95.0	80-120			
Surrogate: 4-Bromofluorobenzene	93.2		"	100		93.2	80-120			
<b>Calibration Check (EC40119-CCV1)</b> Prepared & Analyzed: 02/27/04										
Benzene	93.9		ug/kg	100		93.9	80-120			
Toluene	90.6		"	100		90.6	80-120			
Ethylbenzene	88.8		"	100		88.8	80-120			
Xylene (p/m)	174		"	200		87.0	80-120			
Xylene (o)	89.8		"	100		89.8	80-120			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	93.7		"	100		93.7	80-120			
Surrogate: 4-Bromofluorobenzene	93.9		"	100		93.9	80-120			
<b>Matrix Spike (EC40119-MS1)</b> Source: 4B27003-05 Prepared & Analyzed: 02/27/04										
Benzene	96.1		ug/kg	100	ND	96.1	80-120			
Toluene	93.5		"	100	ND	93.5	80-120			
Ethylbenzene	93.1		"	100	ND	93.1	80-120			
Xylene (p/m)	183		"	200	ND	91.5	80-120			
Xylene (o)	93.5		"	100	ND	93.5	80-120			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	96.0		"	100		96.0	80-120			
Surrogate: 4-Bromofluorobenzene	103		"	100		103	80-120			

Environmental Lab of Texas

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Quality Assurance Review

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Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: AGU 8 inch #4  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/01/04 16:16

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

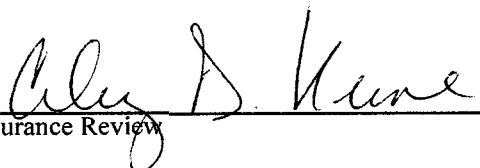
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch EC40119 - EPA 5030C (GC)**

Matrix Spike Dup (EC40119-MSD1)	Source: 4B27003-05		Prepared & Analyzed: 02/27/04						
Benzene	92.9	ug/kg	100	ND	92.9	80-120	3.39	20	
Toluene	90.2	"	100	ND	90.2	80-120	3.59	20	
Ethylbenzene	90.3	"	100	ND	90.3	80-120	3.05	20	
Xylene (p/m)	178	"	200	ND	89.0	80-120	2.77	20	
Xylene (o)	91.9	"	100	ND	91.9	80-120	1.73	20	
Surrogate: a,a,a-Trifluorotoluene	82.2	"	100		82.2	80-120			
Surrogate: 4-Bromofluorobenzene	99.6	"	100		99.6	80-120			

Environmental Lab of Texas

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Quality Assurance Review

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Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: AGU 8 inch #4  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

Fax: (432) 682-9719  
Reported:  
03/01/04 16:16

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	Notes
---------	--------	-----------------	-------	-------------	---------------	-----------	-------------	---------	-------

**Batch EB42708 - General Preparation (WetChem)**

<b>Blank (EB42708-BLK1)</b>									Prepared & Analyzed: 02/27/04
Chloride	ND		20.0 mg/kg Wet						
<b>Calibration Check (EB42708-CCV1)</b>									Prepared & Analyzed: 02/27/04
Chloride	5100		mg/kg Wet	5000		102	80-120		
<b>Matrix Spike (EB42708-MS1)</b>		<b>Source: 4B27003-01</b>							Prepared & Analyzed: 02/27/04
Chloride	610	20.0 mg/kg Wet	500	156	90.8	80-120			
<b>Matrix Spike Dup (EB42708-MSD1)</b>		<b>Source: 4B27003-01</b>							Prepared & Analyzed: 02/27/04
Chloride	610	20.0 mg/kg Wet	500	156	90.8	80-120	0.00	20	

**Batch EC40108 - % Solids**

<b>Blank (EC40108-BLK1)</b>									Prepared & Analyzed: 03/01/04
% Solids	100		%						
<b>Duplicate (EC40108-DUP1)</b>		<b>Source: 4B25003-12</b>							Prepared & Analyzed: 03/01/04
% Solids	87.0		%	87.0		0.00	20		

Environmental Lab of Texas

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Quality Assurance Review

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Link Energy Pipeline  
P.O. Box 1660  
Midland TX, 79702

Project: AGU 8 inch #4  
Project Number: 2003-00176  
Project Manager: Frank Hernandez

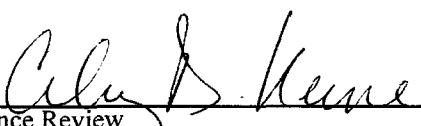
Fax: (432) 682-9719  
**Reported:**  
03/01/04 16:16

### Notes and Definitions

- J      Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- DET    Analyte DETECTED
- ND     Analyte NOT DETECTED at or above the reporting limit
- NR     Not Reported
- dry    Sample results reported on a dry weight basis
- RPD    Relative Percent Difference

Environmental Lab of Texas

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Quality Assurance Review

Page 9 of 9

Environmental Lab of Texas, Inc.

