GW - 52

WORK PLANS

2001

Transwestern Pipeline Company
P. O. Box 1188
Houston, TX 77251-1188

October 22, 2001

Mr. William C. Olson
Environmental Bureau
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Mr. David Cobrain
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Dr. East, Bldg. 1
Santa Fe, New Mexico 87505

RE: Work Plan for Excavation of Affected Soil
Roswell Compressor Station
Transwestern Pipeline Company

The enclosed work plan is submitted for your review and approval. Transwestern is ready to proceed with implementing the work plan upon approval from the NMOCD and the NMED HWB. Please call George Robinson at (713) 646-7327 if you have any questions or comments regarding the work plan.

Sincerely,

William A. Kendrick
Director, Environmental Affairs

xc: (with attachments)

Larry Campbell	Transwestern Pipeline Co.
George Robinson	Cypress Engineering
Tim Gum	OCD Artesia Office

Work Plan for Excavation and Removal of Affected Soil in the Former Surface Impoundment Areas

Transwestern Pipeline Company
Roswell Compressor Station
Chaves County, New Mexico

Submitted to:
New Mexico Oil Conservation Division
and
New Mexico Environment Department
Hazardous and Radioactive Materials Bureau

October 18, 2001

Prepared For:
Transwestern Pipeline Company
6381 North Main Street
Roswell, NM 88201

Prepared by:
Cypress Engineering Services, Inc.
10235 West Little York Road, Suite 256
Houston, Texas 77040

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Work Plan for Excavation and Removal of Affected Soil in the Former Surface Impoundment Areas

1. Work Plan Objectives

The subject of this work plan are two former surface impoundments located at the Transwestern Pipeline Company (Transwestern) Roswell, New Mexico, Compressor Station No. 9. This work plan is the first stage of active remediation measures designed to achieve a broader objective to remediate soil and groundwater affected by a release from the former impoundments.

The objectives of the proposed excavation activities are: 1) To reduce the health risk from potential future contact with affected soil to an acceptable level; and 2) To remove the potential for continued groundwater contamination from a residual source of petroleum hydrocarbons contained in affected soil. These objectives will be met by the excavation and removal of near-surface soil located in the immediate vicinity of the former impoundments.

This work plan will be implemented upon approval by the New Mexico Oil Conservation Division (OCD) and the New Mexico Environment Department Hazardous and Radioactive Materials Bureau (NMED HRMB).

2. Site Background

A thorough description of the facility and the history and operation of the former surface impoundments was provided in a previous report submitted to the OCD and the NMED HRMB. This report was titled "Corrective Action Plan for Roswell Compressor Station No. 9 Surface Impoundments", dated January 31, 1997. The location of the two impoundments relative to other facility features is indicated in Figure 1.

A brief physical description of the two former surface impoundments is presented as follows:

Impoundment	Approximate Dimensions	Date Constructed	Date Backfilled
Pit 1	40' x 70' (rectangular)	Between 7/61 & 10/72	6/86
Pit 2	70' diameter (circular)	Before 7/61	Before 2/77

It is estimated that the impoundments were at most 10 feet deep.

3. Waste Characterization Activities

3.1 Waste Characterization Objective

Waste characterization samples were collected on September 6, 2001, for the purpose of confirming that affected soil from within two former pit areas could be managed as non-hazardous oil and gas field waste. This was accomplished by collecting 22 soil samples from trenches excavated in the former pit areas. The soil samples were delivered to a laboratory for analysis for RCRA hazardous waste characteristics. Laboratory results indicate that affected soil may be managed as non-hazardous waste.

3.2 Pit Area Delineation

Prior to sampling activities, on September 5, 2001, two trenches were excavated across the length and width of each former pit area in an effort to confirm the location of the former pits. The Pit 2 area was found to be slightly smaller than what was indicated by aerial photographs and centered about 10 feet east of the location shown in previous figures. The Pit 1 area was found to have the anticipated dimensions and location. As a result, the location of sample trenches in the Pit 2 area were relocated so that they were centered over the actual pit area and the location of sample trenches in the Pit 1 area were located as planned.

3.3 Trenching Activities for Sampling

Three trenches were excavated within each former pit area in order to collect samples for RCRA waste characterization (six trenches total). The trenches were excavated using a trackhoe. Each trench was approximately 15 feet in length and excavated to a maximum depth of 12-14 feet bgs. The trenches in the Pit 1 area were oriented east-west and spaced equally along the long axis of the former pit area as indicated in Figure 2. The trenches in the Pit 2 area were oriented north-south and spaced equally within the former pit area.

In general, the soil profile encountered in all six trenches was very similar and consisted primarily of a loose sandy soil. Debris was encountered in all six trenches but was much more prevalent in the southernmost trench in the former Pit 1 area. The type of debris encountered included scrap metal pipe, crushed metal drums, rubber tires, rubber gaskets, wood products, and

other similar waste materials. Based on observations of hydrocarbon staining and hydrocarbon odor, the soil profile encountered in the former Pit 1 area appeared to be most heavily affected from near ground surface to about 12-14 feet bgs. The soil profile in the former Pit 2 area appeared to be most heavily affected from about 4 feet bgs to 10-12 feet bgs.

At the conclusion of sampling activities, excavated soil was pushed back into the trench from where the soil originated.

3.4 Sample Collection and Analysis

At least one sample was obtained from each trench at depths of 4 feet bgs, 8 feet bgs, and 12 feet bgs (that is, at least 3 samples from each trench). The sample depths were based upon prior assessment borings that indicate the base of the former impoundments was no more than 14 feet bgs. Based upon field observations, an attempt was made to obtain the most heavily affected material for characterization. In addition, several blind duplicate samples were collected for quality assurance purposes. This activity generated a total of 22 samples for waste characterization.

Laboratory analysis for RCRA waste characterization included TCLP volatiles, TCLP semi-volatiles, TCLP metals, and ignitability. In addition, the sample analysis plan included Total Petroleum Hydrocarbons (TPH) by method 8015mod (GRO & DRO). Laboratory analysis confirmed that samples collected in the course of this activity do not trigger RCRA hazardous waste criteria. A summary table of laboratory results is included as Table 1. Results for TPH analysis are also presented graphically in Figure 2.

4. Proposed Excavation Activities

4.1 General Approach

The general approach to the excavation activities is to excavate affected soil in the immediate vicinity of the former pit areas, remove the most heavily affected soil for off-site disposal, blend the less affected soil on-site prior to reuse as backfill material, and to backfill the remaining excavated area with clean soil from off-site.

The lateral limits of excavation in both former pit areas is divided into two areas. This is indicated in Figure 3 by the innermost dashed line to indicate the area that will be excavated for off-site disposal and the outermost dashed line to indicate the additional area that will be excavated and managed on-site. The area proposed for off-site disposal was determined by the lateral limits of the interior walls of the former impoundments. The intent is to include the most heavily affected soil for off-site disposal.

The area in Figure 3 that is bounded by the innermost dashed line and the solid line represents an area where excavated soil will consist mostly of relatively clean overburden soil. The lateral limit of excavation in this area was determined by establishing a perimeter that is 10 feet outside the area that will be removed for off-site disposal. Furthermore, the area in Figure 3 that is bounded by the solid line and the outermost dashed line represents an additional area where excavated soil will consist mostly of relatively clean overburden soil. This area will be excavated for excavation safety purposes in order to provide a sufficient sidewall slope down to the bottom of the excavation. Excavated soil from these areas will be stockpiled on-site around the perimeter of the excavation, blended in order to reduce the overall TPH concentration, and then utilized for backfill material. The criteria for blended soil used for backfill are a TPH concentration below 1000 mg/kg and a total BTEX concentration below 50 mg/kg. [Note: The final TPH and BTEX concentrations after blending are anticipated to be well below these criteria.]

4.2 Pit 1 Excavation

The anticipated lateral and vertical limit of excavation in the Pit 1 area is based upon information obtained from the recent waste characterization activities and from previous soil borings. For convenience, soil boring logs are attached for borings PIT 1 NW, PIT 1 SE, SVE-1A, SVE-2A, SVE-3, MW-1B, and MW-13. The location of these borings relative to the former impoundments is shown in Figure 4. It was determined from inspection of the boring logs that the outermost limit of excavation will be sufficient to ensure that all near-surface impacted soil has been removed and/or remediated to levels that are protective of human health.

Three areas are indicated in Figure 3 around the former Pit 1 location. The innermost area defines the lateral limit of excavation to a depth of 16 feet bgs that will be removed for off-site disposal at an OCD permitted landfarm facility. The purpose of this excavation is to remove any

remaining contents of the former impoundment and the most heavily affected soil beneath the former impoundment to the maximum depth practicable. All soil and debris removed from this area will be loaded into trucks for off-site disposal at an OCD permitted landfarm facility.

The area between the innermost dashed line and solid line defines the area of excavation to a depth of 16 feet bgs that will be removed, blended on-site, and then used for backfill material. The area between the solid line and the outermost dashed line defines the area of excavation that will provide for a sufficient sidewall slope from ground surface to the bottom of the excavation area. The purpose here is to remove affected soil from around the perimeter of the former impoundment to the maximum depth practicable. Much of the soil removed in the course of this excavation will be relatively clean overburden soil. Soil removed from this area will be stockpiled around the perimeter of the excavation. A procedure for managing stockpiled soil is presented in a subsequent section of this work plan.

The proposed depth of excavation is based upon two factors. First, the soil boring log for boring Pit 1 SE indicates that native soil was encountered at a depth of 14 feet bgs. The proposed depth of the excavation is two feet below the depth to native soil. Second, the proposed depth of excavation is limited to the maximum depth that can be safely achieved using conventional excavation equipment.

The total volume of soil to be excavated from the Pit 1 area is estimated at 4,800 cubic yards of soil in-place (6,700 yards excavated). It is anticipated that approximately 1,700 cubic yards (2,300 yards excavated) will be transported off-site for disposal and approximately 3,100 cubic yards (4,400 yards excavated) will be stockpiled around the perimeter of the excavation, blended, and utilized for backfill material.

4.3 Pit 2 Excavation

The anticipated lateral and vertical limit of excavation in the Pit 2 area is based upon information obtained from the recent waste characterization activities and from previous soil borings. For convenience, soil boring logs are attached for borings PIT 2 NE, PIT 2 SW, and MW-2.

Three areas are indicated in Figure 3 around the former Pit 2 location. The innermost area defines the lateral limit of excavation to a depth of 12 feet bgs that will be removed for off-site disposal

at an OCD permitted landfarm facility. Soil removed in this area from ground surface to a depth of 4 feet bgs has been determined to be relatively unaffected and therefore will be stockpiled around the perimeter of the excavation for blending and reuse. Soil from a depth of 4 feet bgs to 12 feet bgs will be removed for off-site disposal at an OCD permitted landfarm facility. The purpose of this excavation is to remove any remaining contents of the former impoundment and the most heavily affected soil beneath the former impoundment to the maximum depth practicable. All soil and debris removed from this area will be loaded into trucks for off-site disposal at an OCD permitted landfarm facility.

The area between the innermost dashed line and solid line defines the area of excavation to a depth of 12 feet bgs that will be removed, blended on-site, and then used for backfill material. The area between the solid line and the outermost dashed line defines the area of excavation that will provide for a sufficient sidewall slope from ground surface to the bottom of the excavation area. The purpose here is to remove affected soil from around the perimeter of the former impoundment to the maximum depth practicable. Much of the soil removed in the course of this excavation will be relatively clean overburden soil. Soil removed from this area will be stockpiled around the perimeter of the excavation. A procedure for managing stockpiled soil is presented in a subsequent section of this work plan.

The proposed depth of excavation is based upon two factors. First, soil boring logs for borings Pit 2 NE and Pit 2 SW appear to indicate that native soil was encountered at a depth less than 10 feet bgs. Second, waste characterization results indicate that soil beneath the Pit 2 area at a depth of 12 feet bgs is not as heavily affected as that beneath the Pit 1 area.

The total volume of soil to be excavated from the Pit 2 area is estimated at 2,700 cubic yards of soil in-place (3,700 yards excavated). It is anticipated that approximately 600 cubic yards (800 yards excavated) will be transported off-site for disposal and approximately 2,100 cubic yards (2,900 yards excavated) will be stockpiled around the perimeter of the excavation, blended, and utilized for backfill material.

4.4 Bottom and Sidewall Soil Sampling

Soil samples will be collected from the bottom and sidewalls of the excavated areas for the purpose of assessing the level of contamination remaining beneath the excavated areas. This

information will be useful in the development of subsequent remediation efforts to address remaining soil and ground water contamination. At a minimum, 12 samples will be collected from the bottom of each excavation area. Similarly, at a minimum, 12 samples will be collected from the sidewalls (@ 6-8 feet bgs) of each excavation area. Sample locations will be randomly spaced across the open excavation areas.

Bottom and sidewall soil samples will be submitted to a laboratory for analysis for VOCs by method 8260 and TPH by method 8015mod (GRO & DRO).

5. Off-Site Disposal Activities

5.1 Off-Site Disposal Facility

Approximately 3,200 cubic yards of excavated soil will by loaded into trucks and transported off-site for disposal. Soil will be transported to the Gandy Marley Inc. landfarm facility (OCD permit No. NM-01-0019) located 33 miles west of Tatum, New Mexico. This facility is approximately 60 miles by road from the remediation site.

5.2 Means of Transportation

Excavated soil will be transported to the disposal facility by dump truck. Information from prior assessment activities indicate that some of the most heavily affected material in the Pit 1 area has a sludge-like consistency. When soil/waste material of this sort is encountered during excavation, plastic liners or other appropriate means will be utilized in order to keep waste material contained during transport.

6. Management of Stockpiled Soil

6.1 Blended Soil

It is anticipated that approximately 7,200 cubic yards of clean overburden soil and less affected soil from the perimeter of the former impoundments will be stockpiled in the course of excavation activities. This material will be stockpiled and blended on-site around the perimeter of the excavations. The soil will be blended in order to further reduce the concentration of

petroleum hydrocarbons in soil prior to reuse as backfill material. This soil will be characterized by laboratory analysis prior to using the soil as backfill material.

One composite soil sample will be prepared per 100 cubic yards of blended soil. Each composite sample will be submitted to a laboratory for analysis for BTEX by method 8021 and TPH by method 8015mod (GRO & DRO). This activity will generate approximately 72 soil samples for analysis.

Based upon laboratory results, stockpiled soil that exceeds OCD guideline concentrations for benzene of 10 mg/kg, total BTEX of 50 mg/kg, or TPH of 1000 mg/kg will not be used for backfill material.

6.2 Backfill Soil

Trucks used to haul affected soil to the landfarm facility for disposal will backhaul clean soil to the site for use as backfill material. This soil will be staged in the "backfill soil staging" area indicated in Figure 1 until needed. It is anticipated that approximately 3200 cubic yards of clean soil will be brought on-site for use as backfill material. A grab sample will be collected for every 500 cubic yards of clean soil brought on-site to confirm that the backfill soil is clean. The confirmation samples will be submitted to a laboratory for analysis for BTEX by method 8021 and TPH by method 8015mod (GRO & DRO). This activity will generate approximately 7 soil samples for analysis.

7. Backfill Activities

7.1 Preparation of Excavation Areas

Subsequent to excavation and final sampling activities, the open excavations will be prepared in a manner to facilitate the placement of a plastic liner near the bottom of the excavated areas. The purpose of the liner is twofold. First, the liner will minimize the infiltration of stormwater through contaminated soil remaining below the maximum depth of excavation. Second, the liner will facilitate subsequent remediation measures designed to address deeper soil. Subsequent remediation measures will include soil vapor extraction (SVE). The liner will provide a soil vapor barrier between the deeper affected soil and the clean backfill above. Without the barrier

soil vapor might "short circuit" through the clean backfill material above rather than pass through hydrocarbon affected regions of soil and thereby reduce the efficiency of the SVE system.

In the course of excavation activities, the sides of the excavation will be sloped toward the center of the excavation in order to create a safe work area at the bottom of the excavation. In addition, backfill material will be used to bring the bottom of the Pit 1 area excavation up to 14 feet bgs. Backfill material will be used to bring the bottom of the Pit 2 area excavation up to 10 feet bgs. Similarly, this will be done in order to create a safe work area within the excavation. The "new" bottom surface of each excavation will then be graded to slope toward the east. This direction is consistent with the natural grade of the ground surface.