2600 West I-20 East  
Midland, Texas 79763  
Phone: 915-563-1800  
Fax: 915-563-1713

Project Manager: Frank Hernandez

Company Name: Link Energy

Company Address:

City/State/Zip:

Telephone No: 505-631-3095

Sample Signature: J. J. Jackson

Project Name: AGII 8" #4

Project #: 2003-00176

Project Log

POC

5375204

1520

	Date Sampled	No. of Contaminants	Time Sampled	Sampled
ICP	01/02/2004	1	9:35	SLAGU8022604A25
HNO	02/02/2004	1	9:45	SLAGU8022604B11
HCl	02/02/2004	1	1:05	SLAGU8022604C23
NaOH	02/02/2004	1	2:12	SLAGU8022604D21
HSO	02/02/2004	1	2:35	SLAGU8022604E9
None				
Other (Specify)				
Water				
Sludge				
Soil				
Other (Specify)				
TDS/Cl/SAR/E				
TPH 418.1				
TPH TX 1006/100				
TPH015MGR0DR				
Metals				
Volatile				
Semi挥发性				
Reactivity				
Corrosivity				
Lignitability				
Chlorides				
RUSH TAT				
Standard TAT				

## Special Instructions

TELECASTS TO BATWCAST AND ASAN

FAX RESULTS 10

## Temperature Upon Request

Date \_\_\_\_\_ Received by: \_\_\_\_\_

15°C

Sample Containers Ir Y N

**Environmental Lab of Texas**  
**Variance / Corrective Action Report – Sample Log-In**

Client: Link Energy

Date/Time: 02-27-04 @ 1140

Order #: 4BZ7003

Initials: JMM

**Sample Receipt Checklist**

	<input checked="" type="checkbox"/> Yes	No	I.S	C
Temperature of container/cooler?	<input checked="" type="checkbox"/>	No		
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	No	N/A	
Custody Seals intact on shipping container/cooler?	<input checked="" type="checkbox"/>	No	Not present	
Custody Seals intact on sample bottles?	<input checked="" type="checkbox"/>	No	Not present	
Chain of custody present?	<input checked="" type="checkbox"/>	No		
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/>	No		
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/>	No		
Container labels legible and intact?	<input checked="" type="checkbox"/>	No		
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/>	No		
Samples in proper container/bottle?	<input checked="" type="checkbox"/>	No		
Samples properly preserved?	<input checked="" type="checkbox"/>	No		
Sample bottles intact?	<input checked="" type="checkbox"/>	No		
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/>	No		
All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	No		
VOC samples have zero headspace?	<input checked="" type="checkbox"/>	No	Not Applicable	

Other observations:

---

---

---

**Variance Documentation:**

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
Regarding: \_\_\_\_\_

---

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Corrective Action Taken:

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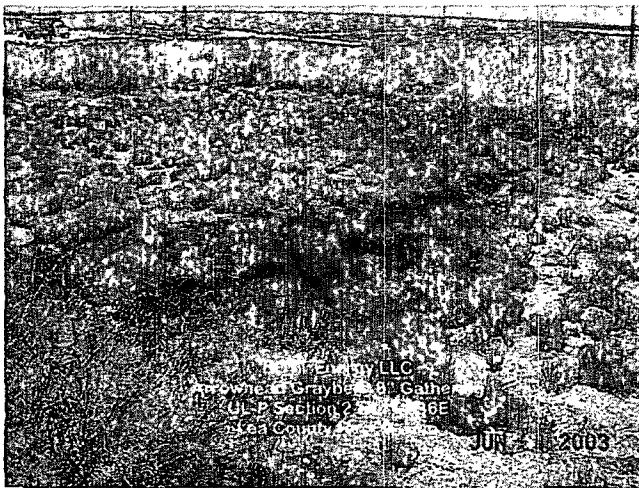
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**APPENDIX B**