7.2 Placement of Plastic Liner

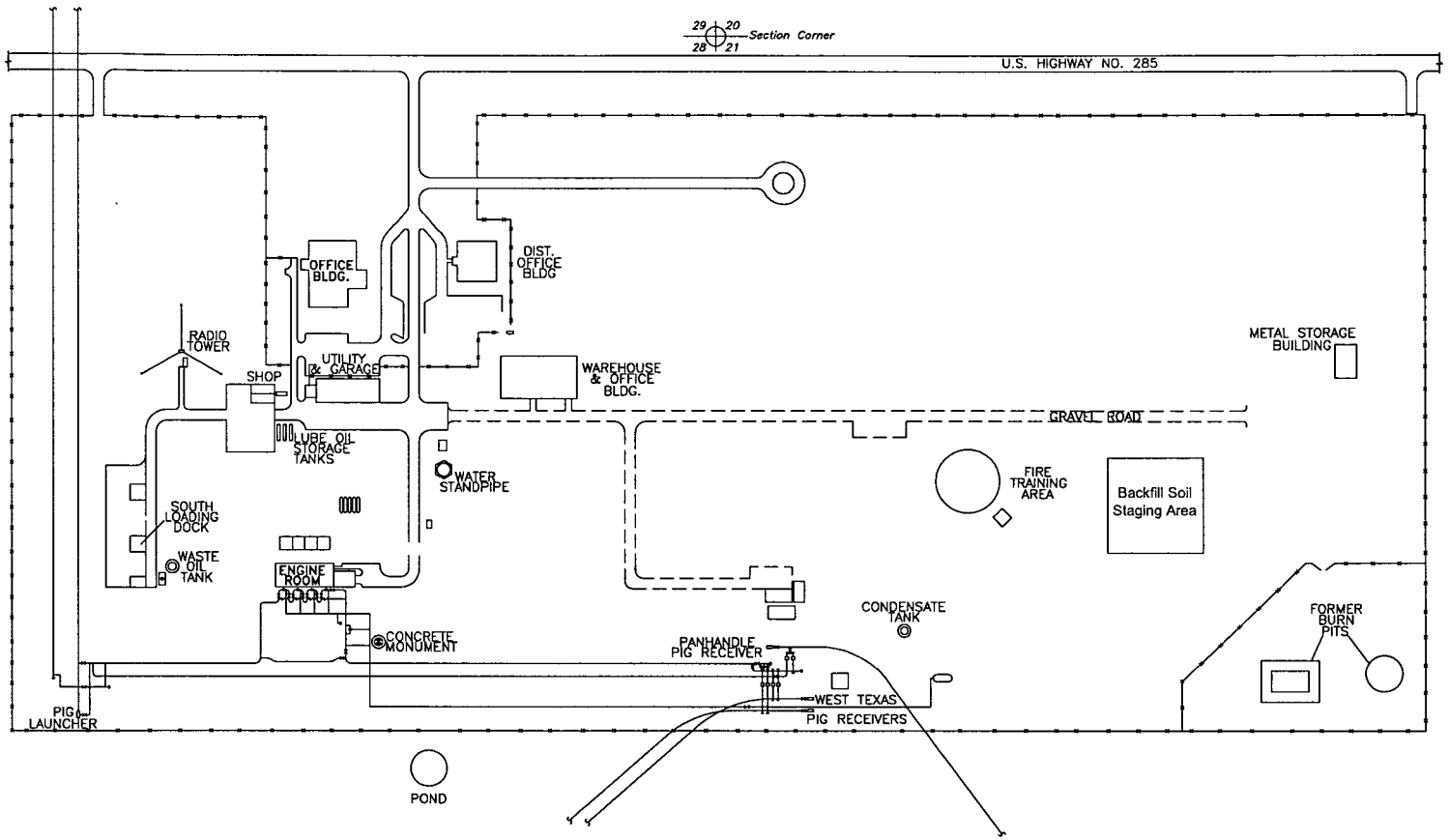
A plastic liner material will be placed across the entire flat surface area created at the bottom of the excavations. An attempt will be made to minimize the number of seams between individual sheets of plastic liner. In addition, the length of the liner material will be oriented east-west in order that overlapping edges of the liner will run down grade and thereby minimize water escaping through the liner. Overlapping edges of the liner will not be sealed.

7.3 Placement of Backfill

Backfill material will be placed into the excavation in order to bring the ground surface to a level slightly above natural grade. Blended stockpiled soil generated in the course of excavation activities will be utilized first. Backfill material brought in from off-site will then be used to complete this activity.

8. Reporting

A completion report will be generated and submitted to the OCD and the NMED HRMB within 60 days of completion of excavation activities. The report will describe the activities completed and will present the results of all confirmatory soil sampling.



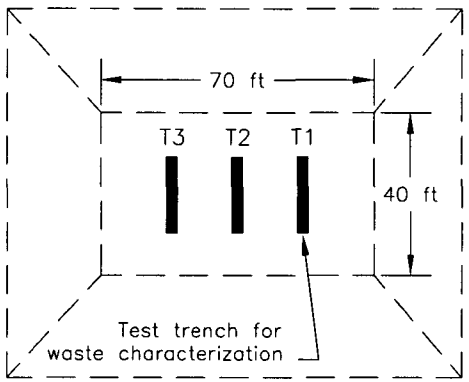
FACILITY SITE MAP

ROSWELL COMPRESSOR STATION
TRANSWESTERN PIPELINE COMPANY

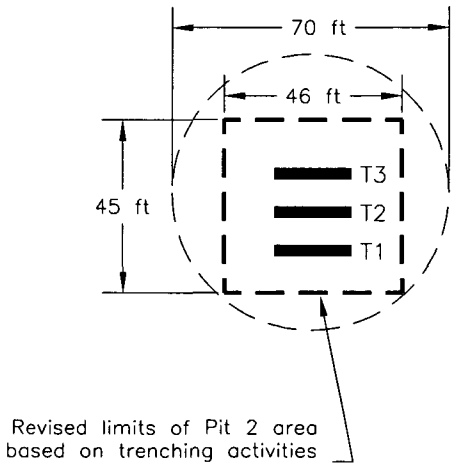
Figure 1

f:\...\drawing[redacted]ell\ros waste char trenches 090601.dwg (10/07/01)

Pit 1



Pit 2



Pit #1
Trench #3

	GRO/DRO(mg/kg)
0'	
4'	599 / 3840
8'	1040 / 5220
10'	2290 / 7370
12'	577 / 1630

Pit #1
Trench #2

	GRO/DRO(mg/kg)
0'	
4'	125 / 1920
8'	62 / 461
12'	233 / 1690
12' B.D.	946 / 2170
12' B.D.2	929 / 2300

Pit #1
Trench #1

	GRO/DRO(mg/kg)
0'	
4'	192 / 1830
8'	127 / 709
12'	91 / 928

Pit #2
Trench #1

	GRO/DRO(mg/kg)
0'	
4'	52 / 80
8'	2770 / 963
12'	912 / 337

Pit #2
Trench #2

	GRO/DRO(mg/kg)
0'	
4'	95 / 708
8'	2800 / 1510
12'	795 / 275

Pit #2
Trench #3

	GRO/DRO(mg/kg)
0'	
4'	458 / 422
8'	656 / 302
12'	847 / 332
12' B.D.	1200 / 639

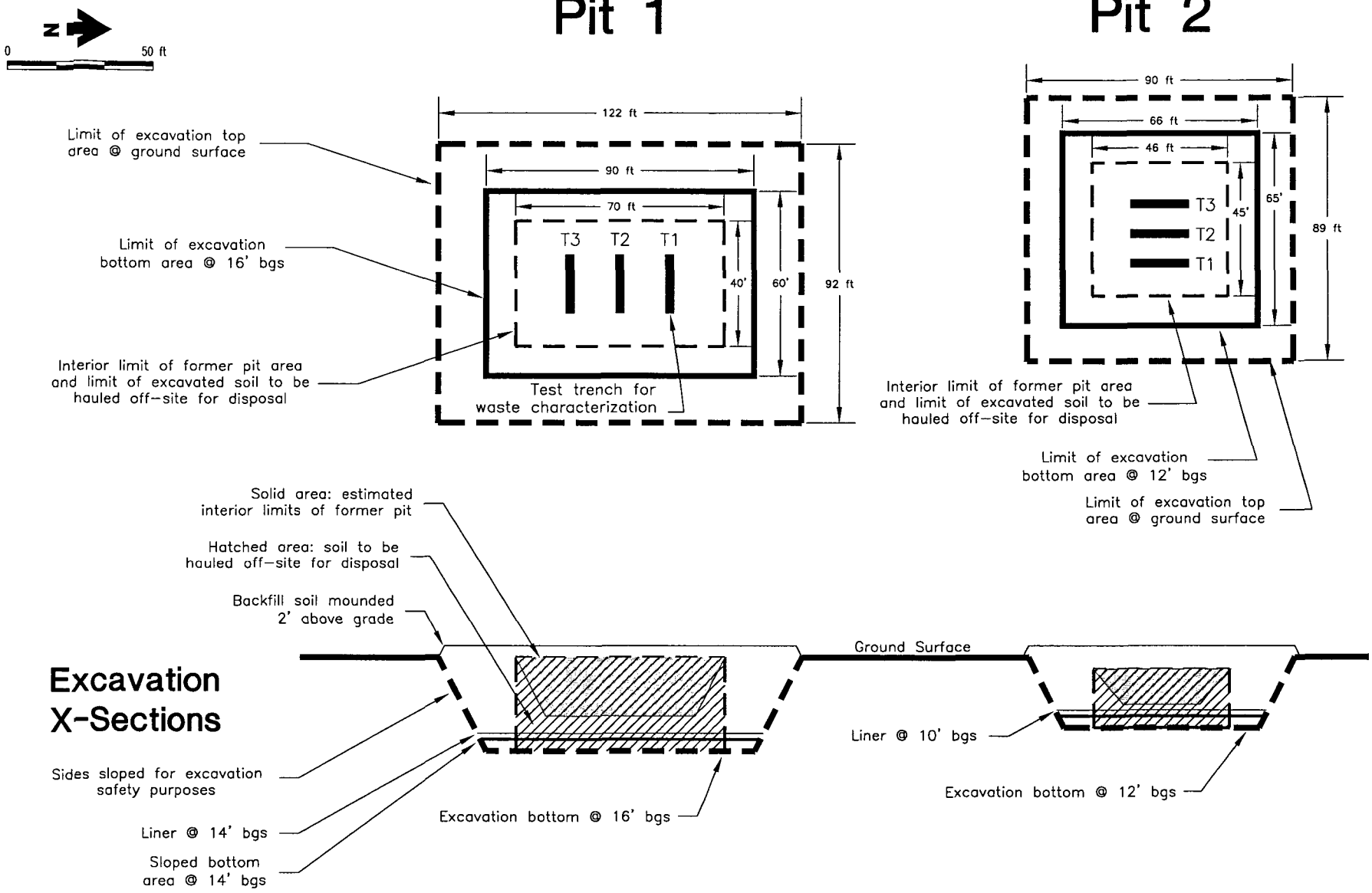
ROSWELL COMPRESSOR STATION

Trench Locations & TPH Profile

CYPRESS ENGINEERING SERVICES, INC.

Figure 2

f:\...\drawings\...\ros x-section 100701 rev1.dwg (10/07/01)



Excavation X-Sections

ROSWELL COMPRESSOR STATION

Proposed Pit Excavations

CYPRESS ENGINEERING SERVICES, INC.

Figure 3

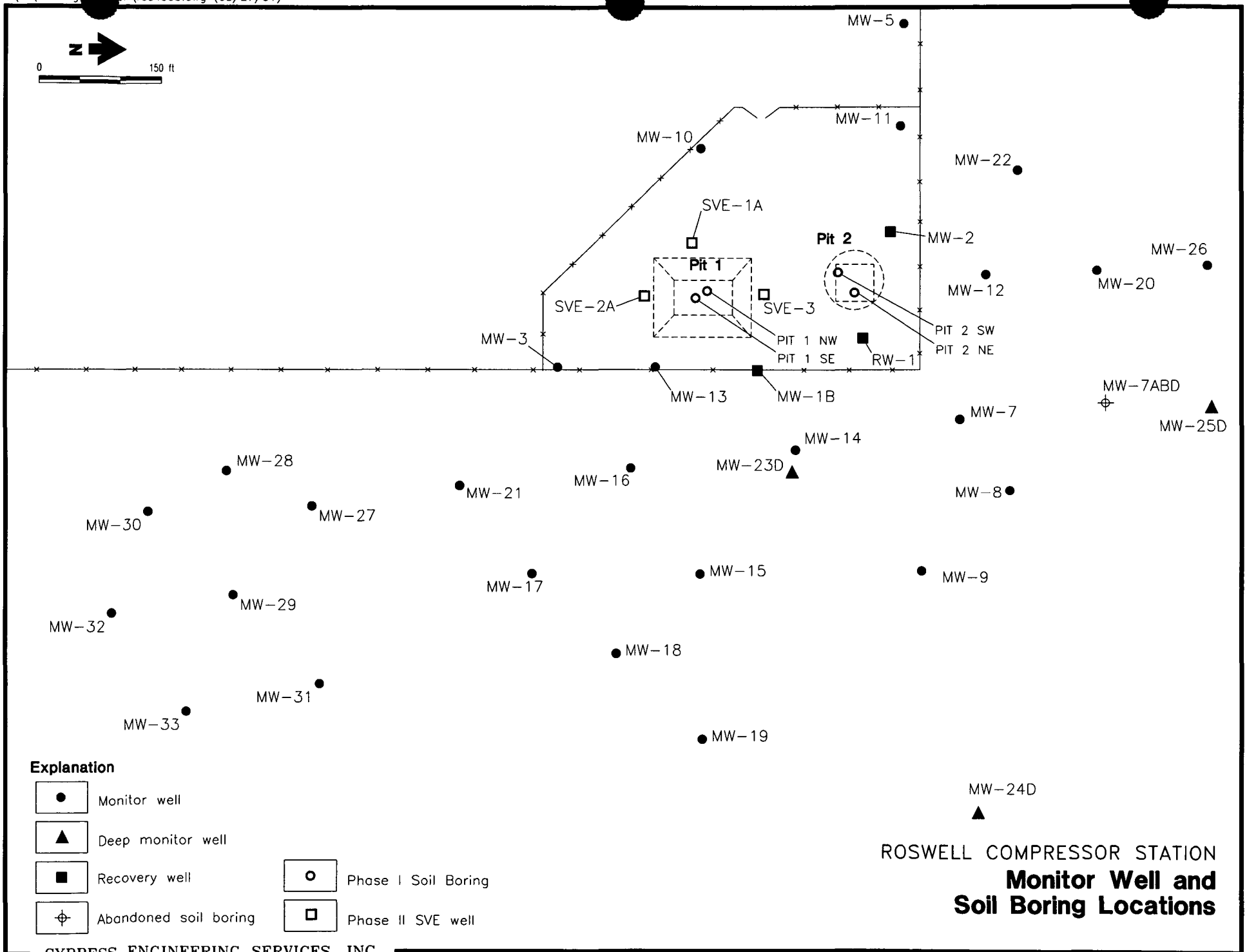

f:\...\drawings\...ell\ros499b.dwg (08/27/01)
N
0
150 ft
MW-5
MW-11
MW-10
MW-22
SVE-1A
Pit 2
MW-2
MW-26
Pit 1
MW-12
MW-20
SVE-2A
SVE-3
PIT 2 SW
PIT 2 NE
PIT 1 NW
PIT 1 SE
MW-3
RW-1
MW-13
MW-1B
MW-7ABD
MW-7
MW-25D
MW-14
MW-28
MW-23D
MW-16
MW-21
MW-8
MW-27
MW-30
MW-15
MW-9
MW-17
MW-29
MW-32
MW-18
MW-31
MW-33
MW-19
MW-24D
Explanation
Monitor well
Deep monitor well
Recovery well
Phase I Soil Boring
Abandoned soil boring
Phase II SVE well
ROSWELL COMPRESSOR STATION
Monitor Well and
Soil Boring Locations
CYPRESS ENGINEERING SERVICES, INC.