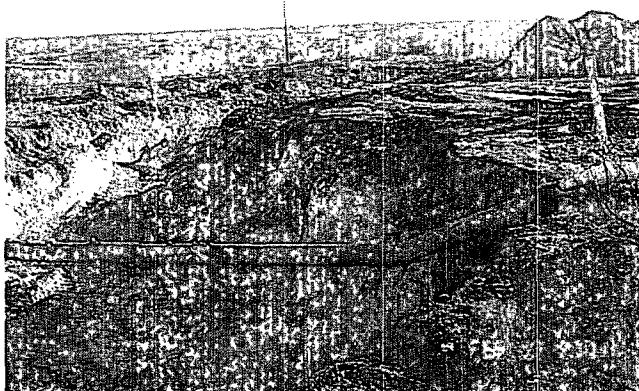
**SITE PHOTOGRAPHS**



Leak origin, looking east-southeast.



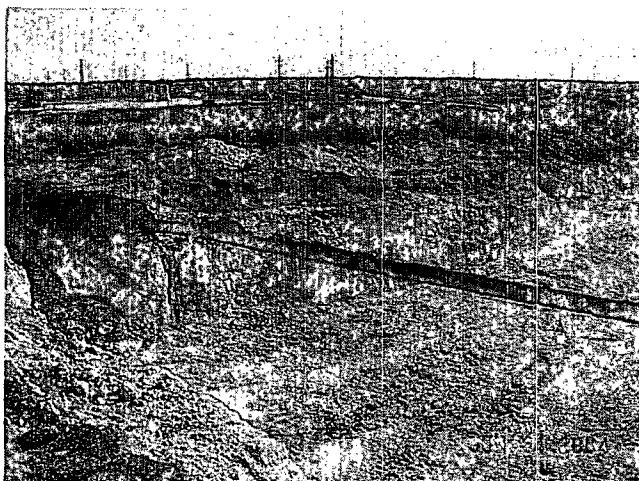
Leak origin, looking east-northeast.



Excavation, looking east-northeast from the leak origin.



Excavation, looking northerly from the leak origin.



Excavation, looking northeast from the leak origin.



Excavation, looking east-northeast from the leak origin.

**APPENDIX C**

**SITE INFORMATION AND METRICS FORM**

**AND**

**INITIAL C-141**

<b>Eottenergy</b>	Site Information and Metrics	Incident Date: EOTT Energy LLC	NMOCD Notified: 6-30-03 @ 2:00 PM
SITE: Arrowhead Grayburg 8" Gathering		Assigned Site Reference #:	
Company: EOTT Energy LLC			
Street Address: PO Box 1660			
Mailing Address: 5805 East Highway 80			
City, State, Zip: Midland, Texas 79702			
Representative: Frank Hernandez			
Representative Telephone: 505.631.3095			
Telephone:			
Fluid volume released (bbls): 20 bbls		Recovered (bbls): 0 bbls	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcf Natural Gas)			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Arrowhead Grayburg 8" Gathering			
Source of contamination: 8" Steel Pipeline			
Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico			
LSP Dimensions ~309' x 2.5'			
LSP Area: 1,763 sqft ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32 24' 55.774"N			
Longitude: 103 13' 51.267"W			
Elevation above mean sea level: 3,510 'amsl			
Feet from South Section Line			
Feet from West Section Line			
Location- Unit or 1/4: SE 1/4 of the SE 1/4		Unit Letter: P	
Location- Section: 2			
Location- Township: T22S			
Location- Range: R36E			
Surface water body within 1000' radius of site: none			
Surface water body within 1000' radius of site:			
Domestic water wells within 1000' radius of site: none			
Domestic water wells within 1000' radius of site:			
Agricultural water wells within 1000' radius of site: none			
Agricultural water wells within 1000' radius of site:			
Public water supply wells within 1000' radius of site: none			
Public water supply wells within 1000' radius of site:			
Depth from land surface to ground water (DG) ~137'bgs			
Depth of contamination (DC) - ?			
Depth to ground water (DG - DC = DtGW) -			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	
If Depth to GW <50 feet: 20 points		If <1000' from water source, or; <200' from private domestic water source: 20 points	
If Depth to GW 50 to 99 feet: 10 points		<200 horizontal feet: 20 points 200-100 horizontal feet: 10 points	
If Depth to GW >100 feet: 0 points		If >1000' from water source, or; >200' from private domestic water source: 0 points >1000 horizontal feet: 0 points	
Ground water Score = 0		Wellhead Protection Area Score = 0	
Site Rank (1+2+3) = 0		Surface Water Score = 0	
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	>19	10-19	0-9
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm

<sup>1</sup>100 ppm field VOC headspace measurement may be substituted for lab analysis

**State of New Mexico**  
**Energy Minerals and Natural Resources**

Form C-141  
Revised March 17, 1999

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
**District II**  
1301 W. Grand Avenue, Artesia, NM 88210  
**District III**  
1000 Rio Brazos Road, Aztec, NM 87410  
**District IV**  
1220 S. St. Francis Dr., Santa Fe, NM 87505

**Oil Conservation Division**  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report     Final Report

Name of Company <b>EOTT Energy LLC</b>	Contact <b>Frank Hernandez</b>
Address PO Box 1660 5805 East Highway 80 Midland, Texas 79702	Telephone No. 505.631.3095
Facility Name Arrowhead Grayburg 8" Gathering	Facility Type 8" Steel Pipeline

Surface Owner State of New Mexico	Mineral Owner	Lease No.
--------------------------------------	---------------	-----------

**LOCATION OF RELEASE**

Unit Letter 2	Section 2	Township T22S	Range R36E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea Lat. 32 24' 55.774"N Lon. 103 13' 51.267"W
------------------	--------------	------------------	---------------	---------------	------------------	---------------	----------------	--

**NATURE OF RELEASE**

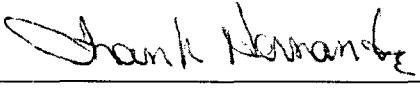
Type of Release Crude Oil	Volume of Release 20 barrels	Volume Recovered 0 barrels
Source of Release 8" Steel Pipeline	Date and Hour of Occurrence EOTT Energy LLC	Date and Hour of Discovery 6-30-03 @ 12:00 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Sylvia Dickie	
By Whom? Pat McCasland, EPI	Date and Hour 6-30-03 @ 2:00 PM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.* NA
---

Describe Cause of Problem and Remedial Action Taken.* The leak was caused by internal/external corrosion. A line repair clamp was installed. The line will be tested and replaced if necessary.
--

Describe Area Affected and Cleanup Action Taken.* Site will be delineated to determine the vertical and horizontal extents of contamination. Contaminated soil will be blended on site or disposed of. Remedial Goals: TPH 8015m = 5000 mg/Kg, Benzene = 10 mg/Kg, and BTEX, i.e., the mass sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg.
---

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
--

Signature:		<b>OIL CONSERVATION DIVISION</b>	
Printed Name:	Frank Hernandez	Approved by District Supervisor:	
Title:	District Environmental Supervisor	Approval Date:	Expiration Date:
Date:	July 1, 2003	Phone:	505.631.3095

\* Attach Additional Sheets If Necessary

## **APPENDIX D**

### **RISK/EXPOSURE ASSESSMENT INPUT DATA**

# FATE AND TRANSPORT MODEL INPUT SUMMARY FILE - NO BARRIER

## Model Description:

Unsaturated zone model linked with saturated zone model

## Title:

AGU-8" Run

Simulation time (years). 100

## Vadose Zone Source Parameters

---

Thickness of contamination (m)	4.6
Depth to top of contamination (m).	3.4
Length of source (m)	93.
Width of source (m).	4.6

## Unsaturated Zone Properties

---

Total Porosity in vadose zone (cm <sup>3</sup> /cm <sup>3</sup> )	0.30
Residual water content (cm <sup>3</sup> /cm <sup>3</sup> )	5.00E-02
Fraction organic carbon (g oc/g soil).	2.00E-03
Soil bulk density (g/cm <sup>3</sup> ).	1.7
Infiltration Rate (cm/yr).	36.
Saturated conductivity (m/d)	5.0
Van Genuchten's N.	2.7
Thickness of vadose zone (m)	38.