Figure 4

TW Roswell Station

Surface Impoundment Sampling - September 6, 2001

Excavating trench #3 in the former Pit #2 area.

Collecting a sample for lab analysis from a trench in the Pit #1 area.

TW Roswell Station

Surface Impoundment Sampling - September 6, 2001

Collecting a sample for lab analysis from a trench in the Pit #1 area.

Soil and debris excavated from the east trench in the former Pit #1 area.

ANALYSYS inc.

4221 Freidrich Lane, Suite 190, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119076 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 1 @ 4'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 08:52

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/13/01	3550	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/15/01	3005a	---	---	---	---	---
pH	7.4	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	79.5	mg/Kg	5	<5	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	51.9	mg/Kg	5	<5	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	J	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	2.63	118.5	100.75	92.3
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	109.3	66	-NA-
Extractable organics-TC	---	---	---	---	09/15/01	8270c	---	---	---	---	---

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.

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.

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 1 @ 4'

Report#/Lab ID#: 119076
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	5.8	113.8	118.7	106.5
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	3.3	103.7	105.8	104.1
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	1.9	109.3	109.6	105.8
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	15.1	67.5	110.4	105.1
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	2.8	103.5	106.6	105.1
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	8.3	115.6	116.1	111.2
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	3.3	103.6	101.4	96.7
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	6.5	102.8	112.8	112.3
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	5.3	105.1	112.7	99.4
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/15/01	8270c	---	21.9	84.9	85.8	109.7
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	18.7	100.5	114.7	112.9
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/15/01	8270c	---	29.4	77.6	98.7	95.6
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/15/01	8270c	---	9	74.1	109.2	75.5
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	0.3	132.7	108.6	131.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/15/01	8270c	---	14.6	100.2	111	107.4
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/15/01	8270c	---	7.6	115	116.6	115.3
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/15/01	8270c	---	14	86.8	98.2	136.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.3	138.3	104.9	137
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	2.3	113.6	113.5	65.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/15/01	8270c	---	8	91.4	104.9	113.4

ANALYSYS INC.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 1 @ 4'

Report#/Lab ID#: 119076
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	95.5	50-150	---
p-Terphenyl	8015 mod.	122	50-150	---
TCLP-1,2-Dichloroethane-d4	8260b	98.7	80-120	---
TCLP-4-Bromofluorobenzene	8260b	98.4	86-115	---
TCLP-Toluene-d8	8260b	95.8	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	94	10-123	---
TCLP-2-Fluorobiphenyl	8270c	79.6	43-116	---
TCLP-2-Fluorophenol	8270c	65	21-100	---
TCLP-Nitrobenzene-d5	8270c	74.9	35-114	---
TCLP-Phenol-d5	8270c	75.1	10-94	---
TCLP-Terphenyl-d14	8270c	99.3	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119076 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 1 @ 4'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
TCLP-Barium/ICP	J	See J-flag discussion above.

Notes:

ANALYSYS INC.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119077 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 1 @ 8'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 09:00

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/14/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/15/01	3005a	---	---	---	---	---
pH	7.1	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	963	mg/Kg	50	<50	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	2770	mg/Kg	50	<50	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	2.63	118.5	100.75	92.3
Reactivity sulfide	160	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	109.3	66	-NA-
Extractable organics-TC	---	---	---	---	09/15/01	8270c	---	---	---	---	---

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.

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.

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2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 1 @ 8'

Report#/Lab ID#: 119077
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/15/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/15/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/15/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/15/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/15/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/15/01	8270c	---	6.3	59.9	102.6	67.5

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 1 @ 8'

Report#/Lab ID#: 119077
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 10X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 10X	D
TCLP-1,2-Dichloroethane-d4	8260b	87.9	80-120	---
TCLP-4-Bromofluorobenzene	8260b	98.4	86-115	---
TCLP-Toluene-d8	8260b	93.4	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	72.7	10-123	---
TCLP-2-Fluorobiphenyl	8270c	54.8	43-116	---
TCLP-2-Fluorophenol	8270c	42	21-100	---
TCLP-Nitrobenzene-d5	8270c	47.3	35-114	---
TCLP-Phenol-d5	8270c	50	10-94	---
TCLP-Terphenyl-d14	8270c	81	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119077 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 1 @ 8'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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 Inc.

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Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119078 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 1 @ 12'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 09:09

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/14/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/15/01	3005a	---	---	---	---	---
pH	7.1	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	337	mg/Kg	50	<50	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	912	mg/Kg	50	<50	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	J	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	2.63	118.5	100.75	92.3
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	109.3	66	-NA-
Extractable organics-TC	---	---	---	---	09/15/01	8270c	---	---	---	---	---

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.

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.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 1 @ 12'

Report#/Lab ID#: 119078
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/15/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/15/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/15/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/15/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/15/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/15/01	8270c	---	6.3	59.9	102.6	67.5

ANALYSYS INC.

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2209 N. Padre Island Dr., Corpus Christi, TX 7840408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 1 @ 12'

Report#/Lab ID#: 119078
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 10X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 10X	D
TCLP-1,2-Dichloroethane-d4	8260b	89.8	80-120	---
TCLP-4-Bromofluorobenzene	8260b	93.7	86-115	---
TCLP-Toluene-d8	8260b	96.3	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	82.4	10-123	---
TCLP-2-Fluorobiphenyl	8270c	73	43-116	---
TCLP-2-Fluorophenol	8270c	60.9	21-100	---
TCLP-Nitrobenzene-d5	8270c	70.1	35-114	---
TCLP-Phenol-d5	8270c	68.7	10-94	---
TCLP-Terphenyl-d14	8270c	90.5	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119078 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 1 @ 12'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
TCLP-Selenium/ICP	J	See J-flag discussion above.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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 INC.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119079 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 @ 4'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 09:44

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/15/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/15/01	3005a	---	---	---	---	---
pH	7.2	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	708	mg/Kg	5	<5	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	95.3	mg/Kg	5	<5	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	J	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	2.63	118.5	100.75	92.3
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	109.3	66	-NA-
Extractable organics-TC	---	---	---	---	09/15/01	8270c	---	---	---	---	---

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.

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.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 @ 4'

Report#/Lab ID#: 119079
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/15/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/15/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/15/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/15/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/15/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/15/01	8270c	---	6.3	59.9	102.6	67.5

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 @ 4'

Report#/Lab ID#: 119079
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	111	50-150	---
p-Terphenyl	8015 mod.	82.7	50-150	---
TCLP-1,2-Dichloroethane-d4	8260b	89.7	80-120	---
TCLP-4-Bromofluorobenzene	8260b	98.1	86-115	---
TCLP-Toluene-d8	8260b	99	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	66.5	10-123	---
TCLP-2-Fluorobiphenyl	8270c	54.3	43-116	---
TCLP-2-Fluorophenol	8270c	44.5	21-100	---
TCLP-Nitrobenzene-d5	8270c	49.9	35-114	---
TCLP-Phenol-d5	8270c	51.3	10-94	---
TCLP-Terphenyl-d14	8270c	78.8	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119079 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 @ 4'

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 TNRCC-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)	P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance
TPH by GC (as diesel)	P	limits.
TCLP-Selenium/ICP	J	See J-flag discussion above.

Notes:

ANALYSYS INC.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119080 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 @ 8'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 09:54

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/16/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/15/01	3005a	---	---	---	---	---
pH	7.6	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	1510	mg/Kg	50	<50	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	2800	mg/Kg	50	<50	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	J	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	J	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	2.63	118.5	100.75	92.3
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	109.3	66	-NA-
Extractable organics-TC	---	---	---	---	09/15/01	8270c	---	---	---	---	---

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.

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.

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 @ 8'

Report#/Lab ID#: 119080
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b		4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/15/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/15/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/15/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/15/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/15/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/15/01	8270c	---	6.3	59.9	102.6	67.5

ANALYSYS INC.

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2209 N. Padre Island Dr., Corpus Christi, TX 7840408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 @ 8'

Report#/Lab ID#: 119080
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 10X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 10X	D
TCLP-1,2-Dichloroethane-d4	8260b	95.2	80-120	---
TCLP-4-Bromofluorobenzene	8260b	97.5	86-115	---
TCLP-Toluene-d8	8260b	93.5	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	74.8	10-123	---
TCLP-2-Fluorobiphenyl	8270c	67.3	43-116	---
TCLP-2-Fluorophenol	8270c	53.2	21-100	---
TCLP-Nitrobenzene-d5	8270c	62.9	35-114	---
TCLP-Phenol-d5	8270c	66.6	10-94	---
TCLP-Terphenyl-d14	8270c	89.6	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119080 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 @ 8'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
TCLP-Arsenic/ICP	J	See J-flag discussion above.
TCLP-Selenium/ICP	J	See J-flag discussion above.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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 INC.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119081 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 @ 12'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 10:10

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/17/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/15/01	3005a	---	---	---	---	---
pH	7.8	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	275	mg/Kg	5	<5	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	795	mg/Kg	5	<5	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	J	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	2.63	118.5	100.75	92.3
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/15/01	8270c	---	---	---	---	---

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.

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.

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2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 @ 12'

Report#/Lab ID#: 119081
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/15/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/15/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/15/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/15/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/15/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/15/01	8270c	---	6.3	59.9	102.6	67.5

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 @ 12'

Report#/Lab ID#: 119081
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	85.8	50-150	---
p-Terphenyl	8015 mod.	102	50-150	---
TCLP-1,2-Dichloroethane-d4	8260b	91.2	80-120	---
TCLP-4-Bromofluorobenzene	8260b	100.2	86-115	---
TCLP-Toluene-d8	8260b	98.5	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	69.6	10-123	---
TCLP-2-Fluorobiphenyl	8270c	61.2	43-116	---
TCLP-2-Fluorophenol	8270c	54.2	21-100	---
TCLP-Nitrobenzene-d5	8270c	61.5	35-114	---
TCLP-Phenol-d5	8270c	57.6	10-94	---
TCLP-Terphenyl-d14	8270c	83.4	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119081 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 @ 12'

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 TNRCC-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)	P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance
TPH by GC (as diesel)	P	limits.
TCLP-Selenium/ICP	J	See J-flag discussion above.

Notes:

ANALYSYS INC.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119082 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 3 @ 4'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 10:20

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/18/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/15/01	3005a	---	---	---	---	---
pH	7.4	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	422	mg/Kg	50	<50	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	458	mg/Kg	50	<50	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	2.63	118.5	100.75	92.3
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/15/01	8270c	---	---	---	---	---

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.

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.

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 3 @ 4'

Report#/Lab ID#: 119082
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b		4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/15/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/15/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/15/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/15/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/15/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/15/01	8270c	---	6.3	59.9	102.6	67.5

ANALYSYS Inc.

4221 Freidrich Lane,Suite 190, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 7840408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 3 @ 4'

Report#/Lab ID#: 119082
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 10X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 10X	D
TCLP-1,2-Dichloroethane-d4	8260b	92.9	80-120	---
TCLP-4-Bromofluorobenzene	8260b	95.4	86-115	---
TCLP-Toluene-d8	8260b	95.9	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	63.3	10-123	---
TCLP-2-Fluorobiphenyl	8270c	52.1	43-116	---
TCLP-2-Fluorophenol	8270c	45.4	21-100	---
TCLP-Nitrobenzene-d5	8270c	50.3	35-114	---
TCLP-Phenol-d5	8270c	55.7	10-94	---
TCLP-Terphenyl-d14	8270c	74.8	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119082 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 3 @ 4'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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 INC.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119083 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 3 @ 8'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 10:27

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/19/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/15/01	3005a	---	---	---	---	---
pH	7.5	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	302	mg/Kg	50	<50	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	656	mg/Kg	50	<50	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/17/01	8270c	---	---	---	---	---

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.

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.

ANALYSIS inc.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 3 @ 8'

Report#/Lab ID#: 119083
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/17/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/17/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/17/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/17/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/17/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/17/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/17/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/17/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/17/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/17/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/17/01	8270c	---	6.3	59.9	102.6	67.5

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 3 @ 8'

Report#/Lab ID#: 119083
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 10X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 10X	D
TCLP-1,2-Dichloroethane-d4	8260b	93.5	80-120	---
TCLP-4-Bromofluorobenzene	8260b	96.3	86-115	---
TCLP-Toluene-d8	8260b	96	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	98.4	10-123	---
TCLP-2-Fluorobiphenyl	8270c	81.2	43-116	---
TCLP-2-Fluorophenol	8270c	54.9	21-100	---
TCLP-Nitrobenzene-d5	8270c	76.9	35-114	---
TCLP-Phenol-d5	8270c	64.2	10-94	---
TCLP-Terphenyl-d14	8270c	78.2	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119083 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 3 @ 8'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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:

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Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119084 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 3 @ 12'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 10:38

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/20/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/17/01	3005a	---	---	---	---	---
pH	7.7	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	332	mg/Kg	50	<50	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	847	mg/Kg	50	<50	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	J	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/17/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/17/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/17/01	8270c	---	---	---	---	---

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.

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.

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 3 @ 12'

Report#/Lab ID#: 119084
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/17/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/17/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/17/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/17/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/17/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/17/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/17/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/17/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/17/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/17/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/17/01	8270c	---	6.3	59.9	102.6	67.5

ANALYSYS Inc.

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2209 N. Padre Island Dr., Corpus Christi, TX 7840408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 3 @ 12'

Report#/Lab ID#: 119084
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 10X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 10X	D
TCLP-1,2-Dichloroethane-d4	8260b	91.1	80-120	---
TCLP-4-Bromofluorobenzene	8260b	100.4	86-115	---
TCLP-Toluene-d8	8260b	97.2	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	91.1	10-123	---
TCLP-2-Fluorobiphenyl	8270c	69.6	43-116	---
TCLP-2-Fluorophenol	8270c	42.8	21-100	---
TCLP-Nitrobenzene-d5	8270c	63.7	35-114	---
TCLP-Phenol-d5	8270c	54.1	10-94	---
TCLP-Terphenyl-d14	8270c	74.2	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119084 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 3 @ 12'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
TCLP-Selenium/ICP	J	See J-flag discussion above.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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 INC.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119085 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 B.D.
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 10:50

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/21/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	7.6	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	639	mg/Kg	5	<5	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	1200	mg/Kg	5	<5	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	J	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	J	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/17/01	8270c	---	---	---	---	---

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.

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.

ANALYSIS INC.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 B.D.

Report#/Lab ID#: 119085
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/17/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/17/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/17/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/17/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/17/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/17/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/17/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/17/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/17/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/17/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/17/01	8270c	---	6.3	59.9	102.6	67.5

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 B.D.

Report#/Lab ID#: 119085
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	109	50-150	---
p-Terphenyl	8015 mod.	85.8	50-150	---
TCLP-1,2-Dichloroethane-d4	8260b	90.6	80-120	---
TCLP-4-Bromofluorobenzene	8260b	96.8	86-115	---
TCLP-Toluene-d8	8260b	97.3	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	65.2	10-123	---
TCLP-2-Fluorobiphenyl	8270c	56.8	43-116	---
TCLP-2-Fluorophenol	8270c	39.4	21-100	---
TCLP-Nitrobenzene-d5	8270c	54.5	35-114	---
TCLP-Phenol-d5	8270c	46.6	10-94	---
TCLP-Terphenyl-d14	8270c	64	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119085 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #2 TRENCH 2 B.D.

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
TCLP-Barium/ICP	J	See J-flag discussion above.
TCLP-Selenium/ICP	J	See J-flag discussion above.

Notes:

ANALYSYS INC.

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Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119086 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 1 @ 4'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 11:20

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/22/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	7.2	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	1830	mg/Kg	10	<10	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	192	mg/Kg	10	<10	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/16/01	8270c	---	---	---	---	---

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.

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.

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 1 @ 4'

Report#/Lab ID#: 119086
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/16/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/16/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/16/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/16/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/16/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/16/01	8270c	---	6.3	59.9	102.6	67.5

ANALYSYS INC.