## Aquifer Properties

---

Effective porosity (cm <sup>3</sup> /cm <sup>3</sup> )	0.30
Fraction organic carbon (g oc/g soil).	2.00E-03
Hydraulic conductivity (m/d)	5.0
Soil bulk density (g/cm <sup>3</sup> ).	1.7
Hydraulic gradient (m/m)	1.00E-03
***Longitudinal dispersivity (m). code calculated	
***Transverse dispersivity (m). code calculated	
***Vertical dispersivity (m). code calculated	

### Receptor Well Location

---

Distance downgradient (m).	0.10
Distance cross-gradient (m).	0.10
Depth to top of well screen (m).	38.
Depth to bottom of well screen(m).	44.
Number of points used to calc. conc.	5

### TPH Data for Unsaturated Zone Source

---

Concentration of TPH in soil (mg/kg)	1.12E+04
Molecular weight of TPH (g/mol).	1.00E+02

### CHEMICAL DATA FOR: Benzene

---

Diffusion coefficient in air (cm <sup>2</sup> /s)	8.80E-02
Diffusion coefficient in water (cm <sup>2</sup> /s)	9.80E-06
Solubility (mg/l)	1.75E+03
Vapor pressure (mmHg)	95.
KOC (L/kg).	59.
Henry's Law coefficient (-).	0.23
Molecular weight (g/mol).	78.
Degradation rate, saturated zone (1/d).	9.60E-04
Degradation rate, vadose zone (1/d).	9.60E-04

### Source Concentrations:

---

Source conc. for unsaturated zone model (mg/kg).	1.1
--	-----

### CHEMICAL DATA FOR: Ethylbenzene

---

Diffusion coefficient in air (cm <sup>2</sup> /s)	7.50E-02
Diffusion coefficient in water (cm <sup>2</sup> /s)	7.80E-06
Solubility (mg/l)	1.69E+02
Vapor pressure (mmHg)	9.6
KOC (L/kg).	3.60E+02
Henry's Law coefficient (-).	0.32
Molecular weight (g/mol).	1.06E+02
Degradation rate, saturated zone (1/d).	3.00E-03

Degradation rate, vadose zone (1/d). 3.00E-03

Source Concentrations:

---

Source conc. for unsaturated zone model (mg/kg). 12.

CHEMICAL DATA FOR: Toluene

---

Diffusion coefficient in air (cm <sup>2</sup> /s)	8.70E-02
Diffusion coefficient in water (cm <sup>2</sup> /s)	8.60E-06
Solubility (mg/l)	5.26E+02
Vapor pressure (mmHg)	28.
KOC (L/kg).	1.80E+02
Henry's Law coefficient (-).	0.27
Molecular weight (g/mol).	92.
Degradation rate, saturated zone (1/d).	2.50E-02
Degradation rate, vadose zone (1/d).	2.50E-02

Source Concentrations:

---

Source conc. for unsaturated zone model (mg/kg). 5.3

CHEMICAL DATA FOR: TPH Aromatic C10-12

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Diffusion coefficient in air (cm <sup>2</sup> /s)	0.10
Diffusion coefficient in water (cm <sup>2</sup> /s)	1.00E-05
Solubility (mg/l)	25.
Vapor pressure (mmHg)	0.48
KOC (L/kg).	2.50E+03
Henry's Law coefficient (-).	0.14
Molecular weight (g/mol).	1.30E+02
Degradation rate, saturated zone (1/d).	0.0
Degradation rate, vadose zone (1/d).	0.0

Source Concentrations:

---

Source conc. for unsaturated zone model (mg/kg). 2.40E+03

CHEMICAL DATA FOR: TPH Aromatic C16-21

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Diffusion coefficient in air (cm <sup>2</sup> /s)	0.10
Diffusion coefficient in water (cm <sup>2</sup> /s)	1.00E-05
Solubility (mg/l)	0.51
Vapor pressure (mmHg)	5.80E-03
KOC (L/kg).	1.60E+04
Henry's Law coefficient (-).	1.30E-02
Molecular weight (g/mol).	1.90E+02
Degradation rate, saturated zone (1/d).	0.0
Degradation rate, vadose zone (1/d).	0.0

Source Concentrations:

---

Source conc. for unsaturated zone model (mg/kg). 8.75E+03

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CHEMICAL DATA FOR: Xylenes

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Diffusion coefficient in air (cm <sup>2</sup> /s)	7.20E-02
Diffusion coefficient in water (cm <sup>2</sup> /s)	8.50E-06
Solubility (mg/l)	1.98E+02
Vapor pressure (mmHg)	8.8
KOC (L/kg).	2.40E+02
Henry's Law coefficient (-).	0.29
Molecular weight (g/mol).	1.06E+02
Degradation rate, saturated zone (1/d).	1.90E-03
Degradation rate, vadose zone (1/d).	1.90E-03

Source Concentrations:

---

Source conc. for unsaturated zone model (mg/kg). 9.5

## FATE AND TRANSPORT MODEL INPUT SUMMARY FILE - CLAY BARRIER

### Model Description:

Unsaturated zone model linked with saturated zone model

### Title:

AGU 8" with Barrier

Simulation time (years). 100

### Vadose Zone Source Parameters

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Thickness of contamination (m)	4.6
Depth to top of contamination (m).	3.4
Length of source (m)	93.
Width of source (m).	4.6

### Unsaturated Zone Properties

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Total Porosity in vadose zone (cm <sup>3</sup> /cm <sup>3</sup> )	0.30
Residual water content (cm <sup>3</sup> /cm <sup>3</sup> )	5.00E-02
Fraction organic carbon (g oc/g soil).	2.00E-03
Soil bulk density (g/cm <sup>3</sup> ).	1.7
Infiltration Rate (cm/yr).	1.00E-02
Saturated conductivity (m/d)	5.0
Van Genuchten's N.	2.7
Thickness of vadose zone (m)	38.

### Lens Parameters

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Thickness of lens (m).	0.30
Total porosity in lens (cm <sup>3</sup> /cm <sup>3</sup> )	0.45
Residual water content--lens (cm <sup>3</sup> /cm <sup>3</sup> )	0.17
Saturated conductivity (m/d)	1.50E-02
Van Genuchten N in lens.	1.1

### Aquifer Properties

---

Effective porosity (cm <sup>3</sup> /cm <sup>3</sup> )	0.30
Fraction organic carbon (g oc/g soil).	2.00E-03

Hydraulic conductivity (m/d)	5.0
Soil bulk density (g/cm <sup>3</sup> )	1.7
Hydraulic gradient (m/m)	1.00E-03
***Longitudinal dispersivity (m). code calculated	
***Transverse dispersivity (m). code calculated	
***Vertical dispersivity (m). code calculated	

#### Receptor Well Location

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Distance downgradient (m).	0.10
Distance cross-gradient (m).	0.10
Depth to top of well screen (m).	38.
Depth to bottom of well screen(m).	44.
Number of points used to calc. conc.	5

#### TPH Data for Unsaturated Zone Source

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Concentration of TPH in soil (mg/kg)	1.12E+04
Molecular weight of TPH (g/mol).	1.00E+02

#### CHEMICAL DATA FOR: Benzene

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Diffusion coefficient in air (cm <sup>2</sup> /s)	8.80E-02
Diffusion coefficient in water (cm <sup>2</sup> /s)	9.80E-06
Solubility (mg/l)	1.75E+03
Vapor pressure (mmHg)	95.
KOC (L/kg).	59.
Henry's Law coefficient (-).	0.23
Molecular weight (g/mol).	78.
Degradation rate, saturated zone (1/d).	9.60E-04
Degradation rate, vadose zone (1/d).	9.60E-04

#### Source Concentrations:

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Source conc. for unsaturated zone model (mg/kg).	1.1
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#### CHEMICAL DATA FOR: Ethylbenzene

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Diffusion coefficient in air (cm <sup>2</sup> /s)	7.50E-02
Diffusion coefficient in water (cm <sup>2</sup> /s)	7.80E-06
Solubility (mg/l)	1.69E+02
Vapor pressure (mmHg)	9.6
KOC (L/kg).	3.60E+02
Henry's Law coefficient (-).	0.32
Molecular weight (g/mol).	1.06E+02
Degradation rate, saturated zone (1/d).	3.00E-03
Degradation rate, vadose zone (1/d).	3.00E-03

Source Concentrations:

-----

Source conc. for unsaturated zone model (mg/kg). 12.

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CHEMICAL DATA FOR: Toluene

Diffusion coefficient in air (cm <sup>2</sup> /s)	8.70E-02
Diffusion coefficient in water (cm <sup>2</sup> /s)	8.60E-06
Solubility (mg/l)	5.26E+02
Vapor pressure (mmHg)	28.
KOC (L/kg).	1.80E+02
Henry's Law coefficient (-).	0.27
Molecular weight (g/mol).	92.
Degradation rate, saturated zone (1/d).	2.50E-02
Degradation rate, vadose zone (1/d).	2.50E-02

Source Concentrations:

-----

Source conc. for unsaturated zone model (mg/kg). 5.3

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CHEMICAL DATA FOR: TPH Aliphatic C8-10