4221 Freidrich Lane,Suite 190, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 7840408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 1 @ 4'

Report#/Lab ID#: 119086
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 2X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 2X	D
TCLP-1,2-Dichloroethane-d4	8260b	97.2	80-120	---
TCLP-4-Bromofluorobenzene	8260b	99.6	86-115	---
TCLP-Toluene-d8	8260b	96.8	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	78	10-123	---
TCLP-2-Fluorobiphenyl	8270c	76.2	43-116	---
TCLP-2-Fluorophenol	8270c	64.8	21-100	---
TCLP-Nitrobenzene-d5	8270c	76.4	35-114	---
TCLP-Phenol-d5	8270c	74.8	10-94	---
TCLP-Terphenyl-d14	8270c	104	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119086 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 1 @ 4'

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 TNRCC-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 (ROL) 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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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 INC.

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Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119087 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 1 @ 8'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 11:27

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/23/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	7.4	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	709	mg/Kg	10	<10	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	127	mg/Kg	10	<10	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	J	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/16/01	8270c	---	---	---	---	---

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.

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.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 1 @ 8'

Report#/Lab ID#: 119087
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/16/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/16/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/16/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/16/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/16/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/16/01	8270c	---	6.3	59.9	102.6	67.5

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 1 @ 8'

Report#/Lab ID#: 119087
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 2X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 2X	D
TCLP-1,2-Dichloroethane-d4	8260b	92.9	80-120	---
TCLP-4-Bromofluorobenzene	8260b	98.1	86-115	---
TCLP-Toluene-d8	8260b	96.9	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	68.5	10-123	---
TCLP-2-Fluorobiphenyl	8270c	65	43-116	---
TCLP-2-Fluorophenol	8270c	54.5	21-100	---
TCLP-Nitrobenzene-d5	8270c	65.6	35-114	---
TCLP-Phenol-d5	8270c	62.6	10-94	---
TCLP-Terphenyl-d14	8270c	101	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119087 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 1 @ 8'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Reactivity sulfide	J	See J-flag discussion above.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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: _____

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Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119088 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 1 @ 12'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 11:35

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/24/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/07/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	7.2	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	928	mg/Kg	10	<10	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	90.8	mg/Kg	10	<10	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/16/01	8270c	---	---	---	---	---

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.

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.

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 1 @ 12'

Report#/Lab ID#: 119088
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/16/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/16/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/16/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/16/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/16/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/16/01	8270c	---	6.3	59.9	102.6	67.5

ANALYSYS INC.

4221 Freidrich Lane,Suite 190, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 7840408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 1 @ 12'

Report#/Lab ID#: 119088
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 2X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 2X	D
TCLP-1,2-Dichloroethane-d4	8260b	94.2	80-120	---
TCLP-4-Bromofluorobenzene	8260b	97.3	86-115	---
TCLP-Toluene-d8	8260b	98.1	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	60.6	10-123	---
TCLP-2-Fluorobiphenyl	8270c	51.6	43-116	---
TCLP-2-Fluorophenol	8270c	45.2	21-100	---
TCLP-Nitrobenzene-d5	8270c	52.5	35-114	---
TCLP-Phenol-d5	8270c	52	10-94	---
TCLP-Terphenyl-d14	8270c	84.1	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119088 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 1 @ 12'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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:

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Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119089 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ 4'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 11:45

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/25/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/11/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	7.5	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	1920	mg/Kg	10	<10	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	125	mg/Kg	10	<10	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	J	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/16/01	8270c	---	---	---	---	---

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.

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.

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ 4'

Report#/Lab ID#: 119089
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	2.9	110	105.9	99.6
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	0.2	110.6	110.9	104.6
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	3	109	106.5	107.5
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	7.2	61.8	104.6	103.6
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	1.1	104.5	105.9	99.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	1.5	110.6	105.8	103
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	4.2	110.1	104.5	105.6
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	5.5	111.2	107.4	105.7
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	1.8	103.5	102.2	103.5
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	1	107.8	112.4	109.6
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	2.7	99.5	102.7	95.7
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/16/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/16/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/16/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/16/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/16/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/16/01	8270c	---	6.3	59.9	102.6	67.5

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Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ 4'

Report#/Lab ID#: 119089
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 2X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 2X	D
TCLP-1,2-Dichloroethane-d4	8260b	102.6	80-120	---
TCLP-4-Bromofluorobenzene	8260b	106	86-115	---
TCLP-Toluene-d8	8260b	98.1	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	92.7	10-123	---
TCLP-2-Fluorobiphenyl	8270c	75.6	43-116	---
TCLP-2-Fluorophenol	8270c	62.4	21-100	---
TCLP-Nitrobenzene-d5	8270c	73	35-114	---
TCLP-Phenol-d5	8270c	75.8	10-94	---
TCLP-Terphenyl-d14	8270c	111	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119089 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ 4'

Sample Temperature/Condition <=6°C

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☒ Sample received in appropriate container(s) and appear to be appropriately preserved.
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J flag Discussion

A J flag data qualifier indicates (as required under TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Reactivity sulfide	J	See J-flag discussion above.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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: _____

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Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119090 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ 8'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 11:52

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/26/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/11/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	7.1	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	461	mg/Kg	10	<10	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	61.6	mg/Kg	10	<10	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	J	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/16/01	8270c	---	---	---	---	---

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.

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.

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Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ 8'

Report#/Lab ID#: 119090
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	5.8	113.8	118.7	106.5
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	3.3	103.7	105.8	104.1
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	1.9	109.3	109.6	105.8
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	15.1	67.5	110.4	105.1
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	2.8	103.5	106.6	105.1
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	8.3	115.6	116.1	111.2
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	3.3	103.6	101.4	96.7
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	6.5	102.8	112.8	112.3
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	5.3	105.1	112.7	99.4
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/16/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/16/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/16/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/16/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/16/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/16/01	8270c	---	6.3	59.9	102.6	67.5

ANALYSYS INC.

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2209 N. Padre Island Dr., Corpus Christi, TX 7840408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ 8'

Report#/Lab ID#: 119090
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 2X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 2X	D
TCLP-1,2-Dichloroethane-d4	8260b	100.8	80-120	---
TCLP-4-Bromofluorobenzene	8260b	103.8	86-115	---
TCLP-Toluene-d8	8260b	98	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	83.3	10-123	---
TCLP-2-Fluorobiphenyl	8270c	75.1	43-116	---
TCLP-2-Fluorophenol	8270c	63.5	21-100	---
TCLP-Nitrobenzene-d5	8270c	73.7	35-114	---
TCLP-Phenol-d5	8270c	72.7	10-94	---
TCLP-Terphenyl-d14	8270c	98.9	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119090 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ 8'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
TCLP-Selenium/ICP	J	See J-flag discussion above.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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 INC.

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Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119091 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ 12'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 11:58

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/27/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/11/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	7	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	1690	mg/Kg	10	<10	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	233	mg/Kg	10	<10	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/16/01	8270c	---	---	---	---	---

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.

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.

ANALYSIS INC.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ 12'

Report#/Lab ID#: 119091
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/14/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	5.8	113.8	118.7	106.5
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/14/01	8260b	---	3.3	103.7	105.8	104.1
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/14/01	8260b	---	1.9	109.3	109.6	105.8
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/14/01	8260b	---	15.1	67.5	110.4	105.1
TCLP-Benzene	<200	µg/L	200	<200	09/14/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/14/01	8260b	---	2.8	103.5	106.6	105.1
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/14/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/14/01	8260b	---	8.3	115.6	116.1	111.2
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/14/01	8260b	---	3.3	103.6	101.4	96.7
TCLP-Trichloroethene	<200	µg/L	200	<200	09/14/01	8260b	---	6.5	102.8	112.8	112.3
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/14/01	8260b	---	5.3	105.1	112.7	99.4
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/16/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/16/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/16/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/16/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/16/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/16/01	8270c	---	6.3	59.9	102.6	67.5

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ 12'

Report#/Lab ID#: 119091
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 2X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 2X	D
TCLP-1,2-Dichloroethane-d4	8260b	100.7	80-120	---
TCLP-4-Bromofluorobenzene	8260b	100.8	86-115	---
TCLP-Toluene-d8	8260b	100.8	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	69.9	10-123	---
TCLP-2-Fluorobiphenyl	8270c	60.3	43-116	---
TCLP-2-Fluorophenol	8270c	51.9	21-100	---
TCLP-Nitrobenzene-d5	8270c	58.1	35-114	---
TCLP-Phenol-d5	8270c	58.5	10-94	---
TCLP-Terphenyl-d14	8270c	80.8	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119091 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ 12'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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:

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Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119092 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ B.D.
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 12:00

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/28/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/11/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	7	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	2170	mg/Kg	10	<10	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	946	mg/Kg	10	<10	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	J	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/16/01	8270c	---	---	---	---	---

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.

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.

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Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ B.D.

Report#/Lab ID#: 119092
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/15/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/15/01	8260b	---	5.8	113.8	118.7	106.5
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/15/01	8260b	---	3.3	103.7	105.8	104.1
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/15/01	8260b	---	1.9	109.3	109.6	105.8
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/15/01	8260b	---	15.1	67.5	110.4	105.1
TCLP-Benzene	<200	µg/L	200	<200	09/15/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/15/01	8260b	---	2.8	103.5	106.6	105.1
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/15/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/15/01	8260b	---	8.3	115.6	116.1	111.2
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/15/01	8260b	---	3.3	103.6	101.4	96.7
TCLP-Trichloroethene	<200	µg/L	200	<200	09/15/01	8260b	---	6.5	102.8	112.8	112.3
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/15/01	8260b	---	5.3	105.1	112.7	99.4
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/16/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/16/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/16/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/16/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/16/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/16/01	8270c	---	6.3	59.9	102.6	67.5

ANALYSYS Inc.

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2209 N. Padre Island Dr., Corpus Christi, TX 7840408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ B.D.

Report#/Lab ID#: 119092
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 2X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 2X	D
TCLP-1,2-Dichloroethane-d4	8260b	97.4	80-120	---
TCLP-4-Bromofluorobenzene	8260b	98.1	86-115	---
TCLP-Toluene-d8	8260b	99.1	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	54.5	10-123	---
TCLP-2-Fluorobiphenyl	8270c	72.9	43-116	---
TCLP-2-Fluorophenol	8270c	49.5	21-100	---
TCLP-Nitrobenzene-d5	8270c	73	35-114	---
TCLP-Phenol-d5	8270c	55.1	10-94	---
TCLP-Terphenyl-d14	8270c	88.7	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119092 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 @ B.D.

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
TCLP-Arsenic/ICP	J	See J-flag discussion above.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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:

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Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119093 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 B.D. #2
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 12:12

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/29/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/11/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	6.9	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	2300	mg/Kg	10	<10	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	929	mg/Kg	10	<10	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	J	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/16/01	8270c	---	---	---	---	---

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.

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.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 B.D. #2

Report#/Lab ID#: 119093
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/15/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/15/01	8260b	---	5.8	113.8	118.7	106.5
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/15/01	8260b	---	3.3	103.7	105.8	104.1
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/15/01	8260b	---	1.9	109.3	109.6	105.8
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/15/01	8260b	---	15.1	67.5	110.4	105.1
TCLP-Benzene	<200	µg/L	200	<200	09/15/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/15/01	8260b	---	2.8	103.5	106.6	105.1
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/15/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/15/01	8260b	---	8.3	115.6	116.1	111.2
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/15/01	8260b	---	3.3	103.6	101.4	96.7
TCLP-Trichloroethene	<200	µg/L	200	<200	09/15/01	8260b	---	6.5	102.8	112.8	112.3
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/15/01	8260b	---	5.3	105.1	112.7	99.4
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/16/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/16/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/16/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/16/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/16/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/16/01	8270c	---	6.3	59.9	102.6	67.5

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 B.D. #2

Report#/Lab ID#: 119093
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 2X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 2X	D
TCLP-1,2-Dichloroethane-d4	8260b	99.2	80-120	---
TCLP-4-Bromofluorobenzene	8260b	101.3	86-115	---
TCLP-Toluene-d8	8260b	96.5	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	50.3	10-123	---
TCLP-2-Fluorobiphenyl	8270c	61.1	43-116	---
TCLP-2-Fluorophenol	8270c	40.9	21-100	---
TCLP-Nitrobenzene-d5	8270c	60.7	35-114	---
TCLP-Phenol-d5	8270c	48.1	10-94	---
TCLP-Terphenyl-d14	8270c	83.4	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119093 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 2 B.D. #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.
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J flag Discussion

A J flag data qualifier indicates (as required under TNRCC-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 (ROL) 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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
TCLP-Arsenic/ICP	J	See J-flag discussion above.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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:

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Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119094 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 4'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:30
Date Sampled: 09/06/2001 **Time:** 14:05

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/13/01	3550	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/11/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	7.5	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	3840	mg/Kg	50	<50	09/12/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/11/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	599	mg/Kg	50	<50	09/12/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	1.87	110.32	104.65	108.95
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	1.47	105.75	100.75	108.58
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	1.6	105.67	102	105.55
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.21	102.72	94.88	105.13
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.39	103.83	100.35	107.55
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	1.16	108.8	105.9	109.03
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	2.42	104.37	101.3	105.25
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	2.63	118.5	100.75	92.3
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	109.3	66	-NA-
Extractable organics-TC	---	---	---	---	09/15/01	8270c	---	---	---	---	---

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.

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.

4221 Freidrich Lane, Suite 190, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 4'

Report#/Lab ID#: 119094
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/15/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/15/01	8260b	---	5.8	113.8	118.7	106.5
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/15/01	8260b	---	3.3	103.7	105.8	104.1
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/15/01	8260b	---	1.9	109.3	109.6	105.8
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/15/01	8260b	---	15.1	67.5	110.4	105.1
TCLP-Benzene	<200	µg/L	200	<200	09/15/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/15/01	8260b	---	2.8	103.5	106.6	105.1
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/15/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/15/01	8260b	---	8.3	115.6	116.1	111.2
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/15/01	8260b	---	3.3	103.6	101.4	96.7
TCLP-Trichloroethene	<200	µg/L	200	<200	09/15/01	8260b	---	6.5	102.8	112.8	112.3
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/15/01	8260b	---	5.3	105.1	112.7	99.4
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/15/01	8270c	---	21.9	84.9	85.8	109.7
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	18.7	100.5	114.7	112.9
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/15/01	8270c	---	29.4	77.6	98.7	95.6
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/15/01	8270c	---	9	74.1	109.2	75.5
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	0.3	132.7	108.6	131.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/15/01	8270c	---	14.6	100.2	111	107.4
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/15/01	8270c	---	7.6	115	116.6	115.3
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/15/01	8270c	---	14	86.8	98.2	136.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/15/01	8270c	---	4.3	138.3	104.9	137
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/15/01	8270c	---	2.3	113.6	113.5	65.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/15/01	8270c	---	8	91.4	104.9	113.4

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 4'

Report#/Lab ID#: 119094
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 5X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 5X	D
TCLP-1,2-Dichloroethane-d4	8260b	100.4	80-120	---
TCLP-4-Bromofluorobenzene	8260b	102.1	86-115	---
TCLP-Toluene-d8	8260b	101.9	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	85.3	10-123	---
TCLP-2-Fluorobiphenyl	8270c	71	43-116	---
TCLP-2-Fluorophenol	8270c	62.7	21-100	---
TCLP-Nitrobenzene-d5	8270c	72.1	35-114	---
TCLP-Phenol-d5	8270c	72.2	10-94	---
TCLP-Terphenyl-d14	8270c	93.3	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119094 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 4'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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:

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Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119095 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 8'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 14:11

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	09/30/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/11/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	9.1	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	5220	mg/Kg	50	<50	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	1040	mg/Kg	50	<50	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	1.41	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	09/14/01	245.2&7471	---	1.11	108.19	100	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/16/01	8270c	---	---	---	---	---

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.

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.

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(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 8'

Report#/Lab ID#: 119095
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/15/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/15/01	8260b	---	5.8	113.8	118.7	106.5
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/15/01	8260b	---	3.3	103.7	105.8	104.1
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/15/01	8260b	---	1.9	109.3	109.6	105.8
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/15/01	8260b	---	15.1	67.5	110.4	105.1
TCLP-Benzene	<200	µg/L	200	<200	09/15/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/15/01	8260b	---	2.8	103.5	106.6	105.1
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/15/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/15/01	8260b	---	8.3	115.6	116.1	111.2
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/15/01	8260b	---	3.3	103.6	101.4	96.7
TCLP-Trichloroethene	<200	µg/L	200	<200	09/15/01	8260b	---	6.5	102.8	112.8	112.3
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/15/01	8260b	---	5.3	105.1	112.7	99.4
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/16/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/16/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/16/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/16/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/16/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/16/01	8270c	---	6.3	59.9	102.6	67.5

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 8'

Report#/Lab ID#: 119095
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 10X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 10X	D
TCLP-1,2-Dichloroethane-d4	8260b	100.6	80-120	---
TCLP-4-Bromofluorobenzene	8260b	104.1	86-115	---
TCLP-Toluene-d8	8260b	97.9	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	51.7	10-123	---
TCLP-2-Fluorobiphenyl	8270c	66	43-116	---
TCLP-2-Fluorophenol	8270c	45.3	21-100	---
TCLP-Nitrobenzene-d5	8270c	64.4	35-114	---
TCLP-Phenol-d5	8270c	53.7	10-94	---
TCLP-Terphenyl-d14	8270c	85.9	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119095 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 8'

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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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:

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Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119096 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 12'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 14:34

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	10/01/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/11/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	7.5	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	1630	mg/Kg	10	<10	09/11/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/10/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	577	mg/Kg	10	<10	09/11/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	J	0.35	100.12	104.3	107.7
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	0.61	97.78	108.25	103.8
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.08	98.13	104.75	104.35
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.2	97.21	108.63	103.5
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.66	97.99	100.1	102.7
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	08/14/01	245.2&7471	---	5	109.37	99	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	0.65	99.92	101.95	106.68
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.88	97.4	101.5	105.1
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/16/01	8270c	---	---	---	---	---

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.

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.

ANALYSIS INC.

4221 Freidrich Lane, Suite 190, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 12'

Report#/Lab ID#: 119096
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/15/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/15/01	8260b	---	5.8	113.8	118.7	106.5
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/15/01	8260b	---	3.3	103.7	105.8	104.1
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/15/01	8260b	---	1.9	109.3	109.6	105.8
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/15/01	8260b	---	15.1	67.5	110.4	105.1
TCLP-Benzene	<200	µg/L	200	<200	09/15/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/15/01	8260b	---	2.8	103.5	106.6	105.1
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/15/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/15/01	8260b	---	8.3	115.6	116.1	111.2
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/15/01	8260b	---	3.3	103.6	101.4	96.7
TCLP-Trichloroethene	<200	µg/L	200	<200	09/15/01	8260b	---	6.5	102.8	112.8	112.3
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/15/01	8260b	---	5.3	105.1	112.7	99.4
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/16/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	10.5	73.6	95.9	64.8
TCLP-2,4-Dinitrotoluene	<100	µg/L	100	<100	09/16/01	8270c	---	11.9	79.9	108.5	69
TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/16/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/16/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/16/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/16/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/16/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/16/01	8270c	---	6.3	59.9	102.6	67.5

ANALYSYS INC.

4221 Freidrich Lane,Suite 190, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 7840408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 12'

Report#/Lab ID#: 119096
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 2X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 2X	D
TCLP-1,2-Dichloroethane-d4	8260b	98.3	80-120	---
TCLP-4-Bromofluorobenzene	8260b	100.2	86-115	---
TCLP-Toluene-d8	8260b	99	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	91.9	10-123	---
TCLP-2-Fluorobiphenyl	8270c	86.5	43-116	---
TCLP-2-Fluorophenol	8270c	80.2	21-100	---
TCLP-Nitrobenzene-d5	8270c	85.1	35-114	---
TCLP-Phenol-d5	8270c	86.6	10-94	---
TCLP-Terphenyl-d14	8270c	106	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119096 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 12'

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 TNRCC-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 (ROL) 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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
TCLP-Arsenic/ICP	J	See J-flag discussion above.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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 INC.

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2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 444-5896 • FAX (512) 447-4766

Client: Cypress Engineering
Attn: George Robinson
Address: 10235 West Little York, Ste. 256
Houston Tx 77040

Phone: 713 646-7252 **FAX:** 713 646-7867

Report#/Lab ID#: 119097 **Report Date:** 09/17/01
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 10'
Sample Matrix: soil
Date Received: 09/07/2001 **Time:** 14:38
Date Sampled: 09/06/2001 **Time:** 14:20

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
A/BN extraction-TC	---	---	---	---	10/02/01	NA	---	---	---	---	---
Ignitability	not ignitable	°F	---	---	09/11/01	1010	---	0	-NA-	-NA-	-NA-
Metals Dig.-Hg/TCLP	---	---	---	---	09/14/01	7470&245.1	---	---	---	---	---
Metals Dig.-HNO3/TCLP	---	---	---	---	09/14/01	3005a	---	---	---	---	---
pH	8	pH units	---	---	09/13/01	9045	---	0	-NA-	-NA-	-NA-
TCLP extraction-ABN/metals	---	---	---	---	09/12/01	1311	---	---	---	---	---
TCLP extraction-ZHE	---	---	---	---	09/11/01	1311	---	---	---	---	---
TPH by GC (as diesel)	7370	mg/Kg	50	<50	09/12/01	8015 mod.	P	33.1	112.6	92.3	82.6
TPH by GC (as diesel-ext)	---	---	---	---	09/11/01	3540	---	---	---	---	---
TPH by GC (as gasoline)	2290	mg/Kg	50	<50	09/12/01	8015 mod.	---	8.4	114.1	81	118
TCLP-Arsenic/ICP	2.18	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	1.87	110.32	104.65	108.95
TCLP-Barium/ICP	<5	mg/L	5	<5	09/14/01	6010 & 200.7	---	1.47	105.75	100.75	108.58
TCLP-Cadmium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	---	1.6	105.67	102	105.55
TCLP-Chromium/ICP	<0.5	mg/L	0.5	<0.5	09/14/01	6010 & 200.7	---	0.21	102.72	94.88	105.13
TCLP-Lead/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	0.39	103.83	100.35	107.55
TCLP-Mercury/CVAA	<0.04	mg/L	0.04	<0.04	08/14/01	245.2&7471	---	5	109.37	99	100.67
TCLP-Selenium/ICP	<0.1	mg/L	0.1	<0.1	09/14/01	6010 & 200.7	J	1.16	108.8	105.9	109.03
TCLP-Silver/ICP	<0.2	mg/L	0.2	<0.2	09/14/01	6010 & 200.7	---	2.42	104.37	101.3	105.25
Reactivity cyanide	<10	mg/Kg	10	<10	09/11/01	9010	---	0.66	119.25	96.8	98.58
Reactivity sulfide	<20	mg/Kg	20	<20	09/11/01	376.1&9030	---	0	102.01	66	-NA-
Extractable organics-TC	---	---	---	---	09/17/01	8270c	---	---	---	---	---

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.

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.

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 10'

Report#/Lab ID#: 119097
Sample Matrix: soil

REPORT OF ANALYSIS-cont.

QUALITY ASSURANCE DATA[1]

Parameter	Result	Units	RQL[5]	Blank	Date	Method[6]	Data Qual[7]	Prec.[2]	Recov.[3]	CCV[4]	LCS[4]
Volatile organics-TC	---	---	---	---	09/15/01	8260b	---	---	---	---	---
TCLP-1,1-Dichloroethene	<500	µg/L	500	<500	09/15/01	8260b	---	5.8	113.8	118.7	106.5
TCLP-1,2-Dichloroethane	<200	µg/L	200	<200	09/15/01	8260b	---	3.3	103.7	105.8	104.1
TCLP-1,4-Dichlorobenzene	<1000	µg/L	1000	<1000	09/15/01	8260b	---	1.9	109.3	109.6	105.8
TCLP-2-Butanone (MEK)	<5000	µg/L	5000	<5000	09/15/01	8260b	---	15.1	67.5	110.4	105.1
TCLP-Benzene	<200	µg/L	200	<200	09/15/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Carbon tetrachloride	<200	µg/L	200	<200	09/15/01	8260b	---	2.8	103.5	106.6	105.1
TCLP-Chlorobenzene	<50	µg/L	50	<50	09/15/01	8260b	---	2.2	107.5	106.1	102.1
TCLP-Chloroform	<1000	µg/L	1000	<1000	09/15/01	8260b	---	8.3	115.6	116.1	111.2
TCLP-Tetrachloroethene	<500	µg/L	500	<500	09/15/01	8260b	---	3.3	103.6	101.4	96.7
TCLP-Trichloroethene	<200	µg/L	200	<200	09/15/01	8260b	---	6.5	102.8	112.8	112.3
TCLP-Vinyl chloride	<100	µg/L	100	<100	09/15/01	8260b	---	5.3	105.1	112.7	99.4
TCLP-2,4,5-Trichlorophenol	<5000	µg/L	5000	<5000	09/17/01	8270c	---	9.1	74.4	95.3	65.6
TCLP-2,4,6-Trichlorophenol	<1000	µg/L	1000	<1000	09/17/01	8270c	---	10.5	73.6	95.9	64.8
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TCLP-2-Methylphenol (o-Cresol)	<1000	µg/L	1000	<1000	09/17/01	8270c	---	0.4	65.5	107.1	66.2
TCLP-3&4-Methylphenol	<1000	µg/L	1000	<1000	09/17/01	8270c	---	3.7	72.7	113.4	70.9
TCLP-Hexachlorobenzene	<100	µg/L	100	<100	09/17/01	8270c	---	8.7	72.6	88.2	63.1
TCLP-Hexachlorobutadiene	<200	µg/L	200	<200	09/17/01	8270c	---	5.4	53.4	86	56.9
TCLP-Hexachloroethane	<1000	µg/L	1000	<1000	09/17/01	8270c	---	4.1	59.5	91.6	62.6
TCLP-Nitrobenzene	<1000	µg/L	1000	<1000	09/17/01	8270c	---	4.2	57.5	97.7	60.7
TCLP-Pentachlorophenol	<1000	µg/L	1000	<1000	09/17/01	8270c	---	11.8	109.8	105.2	91.9
TCLP-Pyridine	<1000	µg/L	1000	<1000	09/17/01	8270c	---	6.3	59.9	102.6	67.5

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Client: Cypress Engineering
Attn: George Robinson

Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 10'

Report#/Lab ID#: 119097
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 5X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 5X	D
TCLP-1,2-Dichloroethane-d4	8260b	100.1	80-120	---
TCLP-4-Bromofluorobenzene	8260b	102	86-115	---
TCLP-Toluene-d8	8260b	99	88-110	---
TCLP-2,4,6-Tribromophenol	8270c	95.1	10-123	---
TCLP-2-Fluorobiphenyl	8270c	84.9	43-116	---
TCLP-2-Fluorophenol	8270c	85.8	21-100	---
TCLP-Nitrobenzene-d5	8270c	85.6	35-114	---
TCLP-Phenol-d5	8270c	93.1	10-94	---
TCLP-Terphenyl-d14	8270c	102	33-141	---

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

Exceptions Report:

Report #/Lab ID#: 119097 **Matrix:** soil
Client: Cypress Engineering **Attn:** George Robinson
Project ID: CES/ENRON/TWP Roswell Sta. #9 Pit Samp.
Sample Name: PIT #1 TRENCH 3 @ 10'

Sample Temperature/Condition <=6°C

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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 TNRCC-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) TPH by GC (as diesel)	P P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
TCLP-Selenium/ICP	J	See J-flag discussion above.
Nitrobenzene-d5 Nitrobenzene-d5	D 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 p-Terphenyl	D 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:

CHAIN-OF CUSTODY

PAGE 1 OF 1

ANALYSYS INC.
4221 Freidrich Lane, Suite 190, Austin, TX 78744
(512) 444-5896

Send Reports To:
Company Name: Cypress Engineering
Address: 10235 West Little York Rd. Ste 256
City: Houston State: TX Zip: 77040-3129
ATTN: George Robinson, PE
Phone: 7136467327 Fax: 713-646-7867

Bill to (if different):
Company Name:
Address:
City: State: Zip:
ATTN:
Phone: Fax:

Rush Status (must be confirmed with lab mgr.):
Project Name/PO#: CES/Enron/Twp Sampler: CM Barnhill, PG
Roswell Station #9 Pit Sampling

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)	TCLP (M,V,S)	RCI	T&H MOD 8015 GRO/DRO	Comments
Pit #2 Trench 1 @ 4'	9/6/01	8:52	1/oz	X			119076	X	X	X	
Pit #2 Trench 1 @ 8'	9/6/01	9:00					119077				
Pit #2 Trench 1 @ 12'	9/6/01	9:09					119078				
Pit #2 Trench 2 @ 4'	9/6/01	9:44					119079				
Pit #2 Trench 2 @ 8'	9/6/01	9:54					119080				
Pit #2 Trench 2 @ 12	9/6/01	10:10					119081				
Pit #2 Trench 3 @ 4'	9/6/01	10:20					119082				
Pit #2 Trench 3 @ 8'	9/6/01	10:27					119083				
Pit #2 Trench 3 @ 12'	9/6/01	10:38					119084				
Pit #2 Trench 2 B.D.	9/6/01	10:50	✓	✓			119085	✓	✓	✓	

)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 nits (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 or SI's HSL list at ASI's option. Specific compound lists must be supplied for all GC procedures.

T = 0.0°C

Sample Relinquished By				Sample Received By			
Name	Affiliation	Date	Time	Name	Affiliation	Date	Time
Clayton Barnhill	CMB Environmental & Geological Services Inc	9/6/01	16:40	Melanie Humphrey	ASI	9/7/01	1438

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

CHAIN-OF-CUSTODY

PAGE ~~1 OF 3~~ 2 OF 3

Send Reports To:
Company Name Cypress Engineering
Address 10235 W. Little York Road - Ste 156
City Houston State TX Zip 77040-3229
ATTN: Mr. George Robinson, PE.
Phone 713-466-7327 Fax 713-466-7867

Bill to (if different):
Company Name _____
Address _____
City _____ State ____ Zip _____
ATTN: _____
Phone _____ Fax _____

Rush Status (must be confirmed with lab mgr.): _____
Project Name/PO#: CES/Exxon/Twp Rosewell Station #1 Pit Sampling Sampler: CM Barabill, PE.

ANALYSYS INC.
4221 Freidrich Lane, Suite 190, Austin, TX 78744
(512) 444-5896

Client Sample No. Description/Identification	Date Sampled	Time Sampled	No. of Containers	Soil	Water	Waste	Lab I.D. # (Lab only)	Analyses Requested (1) Please attach explanatory information as required: TCLP (MVH) BCI TPH mod 8015 GRO/DRO	Comments
Pit #1 Trench @ 4'	9/6/01	11:20	1/80z/6	X			119086	X X X	
Pit #1 Trench @ 8'	9/6/01	11:27					119087		
Pit #1 Trench @ 12'	9/6/01	11:35					119088		
Pit #1 Trench 2 @ 4'	9/6/01	11:45					119089		
Pit #1 Trench 2 @ 8'	9/6/01	11:52					119090		
Pit #1 Trench 2 @ 12	9/6/01	11:58					119091		
Pit #1 Trench 2 @ B.D.	9/6/01	12:00					119092		
Pit #1 Trench 2 B.D. #2	9/6/01	12:12					119093		
Pit #1 Trench 3 @ 4'	9/6/01	14:05					119094		
Pit #1 Trench 3 @ 8'	9/6/01	14:11	↓	↓			119095	↓ ↓ ↓	

)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 nits (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 or SI's HSL list at ASI's option. Specific compound lists must be supplied for all GC procedures.

T = 0°C

Sample Relinquished By				Sample Received By			
Name	Affiliation	Date	Time	Name	Affiliation	Date	Time
Clayton McBrayer	CMB Environmental & Geological Services Inc.	9/6/01	16:40	Melanie Humphrey	ASI	9/7/01	1438

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

CHAIN-OF-CUSTODY

AnalySys Inc.
4221 Freidrich Lane, Suite 190, Austin, TX 78744
(512) 444-5896

Send Reports To:
Company Name: Cypress Engineering Suite
Address: 10235 W. Little York Rd 256
City: Houston State: TX Zip: 77040-3227
ATTN: Mr. George Robinson, PE.
Phone: 713-646-7327 Fax: 713-646-7867

Bill to (if different):
Company Name:
Address:
City: State: Zip:
ATTN:
Phone: Fax:

Rush Status (must be confirmed with lab mgr.):
Project Name/PO#: CES/Enron/Trip Roswell Station #9 Pit Sampling
Sampler: CM Barnhill, PE.

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)	TCLP (MVLS)	BCT	TPH mod 8015 Gro/DRO	Comments
Pit #1 Trench 3@ 12'	9/6/01	14:34	1/8oz/6	X			119096	X	X	X	
* Please Note *											
There are No Trip											
Blanks - the trip											
Blanks Provided											
By Analysis, Inc..											
were Smashed due											
to sloppy packing											
@ Analysis Inc.											
Prior to Shipment	9/6/01	14:20	1/8oz/6	X			119097	X	X	X	ADDED AS PER SAMPLE STAMP

)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 nits (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 or SI's HSL list at ASI's option. Specific compound lists must be supplied for all GC procedures.

Pit #1 Trench 3@ 10'

T = 0°C

Sample Relinquished By				Sample Received By			
Name	Affiliation	Date	Time	Name	Affiliation	Date	Time
Clayton McBride	CMB Environmental & Geological Services Inc.	9/6/01	16:45	Melanie Humphrey	ASI	9/7/01	1438

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

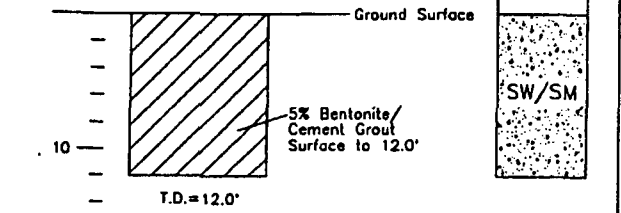
Work Plan for Excavation and Removal of Affected Soil in the Former Surface Impoundment Areas

Transwestern Pipeline Company
Roswell Compressor Station
Chaves County, New Mexico

Attachment

Selected Soil Boring Logs and Summary of Lab Results for Pit Area Soil Samples

4115\4115P1NW.DWG



Graphic Log	PID Reading (ppm)	Sampling Device	Comments and Lithology
SW/SM	1.3	Split spoon	0–4 – Gravelly silt sand
	1.3	Split spoon	1 – Light brown (7.5 YR 6/4); well-graded, dry, gravel (approximately 20%), silt (approximately 20%)
	13.6	Split spoon	2 – Caliche coating of gravels common; no noticeable petroleum odor
	19.1	Split spoon	4–8 – Same as above; very moist; noticeable hydrocarbon odor; may be backfill over pit contents
	20.4	Split spoon	8–12 – Gravelly sand/sludge; saturated, oil, stained (black) sand; very strong odor; noticeably oily

Feet below ground surface

10 — 20 — 30 — 40 — 50 — 60 — 70 — 80

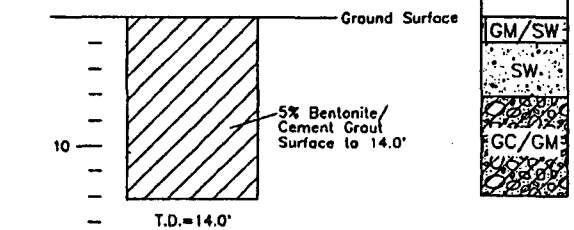
Hydrologists: J. Kirby
Driller: Harrison Environmental
Date Completed: 8/18/95

Drilling Method: Hollow stem auger
Bit Diameter: 8.5 in. O.D.

ROSWELL COMPRESSOR STATION
Boring Log: Pit 1, NW

DANIEL B. STEPHENS & ASSOCIATES, INC.
10-19-95
JN 4115

4115\4115P1SE.DWG



Feet below ground surface

10 20 30 40 50 60 70 80

Graphic Log	PID Reading (ppm)	Sampling Device	Comments and Lithology
GM/SW	75	Split spoon	0–2 – Gravelly sand; light brown (7.5 YR 6/4); poorly sorted; approximately 40% gravel size); sand–silt–gravel backfill; dry; strong petroleum odor
SW	253	Split spoon	2–4 – Gravelly sand; as above (approximately 20% gravels); slightly moist; strong odor
	293	Split spoon	4–6 – As above; wood fragments common; very moist; strong petroleum odor
	326	Split spoon	6–8 – Clayey gravel; pit backfill; no wood present; saturated with a water/oil sludge mixture; very strong odor
GC/GM	225	Split spoon	8–10 – Same as above
	132	Split spoon	10–12 – Same as above
	NA	Split spoon	12–14 – Split spoon sample with brass rings; same as above; encounter native soil at 14'

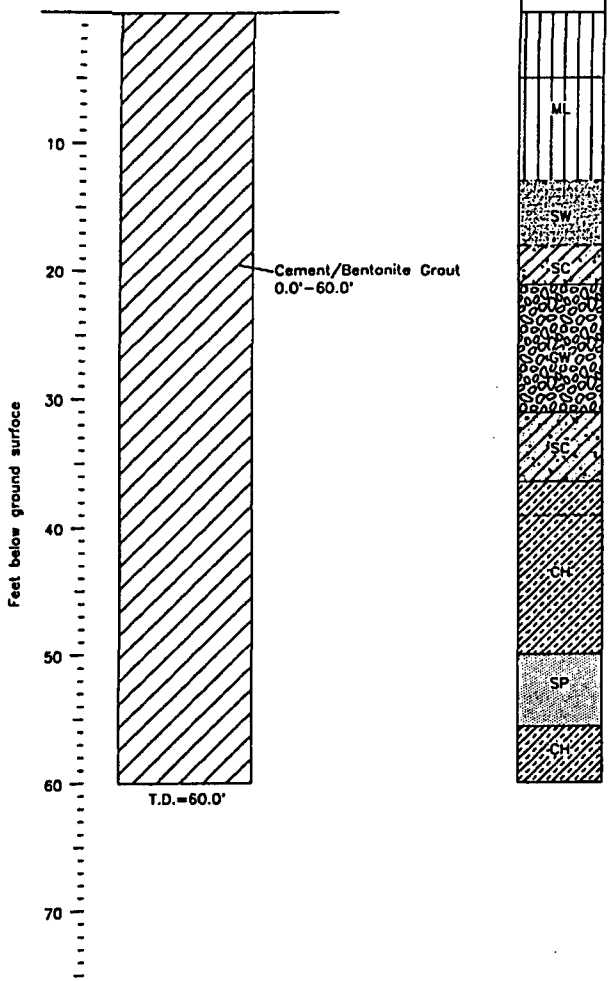
Hydrologists: J. Kirby
Driller: Harrison Environmental
Date Completed: 8/18/95

Drilling Method: Hollow stem auger
Bit Diameter: 8.5 in. O.D.

ROSWELL COMPRESSOR STATION
Boring Log: Pit 1, SE

DANIEL B. STEPHENS & ASSOCIATES, INC.
10-13-95
JN 4115

OP\6033\603327R.DWG



PID Reading (ppm)	Sampling Device	Sample Interval (feet bgs)	Comments and Lithology
			0 – Sandy silt with gravel (ML); light brown (7.5 YR 6/3); gravel to 3/4" dia. in sandy silt matrix; poorly sorted; unconsolidated; dry; 20% gravel, 15% sand, 65% silt
301	Split Spoon	5–6.5	5 – Gravelly silt with sand (ML); white (10 YR 8/1); gravel to 2" in dia. in a sandy silt matrix; poorly sorted; unconsolidated; dry; calcareous; 35% gravel, 25% sand, 40% silt
2.2	Split Spoon	10–11.5	10 – Gravelly silt with sand (ML); same as above, except gravel to 3" in dia. in cuttings
129	Split Spoon	15–16.5	15 – Sand with gravel and silt (SW); dark gray (7.5 YR 4/1); gravel to 1/2" in dia. in matrix of silty sand; poorly sorted; angular clasts; unconsolidated; damp; hydrocarbon odor and highly stained
74	Split Spoon	20–21.5	20 – Clayey sand (SC) to 21'; gravel with sand (GW) below 21'; clayey sand; reddish brown (5 YR 5/4); medium-grained; poorly sorted; moist; contact at 21' with gravel; unconsolidated
13	Split Spoon	25–26.5	25 – Gravel with sand (GW); light brown (7.5 YR 6/4); gravel in sand with silt matrix; gravel to 2" in. dia.; poorly sorted; subangular to rounded clasts; unconsolidated; damp; 60% gravel, 30% sand, 10% silt
3.6	Split Spoon	30–31.5	30 – Gravel with sand (GW); same as above; at 31' clayey sand; yellow red (5 YR 5/8); very fine- to fine-grained; moderately sorted; rounded grains; unconsolidated; moist; moderate plasticity; 70% sand, 30% clay
0.8	Split Spoon	35–36.5	35 – Clayey sand (SC); same as above; at 36' fat clay with sand; dark red (2.5 YR 4/6); high plasticity; unconsolidated; moist; 15% sand, 85% clay
121	Split Spoon	40–41.5	40 – Fat clay (CH); dark red (2.5 YR 4/8); high plasticity; unconsolidated; moist; little or no sand
5	Split Spoon	45–46.5	45 – Fat clay (CH); dark red (2.5 YR 4/6); high plasticity; unconsolidated; wet; slightly friable
4.9	Split Spoon	50–51.5	50 – Sand with silt (SP); weak red (2.5 YR 6/4); very fine- to fine-grained; moderately sorted; rounded grains; unconsolidated; damp to moist; nonplastic
1.5	Split Spoon	55–56.5	55 – Fat clay (CH); red (2.5 YR 5/6); high plasticity; unconsolidated; wet; encounter fat clay at 55.5'
0.7	Split Spoon	60–61.5	60 – Fat clay (CH); same as above, only moist, not wet

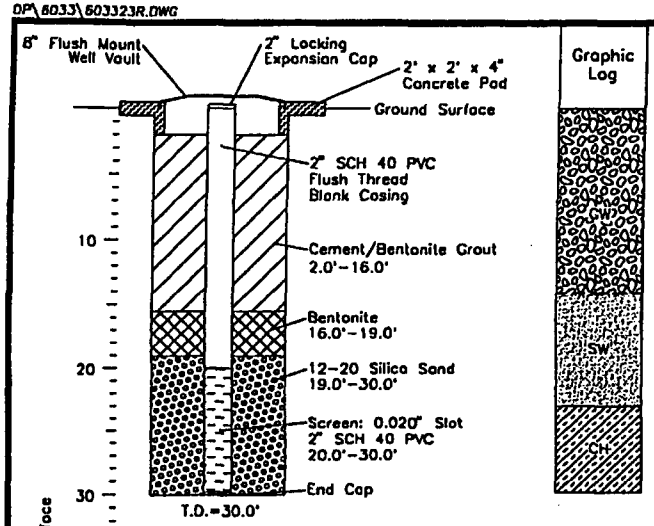
Geologist: Pigman
Driller: Layne Environmental Service
Date completed: 9-21-96

Drilling method: Hollow stem auger
Bit diameter: 8.5 in. O.D.

ROSWELL COMPRESSOR STATION
Boring Log: SVE-1

DANIEL B. STEPHENS & ASSOCIATES, INC.
11-27-96
JN 6033

DP\6033\603323R.DWG



PID Reading (ppm)	Sampling Device	Sample Interval (feet bgs)	Comments and Lithology
1.0	Cuttings	5–6	5 – Gravel with sand and silt (GW); very pale brown (10 YR 8/2); gravel to 2" in dia.; poorly sorted; subrounded clasts; unconsolidated; damp; calcareous; 5% gravel, 30% sand, 10% silt
1.5	Cuttings	10–11	10 – Gravel with sand and silt (GW); pinkish white (7.5 YR 8/2); gravel to 1" in dia.; poorly sorted; subrounded clasts; unconsolidated; damp; 50% gravel, 30% sand, 20% silt; calcareous
25.8	Cuttings	16–17	15 – Sand with gravel and silt (SW); light brown (7.5 YR 6/3); gravel to 2" in dia.; poorly sorted; unconsolidated; moist; subrounded clasts; 35% gravel, 50% sand, 15% silt
87	Cuttings	19–20	20 – Sand with gravel and silt (SW); same as above, except brown (7.5 YR 5/3); hydrocarbon odor and staining
41	Cuttings	24–25	25 – Sandy clay (CH); yellowish red (5 YR 5/6); coarse-grained sand and pebbly gravel in fat clay matrix; poorly sorted; unconsolidated; wet; high plasticity; hydrocarbon odor and staining
29	Cuttings	29–30	30 – Sandy clay (CH); same as above, except less staining

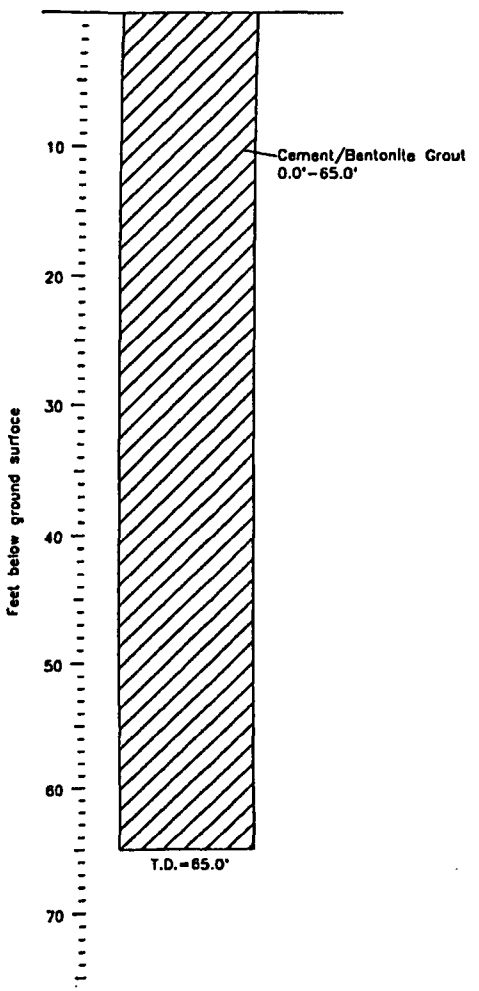
Geologist: Pigman
Driller: Layne Environmental Service
Date completed: 9–21–96

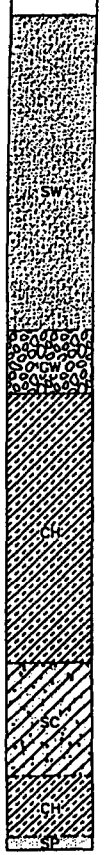
Drilling method: Hollow stem auger
Bit diameter: 8.5 in. O.D.

ROSWELL COMPRESSOR STATION
Well Log: SVE-1A

DANIEL B. STEPHENS & ASSOCIATES, INC.
11–24–96 JN 6033

OP\6033\603324R.DWG





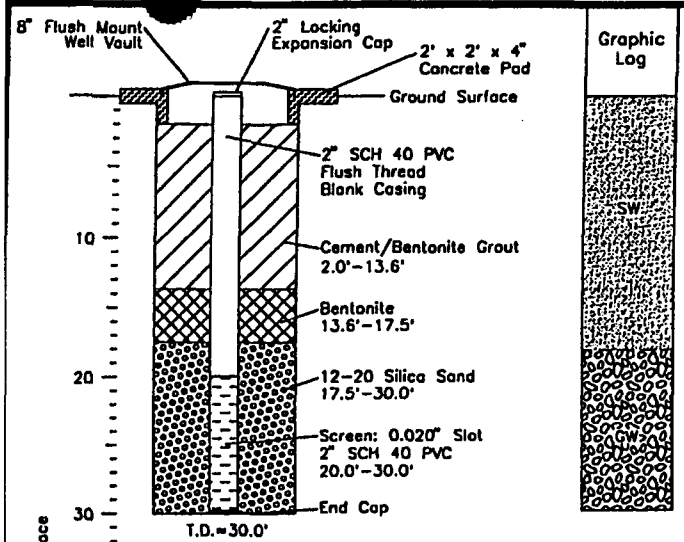
Graphic Log	PID Reading (ppm)	Sampling Device	Sample Interval (feet bgs)	Comments and Lithology
	0.0	Split Spoon	5–6.5	5 – Gravelly sand (SW); pink (7.5 YR 7/3); gravel to 3/4" in dia. in matrix of poorly sorted sands; subrounded clasts; unconsolidated; moist; 25% gravel, 60% sand
	0.0	Split Spoon, Cuttings	10–11.5	10 – Gravelly sand (SW); same as above, except gravel to 1" in dia.
	0.4	Split Spoon, Cuttings	15–16.5	15 – Gravelly sand (SW); same as above; more gravelly; 40% gravel, 40% sand; 15 to 20% silt; gravel to 1 in. dia. (cuttings)
	0.2	Split Spoon, Cuttings	20–21.5	20 – Gravelly sand (SW); same as above (cuttings)
	50	Split Spoon	25–27.5	25 – Gravel (GW); brown (7.5 YR 5/2); gravel to 3/4" dia.; poorly sorted; angular to rounded clasts; unconsolidated; moist; 85% gravel, 10% sand, 5% fines; strong hydrocarbon odor
	181	Split Spoon	30–31.5	30 – Fat clay (CH); yellowish red (5 YR 5/6); high plasticity; moist; unconsolidated; strong hydrocarbon odor
	21	Split Spoon	35–36.5	35 – Fat clay (CH); yellowish red (5 YR 4/6); high plasticity; moist; unconsolidated
	13.8	Split Spoon	40–41.5	40 – Fat clay (CH); same as above; just damp (much drier)
	1.9	Split Spoon	.	45 – Fat clay (CH); same as above; damp to moist
	2.4	Split Spoon	50–51.5	50 – Sand (SP) and clayey sand (SC); dark red (2.5 YR 4/6); very fine-grained to fine-grained; well to moderately sorted; rounded grains; unconsolidated; wet; 70 to 95% sand
	2.8	Split Spoon	55–56.5	55 – Clayey sand (SC); red (2.5 YR 5/6); very fine-grained sand; moderately to well sorted; rounded grains; unconsolidated; wet to saturated; 85% sand, 15% clay
	0.0	Split Spoon	60–61.5	60 – Fat clay (CH); yellowish red (5 YR 4/6); high plasticity; unconsolidated; moist to wet; drier than above sand
	0.2	Split Spoon	65–66.5	65 – Sand with clay (SP); yellowish red (5 YR 4/6); medium-grained; moderately sorted; rounded grains; unconsolidated; saturated; 85% sand, 15% clay

Geologist: Pigman
Driller: Layne Environmental Service
Date completed: 9-21-96

Drilling method: Hollow stem auger
Bit diameter: 8.5 in. O.D.

DANIEL B. STEPHENS & ASSOCIATES, INC.
11-24-96
JN 6033

ROSWELL COMPRESSOR STATION
Boring Log: SVE-2



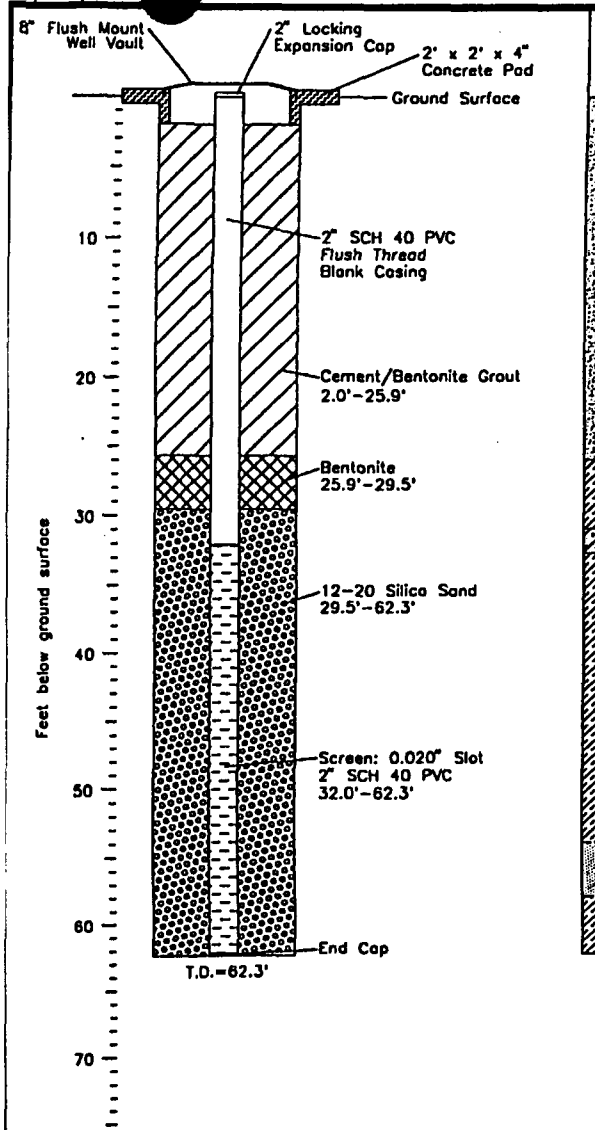
Graphic Log	PID Reading (ppm)	Sampling Device	Sample Interval (feet bgs)	Comments and Lithology
SW	0.0	Cuttings	0–5	5 – Gravelly sand (SW); pink (7.5 YR 8/3); gravel to 3/4" dia. in matrix of poorly sorted fine to medium sands; subrounded clasts; unconsolidated; moist; 25% gravel, 75% sand
	3.0	Cuttings	5–10	10 – Gravelly sand (SW); pink (7.5 YR 8/3); gravel to 1 inch in dia. in matrix of poorly sorted fine to medium sands; same as above
	2.0	Cuttings	10–15	15 – Gravelly sand (SW); light brown (7.5 YR 6/4); gravel to 1" in dia.; poorly sorted; angular gravels; unconsolidated; moist; 60% gravel, 40% sand; hydrocarbon odor
	2.0	Cuttings	15–20	20 – Sandy gravel (GW); light brown (7.5 YR 6/4); gravel to 1" in dia.; poorly sorted; angular gravels; unconsolidated; moist; 60% gravel, 40% sand; hydrocarbon odor
GW	37	Cuttings	20–25	25 – Sandy gravel (GW); same as above, except 75% gravel, 25% sand; strong hydrocarbon odor
	203	Cuttings	25–30	30 – Sandy gravel (GW); same as above, except wet

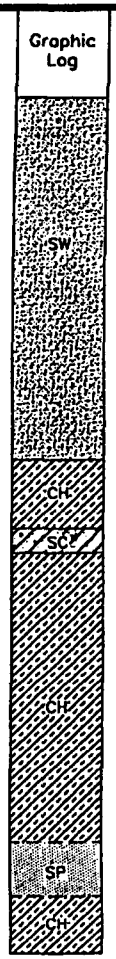
Geologist: Roth
Driller: Layne Environmental Service
Date completed: 9-20-96

Drilling method: Hollow stem auger
Bit diameter: 8.5 in. O.D.

ROSWELL COMPRESSOR STATION
Well Log: SVE-2A

DANIEL B. STEPHENS & ASSOCIATES, INC.
11-24-96
JN 6033





PID Reading (ppm)	Sampling Device	Sample Interval (feet bgs)	Comments and Lithology
0.0	Split Spoon	5-6.5	5 - Gravelly sand with clay (SW); reddish brown (5 YR 5/3); gravel to 3/4" dia.; poorly sorted; angular to subrounded clasts; unconsolidated; moist; 30% gravel, 50% sand, 20% fines
0.0	Split Spoon	10-11.5	10 - Gravelly sand with silt (SW); pinkish white (7.5 YR 8/2); gravel to 2" in dia.; poorly sorted; angular to subrounded clasts; unconsolidated; damp; 40% gravel, 15% sand, 15% silt; highly calcareous (caliche)
0.0	Split Spoon	15-16.5	15 - Gravelly sand (SW); light brown (7.5 YR 6/4); gravel to 1/2" in dia.; poorly sorted; subangular clasts; unconsolidated; moist; 30% gravel, 55% sand, 5% fines (silt)
0.0	Split Spoon	20-21.5	20 - Gravelly sand (SW); same as above
0.0	Split Spoon	25-26.5	26 - Gravelly sand (SW); same as above; at 26', encounter fat clay
0.3	Split Spoon	30-31.5	30 - Fat clay (CH); reddish brown (5 YR 4/4); high plasticity; unconsolidated; moist; fissile at 31' encounter silty sand with gravel; at 33', encounter sandy clay; red (2.5 YR 5/6); highly plastic; unconsolidated; wet; strong hydrocarbon odor; 50% clay, 50% very fine-grained sand
39	Split Spoon	35-36.5	
6.9	Split Spoon	40-41.5	40 - Sandy clay and clay (CH); red (2.5 YR 5/6); highly plastic; unconsolidated; wet to moist; sandy clay; wet
2.9	Split Spoon	45-46.5	45 - Fat clay with sand (CH); red (2.5 YR 5/6); high plasticity; moist; unconsolidated; micaceous
41	Split Spoon	50-51.5	
140	Split Spoon	55-56.5	55 - Sand with clay (SP); yellowish red (5 YR 5/6); very fine-grained; well sorted; rounded grains; unconsolidated; wet; 80 to 95% sand with 5 to 20% clay; moderate to high plasticity
28	Split Spoon	60-61.5	60 - Fat clay (CH) and lenses of fine-grained sand (SP); yellowish red (5 YR 5/6); high plasticity; unconsolidated; wet to saturated

Geologist: Pigman
Driller: Layne Environmental Service
Date completed: 9-16-96

Drilling method: Hollow stem auger
Bit diameter: 8.5 in. O.D.

ROSWELL COMPRESSOR STATION
Well Log: SVE-3

DANIEL B. STEPHENS & ASSOCIATES, INC.
11-24-96 JN 6033

HALLIBURTON NUS *Environmental Corporation*

BORING/WELL NUMBER **MW-1B** SHEET **1** OF **2**

PROJECT **Transwestern Pipeline Company**

LOCATION **Roswell Compressor Station No. 9**

COORDINATES

PROJECT NUMBER **5T72**

SURFACE ELEVATION **95.2** DATUM **GRADE**

LOGGED BY **S. Richard** DATE DRILLED **4/21/93**

ELEVATION FEET	SOIL DESCRIPTION	STRATA	SAMPLE INFORMATION: Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	WELL CONSTRUCTION DETAIL & REMARKS
	GROUND SURFACE								T.O.C. Elev. 95.18
	Silts and Clays with Gravel								
90			5						
	Hitting rock - No recovery			SPT		3 / 0	50		
	Hitting rock - No recovery. Will try sampling with split spoon sampler.		10						
85									
	Hit large rock			SPT		3 / 0	50		
80			15						
	Silts and Clays with Gravels			SPT		6 / 2	50		
75			20						
				SPT		2 / 0	50		
70			25	SPT		2 / 0			
				SPT		3 / 0			
	Very Silty								
65	Silts and Clays, little gravel		30					0	
				SPT		2 / 1		40	
	SILT - brown, organic odor						9		
	Black gravel and coarse sand			SPT		24/24	14 21 36 9	>1000	

DRILLING CONTRACTOR: **Layne Environmental**

DRILLER: **Russ Deike**

DRILLING METHOD: **Hollow Stem Auger**

DRILLING EQUIPMENT: **Failing F-10**

DIAMETER, TYPE & INTERVAL OF CASING: **2" PVC**

WELL SCREEN/INTERVAL: **0.020" slot, 55' to 65'**

FILTER PACK-INTERVAL/QUANTITY: **10/20 silica sand, 53' to 65.5'**

WELL SEAL-INTERVAL/QUANTITY: **50' to 53', bentonite pellets**

HALLIBURTON NUS
Environmental Corporation

BORING/WELL NUMBER MW-1B SHEET 2 OF 2

PROJECT Transwestern Pipeline Company

LOCATION Roswell Compressor Station No. 9

COORDINATES

PROJECT NUMBER 5T72

SURFACE ELEVATION 95.2 DATUM GRADE

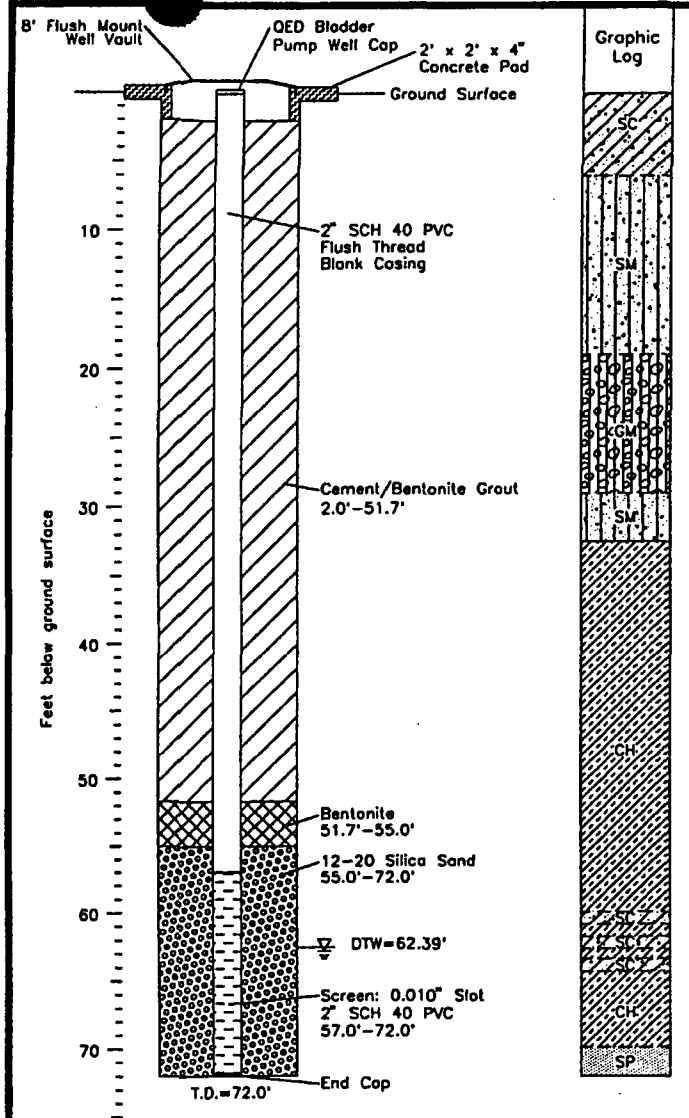
LOGGED BY S. Richard DATE DRILLED 4/21/93

ELEVATION FEET	SOIL DESCRIPTION	STRATA	Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)
	CONTINUED FROM PREVIOUS PAGE							
	CLAY - organic odor			SPT		24/24	13 23 27	>1000
	No odor			SPT		24/24	13 18 25 37	50
55			40					
50	Interbedded Sands and Clays		45					
				SPT		24/24	10 21 35	>1000
45			50	SPT		24/24	18 9 18 19	>1000
	CLAY - stiff			SPT		24/24	27 6 12 12	>1000
	CLAY - stiff			SPT		24/24	27 5 7 11	>1000
40	SAND - organic odor		55					
	CLAY			SPT		24/24	19 12 13 14	>1000
	SAND with PSH			SPT		24/20	41 31 11 18	>1000
35	Fine sand - wet		60	SPT		24/18	33 6 15 18	>1000
	6 inches of black sand			SPT		24/18	50+ 12 21 39	>1000
	CLAY		65					
30	Total depth = 65.5 feet BLS						19 9 11 19 21	

WELL CONSTRUCTION DETAIL & REMARKS

Water level at 58.8 feet BLS at 0900 hr on 4/23/93

Water level at 62.1 feet BLS at 1700 hr on 4/22/93



PID Reading (ppm)	Sampling Device	Sample Interval (feet bgs)	Comments and Lithology
0.3	Split Spoon	5–6.5	5 – Clayey sand with gravel (SC); pinkish gray (7.5 YR 7/2); gravel to 1" in dia. in a matrix of soil and clay; poorly sorted; subrounded clasts; unconsolidated; saturated (rained all day yesterday); 30% gravel, 50% sand, 20% clay
0.7	Split Spoon	10–11.5	10 – Silty sand with gravel (SM); light brown (7.5 YR 6/4); gravel to 3/4" in matrix of sand and clayey silt; unconsolidated; poorly sorted; rounded clasts; wet; 40% gravel, 40% sand, 20% fines
112	Split Spoon	15–16.5	15 – Silty sand with gravel (SM); dark gray (7.5 YR 4/1); highly stained; gravel to 3/4" in dia.; poorly sorted; subrounded clasts; unconsolidated; moist; 40% gravel, 40% sand, 20% fines; hydrocarbon odor
82	Split Spoon	20–21.5	20 – Gravel with silt and sand (GM); grayish brown (10 YR 5/2); highly stained; gravel to 3" in dia.; poorly sorted; rounded clasts; unconsolidated; damp; strong organic sewer odor
49	Split Spoon	25–26	25 – Sandy gravel (GW); light brownish gray (10 YR 6/2); gravel to 3/4" dia.; poorly sorted; rounded clasts; unconsolidated; damp; strong organic smell; 60% gravel, 30% sand, 10% fines
20.7	Split Spoon	30–31.5	30 – Sand with silt and gravel (SM); very pale brown (10 YR 7/4); gravel to 1/2" in dia. in silty sand matrix; poorly sorted; unconsolidated; damp; 30% gravel, 60% sand, 10% fines
67	Grab/ Cuttings	36–37	35 – Gravelly sand?; probably from above, may have been sand at 32.5' but driller thinks clay; clay in cuttings at 40'
47	Split Spoon	40–41.5	40 – Fat clay (CH); red (2.5 YR 5/6); highly plastic; unconsolidated; wet; some fine-grained clayey sand layers
45	Grab/ Cuttings	45	45 – Fat clay (CH); same as above
52.4	Split Spoon	50–51.5	50 – Fat clay (CH); same as above
30.0	Grab/ Cuttings	55–56	55 – Fat clay (CH); same as above
442	Split Spoon	60–61.5	60 – Fat clay (CH); same as above; possibly some clayey fine-grained sand layers; saturated
365	Grab/ Cuttings	65–66	65 – Fat clay (CH) and clayey very fine-grained sand (SC); same as above; saturated
166	Split Spoon	70–71.5	70 – Sand (SP); red (2.5 YR 5/6); fine- to medium-grained sand; well sorted; subrounded grains; unconsolidated saturated

Geologist: Pigman
Driller: Layne Environmental Service
Date completed: 9–13–96

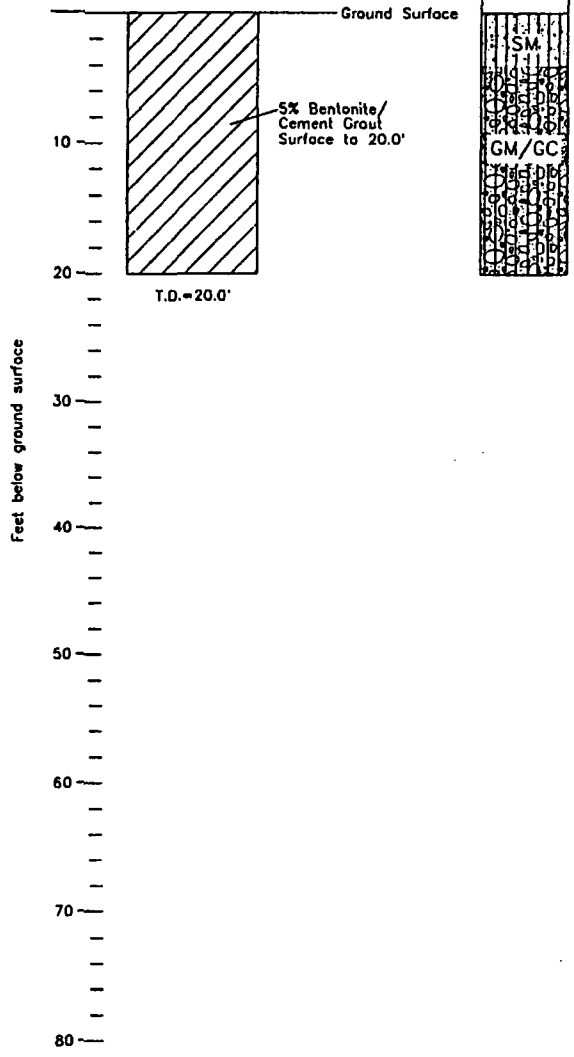
Drilling method: Hollow stem auger
Bit diameter: 8.5 in. O.D.

ROSWELL COMPRESSOR STATION

Well Log: MW-13

DANIEL B. STEPHENS & ASSOCIATES, INC.
11-27-96 JN 6033

4115\4115P2NE.DWG



PID Reading (ppm)	Sampling Device	Comments and Lithology
152.8	Split Spoon	4 - Sand; brown (7.5 YR 5/4); well sorted, silty sand; caliche coated gravels to 4 cm diam.; no hydrocarbon odor
159.7	Split Spoon	6 - Gravelly sand; mixture of above (50%) and a fuel/oil stained, black, gravel to sand (approximately 50%); strong fuel-like odor
245.1	Split Spoon	8
341.2	Split Spoon	10 - Sand; approximately 80%, brown (7.5 YR 1 5/4), well sorted sand; 20% caliche clasts; strong fuel odor
180.4	Split Spoon	12-14 - Same as above; caliche-coated rounded gypsum clasts to 4 cm diameter
319.5	Split Spoon	14-16 - Same as above
249.8	Split Spoon	16-18 - Sand; pinkish gray (7.5 YR 7/2); moderately sorted; sand (approximately 80%), 20% black (stained) soil; fuel-like odor
244.0	Split Spoon	18-20 - Gravelly sand; same as above

Hydrologists: J. Kirby
Driller: Harrison Environmental
Date Completed: 8/17/95

Drilling Method: Hollow stem auger
Bit Diameter: 8.5 in. O.D.

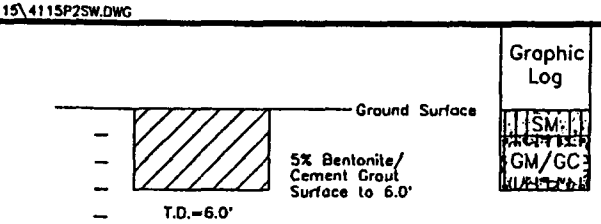
ROSWELL COMPRESSOR STATION

Boring Log: Pit 2, NE

DANIEL B. STEPHENS & ASSOCIATES, INC.
10-13-95

JN 4115

4115\4115P2SW.DWG



Graphic Log	PID Reading (ppm)	Sampling Device	Comments and Lithology
SM	0.0	Split Spoon	0–2 ~ Sand; brown (7.5 YR 5/4); well sorted, silty sand; caliche-coated gravels to 4 cm diam. (approximately 30%); noticeable petroleum odor
GM/GC	12.0	Split Spoon	2–4 ~ Gravelly sand; stained black; former pit contents; strong petroleum odor
	19.1	Split Spoon	4–6 ~ Sand to gravelly sand; same as 0–2'; black staining present; noticeable petroleum odor

Feet below ground surface

10
20
30
40
50
60
70
80

Hydrologists: J. Kirby
Driller: Harrison Environmental
Date Completed: 8/18/95

Drilling Method: Hollow stem auger
Bit Diameter: 8.5 in. O.D.

ROSWELL COMPRESSOR STATION
Boring Log: Pit 2, SW

DANIEL B. STEPHENS & ASSOCIATES, INC.
10-13-95
JN 4115

HALLIBURTON NUS
Environmental Corporation

BORING/WELL NUMBER MW-2 SHEET 1 OF 2

PROJECT Transwestern Pipeline Company

LOCATION Roswell Compressor Station No. 9

COORDINATES

PROJECT NUMBER 5T72

SURFACE ELEVATION 97.0 DATUM GRADE

LOGGED BY S. Richard DATE DRILLED 4/21/93

ELEVATION FEET	SOIL DESCRIPTION	STRATA	Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	WELL CONSTRUCTION DETAIL & REMARKS
	GROUND SURFACE								T.O.C. Elev. 96.98
	Silt and Clay with Gravel and Pebbles								
95			5	SPT		18/18	37 34 29	1	
90			10	SPT		6 / 3	50	2	
85			15	SPT		6 / 0	50	2	
80	More Gravel		20	SPT		6 / 2	50	1	
75			25	SPT		4 / 2	50	2	
70	3-inch dark brown sandy clay layer, sand is well sorted and medium grained								
	Small layer (1 foot) of black coarse gravel, organic odor		30	SPT		18/15	14 14 14	>1000	
65	CLAY			SPT		18/18	5 9 10	700	

DRILLING CONTRACTOR: Layne Environmental

DRILLER: Russ Deike

DRILLING METHOD: Hollow Stem Auger

DRILLING EQUIPMENT: Failing F-10

DIAMETER, TYPE & INTERVAL OF CASING: 2" PVC

WELL SCREEN/INTERVAL: 0.020" slot PVC, 55' to 65'

FILTER PACK-INTERVAL/QUANTITY: 10/20 silica sand, 53' to 65'

WELL SEAL-INTERVAL/QUANTITY: 50' to 53', bentonite pellets

HALLIBURTON NUS
Environmental Corporation

BORING/WELL NUMBER MW-2 SHEET 2 OF 2

PROJECT Transwestern Pipeline Company

LOCATION Roswell Compressor Station No. 9

COORDINATES

PROJECT NUMBER 5T72

SURFACE ELEVATION 97.0 DATUM GRADE

LOGGED BY S. Richard DATE DRILLED 4/21/93

ELEVATION FEET	SOIL DESCRIPTION	STRATA	SAMPLE INFORMATION: Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	WELL CONSTRUCTION DETAIL & REMARKS
	CONTINUED FROM PREVIOUS PAGE			SPT		18/18	5 9 10	50	
60				SPT		18/18	5 4 4	45	
			40	SPT		18/18	4 4 3	20	
55	CLAY with Silt and Gravel layers								
	CLAY with Gravel layers		45	SPT		18/18	4 5 6	1	
50				SPT		18/14	3 5 6	2	
	Clay only		50	SPT		18/18	10 12 21	2	
45	Clay			SPT		18/18	2 3 6	3	
	Clay - hard		55	SPT		18/18	4 7 10		
40									
	SAND - fine grained, well sorted, with clay, organic odor			SPT		18/8	4 6 14	>1000	
			60	SPT		18/17	7 17 50	>1000	
				AUGER		42/0			
	Total depth = 65.0 feet BLS								

Table 1. Summary of Detected Compounds for Pit Soil Samples
Roswell Compressor Station No. 9
Page 1 of 2

Analyte	Soil Screening Level[a]	Risk-Based Concentration[b]	Sample No. (Sample Date)			
			Pit 1 NW Boring (08/18/95)	Pit 1 SE Boring (08/18/95)	Pit 2 NE Boring (08/17/95)	Pit 2 SW Boring (08/18/95)
Volatile Organic Compounds (mg/kg) by EPA Method 8240						
Acetone	8	7,800	**1.4**	<0.50	<0.50	<0.10
Benzene	0.02	22	**0.21**	**0.85**	**0.14**	<0.005
Carbon disulfide	14	7,800	<0.02	**0.06**	<0.02	<0.005
1,1-Dichloroethane (1,1-DCA)	11	7,800	**1.0**	**1.20**	<0.02	<0.005
1,1-Dichloroethene (1,1-DCE)	0.03	1.1	**0.04**	**0.04**	<0.02	<0.005
Ethylbenzene	5	7,800	**0.04**	**0.37**	**0.9**	<0.005
2-Hexanone	NA	NA	<0.02	**0.46**	<0.02	<0.005
Methylene chloride (dichloromethane)	0.01	85	<0.02	**0.16**	<0.02	<0.005
Tetrachloroethene (PCE)	0.04	12	<0.02	**0.04**	<0.02	**0.009**
Toluene	5	16,000	**0.5**	**9.1**	**1.9**	<0.005
1,1,1-Trichloroethane (1,1,1-TCA)	0.9	7,000	**1.9**	**16.0**	<0.02	**0.017**
Vinyl acetate	84	78,000	**0.2**	**7.0**	<6.0	<0.05
Xylene(s)[c]	74	160,000	**0.27**	**2.4**	**16.0**	<0.005
Semivolatile Organic Compounds (mg/kg) by EPA Method 8270						
Benzo(j)fluoranthene	NA	NA	<3.3	<3.3	<0.33	**0.33**
Bis(2-ethylhexyl)phthalate	11	46	**4.8**	<3.3	<0.33	<0.33
Chrysene	1	88	<3.3	<3.3	<0.33	**0.33**
Fluoranthene	980	3,100	<3.3	<3.3	<0.33	**0.76**
2-Methylnaphthalene	NA	NA	**4.8**	<3.3	**0.46**	<0.33
Phenanthrene	NA	NA	**5.6**	**5.0**	<0.33	**0.45**
Phenol (carbolic acid)	49	47,000	**30.0**	**200**	<0.33	<0.33
Pyrene	1,400	2,300	<3.30	<3.3	<0.33	**0.89**

Notes: This table lists only those analytes that were detected in at least one of the pit soil samples.
Bold values highlight concentrations above reporting limits.
Core Laboratories results for VOCs and SVOCs converted from µg/kg to mg/kg.

[a] Soil screening level for protection of ground water based on a dilution-attenuation factor of 10 (EPA, 1994)
[b] Risk-based concentration for soil ingestion at residential sites (EPA, 1995)
[c] Soil screening level for mixed xylene

Table 1. Summary of Detected Compounds for Pit Soil Samples
Roswell Compressor Station No. 9
Page 2 of 2

Analyte	Soil Screening Level[a]	Risk-Based Concentration[b]	Sample No. (Sample Date)			
			Pit 1 NW Boring (08/18/95)	Pit 1 SE Boring (08/18/95)	Pit 2 NE Boring (08/17/95)	Pit 2 SW Boring (08/18/95)
PCBs (µg/kg) by EPA Method 8080 *(No analytes detected)*						
Metals (mg/kg) by EPA Methods 6010 and 7471 (for Mercury)						
Aluminum (Al)	NA	78,000	**5,950**	**1,690**	**1,430**	**1,63**
Antimony (Sb)	NA	31	**10**	<10	<10	<10
Arsenic (As)	15	23	**9**	**17**	**6**	<5
Barium (Ba)	32	5,500	**415**	**171**	**233**	**734**
Beryllium (Be)	180	0.15	<0.5	<0.5	**0.5**	<0.5
Chromium (Cr)[d]	19	390	**9**	**9**	**8**	**7**
Copper (Cu)	NA	2,900	**144**	**337**	**56**	**18**
Lead (Pb)	NA	NA	<5	**11**	<5	<5
Mercury (Hg)	3	23	**0.59**	**1.36**	<0.10	<0.10
Nickel (Ni)	21	1,600	**9**	**5**	**5**	<4
Selenium (Se)	3	390	<10	<10	<10	**10**
Tin (Sn)	NA	47,000	<5	**6**	**5**	<5
Vanadium (V)	NA	550	**14**	**10**	**21**	**11**
Zinc (Zn)	42,000	23,000	**97**	**282**	**45**	**34**
Miscellaneous (mg/kg) by EPA Methods 9010, 9030, and 418.1, respectively						
Total cyanide[e]	NA	11,290	**1.1**	**1.4**	<0.4	<0.4
Total sulfide	NA	NA	**1,800**	**940**	**530**	**370**
Total petroleum hydrocarbons	NA	NA	**4,700**	**26,000**	**5,300**	<50

Notes: This table lists only those analytes that were detected in at least one of the pit soil samples.
Bold values highlight concentrations above reporting limits.

[d] Concentrations based on chromium VI
[e] Includes barium/calcium/copper cyanide

NA = Not available