Diffusion coefficient in air (cm <sup>2</sup> /s)	0.10
Diffusion coefficient in water (cm <sup>2</sup> /s)	1.00E-05
Solubility (mg/l)	0.43
Vapor pressure (mmHg)	4.8
KOC (L/kg).	3.20E+04
Henry's Law coefficient (-).	82.
Molecular weight (g/mol).	1.30E+02
Degradation rate, saturated zone (1/d).	0.0
Degradation rate, vadose zone (1/d).	0.0

Source Concentrations:

---

Source conc. for unsaturated zone model (mg/kg). 2.40E+03

CHEMICAL DATA FOR: TPH Aliphatic C12-16

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Diffusion coefficient in air (cm <sup>2</sup> /s)	0.10
Diffusion coefficient in water (cm <sup>2</sup> /s)	1.00E-05
Solubility (mg/l)	7.60E-04
Vapor pressure (mmHg)	3.60E-02
KOC (L/kg).	5.00E+06
Henry's Law coefficient (-).	5.40E+02
Molecular weight (g/mol).	2.00E+02
Degradation rate, saturated zone (1/d).	0.0
Degradation rate, vadose zone (1/d).	0.0

Source Concentrations:

---

Source conc. for unsaturated zone model (mg/kg). 8.75E+03

CHEMICAL DATA FOR: Xylenes

---

Diffusion coefficient in air (cm <sup>2</sup> /s)	7.20E-02
Diffusion coefficient in water (cm <sup>2</sup> /s)	8.50E-06
Solubility (mg/l)	1.98E+02
Vapor pressure (mmHg)	8.8
KOC (L/kg).	2.40E+02
Henry's Law coefficient (-).	0.29
Molecular weight (g/mol).	1.06E+02
Degradation rate, saturated zone (1/d).	1.90E-03
Degradation rate, vadose zone (1/d).	1.90E-03

Source Concentrations:

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Source conc. for unsaturated zone model (mg/kg). 46.

**State of New Mexico**  
**Energy Minerals and Natural Resources**

Form C-141  
 Revised March 17, 1999

**District I**  
 1625 N. French Dr., Hobbs, NM 88240

**District II**  
 1301 W. Grand Avenue, Artesia, NM 88210

**District III**  
 1000 Rio Brazos Road, Aztec, NM 87410

**District IV**  
 1220 S. St. Francis Dr., Santa Fe, NM 87505

**Oil Conservation Division**  
 1220 South St. Francis Dr.  
 Santa Fe, NM 87505

Submit 2 Copies to appropriate  
 District Office in accordance  
 with Rule 116 on back  
 side of form

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report     Final Report

Name of Company <b>EOTT Energy LLC</b>	Contact <b>Frank Hernandez</b>
Address PO Box 1660 5805 East Highway 80 Midland, Texas 79702	Telephone No. 505.631.3095
Facility Name Arrowhead Grayburg 8" Gathering	Facility Type 8" Steel Pipeline

Surface Owner State of New Mexico	Mineral Owner	Lease No.
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**LOCATION OF RELEASE**

Unit Letter 2	Section 2	Township T22S	Range R36E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea Lat. 32 24' 55.774"N Lon. 103 13' 51.267"W
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**NATURE OF RELEASE**

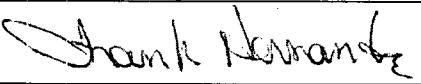
Type of Release Crude Oil	Volume of Release 20 barrels	Volume Recovered 0 barrels
Source of Release 8" Steel Pipeline	Date and Hour of Occurrence EOTT Energy LLC	Date and Hour of Discovery 6-30-03 @ 12:00 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Sylvia Dickie	
By Whom? Pat McCasland, EPI	Date and Hour 6-30-03 @ 2:00 PM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.\*  
NA

Describe Cause of Problem and Remedial Action Taken.\*  
The leak was caused by internal/external corrosion. A line repair clamp was installed. The line will be tested and replaced if necessary.

Describe Area Affected and Cleanup Action Taken.\*  
Site will be delineated to determine the vertical and horizontal extents of contamination. Contaminated soil will be blended on site or disposed of.  
Remedial Goals: TPH 8015m = 5000 mg/Kg, Benzene = 10 mg/Kg, and BTEX, i.e., the mass sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Frank Hernandez		Approved by District Supervisor:	
Title: District Environmental Supervisor		Approval Date:	Expiration Date:
Date: July 1, 2003      Phone: 505.631.3095		Conditions of Approval:	
		Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary