GW - 52

MONITORING REPORTS

DATE: 1998

Transwestern Pipeline Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

March 28, 1998

Mr. William C. Olson
Environmental Bureau
New Mexico Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, New Mexico 87505

MAR 3 1998

RE: Annual Ground Water Monitoring Report &
Phase IV Soil and Ground Water Assessment Plan
Roswell Compressor Station
Transwestern Pipeline Company

Dear Bill,

Enclosed for your review and approval is the Annual Ground Water Monitoring Report and Phase IV Soil and Ground Water Assessment Plan for the subject facility.

The content of the Phase IV plan, in general, is identical to the Phase III soil and ground water assessment plan which was reviewed and approved by your office last year. Changes have been made to incorporate comments by your office as prescribed in your correspondence related to the subject facility dated April 17, 1997, and February 24, 1998. More specifically, the key elements of the Phase IV plan include the following:

- Installation of two additional monitor wells within the uppermost aquifer
- Installation of two additional monitor wells within the deeper regional aquifer
- Collection of soil samples from the immediate pit area for treatability studies [Note: this has been modified slightly from the previous plan to include collection of samples using a split spoon sampler rather than a backhoe.]
- Collection of 16 soil samples for determination of background metal concentrations [Note: this has been modified slightly from the previous plan to incorporate the OCD's comment regarding sample locations and has been modified to include analysis for 19 metal constituents rather than 14]

If you have any questions or comments regarding this report and work plan, please contact me at (713) 646-7644 or George Robinson at (713) 646-7327.

Sincerely,

Bill Kendrick

Bill Kendrick
Manager, Environmental Affairs

gcr/BK

c w/attachment:

Jerry Bober	NMED HRMB
Benito Garcia	NMED HRMB
Robert Young	NM State Land Office
Larry Campbell	Transwestern
George Robinson	Cypress Engineering

ANNUAL GROUND WATER MONITORING REPORT

& PHASE IV ASSESSMENT WORK PLAN FOR

ROSWELL COMPRESSOR STATION NO. 9

SURFACE IMPOUNDMENTS

Volume I: Report Text, Figures, & Tables

Prepared for:

Transwestern Pipeline Company

Prepared by:

Cypress Engineering Services, Inc.

10235 West Little York Road, Suite 256

Houston, TX 77040

March 23, 1998

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1. INTRODUCTION

This annual report and work plan has been prepared for the continued investigation and evaluation of hydrocarbon affected soil and ground water at Transwestern Pipeline Company's (TPC) Roswell Compressor Station No. 9.

A phased approach has been implemented for the assessment of potentially affected soil and ground water at the site. In general, the objective of Phase I, which was completed in August, 1995, was to characterize the nature of affected soil immediately beneath the former impoundments. The objective of Phase II of investigation, which was completed in September, 1996, was to evaluate two additional potential source areas and to further assess the lateral and vertical extent of affected soil and ground water. The objective of Phase III of investigation, which was completed in August, 1997, was to further assess the lateral and vertical extent of affected soil and ground water. The objective of Phase IV of investigation will be to complete the assessment of the lateral and vertical extent of affected soil and ground water. This phase will include the installation of two additional shallow ground water monitor wells within the uppermost aquifer and two additional deep ground water monitor wells within the regional aquifer. In addition, this phase will include the collection of soil samples for the determination of background concentrations for selected metal constituents. Subsequent phases may be required to complete assessment activities and to address corrective actions that may be required to meet soil and ground water cleanup criteria. A scope of work for subsequent phases will be prepared and submitted to the OCD for review and approval.

2. RESULTS OF ROUTINE GROUND WATER MONITORING

2.1 Quarterly Ground Water Sampling Events

Two quarterly sampling events have been completed subsequent to the Phase III assessment activities completed in August, 1997. The 4th quarter 1997 sampling event was completed during the week of November 3, 1997. The 1st quarter 1998 sampling event was completed during the week of January 26, 1998. In the course of both sampling events, ground water samples were collected from nineteen monitor wells. A measurable thickness of phase separated hydrocarbon (PSH) was indicated in three monitor wells. Ground water samples from each monitor well were delivered to a laboratory for analysis for VOCs, PAHs, major ions, TDS, and those metals regulated under WQCC 82-1 Part 3-103 A. & B.

2.2 Results/Conclusions from Ground Water Sampling Events

The measured depth to water and the corresponding water table elevation for each monitor well is presented in Table 1. The depth to water measurements obtained in the course of the three most recent sampling events indicate that the water table elevation has been relatively stable at all but three monitor well locations. There has been a measured increase in elevation at monitor wells MW-7, MW-8, and MW-23D. The increase in elevation at monitor wells MW-7 and MW-8 is more likely a result of incomplete recovery due to the limited capacity of these wells to yield ground water. The measured increase in elevation at monitor well MW-23D is possibly due to natural fluctuation and/or recharge of this aquifer.

A water table elevation map based on measurements obtained during the 4th quarter sampling event is included as Figure 1. The 4th quarter sampling event data was used for development of this map because more complete water table elevation information was available for this event. In the course of the 1st quarter 1998 sampling event, the water level probe could not get below the top of the sampling pump at three monitor well locations. This prohibited the calculation of a water table elevation at these three locations.

The apparent direction of ground water flow is consistent with the water table elevation map previously developed for this site from measurements obtained in the course of the Phase III assessment activities. Furthermore, the direction of ground water flow indicated by the elevation map is consistent with the distribution of dissolved phase organic contaminants.

An updated summary of analytical results for organic compounds is presented in Table 2. The more recent results are consistent with previous sample events. A map indicating the relative distribution of benzene, 1,1-dichloroethane, 1,1-dichloroethene, and 1,1,1-trichloroethane concentrations in shallow ground water, based on measurements obtained during the 1st quarter 1998 sampling event, is included as Figure 2.

An updated summary of analytical results for inorganic constituents is presented in Table 3. The additional history appears to indicate that the previous detection of metal constituents above NMWQCC standards represents anomalous laboratory results and results for nonrepresentative samples (e.g., turbid samples).

Copies of the laboratory reports for all ground water sampling events are included as an appendix to this report (Volumes II & III).

2.3 Planned Changes to the Ground Water Monitoring Program

2.3.1 Inclusion of Additional Monitor Wells

The monitoring program will be modified to include the two proposed monitor wells to be completed within the uppermost aquifer and the two proposed deeper monitor wells to be completed within the regional aquifer.

2.3.2 Modifications to the Routine Ground Water Sampling Plan

There are no proposed changes at this time. Ground water samples will continue to be collected on a quarterly basis from all monitor wells with the exception of those which contain accumulated PSH.

3. PHASE IV SOIL ASSESSMENT PLAN

The primary objective of this plan is to complete characterization of potentially affected soil.

3.1 Characterization of Affected Soil for Remedial Measures Study

One or more samples of the most highly affected soil from within the former Pit 1 area will be obtained for bench scale tests. The bench scale tests will be performed by selected remediation contractors, such as, contractors that provide soil washing, solvent extraction, and soil stabilization services.

The sample size required has not yet been fully defined, however, Transwestern anticipates that the sample size will be on the order of one 55-gallon drum or less. These samples will be collected using conventional hollow stem auger drilling and sampling equipment.

3.2 Determination of Site-Specific Background Metals Concentrations in Soil

Several of the metal constituents detected in soil samples collected in the course of prior assessments are also known to occur naturally in soil. Therefore, in order to objectively evaluate laboratory analyses for metal constituents in potentially affected soil samples, Transwestern will collect soil samples in the course of the Phase IV assessment program for the determination of site specific background concentrations of selected metal constituents. The background sampling program has been developed with guidance from two sources: 1) *EPA Soil Screening Guidance: Fact Sheet* (U.S. EPA, 1996); and 2) *Texas Risk Reduction Program Appendix IV: Draft Guidance on Background Sampling for Soils and Determining Sample Size* (TNRCC, 1996).

3.2.1 Constituents subject to evaluation

Background soil concentrations will be determined for the following metal constituents: Al, Sb, As, Ba, Be, Cd, Cr (total), Cr (VI), Co, Cu, Pb, Hg, Se, Tl, Ag, Ni, Sn, V, and Zn.

3.2.2 Soil sampling program

Number/frequency of samples

Transwestern will obtain 16 soil samples from 8 locations (two samples from each location) which are presumed to be uncontaminated by facility operations. Each sample will be delivered to a laboratory for analysis for each of the 19 metal constituents subject to evaluation.

Location/depths of samples

The proposed surface locations and sampling depths were selected based on the following guidance: 1) The background sampling domain (the area to be sampled) should be as close as possible to the same size as the area that is impacted; 2) Sample points for background samples should be selected in at least two rows around the contaminated site; and 3) Typically, sample locations should be at least 25 ft. apart and spaced evenly around the site (TNRCC, 1996).

The eight surface locations selected are indicated in Figure 3 as proposed soil borings BS-1 through BS-8. The proposed locations have been modified from the previous plan for collection of background soil samples in response to the OCD's comments to the Phase III assessment plan as prescribed in the OCD's correspondence to Transwestern dated April 17, 1997. Two samples will be collected from each boring from the interval of 10-14 feet below ground surface. This sampling depth was chosen to correspond with the depth of the most highly affected soil in the immediate vicinity of the former impoundments.

Strong consideration was given to the selection of surface sample locations farther removed from the former impoundment area. However, prior soil assessment activities have clearly indicated that the near surface alluvial sediments in the vicinity of the site vary considerably within relatively short distances, laterally as well as vertically. As a result, although samples collected from locations farther removed from the former impoundment area would more assuredly produce "clean" samples, these samples would much more likely not be representative of affected soil in their elemental makeup. Therefore, Transwestern has chosen to propose

background sample locations at a relatively close distance to the former impoundments and to impose certain criteria on the use of sample data as discussed below.

In order to better assure only "clean" samples are utilized in the determination of background concentrations, Transwestern also proposes to collect a sample from each location which will be submitted to a laboratory for determination of TPH by method 418.1. Prior soil assessment activities have indicated that near surface soils (that is, < 15 ft. bgs) outside the immediate vicinity of the former impoundments have been relatively free of organic contaminants. Furthermore, inorganic contaminants would not reasonably be expected to be present at this site in the absence of organic contaminants. Therefore, any samples collected from a location which also contain a reported TPH concentration > 50 mg/kg will be excluded from the dataset for determination of background concentrations. In addition, precautions will be exercised in the course of the field activities to avoid surface sample locations in potential storm water drainage areas and areas where facility operations were suspected to have taken place.

Sample collection methods

Soil sampling will be performed by hollow stem auger drilling techniques and a split-barrel sampler as described in Section 3.4 of this document.

3.2.3 Determination of Mean and Variance

The mean and variance will be determined for each of the 19 metal constituents using the analytical data obtained from the 16 background samples (excluding those which might exceed the TPH criteria for use). For data evaluation purposes, below detection limit (BDL) results will be represented with a value equal to 50% of the detection limit.

3.3 Further Delineation of Affected Soil

No additional soil borings with the primary objective of delineation of affected soil are proposed to be included with the Phase IV activities. However, four soil borings will be advanced and subsequently completed as ground water monitor wells in the course of the Phase IV ground

water assessment activities designed to delineate the extent of affected ground water. Soil sampling procedures for these activities are outlined in Section 4.1.1.

3.4 Soil Sampling Procedures

3.4.1 Soil Sampling Procedures During Phase IV Assessment

During the Phase IV soil assessment activities, soil sampling will be performed by hollow stem auger drilling techniques and a split-barrel sampler. The split-barrel sampler will be driven into the soil using the rig-mounted drive hammer with uniform drive-pressure/drop-height. Blow counts will be recorded for all split-barrel drives. Following retrieval from the borehole, the split-barrel sampler will be opened and the soil material described. A subsample of the material will be placed in a ziplock plastic bag for field headspace screening for VOCs using a PID.

3.4.2 General Procedures for Sample Container Labeling and Shipping

All sample containers will be labeled using waterproof ink. Label information will include the sampling location, depth interval, sampling date and time, type of analysis requested, project number, and the initials of the sampler. The containers will be sealed and placed in clear plastic bags. The sealed containers will be put into coolers on bags of ice or frozen ice packs. Plastic bubble pack or other suitable packing material will be used to protect the samples during shipping. Chain-of-custody forms will be completed for each sample shipment.

Field personnel will ship the sample coolers to the laboratory using an overnight courier service. The fastest possible shipping method will be used, and all sample shipments will be carefully tracked to ensure that samples arrive intact and that all holding times are met.

3.5 Borehole Abandonment Procedures

All soil borings which are not completed as a ground water monitor well will be appropriately

abandoned by plugging the borehole with a 3-5% bentonite grout.

3.6 Decontamination Procedures

All non-disposable field equipment that may potentially come in contact with any soil sample will be decontaminated in order to minimize the potential for cross-contamination between sampling locations. Clean latex or plastic gloves will be worn during all decontamination operations. The following sequence of decontamination procedures will be followed prior to each sampling event:

1. Wash all down-hole equipment in a solution of non-phosphate detergent (Liquinox®) and distilled/deionized water. All surfaces that may come into direct contact with the soil sample will be washed. Use a clean Nalgene® tub to contain the wash solution and a scrub brush to mechanically remove loose particles.

2. Rinse the equipment twice with distilled/deionized water.

3. Allow the equipment to air dry prior to the next use.

The drill rig and all down-hole equipment will be steam-cleaned and allowed to air dry between borings.

3.7 Management of Investigation-Derived Wastes

Hydrocarbon contaminated soils, as determined by field headspace screening (PID headspace measurement > 100 ppmv), will be segregated from soils determined by field screening not to be contaminated (PID headspace measurement < 100 ppmv). Soils segregated by field screening techniques will await analytical results before a plan for final disposition is prepared.

A management plan for the final disposition of investigation derived wastes (IDW) will be

prepared and submitted to the OCD for approval.

PPE and dry waste associated with these activities will be disposed of in a sanitary landfill.

3.8 Reporting Requirements

Following completion of the Phase IV soil assessment, the results of the assessment activities will be summarized in a report submitted to the OCD along with copies of the laboratory results for the soil samples analyzed.

The report will include the following information, as applicable:

- a descriptive summary of work conducted and general conclusions
- soil boring logs, including:
    1) boring number
    2) dates drilling began and finished
    3) driller's name and company
    4) drill rig type
    5) bit/auger size
    6) borehole diameter
    7) total depth drilled
    8) depths sampled
    9) lithologic logs
- field screening results, including:
    1) boring number
    2) sample depth - interval
    3) sample date
    4) instrument type & detection limit
    5) any pertinent field notes
    6) sample results
- soil sampling information, including:

1) boring number

2) sample depth - interval

3) sample date

4) any pertinent field observations

5) sample parameters/methods

6) sample container types

7) sample handling procedures

8) copy of chain of custody

9) sample results & detection limits

10) any pertinent QA/QC information

- comparison of constituents detected with action levels and/or background levels and any QA/QC concerns
- cross-sections shall be constructed throughout source areas from both N-S and E-W directions using definable stratigraphic units which can be correlated according to:

  1) particle size

  2) mineral composition

  3) and/or overall texture
- map(s) showing the concentrations and horizontal extent of contamination for key hazardous constituents identified from laboratory analysis
- a summary of the nature, rate, and extent of soil contamination at the site.

4. PHASE IV GROUND WATER ASSESSMENT PLAN

The current ground water monitoring network consists of twenty-one wells completed within the uppermost aquifer, one well completed within the deeper regional aquifer, and one well completed within a perched zone (Figure 1). Information collected from additional monitor wells will help to refine the current picture of ground water flow direction, and the nature, rate, and extent of ground water contamination in the uppermost aquifer.

4.1 Installation of Additional Ground Water Monitor Wells

The primary objective of this plan, as it relates to the characterization of affected ground water, is to complete the delineation of the lateral extent of affected ground water in the uppermost aquifer. In addition, a second objective of this plan is to install two additional deeper ground water monitor wells into the regional aquifer in order to confirm that this aquifer has not been affected by the release from the former impoundments.

4.1.1 Further Delineation of Affected Ground Water in the Uppermost Aquifer

Two additional ground water monitor wells will be installed in the uppermost aquifer to further delineate the extent of the dissolved-phase plume near the former impoundments. The proposed location of these two wells is indicated in Figure 3. In addition to the two wells indicated in Figure 3, additional monitor wells may be installed if warranted based on field observations.

Prior to well installation, soil borings will be drilled to the total depth, approximately 10 feet below the water table, at each location with minimum 6-inch-O.D. augers. Soil samples will be collected at 10-foot intervals during the drilling of the pilot hole and field headspace screening will be performed using a PID. Two samples from each boring will be collected for laboratory analyses; the sample collected from a depth nearest to the capillary fringe of the uppermost aquifer (or at total depth if water is not present in the soil boring) and the sample which indicates

the greatest field headspace screening measurement. These samples will be submitted for analyses for TPH, VOCs, SVOCs, and selected metals (those metals listed in Section 3.2.1). Soil grab samples will also be collected periodically during drilling to better define the geologic conditions at the site.

The monitor wells will be installed within the hollow-stem augers following the completion of the soil boring. Immediately prior to well construction, the total depth of the borehole will be determined using a clean, weighted steel tape or tag line.

The monitor wells will be constructed of 2-inch diameter schedule 40 PVC pipe and will include, in ascending order, a flush-threaded silt trap (sump) at the bottom, 10 to 25 feet of flush-threaded 0.01-inch machine-slotted PVC screen, and blank casing from the top of the screen to ground surface. No more than 15 feet of screen will be installed below the water table.

Once the well casing has been lowered to the bottom of the borehole, a sandpack consisting of 12-20 silica sand will be poured down the annulus of the auger in 3-foot lifts. After each 3-foot interval is filled, the augers will be pulled up approximately the same distance. This procedure will be repeated until the sand pack level is approximately 2 feet above the top of the screened section. The annular space above the sand pack will then be filled with a minimum 2-foot-thick pelletized bentonite seal, which will be hydrated with distilled water. The remaining annular space will be filled with a cement/bentonite slurry grout consisting of approximately 3 percent bentonite by weight. The top of the well casing will be protected by a PVC cap, and the exposed casing will be protected by a locking steel shroud or well vault. A 6-inch-thick concrete pad will then be constructed around the shroud.

Immediately following well installation, the new monitor wells will be developed following the procedures outlined in Section 4.2.

Ground water samples will be collected from all the existing and newly installed monitor wells. Ground water samples will be collected following the procedures outlined in Section 4.3. Ground

water samples will be analyzed for VOCs, PAHs, major ions, TDS, and those metals regulated under WQCC 82-1 Part 3-103 A. & B. Note that this list of metal constituents includes all metals regulated under the Federal Safe Drinking Water Act (SDWA) with the exception of aluminum.

4.1.2 Installation of Monitor Wells into the Bedrock Aquifer

In addition to the installation of additional monitor wells in the uppermost aquifer, two additional downgradient deep monitor wells will be installed into the deeper bedrock aquifer. The purpose of the deep wells is to determine whether the bedrock aquifer has been impacted by the release from the former impoundments. The location of the deep bedrock monitor wells is indicated in Figure 3.

The deep monitor wells will be constructed with a 20-foot screened interval spanning an anticipated interval of 180 to 200 feet bgs. In order to avoid potential cross-contamination during well installation, a surface conductor casing will be installed to isolate the uppermost aquifer from the next underlying water-bearing unit. The deep monitor well will be constructed as follows:

1. A large diameter borehole will be advanced to a depth of approximately 90 feet bgs using air- or mud-rotary methods.
2. An 8-inch surface casing will be lowered into the borehole and the annulus will be grouted with a cement-bentonite grout from the bottom up.
3. The grout will be allowed to cure for at least 24 hours; drilling will then proceed inside the surface casing to a total depth of 200 feet bgs (or deeper if necessary to reach saturated soil).
4. A 2-inch diameter monitor well will be constructed within the borehole. From bottom to top, the monitor well will consist of:
   - 20 feet of slotted 0.010 inch schedule 40 PVC screen
   - Flush-threaded schedule 40 PVC blank casing to surface
   - 22 feet of 10-20 silica sand extending from the total depth to 2 feet above the screen
   - A 4.5 foot bentonite seal above the silica sand

- Cement-bentonite grout to surface
- PVC cap to protect the well casing
- A flush-grade locking steel shroud or vault set within a 6-inch thick concrete pad.

Immediately following well installation, the new monitor well will be developed following the procedures outlined in Section 4.2.

Ground water samples will be collected following the procedures outlined in Section 4.3. Ground water samples will be analyzed for VOCs, PAHs, major ions, TDS, and those metals regulated under WQCC 82-1 Part 3-103 A. & B. Note that this list of metal constituents includes all metals regulated under the Federal Safe Drinking Water Act (SDWA) with the exception of aluminum.

4.2 Monitor Well Development Procedures

The newly installed monitor wells will be developed by a sequence of surging and pumping and/or bailing. Initially, the wells will be surged to dislodge any smeared material on the borehole wall that would otherwise inhibit ground water flow and to remove fine particles from the formation surrounding the borehole. The suspended sediments will be removed by bailing, pumping, or air lifting. During well development, pH, temperature, specific conductance, and turbidity will be monitored periodically to determine when the wells have been sufficiently developed. Development will be considered complete when the water becomes relatively clear and water quality parameters have stabilized to within ± 5 percent over three consecutive measurements.

4.3 Ground Water Sampling Procedures

Prior to ground water sample collection, the following preparations will be made:

1. The area around the wellhead will be inspected for integrity, cleanliness, and signs of possible contamination.

2. The static water level will be measured to the nearest 0.01 foot using an electrical water level sounder. The presence of any obvious contamination on the water level sounder will be noted in the field logbook. The sounder will be decontaminated between wells, as described in Section 4.4, in order to prevent cross contamination.

3. Prior to purging the wells, a clear bailer, hydrocarbon indicating paste, or an interface probe will be used to check for the presence of PSH. The presence or absence of PSH will be recorded in the field logbook, as well as the thickness of PSH, if any.

4. The well will then be purged to remove standing/stagnant water in order to ensure the collection of representative ground water samples. Monitor wells with dedicated bladder pumps will be purged at a rate equal to or greater than the anticipated sample collection flow rate. Monitor wells without dedicated bladder pumps will be purged by hand bailing with dedicated, disposable polyethylene bailers. The field parameters pH, electric conductivity, dissolved oxygen, and temperature will be measured throughout the purging process at a frequency of at least once per casing volume. Purging will continue for a minimum of three casing volumes and until the field parameters remain stable to within ±5 percent over at least one casing volume, except if the well is a very poor producer. In this case, the well will be purged dry once prior to sample collection. All fluids produced during purging will be contained for later disposal as described in Section 4.5.

Following purging, unfiltered ground water samples will be collected as soon as possible using either a dedicated bladder pump or a dedicated disposable polyethylene bailer. Under no circumstances will the well be allowed to stand for more than three hours after well purging before collecting samples. The only exception is for very low-yield wells that are pumped dry under normal purging and sampling rates. In this case, the well will be pumped dry and allowed to recover until sufficient water is present in the well to allow a sample to be collected.

In the event that a sample is turbid (i.e., > 5 NTU), a note will be placed on the sample COC that

instructs the laboratory to filter the sample prior to analyses for inorganic constituents.

The samples will be collected in order of decreasing volatility, with samples for VOC analysis being collected first. The pumping rate during sample collection of VOC samples at monitor wells with a dedicated bladder pump will be maintained at 100 milliliters (mL) per minute or less to minimize volatilization. All samples will be collected in precooled, acidified, certified-clean 40-mL glass vials with septum caps supplied by the laboratory. Following collection of the VOC samples, the SVOC, metals, and other samples will be collected in appropriate containers.

The sample coolers with the associated chain-of-custody forms will be shipped to the laboratory using an overnight commercial carrier. The fastest possible shipping method will be used, and all sample shipments will be carefully tracked to ensure that samples arrive intact and that all holding times are met.

4.4 Decontamination Procedures

All non-disposable field equipment that may potentially come in contact with contaminated ground water or soils will be decontaminated in order to minimize the potential for cross-contamination between sampling locations. Clean latex or plastic gloves will be worn during all decontamination operations. The following sequence of decontamination procedures will be followed prior to each sampling and/or testing event:

1. Wash the equipment in a solution of non-phosphate detergent (Liquinox®) and distilled/deionized water. Use a clean Nalgene® tub to contain the wash solution and a scrub brush to mechanically remove loose particles.

2. Rinse the equipment twice with distilled/deionized water.

3. Allow the equipment to air dry before the next use.

4.5 Management of Investigation-Derived Wastes

A variety of wastes will be generated during the implementation of the ground water assessment plan. These wastes include soil cuttings, decontamination fluids, used PPE, and ground water produced during well development and purging.

Hydrocarbon contaminated soils, as determined by field headspace screening (PID headspace measurement > 100 ppmv), will be segregated from soils determined by field screening not to be contaminated (PID headspace measurement < 100 ppmv). Soils segregated by field screening techniques will await analytical results before a plan for final disposition is prepared.

A management plan for the final disposition of investigation derived wastes (IDW) will be prepared and submitted to the OCD for approval.

PPE and dry waste associated with these activities will be disposed of in a sanitary landfill.

4.6 Reporting Requirements

Following completion of the Phase IV ground water assessment, the results of the assessment activities will be summarized in a report submitted to the OCD along with copies of the laboratory results for the ground water samples analyzed.

The report submitted will include the same information, if relevant, as described in Section 3.8 for the soil assessment reporting. In addition, the report will include the following information, as applicable:

- ground water sampling information
    1) monitor well ID
    2) sample date - time
    3) field observations (i.e., presence of PSH, turbidity, odor, etc.)

4) sample parameters/methods

5) sample container types

6) sample handling procedures

7) copy of chain of custody

8) sample results & detection limits

9) any pertinent QA/QC information

- comparison of constituents detected with previous sample results, action levels, and/or background levels and any QA/QC concerns

- water table elevation map indicating hydraulic gradient and ground water flow direction

- PSH distribution map indicating the lateral estimated extent of PSH at the water table

- contaminant distribution map(s) showing the concentrations and horizontal extent of contamination for key hazardous constituents identified from laboratory analysis

- discussion and results from any aquifer testing.

5. REFERENCES

Daniel B. Stephens & Associates, Inc. 1995a. Phase I Soil and Ground Water Assessment for Roswell Compressor Station No. 9 Surface Impoundments. Prepared for ENRON Environmental Affairs, November 8, 1995.

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Daniel B. Stephens & Associates, Inc. 1997. Phase III Soil and Ground Water Assessment for Roswell Compressor Station No. 9 Surface Impoundments. Prepared for ENRON Environmental Affairs, October 15, 1997.

Texas Natural Resource Conservation Commission, 1996. Texas Risk Reduction Program Appendix IV: Draft Guidance on Background Sampling for Soils and Determining Sample Size, TNRCC Office of Waste Management, May 14, 1996.

U.S. EPA. 1996. Soil Screening Guidance: Fact Sheet, Office of Solid Waste and Emergency Response, Publication 9355.4-14FSA, June 1996.

FIGURES

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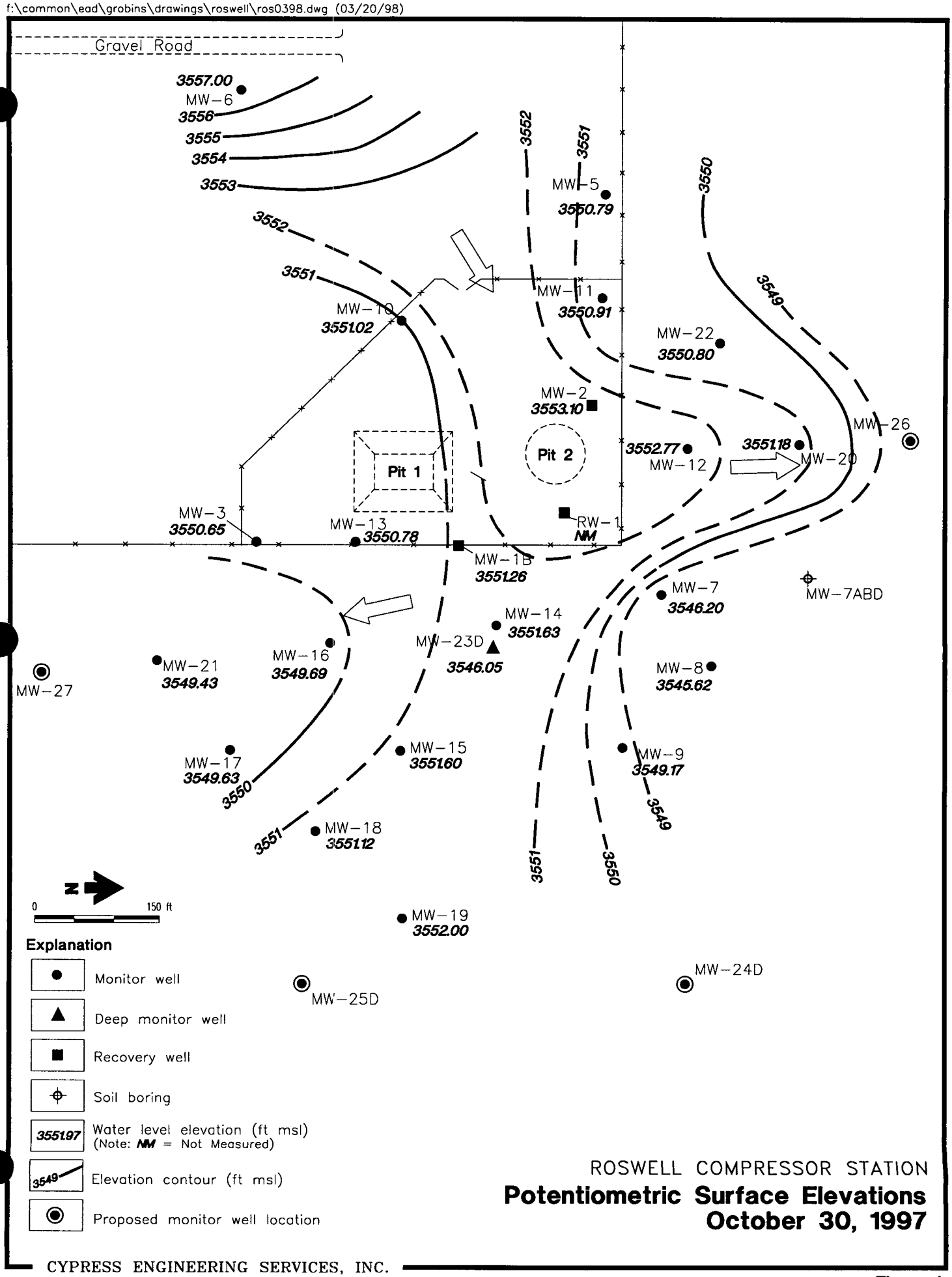

Explanation

- Monitor well
- Deep monitor well
- Recovery well
- Soil boring
- 3551.97 — Water level elevation (ft msl) (Note: NM = Not Measured)
- 3549 — Elevation contour (ft msl)
- Proposed monitor well location

ROSWELL COMPRESSOR STATION

Potentiometric Surface Elevations October 30, 1997

CYPRESS ENGINEERING SERVICES, INC.

Figure 1

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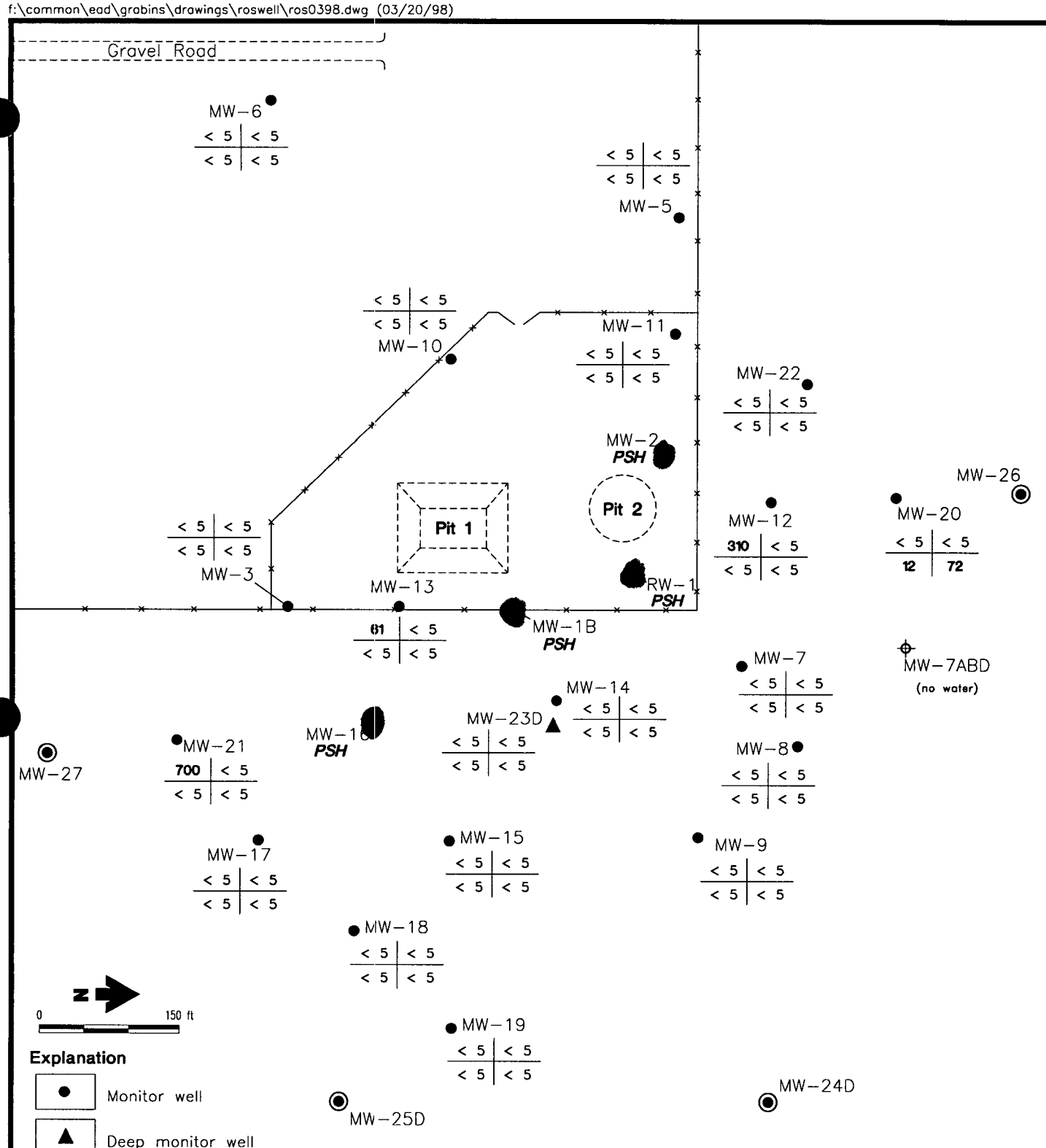

Explanation

- Monitor well
- Deep monitor well
- Recovery well
- Soil boring
- PSH — Phase Separated Hydrocarbon
- Benzene | 111-TCA / 11-DCA | 11-DCE — Concentration in Ground Water (ppb)
- Proposed monitor well location

ROSWELL COMPRESSOR STATION

Distribution of Dissolved Phase Organics in the Uppermost Aquifer January, 1998

CYPRESS ENGINEERING SERVICES, INC.

Figure 2

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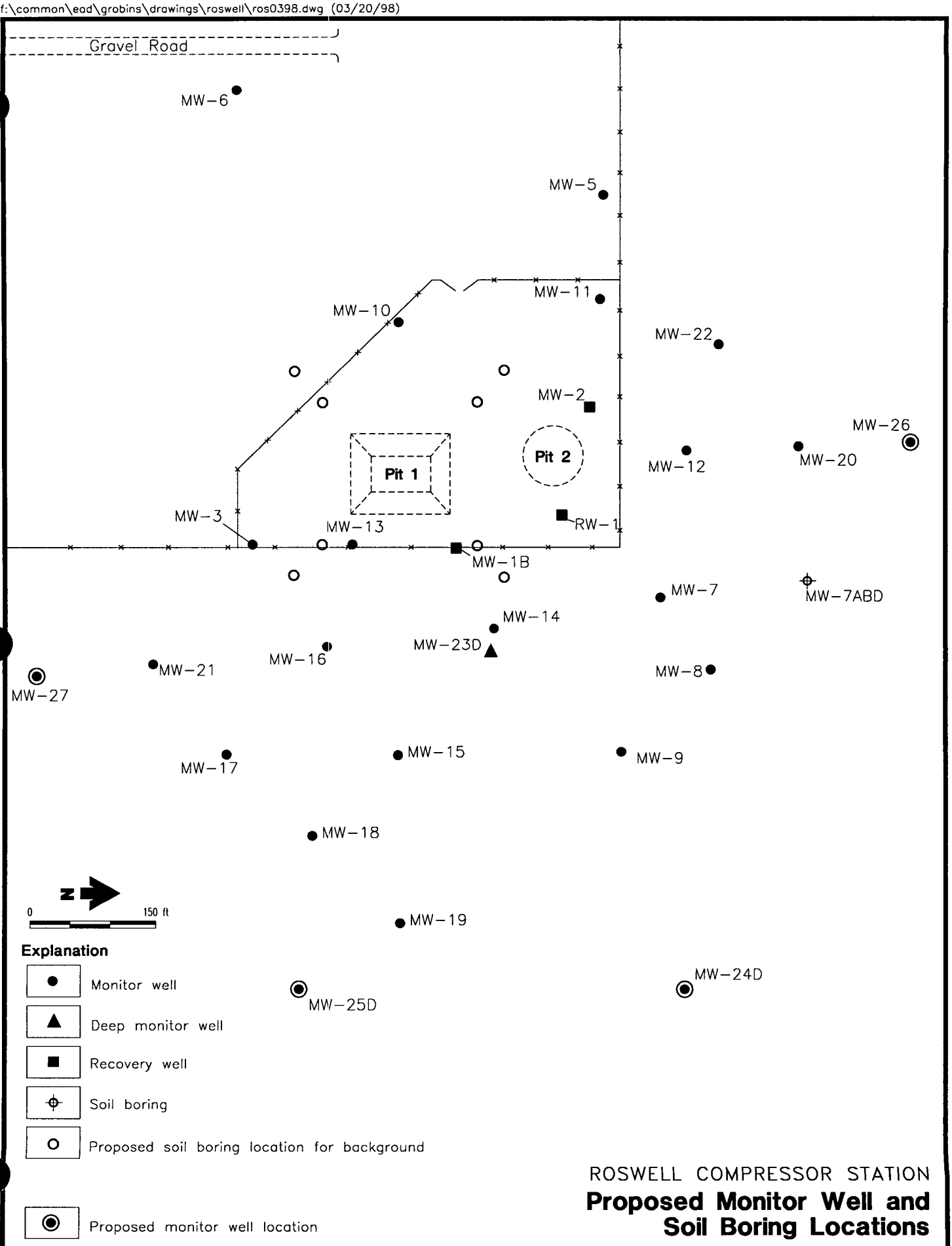

ROSWELL COMPRESSOR STATION

Proposed Monitor Well and Soil Boring Locations

CYPRESS ENGINEERING SERVICES, INC.

Figure 3

TABLES

Table 1. Summary of Ground Water Surface Elevations
Compressor Station No. 9 - Roswell, NM

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
MW-1 B	09/27/96	3609.96	-	61.60	2.33	3550.13
	10/31/97		58.37	59.76	1.39	3551.26
	01/26/98		58.20	60.80	2.60	3551.14
MW-2	09/27/96	3611.76	-	62.00	2.33	3551.53
	10/31/97		58.36	59.60	1.24	3553.10
	01/26/98		58.2	59.85	1.65	3553.16
MW-3	09/27/96	3614.87	(a)	64.79	(a)	3550.08
	07/23/97		(a)	64.19	(a)	3550.68
	08/19/97		(a)	64.36	(a)	3550.51
	10/30/97		(a)	64.22	(a)	3550.65
	01/26/98		(a)	64.34	(a)	3550.53
MW-5	09/27/96	3612.77	(a)	62.32	(a)	3550.45
	07/23/97		(a)	61.95	(a)	3550.82
	08/19/97		(a)	62.05	(a)	3550.72
	10/30/97		(a)	61.98	(a)	3550.79
	01/26/98		(a)	61.90' Top of Pump	(a)	NA
MW-6	09/27/96	3618.62	(a)	61.85	(a)	3556.77
	07/23/97		(a)	61.81	(a)	3556.81
	08/19/97		(a)	61.73	(a)	3556.89
	10/30/97		(a)	61.62	(a)	3557.00
	01/26/98		(a)	61.64	(a)	3556.98
MW-7	09/27/96	3599.2	(a)	54.74	(a)	3544.46
	07/23/97		(a)	52.89	(a)	3546.31
	08/19/97		(a)	53.57	(a)	3545.63
	10/30/97		(a)	53.00	(a)	3546.20
	01/26/98		(a)	51.45	(a)	3547.75
MW-8	09/27/96	3595.8	(a)	51.98	(a)	3543.82
	07/23/97		(a)	50.14	(a)	3545.66
	08/19/97		(a)	50.92	(a)	3544.88
	10/30/97		(a)	50.18	(a)	3545.62
	01/26/98		(a)	48.52	(a)	3547.28
MW-9	09/27/96	3599.35	(a)	50.27	(a)	3549.08
	07/23/97		(a)	50.07	(a)	3549.28
	08/19/97		(a)	50.09	(a)	3549.26
	10/30/97		(a)	50.18	(a)	3549.17
	01/26/98		(a)	50.10	(a)	3549.25

Table 1. Summary of Ground Water Surface Elevations
Compressor Station No. 9 - Roswell, NM

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
MW-10	09/27/96	3617.85	(a)	67.21	(a)	3550.64
	07/23/97		(a)	66.83	(a)	3551.02
	08/19/97		(a)	66.93	(a)	3550.92
	10/30/97		(a)	66.83	(a)	3551.02
	01/26/98		(a)	66.58 Top of Pump	(a)	NA
MW-11	09/27/96	3613.31	(a)	62.90	(a)	3550.41
	07/23/97		(a)	62.44	(a)	3550.87
	08/19/97		(a)	62.53	(a)	3550.78
	10/30/97		(a)	62.40	(a)	3550.91
	01/26/98		(a)	62.20 Top of Pump	(a)	NA
MW-12	09/27/96	3606.38	(a)	55.58	(a)	3550.80
	07/23/97		(a)	53.99	(a)	3552.39
	08/19/97		(a)	53.96	(a)	3552.42
	10/30/97		(a)	53.61	(a)	3552.77
	01/26/98		(a)	53.55	(a)	3552.83
MW-13	09/27/96	3612.46	(a)	62.30	(a)	3550.16
	07/23/97		(a)	61.85	(a)	3550.61
	08/19/97		(a)	61.95	(a)	3550.51
	10/30/97		(a)	61.68	(a)	3550.78
	01/26/98		(a)	61.90	(a)	3550.56
MW-14	09/27/96	3604.83	(a)	53.38	(a)	3551.45
	07/23/97		(a)	53.33	(a)	3551.50
	08/19/97		(a)	53.06	(a)	3551.77
	10/30/97		(a)	53.20	(a)	3551.63
	01/26/98		(a)	53.41	(a)	3551.42
MW-15	09/27/96	3610.43	(a)	58.77	(a)	3551.66
	07/23/97		(a)	58.75	(a)	3551.68
	08/19/97		(a)	58.84	(a)	3551.59
	10/30/97		(a)	58.83	(a)	3551.60
	01/26/98		(a)	58.97	(a)	3551.46
MW-16	09/27/96	3612.41	-	67.16	4.01	3548.30
	07/23/97		-	66.46	4.87	3549.65
	08/19/97		-	66.54	4.89	3549.59
	10/31/97		61.58	66.32	4.74	3549.69
	01/26/98		61.55	66.12	4.57	3549.76

Table 1. Summary of Ground Water Surface Elevations
Compressor Station No. 9 - Roswell, NM

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
MW-17	09/27/96	3608.48	(a)	59.30	(a)	3549.18
	07/23/97		(a)	58.79	(a)	3549.69
	08/19/97		(a)	58.94	(a)	3549.54
	10/30/97		(a)	58.85	(a)	3549.63
	01/26/98		(a)	58.90	(a)	3549.58
MW-18	09/27/96	3609.73	(a)	dry	(a)	NA
	07/23/97		(a)	58.29	(a)	3551.44
	08/19/97		(a)	64.81	(a)	still recovering
	10/30/97		(a)	58.61	(a)	3551.12
	01/26/98		(a)	58.60	(a)	3551.13
MW-19	09/27/96	3608.17	(a)	57.95	(a)	3550.22
	07/23/97		(a)	56.03	(a)	3552.14
	08/19/97		(a)	56.20	(a)	3551.97
	10/30/97		(a)	56.17	(a)	3552.00
	01/26/98		(a)	56.28	(a)	3551.89
MW-20	08/19/97	3600.65	(a)	49.50	(a)	3551.15
	10/30/97		(a)	49.47	(a)	3551.18
	01/26/98		(a)	49.37	(a)	3551.28
MW-21	08/07/97	3612.01	(a)	63.64	(a)	3548.37
	10/30/97		(a)	62.58	(a)	3549.43
	01/26/98		(a)	62.76	(a)	3549.25
MW-22	08/19/97	3606.04	(a)	55.36	(a)	3550.68
	10/30/97		(a)	55.24	(a)	3550.80
	01/26/98		(a)	55.19	(a)	3550.85
MW-23 D	08/19/97	3605.16	(a)	62.05	(a)	3543.11
	10/30/97		(a)	59.11	(a)	3546.05
	01/26/98		(a)	56.19	(a)	3548.97

NOTES:

PSH - Phase separated hydrocarbon

Corrections to ground water surface elevation for PSH is calculated assuming a specific gravity of 0.76

(NA) Information not available

(a) Not applicable since no measurable thickness of PSH is present

Table 2. Summary of Ground Water Analyses - Organics
Compressor Station No. 9 - Roswell, NM

Well ID	Sampling Date	BTEX (ug/L)				Other VOCs (ug/L)						SVOC's (ug/L)	
		Benzene	Toluene	Ethylbenzene	Xylenes (total)	Methyl ethyl ketone (2-butanone)	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane	1,2,4-Trimethylbenzene	Total Naphthalene [b]	4-Methylphenol (p-Cresol)
NMWQCC Standard		10	750	750	620	none	25	10	5	60	none	30	none
MW-1	09/21/92 [c]	**370**	**61**	**110**	**940**	**220**	**560**	< 5	< 5	**180**	NA	**85**	**250**
MW-2	10/09/93 [c]	**6,500**	**15,000**	**2,100**	**13,000**	NA	< 300	< 5	< 5	< 300	NA	NA	NA
MW-3	04/30/93	< 5	< 5	< 5	NA	NA	< 5	< 5	< 5	< 5	NA	NA	NA
	08/22/95	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	09/10/96	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	07/30/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/03/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/27/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-5	04/30/93	< 5	< 5	< 5	NA	NA	< 5	< 5	< 5	< 5	NA	NA	NA
	08/22/95	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	09/10/96	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	07/25/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	10/31/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/27/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-6	12/02/94	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.2	< 5	< 5	< 0.2	NA	NA	NA
	08/22/95	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	09/10/96	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	07/25/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	10/31/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/26/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-7	08/23/95	< 5	< 5	< 5	< 5	**900**	< 5	< 5	< 5	< 5	NA	< 10	< 10
	09/17/96	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	07/31/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/03/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/29/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA

Table 2. Summary of Ground Water Analyses - Organics
Compressor Station No. 9 - Roswell, NM

Well ID	Sampling Date	BTEX (ug/L)				Other VOCs (ug/L)						SVOC's (ug/L)	
		Benzene	Toluene	Ethylbenzene	Xylenes (total)	Methyl ethyl ketone (2-butanone)	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane	1,2,4-Trimethylbenzene	Total Naphthalene [b]	4-Methylphenol (p-Cresol)
NMWQCC Standard		10	750	750	620	none	25	10	5	60	none	30	none
MW-8	08/22/95	**6**	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	09/11/96	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	08/01/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/02/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/29/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-9	08/23/95	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	09/11/96	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	07/31/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/02/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/29/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-10	09/19/96	**2**	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	07/31/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/01/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/27/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-11	09/19/96	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	07/30/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/01/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/27/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-12	09/17/96	**760**	< 5	< 5	**52**	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	08/06/97	**280**	< 5	< 5	< 5	< 10	< 5	**9**	< 5	< 5	NA	< 10	< 10
	11/04/97	**340**	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
dup (MW-24)	11/04/97	**260**	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/30/98	**310**	< 5	< 5	**26**	< 20	< 5	< 5	< 5	< 5	**10**	< 5	NA
MW-13	09/19/96	**4,600**	**9**	< 5	**170**	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	08/09/97	**2,400**	< 5	**100**	< 5	< 100	< 5	**41**	< 5	< 5	NA	< 10	< 10
	11/04/97	**590**	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/29/98	**61**	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA

Table 2. Summary of Ground Water Analyses - Organics
Compressor Station No. 9 - Roswell, NM

Well ID	Sampling Date	BTEX (ug/L)				Other VOCs (ug/L)						SVOC's (ug/L)	
		Benzene	Toluene	Ethylbenzene	Xylenes (total)	Methyl ethyl ketone (2-butanone)	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane	1,2,4-Trimethylbenzene	Total Naphthalene [b]	4-Methylphenol (p-Cresol)
NMWQCC Standard		10	750	750	620	none	25	10	5	60	none	30	none
MW-14	09/24/96	**2** [a]	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	08/01/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/02/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/29/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-15	09/25/96	**4** [a]	**6**	< 5	**6**	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	08/08/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/02/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/28/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-17	09/24/96	**2** [a]	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	07/31/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/02/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/28/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-18	08/09/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/01/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/28/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-19	09/27/96	**2**	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	08/08/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/01/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/27/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-20	08/07/97	**12**	< 5	< 5	< 5	< 100	**8**	< 5	**39**	**22**	NA	< 10	< 10
	11/03/97	< 5	< 5	< 5	< 5	< 100	**10**	< 5	**86**	**28**	NA	< 10	NA
	01/29/98	< 5	< 5	< 5	< 5	< 20	**12**	< 5	**72**	< 5	< 5	< 5	NA
MW-21	08/07/97	**370**	< 5	< 5	< 5	< 100	< 5	**11**	< 5	< 5	NA	< 10	< 10
	11/04/97	**170**	< 5	< 5	**15**	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/30/98	**700**	< 5	< 5	**26**	< 20	< 5	< 5	< 5	< 5	NA	< 5	NA
dup (MW-24)	01/30/98	**700**	< 5	< 5	**24**	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA

Table 2. Summary of Ground Water Analyses - Organics
Compressor Station No. 9 - Roswell, NM

Well ID	Sampling Date	BTEX (ug/L)				Other VOCs (ug/L)						SVOC's (ug/L)	
		Benzene	Toluene	Ethylbenzene	Xylenes (total)	Methyl ethyl ketone (2-butanone)	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane	1,2,4-Trimethylbenzene	Total Naphthalene [b]	4-Methylphenol (p-Cresol)
NMWQCC Standard		10	750	750	620	none	25	10	5	60	none	30	none
MW-22	08/07/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/03/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/29/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA
MW-23D	08/06/97	< 1	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	< 10
	11/05/97	< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	< 5	NA	< 10	NA
	01/28/98	< 5	< 5	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	NA

NOTES:

Only constituents detected in one or more ground water samples are shown in this table

All results reported above the detection limit are shown in bold type

NA - An analytical result for this constituent was not reported by the laboratory

[a] Analyte present in method blank

[b] Total Naphthalene = Naphthalene + 1-Methylnapthalene + 2-Methylnapthalene

[c] Water sample collected through layer of phase separated hydrocarbon accumulated in monitor well casing

Table 3. Summary of Ground Water Analyses - Inorganics
Compresor Station No. 9 - Roswell, NM

Well ID	Sampling Date	Major Ions (mg/L)									Metals (mg/L)												
		TDS	Chloride	Sulfate	NO_2/NO_3 - N, total	Calcium	Potassium	Magnesium	Sodium	Total alkalinity (as $CaCO_3$)	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Aluminum
NMWQCC Standard		1000	250	600	10	none	none	none	none	none	0.1	1.0	0.01	0.05	1.0	1.0	0.05	0.20	0.002	0.2	0.05	0.05	10
MW-1	09/21/92[a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.19**	**4.4**	< 0.005	0.01	NA	NA	< 0.05	NA	< 0.0002	< 0.003	< 0.01	NA	NA
MW-3	03/23/94[b]	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.03	0.09	< 0.01	< 0.01	NA	NA	0.04	NA	< 0.0002	< 0.05	< 0.01	NA	NA
	03/23/94[c]	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.03	0.02	< 0.01	< 0.01	NA	NA	< 0.03	NA	< 0.0002	< 0.05	< 0.01	NA	NA
	08/22/95	**3650**	**405**	**1,800**	0.8	587	3.2	136	215	116	< 0.05	< 0.01	< 0.005	< 0.01	< 0.01	NA	< 0.05	NA	0.0002	< 0.1	< 0.01	0.03	0.24
	09/10/96	**3530**	**385**	**1,800**	0.96	635	20	144	229	115	< 0.05	0.02	< 0.005	< 0.01	< 0.01	NA	< 0.003	NA	< 0.0002	< 0.01	< 0.01	< 0.01	NA
	07/30/97	**3560**	**409**	**1,680**	1.1	804	< 5	135	410	114	< 0.01	< 0.01	< 0.005	< 0.01	< 0.01	< 0.3	< 0.003	NA	< 0.0002	< 0.01	< 0.01	< 0.01	NA
	11/03/97	**3450**	**370**	**1,840**	1.1	790 [d]	3	180	290 [d]	110	< 0.03	0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	< 0.01	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/27/98	**2790**	**398**	**1,700**	1.1	643	3	138	212	102	< 0.1	0.014	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	< 0.005	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-5	03/23/94[b]	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.03	0.38	< 0.01	0.03	NA	NA	0.04	NA	< 0.0002	< 0.05	< 0.01	NA	NA
	03/23/94[c]	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.03	0.01	< 0.01	< 0.01	NA	NA	< 0.03	NA	< 0.0002	< 0.05	< 0.01	NA	NA
	08/22/95	**3440**	**574**	**1,800**	3.1	623	3.8	145	204	122	< 0.05	< 0.01	< 0.005	< 0.01	< 0.01	NA	< 0.05	NA	< 0.0002	< 0.1	< 0.01	0.01	0.38
	09/10/96	**3550**	**578**	**1,690**	2.97	631	19	158	218	114	< 0.05	0.01	< 0.005	< 0.01	< 0.01	NA	< 0.003	NA	< 0.0002	0.02	< 0.01	0.02	NA
	07/25/97	**3960**	**622**	**1,720**	3.7	916	< 5	159	270	120	< 0.01	< 0.01	< 0.005	< 0.01	< 0.01	0.26	< 0.003	NA	< 0.0002	0.02	< 0.01	< 0.01	NA
	10/31/97	**3700**	**560**	**1,730**	3.6	780 [d]	2.6	200	270 [d]	118	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	< 0.01	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/27/98	**1180**	**260**	**700**	1.8	300	< 2	67.9	99.3	78	< 0.1	0.047	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	< 0.005	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-6	08/22/95	**2800**	**344**	**1,600**	1	458	3.9	148	124	110	< 0.05	< 0.01	< 0.005	< 0.01	< 0.01	NA	< 0.05	NA	0.0005	< 0.1	< 0.01	0.03	0.69
	09/10/96	**3040**	**333**	**1,490**	0.98	488	19	154	182	99	< 0.05	0.01	< 0.005	< 0.01	< 0.01	NA	0.004	NA	< 0.0002	< 0.01	< 0.01	< 0.01	NA
	07/25/97	**3420**	**344**	**1,650**	1	778	5	217	236	112	< 0.01	< 0.01	< 0.005	< 0.01	< 0.01	0.32	< 0.003	NA	< 0.0002	< 0.01	< 0.01	0.01	NA
	10/31/97	**3090**	**300**	**1,620**	1.2	550 [d]	3.1	170	170 [d]	106	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	< 0.01	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/26/98	**2650**	**335**	**1,500**	1.0	517	4	151	152	96	< 0.1	0.007	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	< 0.005	< 0.0002	< 0.1	< 0.01	< 0.02	NA

Table 3. Summary of Ground Water Analyses - Inorganics
Compresor Station No. 9 - Roswell, NM

Well ID	Sampling Date	Major Ions (mg/L)									Metals (mg/L)												
		TDS	Chloride	Sulfate	NO_2/NO_3 - N, total	Calcium	Potassium	Magnesium	Sodium	Total alkalinity (as $CaCO_3$)	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Aluminum
NMWQCC Standard		1000	250	600	10	none	none	none	none	none	0.1	1.0	0.01	0.05	1.0	1.0	0.05	0.20	0.002	0.2	0.05	0.05	10
MW-7	08/23/95	**3640**	**284**	**2,000**	0.12	668	8.2	235	149	136	< 0.05	0.02	< 0.005	< 0.01	< 0.01	NA	< 0.05	NA	0.0004	< 0.1	< 0.01	0.02	1.39
	09/17/96	**3760**	**273**	**2,140**	0.07	648	20	198	145	110	< 0.05	0.02	< 0.005	< 0.01	< 0.01	NA	< 0.003	NA	< 0.0002	< 0.01	< 0.01	0.02	NA
	07/31/97	**3700**	**313**	**1,930**	< 0.05	191	< 20	84.3	95	112	< 0.05	< 0.05	< 0.02	< 0.05	< 0.05	0.3	< 0.02	NA	< 0.0002	< 0.05	< 0.05	< 0.05	NA
	11/03/97	**3580**	**250**	**1,810**	< 0.05	790 [d]	6.4	260	180 [d]	112	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	**1.2**	< 0.03	**1.2**	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/29/98	**2730**	**288**	**1,800**	< 0.1	630	7	206	140	86	< 0.1	0.014	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	0.120	< 0.0002	< 0.1	< 0.01	0.03	NA
MW-8	08/22/95	**3640**	**362**	**2,000**	0.1	587	3.7	193	117	134	< 0.05	< 0.01	< 0.005	< 0.01	< 0.01	NA	< 0.05	NA	0.0003	< 0.1	< 0.01	0.01	0.33
	09/11/96	**3780**	**331**	**2,120**	0.06	630	21	222	206	141	< 0.05	0.01	< 0.005	< 0.01	< 0.01	NA	< 0.003	NA	< 0.0002	< 0.01	< 0.01	< 0.01	NA
	08/01/97	**3890**	**339**	**1,980**	0.16	86.5	< 20	51.5	80	140	< 0.05	< 0.05	< 0.02	< 0.05	< 0.05	<0.2	< 0.02	NA	< 0.0002	< 0.05	< 0.05	< 0.05	NA
	11/02/97	**3740**	**320**	**1,810**	0.1	610 [d]	3.4	210	180 [d]	136	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	< 0.01	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/29/98	**2960**	**347**	**1,900**	0.1	634	3	219	168	96	< 0.1	< 0.005	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	< 0.005	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-9	08/23/95	**4060**	**391**	**2,200**	0.38	896	17	232	230	124	< 0.05	0.04	< 0.005	< 0.01	0.01	NA	< 0.05	NA	0.0005	< 0.1	< 0.01	0.03	3.13
	09/11/96	**3810**	**439**	**1,990**	0.56	673	24	210	287	114	< 0.05	0.05	< 0.005	0.01	< 0.01	NA	0.004	NA	< 0.0002	< 0.01	< 0.01	0.02	NA
	07/31/97	**4270**	**487**	**2,040**	0.55	557	< 20	174	362	126	< 0.05	< 0.05	< 0.02	< 0.05	< 0.05	0.4	< 0.02	NA	< 0.0002	< 0.05	< 0.05	< 0.05	NA
	11/02/97	**4000**	**440**	**1,930**	0.36	610 [d]	5.5	190	270 [d]	124	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	**1.4**	< 0.03	0.11	< 0.0002	< 0.04	< 0.01	< 0.03	NA
	01/29/98	**3730**	**459**	**1,800**	0.6	639	5	193	248	80	< 0.1	0.008	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	0.030	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-10	09/19/96	**3390**	**367**	**3,360**	0.75	634	6	153	179	133	< 0.05	< 0.01	< 0.005	< 0.01	< 0.01	NA	< 0.003	NA	< 0.0002	< 0.01	< 0.01	0.02	NA
	07/31/97	**3550**	**364**	**1,590**	0.71	211	< 20	62.3	146	138	< 0.05	< 0.05	< 0.02	< 0.05	< 0.05	< 0.02	< 0.02	NA	< 0.0002	< 0.05	< 0.05	< 0.05	NA
	11/01/97	**3520**	**340**	**1,890**	0.74	600 [d]	3.5	146	225 [d]	128	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	< 0.01	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/27/98	**2910**	**350**	**1,700**	0.7	607	4	138	197	120	< 0.1	0.005	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	< 0.005	< 0.0002	< 0.1	< 0.01	< 0.02	NA

Table 3. Summary of Ground Water Analyses - Inorganics
Compresor Station No. 9 - Roswell, NM

Well ID	Sampling Date	Major Ions (mg/L)									Metals (mg/L)												
		TDS	Chloride	Sulfate	NO_2/NO_3 - N, total	Calcium	Potassium	Magnesium	Sodium	Total alkalinity (as $CaCO_3$)	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Aluminum
NMWQCC Standard		1000	250	600	10	none	none	none	none	none	0.1	1.0	0.01	0.05	1.0	1.0	0.05	0.20	0.002	0.2	0.05	0.05	10
MW-11	09/19/96	**3480**	**400**	**2,480**	0.71	642	< 5	144	202	116	< 0.05	< 0.01	< 0.005	< 0.01	< 0.01	NA	0.004	NA	< 0.0002	< 0.01	< 0.01	0.04	NA
	07/30/97	**3550**	**405**	**1,680**	0.7	748	8	132	545	106	< 0.01	< 0.01	< 0.005	< 0.01	< 0.01	0.07	< 0.003	NA	< 0.0002	< 0.01	< 0.01	0.01	NA
	11/01/97	**3530**	**370**	**1,900**	0.67	630 [d]	2.6	140	360 [d]	96	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	< 0.01	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/27/98	**2940**	**374**	**1,600**	0.7	612	3	133	231	100	< 0.1	< 0.005	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	< 0.005	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-12	09/17/96	**3670**	**431**	**1,810**	0.36	688	16	127	247	110	< 0.05	0.02	< 0.005	< 0.01	< 0.01	NA	< 0.003	NA	< 0.0002	< 0.01	< 0.01	0.01	NA
	08/06/97	**3670**	**435**	**1,640**	0.41	605	< 5	123	236	106	< 0.01	0.01	< 0.005	< 0.01	< 0.01	0.52	< 0.003	NA	< 0.0002	< 0.01	< 0.01	< 0.01	NA
	11/04/97	**3340**	**390**	**1,630**	0.4	880 [d]	2.6	180	330 [d]	102	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	**0.31**	< 0.0002	< 0.05	< 0.01	< 0.03	NA
Dup (MW-24)	11/04/97	**3400**	**400**	**1,760**	0.4	710 [d]	2.4	150	320 [d]	102	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	**0.43**	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/30/98	**2680**	**421**	**1,600**	0.3	625	2	120	209	74	< 0.1	< 0.005	< 0.005	< 0.01	< 0.01	0.05	< 0.05	**0.444**	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-13	09/19/96	**2810**	**438**	**2,910**	0.13	496	5	123	136	136	< 0.05	< 0.01	< 0.005	< 0.01	< 0.01	NA	< 0.003	NA	< 0.0002	< 0.01	< 0.01	0.01	NA
	08/09/97	**3640**	**518**	**1,460**	0.06	484	18	144	212	142	0.02	0.02	< 0.005	< 0.01	< 0.01	0.81	< 0.003	NA	< 0.0002	< 0.01	< 0.01	0.02	NA
	11/04/97	**3760**	**460**	**1,720**	< 0.05	680 [d]	3	150	200 [d]	152	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	0.67	< 0.03	**2.4**	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/30/98	**2970**	**490**	**1,500**	< 0.1	707	3	143	174	113	< 0.1	0.009	< 0.005	< 0.01	< 0.01	0.86	< 0.05	**1.2**	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-14	09/24/96	**3580**	**364**	**2,000**	0.31	668	6	154	149	98	< 0.05	0.03	< 0.005	< 0.01	< 0.01	NA	< 0.003	NA	< 0.0002	< 0.01	< 0.01	< 0.01	NA
	08/01/97	**3710**	**360**	**1,630**	0.32	672	< 20	155	180	110	< 0.05	< 0.05	< 0.02	< 0.05	< 0.05	< 0.02	< 0.02	NA	< 0.0002	< 0.05	< 0.05	< 0.05	NA
	11/02/97	**3500**	**360**	**1,600**	0.13	780 [d]	4.1	190	220 [d]	112	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	0.06	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/29/98	**2890**	**368**	**1,700**	0.2	664	5	157	169	82	< 0.1	0.012	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	0.013	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-15	09/25/96	**3860**	**438**	**3,940**	0.58	1,130	7	180	210	138	< 0.05	0.03	< 0.005	< 0.01	< 0.01	NA	< 0.003	NA	< 0.0002	< 0.01	< 0.01	**0.08**	NA
	08/08/97	**3820**	**467**	**1,920**	0.35	625	< 5	171	269	118	0.02	0.02	< 0.005	< 0.01	< 0.01	0.32	< 0.003	NA	< 0.0002	< 0.01	< 0.01	0.01	NA
	11/02/97	**3820**	**450**	**1,900**	0.43	750 [d]	3.8	210	330 [d]	114	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	0.01	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/28/98	**2970**	**453**	**1,800**	0.4	638	4	174	259	82	< 0.1	0.010	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	0.015	< 0.0002	< 0.1	< 0.01	0.04	NA

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Compresor Station No. 9 - Roswell, NM

Well ID	Sampling Date	Major Ions (mg/L)									Metals (mg/L)												
		TDS	Chloride	Sulfate	NO_2/NO_3 - N, total	Calcium	Potassium	Magnesium	Sodium	Total alkalinity (as $CaCO_3$)	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Aluminum
NMWQCC Standard		1000	250	600	10	none	none	none	none	none	0.1	1.0	0.01	0.05	1.0	1.0	0.05	0.20	0.002	0.2	0.05	0.05	10
MW-17	09/24/96	**3660**	**437**	**2,000**	0.71	626	< 5	170	218	138	< 0.05	< 0.01	< 0.005	< 0.01	< 0.01	NA	< 0.003	NA	< 0.0002	< 0.01	< 0.01	0.01	NA
	07/31/97	**1570**	**445**	**1,820**	0.71	221	< 20	71.1	175	96	< 0.05	< 0.05	< 0.02	< 0.05	< 0.05	<0.2	< 0.02	NA	< 0.0002	< 0.05	< 0.05	< 0.05	NA
	11/02/97	**3770**	**430**	**2,000**	0.74	770 [d]	2.5	210	330 [d]	90	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	0.03	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/28/98	**2880**	**444**	**1,700**	0.6	629	3	168	249	64	< 0.1	< 0.005	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	0.018	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-18	08/09/97	**4240**	NA	NA	NA	471	57	164	291	NA	0.02	0.02	< 0.005	0.02	< 0.01	**1.09**	< 0.003	NA	< 0.002	< 0.01	< 0.01	0.03	NA
	11/01/97	**3850**	**390**	**2,020**	0.69	760 [d]	6.4	210	330 [d]	78	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	< 0.01	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/28/98	**3100**	**424**	**1,900**	0.8	641	7	225	166	55	< 0.1	0.017	< 0.006	< 0.01	< 0.01	< 0.02	< 0.05	< 0.005	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-19	09/27/96	**3850**	**459**	**2,100**	0.82	981	5	226	240	196	< 0.05	0.01	< 0.005	< 0.01	< 0.01	NA	0.004	NA	< 0.0002	< 0.01	< 0.01	0.04	NA
	08/08/97	**3990**	**536**	**2,030**	0.88	622	11	170	252	122	0.01	0.01	< 0.005	< 0.01	< 0.01	0.08	< 0.003	NA	< 0.0002	< 0.01	< 0.01	< 0.01	NA
	11/01/97	**3920**	**430**	**1,880**	0.82	710 [d]	3.4	210	320 [d]	100	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	< 0.01	< 0.0002	< 0.05	< 0.01	0.02	NA
	01/27/98	**3330**	**469**	**1,900**	0.9	620	5	196	285	97	< 0.1	0.009	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	< 0.005	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-20	08/07/97	**3710**	**385**	**1,820**	1.65	617	< 5	135	239	200	< 0.01	0.04	< 0.005	< 0.01	0.02	**1.85**	< 0.003	NA	< 0.0002	< 0.01	< 0.01	**0.05**	NA
	11/03/97	**3710**	**290**	**1,950**	0.23	670 [d]	2.6	140	270 [d]	208	< 0.03	< 0.01	< 0.01	< 0.01	0.02	0.39	< 0.03	< 0.01	< 0.0002	< 0.05	< 0.01	**0.22**	NA
	01/30/98	**3090**	**306**	**1,700**	2.8	680	3	137	238	155	< 0.1	< 0.005	< 0.005	< 0.01	< 0.01	0.86	< 0.05	< 0.005	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-21	08/07/97	**3960**	**436**	**1,790**	0.71	621	< 5	137	192	120	< 0.01	0.06	< 0.005	< 0.01	< 0.01	0.54	< 0.003	NA	< 0.0002	< 0.1	< 0.01	0.03	NA
	11/04/97	**3700**	**410**	**1,760**	0.36	810 [d]	4	190	260 [d]	118	< 0.03	0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	0.4	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/30/98	**3020**	**440**	**1,700**	< 0.1	654	4	153	199	88	< 0.1	0.029	< 0.005	< 0.01	< 0.01	0.21	< 0.05	**0.835**	< 0.0002	< 0.1	< 0.01	< 0.02	NA
Dup (MW-24)	01/30/98	**2600**	**437**	**1,700**	< 0.1	647	4	151	201	87	< 0.1	0.025	< 0.005	< 0.01	< 0.01	0.24	< 0.05	**0.798**	< 0.0002	< 0.1	< 0.01	0.03	NA

Table 3. Summary of Ground Water Analyses - Inorganics
Compresor Station No. 9 - Roswell, NM

Well ID	Sampling Date	Major Ions (mg/L)									Metals (mg/L)												
		TDS	Chloride	Sulfate	NO_2/NO_3 - N, total	Calcium	Potassium	Magnesium	Sodium	Total alkalinity (as $CaCO_3$)	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Aluminum
NMWQCC Standard		1000	250	600	10	none	none	none	none	none	0.1	1.0	0.01	0.05	1.0	1.0	0.05	0.20	0.002	0.2	0.05	0.05	10
MW-22	08/07/97	**3630**	**377**	**1,780**	0.76	727	6	143	233	302	< 0.01	0.21	< 0.005	< 0.01	0.05	**16.5**	0.008	NA	< 0.0002	< 0.01	< 0.01	**0.08**	NA
	11/03/97	**3570**	**380**	**1,840**	0.85	780 [d]	3.6	160	290 [d]	132	< 0.03	0.04	< 0.01	< 0.01	< 0.01	**3.3**	< 0.03	0.07	< 0.0002	< 0.05	< 0.01	< 0.03	NA
	01/29/98	**2690**	**394**	**1,700**	0.9	660	4	130	218	85	< 0.1	0.007	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	< 0.005	< 0.0002	< 0.1	< 0.01	< 0.02	NA
MW-23D	08/06/97	**3800**	**344**	**1,980**	< 0.05	624	8	178	231	124	< 0.01	0.02	< 0.005	0.02	< 0.01	0.11	< 0.003	NA	< 0.0002	< 0.01	< 0.01	0.02	NA
	11/05/97	**3880**	**330**	**1,900**	< 0.05	600 [d]	3.5	215	300 [d]	128	< 0.03	0.02	< 0.01	< 0.01	< 0.01	0.38	< 0.03	0.11	< 0.0002	< 0.05	< 0.01	**0.07**	NA
	01/28/98	**3180**	**354**	**1,800**	< 0.1	612	7	183	246	88	< 0.1	0.020	< 0.005	< 0.01	< 0.01	< 0.02	< 0.05	0.141	< 0.0002	< 0.1	< 0.01	< 0.02	NA

NOTES:

NA - A result for this constituent is not available

[a] Water sample collected through layer of phase separated hydrocarbon accumulated in monitor well casing

[b] Results represent total metals analysis on turbid samples

[c] Results represent dissolved metals analysis on samples filtered in the lab

[d] Analyte present in method blank

ANNUAL GROUND WATER MONITORING REPORT

& PHASE IV ASSESSMENT WORK PLAN FOR

ROSWELL COMPRESSOR STATION NO. 9

SURFACE IMPOUNDMENTS

Volume II: Lab Reports for the 4th Quarter 1997 Sampling Event

MAR

Prepared for:

Transwestern Pipeline Company

Prepared by:

Cypress Engineering Services, Inc.

10235 West Little York Road, Suite 256

Houston, TX 77040

March 23, 1998

LABORATORIES, INC.

ANALYTICAL AND QUALITY CONTROL REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to EPIC Laboratories, Inc. for analysis:

Sample Number	Sample Description	Date Taken	Time Taken	Date Received
341372	MW-9	11/02/1997	15:45	11/04/1997
341373	MW-8	11/02/1997	15:55	11/04/1997
341374	MW-14	11/02/1997	17:00	11/04/1997
341375	MW-7	11/03/1997	11:10	11/04/1997
341376	MW-19	11/01/1997	14:30	11/04/1997
341377	MW-18	11/01/1997	15:45	11/04/1997
341378	MW-17	11/02/1997	10:30	11/04/1997
341379	MW-15	11/02/1997	11:55	11/04/1997
341380	MW-6	10/31/1997	14:10	11/04/1997
341381	MW-5	10/31/1997	15:35	11/04/1997
341382	MW-10	11/01/1997	11:15	11/04/1997
341383	MW-11	11/01/1997	12:40	11/04/1997

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Debby Skogen

Debby Skogen
Project Coordinator

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341372

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-9

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		124	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		440	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.36	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1930	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1817	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1702	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1878	0.01
Calcium		610	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1877	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1868	0.01
Iron		1.4	mg/L	S-6010B	11/06/1997	11/11/1997	acg	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1887	0.03
Magnesium		190	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		0.11	mg/L	S-6010B	11/06/1997	11/11/1997	acg	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/05/1997	bwb		1466	0.0002
Potassium		5.5	mg/L	S-6010B	11/06/1997	11/11/1997	acg	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1815	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1872	0.01
Sodium		270	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1873	0.03
Total Dissolved Solids		4000	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341372

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-9

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		76	% Rec	S-8270A		11/12/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		75	% Rec	S-8270A		11/12/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		82	% Rec	S-8270A		11/12/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromodichloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromoform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromomethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon disulfide		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloroethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/05/1997	zst		1454	20
Chloroform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloromethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Dibromochloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341372

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-9

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Ethyl benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
2-Hexanone		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Methylene chloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Styrene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Tetrachloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Toluene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Trichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Vinyl acetate		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Vinyl chloride		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Xylenes, Total		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
SURR: 1,2-Dichloroethane-d4		96	% Rec	S-8240A		11/05/1997	zst		1454	76-114
SURR: Toluene-d8		104	% Rec	S-8240A		11/05/1997	zst		1454	88-110
SURR: 4-Bromofluorobenzene		87	% Rec	S-8240A		11/05/1997	zst		1454	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341373

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-8

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		136	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		320	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.10	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1810	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1817	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1702	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1878	0.01
Calcium		610	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1877	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1868	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1887	0.03
Magnesium		210	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1866	1.0
Manganese		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/05/1997	bwb		1466	0.0002
Potassium		3.4	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1815	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1872	0.01
Sodium		180	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1869	0.50
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1873	0.03
Total Dissolved Solids		3740	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341373

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-8

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		71	% Rec	S-8270A		11/12/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		70	% Rec	S-8270A		11/12/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		85	% Rec	S-8270A		11/12/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromodichloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromoform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromomethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon disulfide		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloroethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/05/1997	zst		1454	20
Chloroform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloromethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Dibromochloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341373

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-8

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Ethyl benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
2-Hexanone		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Methylene chloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Styrene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Tetrachloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Toluene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Trichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Vinyl acetate		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Vinyl chloride		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Xylenes, Total		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
SURR: 1,2-Dichloroethane-d4		98	% Rec	S-8240A		11/05/1997	zst		1454	76-114
SURR: Toluene-d8		98	% Rec	S-8240A		11/05/1997	zst		1454	88-110
SURR: 4-Bromofluorobenzene		86	% Rec	S-8240A		11/05/1997	zst		1454	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341374

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-14

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		112	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		360	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.13	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1600	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1817	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1702	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1878	0.01
Calcium		780	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1877	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1868	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1887	0.03
Magnesium		190	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		0.06	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/05/1997	bwb		1466	0.0002
Potassium		4.1	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1815	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1872	0.01
Sodium		220	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1873	0.03
Total Dissolved Solids		3500	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
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11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341374

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-14

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		72	% Rec	S-8270A		11/12/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		69	% Rec	S-8270A		11/12/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		92	% Rec	S-8270A		11/12/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromodichloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromoform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromomethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon disulfide		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloroethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/05/1997	zst		1454	20
Chloroform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloromethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Dibromochloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341374

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-14

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Ethyl benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
2-Hexanone		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Methylene chloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Styrene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Tetrachloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Toluene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Trichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Vinyl acetate		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Vinyl chloride		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Xylenes, Total		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
SURR: 1,2-Dichloroethane-d4		96	% Rec	S-8240A		11/05/1997	zst		1454	76-114
SURR: Toluene-d8		95	% Rec	S-8240A		11/05/1997	zst		1454	88-110
SURR: 4-Bromofluorobenzene		88	% Rec	S-8240A		11/05/1997	zst		1454	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341375

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-7

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		112	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		250	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		<0.05	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1810	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1817	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1702	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1878	0.01
Calcium		790	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1877	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1868	0.01
Iron		1.2	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1887	0.03
Magnesium		260	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		1.2	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/05/1997	bwb		1466	0.0002
Potassium		6.4	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1815	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1872	0.01
Sodium		180	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1873	0.03
Total Dissolved Solids		3580	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
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11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341375

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-7

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		73	% Rec	S-8270A		11/12/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		72	% Rec	S-8270A		11/12/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		96	% Rec	S-8270A		11/12/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromodichloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromoform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromomethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon disulfide		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloroethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/05/1997	zst		1454	20
Chloroform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloromethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Dibromochloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341375

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-7

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Ethyl benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
2-Hexanone		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Methylene chloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Styrene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Tetrachloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Toluene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Trichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Vinyl acetate		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Vinyl chloride		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Xylenes, Total		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
SURR: 1,2-Dichloroethane-d4		104	% Rec	S-8240A		11/05/1997	zst		1454	76-114
SURR: Toluene-d8		95	% Rec	S-8240A		11/05/1997	zst		1454	88-110
SURR: 4-Bromofluorobenzene		88	% Rec	S-8240A		11/05/1997	zst		1454	86-115

ANALYTICAL RESULTS REPORT

George Robinson
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P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341376

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-19

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		100	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		430	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.82	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1880	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1817	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1702	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1878	0.01
Calcium		710	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1877	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1868	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1887	0.03
Magnesium		210	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/05/1997	bwb		1466	0.0002
Potassium		3.4	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1815	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1872	0.01
Sodium		320	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		0.02	mg/L	S-6010B	11/06/1997	11/07/1997	sps	2165	1873	0.03
Total Dissolved Solids		3920	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

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Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341376

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-19

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		73	% Rec	S-8270A		11/12/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		69	% Rec	S-8270A		11/12/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		103	% Rec	S-8270A		11/12/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromodichloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromoform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromomethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon disulfide		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloroethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/05/1997	zst		1454	20
Chloroform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloromethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Dibromochloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5

ANALYTICAL RESULTS REPORT

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11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341376

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-19

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Ethyl benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
2-Hexanone		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Methylene chloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Styrene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Tetrachloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Toluene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Trichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Vinyl acetate		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Vinyl chloride		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Xylenes, Total		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
SURR: 1,2-Dichloroethane-d4		102	% Rec	S-8240A		11/05/1997	zst		1454	76-114
SURR: Toluene-d8		95	% Rec	S-8240A		11/05/1997	zst		1454	88-110
SURR: 4-Bromofluorobenzene		86	% Rec	S-8240A		11/05/1997	zst		1454	86-115

ANALYTICAL RESULTS REPORT

George Robinson
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P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341377

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-18

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		78	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		390	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.69	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		2020	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		760	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		210	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/05/1997	bwb		1466	0.0002
Potassium		6.4	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		330	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3850	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341377

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-18

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		76	% Rec	S-8270A		11/12/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		72	% Rec	S-8270A		11/12/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		98	% Rec	S-8270A		11/12/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromodichloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromoform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromomethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon disulfide		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloroethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/05/1997	zst		1454	20
Chloroform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloromethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Dibromochloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5

ANALYTICAL RESULTS REPORT

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11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341377

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-18

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Ethyl benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
2-Hexanone		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Methylene chloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Styrene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Tetrachloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Toluene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Trichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Vinyl acetate		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Vinyl chloride		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Xylenes, Total		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
SURR: 1,2-Dichloroethane-d4		104	% Rec	S-8240A		11/05/1997	zst		1454	76-114
SURR: Toluene-d8		98	% Rec	S-8240A		11/05/1997	zst		1454	88-110
SURR: 4-Bromofluorobenzene		86	% Rec	S-8240A		11/05/1997	zst		1454	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341378

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-17

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		90	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		430	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.74	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		2000	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		770	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/20/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		210	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		0.03	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/05/1997	bwb		1466	0.0002
Potassium		2.5	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		330	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3770	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341378

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-17

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		66	% Rec	S-8270A		11/12/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		64	% Rec	S-8270A		11/12/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		86	% Rec	S-8270A		11/12/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromodichloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromoform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromomethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon disulfide		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloroethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/05/1997	zst		1454	20
Chloroform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloromethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Dibromochloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5

ANALYTICAL RESULTS REPORT

George Robinson
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Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341378

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-17

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Ethyl benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
2-Hexanone		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Methylene chloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Styrene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Tetrachloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Toluene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Trichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Vinyl acetate		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Vinyl chloride		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Xylenes, Total		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
SURR: 1,2-Dichloroethane-d4		103	% Rec	S-8240A		11/05/1997	zst		1454	76-114
SURR: Toluene-d8		92	% Rec	S-8240A		11/05/1997	zst		1454	88-110
SURR: 4-Bromofluorobenzene		92	% Rec	S-8240A		11/05/1997	zst		1454	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341379

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-15

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		114	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		450	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.43	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1900	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		750	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		210	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/05/1997	bwb		1466	0.0002
Potassium		3.8	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		330	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3820	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341379

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-15

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		63	% Rec	S-8270A		11/12/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		60	% Rec	S-8270A		11/12/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		87	% Rec	S-8270A		11/12/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromodichloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromoform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromomethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon disulfide		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloroethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/05/1997	zst		1454	20
Chloroform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloromethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Dibromochloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
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Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341379

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-15

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Ethyl benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
2-Hexanone		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Methylene chloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Styrene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Tetrachloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Toluene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Trichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Vinyl acetate		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Vinyl chloride		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Xylenes, Total		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
SURR: 1,2-Dichloroethane-d4		105	% Rec	S-8240A		11/05/1997	zst		1454	76-114
SURR: Toluene-d8		89	% Rec	S-8240A		11/05/1997	zst		1454	88-110
SURR: 4-Bromofluorobenzene		88	% Rec	S-8240A		11/05/1997	zst		1454	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341380

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-6

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		106	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		300	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		1.2	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1620	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		550	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		170	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/05/1997	bwb		1466	0.0002
Potassium		3.1	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/20/1997	sps	2165	1873	0.01
Sodium		170	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3090	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
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11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341380

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-6

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		51	% Rec	S-8270A		11/12/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		47	% Rec	S-8270A		11/12/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		68	% Rec	S-8270A		11/12/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromodichloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromoform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromomethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon disulfide		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloroethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/05/1997	zst		1454	20
Chloroform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloromethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Dibromochloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341380

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-6

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Ethyl benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
2-Hexanone		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Methylene chloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Styrene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Tetrachloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Toluene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Trichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Vinyl acetate		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Vinyl chloride		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Xylenes, Total		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
SURR: 1,2-Dichloroethane-d4		106	% Rec	S-8240A		11/05/1997	zst		1454	76-114
SURR: Toluene-d8		90	% Rec	S-8240A		11/05/1997	zst		1454	88-110
SURR: 4-Bromofluorobenzene		88	% Rec	S-8240A		11/05/1997	zst		1454	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341381

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-5

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		118	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		560	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		3.6	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1730	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		780	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		200	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/05/1997	bwb		1466	0.0002
Potassium		2.6	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		270	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3700	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
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11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341381

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-5

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		67	% Rec	S-8270A		11/12/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		65	% Rec	S-8270A		11/12/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		87	% Rec	S-8270A		11/12/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromodichloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromoform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromomethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon disulfide		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloroethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/05/1997	zst		1454	20
Chloroform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloromethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Dibromochloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341381

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-5

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Ethyl benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
2-Hexanone		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Methylene chloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Styrene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Tetrachloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Toluene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Trichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Vinyl acetate		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Vinyl chloride		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Xylenes, Total		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
SURR: 1,2-Dichloroethane-d4		109	% Rec	S-8240A		11/05/1997	zst		1454	76-114
SURR: Toluene-d8		91	% Rec	S-8240A		11/05/1997	zst		1454	88-110
SURR: 4-Bromofluorobenzene		86	% Rec	S-8240A		11/05/1997	zst		1454	86-115

ANALYTICAL RESULTS REPORT

George Robinson
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Env. Affairs, Rm 3 AC 3142
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11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341382

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-10

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		128	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		340	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.74	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1890	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		600	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		146	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/05/1997	bwb		1466	0.0002
Potassium		3.5	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		225	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3520	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341382

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-10

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/12/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		68	% Rec	S-8270A		11/12/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		66	% Rec	S-8270A		11/12/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		91	% Rec	S-8270A		11/12/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromodichloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromoform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromomethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon disulfide		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloroethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/05/1997	zst		1454	20
Chloroform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloromethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Dibromochloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341382

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-10

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Ethyl benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
2-Hexanone		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Methylene chloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Styrene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Tetrachloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Toluene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Trichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Vinyl acetate		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Vinyl chloride		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Xylenes, Total		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
SURR: 1,2-Dichloroethane-d4		106	% Rec	S-8240A		11/05/1997	zst		1454	76-114
SURR: Toluene-d8		96	% Rec	S-8240A		11/05/1997	zst		1454	88-110
SURR: 4-Bromofluorobenzene		86	% Rec	S-8240A		11/05/1997	zst		1454	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
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11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341383

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-11

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		96	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		370	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.67	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1900	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		630	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		140	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/05/1997	bwb		1466	0.0002
Potassium		2.6	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		360	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3530	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341383

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-11

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		74	% Rec	S-8270A		11/13/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		74	% Rec	S-8270A		11/13/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		99	% Rec	S-8270A		11/13/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromodichloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromoform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Bromomethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon disulfide		<100	ug/L	S-8240A		11/05/1997	zst		1454	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloroethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/05/1997	zst		1454	20
Chloroform		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Chloromethane		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Dibromochloromethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412
Sample Number: 341383

Project Description: TWP Rosewell Compressor Station
Job Description:

Sample Description: MW-11

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Ethyl benzene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
2-Hexanone		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Methylene chloride		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Styrene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Tetrachloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Toluene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Trichloroethene		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
Vinyl acetate		<50	ug/L	S-8240A		11/05/1997	zst		1454	50
Vinyl chloride		<10	ug/L	S-8240A		11/05/1997	zst		1454	10
Xylenes, Total		<5	ug/L	S-8240A		11/05/1997	zst		1454	5
SURR: 1,2-Dichloroethane-d4		113	% Rec	S-8240A		11/05/1997	zst		1454	76-114
SURR: Toluene-d8		90	% Rec	S-8240A		11/05/1997	zst		1454	88-110
SURR: 4-Bromofluorobenzene		87	% Rec	S-8240A		11/05/1997	zst		1454	86-115

QUALITY CONTROL REPORT
BLANKS

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Alkalinity, total (CACO3)		<5.0	mg/L	5.0	11/12/1997		544
Chloride		<5.0	mg/L	5.0	11/13/1997		784
N-Nitrate/Nitrite		<0.05	mg/L	0.05	11/12/1997		44
Sulfate		<5.0	mg/L	5.0	11/13/1997		608
Arsenic		<0.03	mg/L	0.03	11/11/1997	2165	1819
Barium		<0.01	mg/L	0.01	11/11/1997	2165	1704
Cadmium		<0.01	mg/L	0.01	11/11/1997	2165	1880
Calcium	B	0.22	mg/L	0.50	11/11/1997	2165	1862
Chromium		<0.01	mg/L	0.01	11/11/1997	2165	1879
Copper		<0.01	mg/L	0.01	11/11/1997	2165	1870
Iron		<0.1	mg/L	0.01	11/11/1997	2165	1876
Lead		<0.03	mg/L	0.03	11/11/1997	2165	1889
Magnesium		<0.10	mg/L	0.10	11/11/1997	2165	1860
Manganese		<0.01	mg/L	0.01	11/11/1997	2165	1854
Mercury, CVAA		<0.0002	mg/L	0.0002	11/05/1997		1466
Potassium		<0.50	mg/L	0.50	11/11/1997	2165	1858
Selenium		<0.04	mg/L	0.04	11/11/1997	2165	1817
Silver		<0.01	mg/L	0.01	11/11/1997	2165	1874

All parameters should be less than the reporting limit.

B - Blank Contamination.

QUALITY CONTROL REPORT
BLANKS

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Sodium	B	0.69	mg/L	0.50	11/11/1997	2165	1869
Zinc		<0.03	mg/L	0.03	11/11/1997	2165	1875
Zinc		<0.03	mg/L	0.03	11/11/1997	2165	1875
Total Dissolved Solids		<5	mg/L	5	11/07/1997		769
BASE/NEUTRALS - 8270 AQUEOUS							
Acenaphthene		<10	ug/L	10	11/12/1997	3979	519
Acenaphthylene		<10	ug/L	10	11/12/1997	3979	519
Anthracene		<10	ug/L	10	11/12/1997	3979	519
Benzo(a)anthracene		<10	ug/L	10	11/12/1997	3979	519
Benzo(b)fluoranthene		<10	ug/L	10	11/12/1997	3979	519
Benzo(k)fluoranthene		<10	ug/L	10	11/12/1997	3979	519
Benzo(g,h,i)perylene		<10	ug/L	10	11/12/1997	3979	519
Benzo(a)pyrene		<10	ug/L	10	11/12/1997	3979	519
Chrysene		<10	ug/L	10	11/12/1997	3979	519
Dibenz(a,h)anthracene		<10	ug/L	10	11/12/1997	3979	519
Fluoranthene		<10	ug/L	10	11/12/1997	3979	519
Fluorene		<10	ug/L	10	11/12/1997	3979	519
Indeno(1,2,3-cd)pyrene		<10	ug/L	10	11/12/1997	3979	519
1-Methylnaphthalene		<10	ug/L	10	11/12/1997	3979	519
2-Methylnaphthalene		<10	ug/L	10	11/12/1997	3979	519
Naphthalene		<10	ug/L	10	11/12/1997	3979	519
Phenanthrene		<10	ug/L	10	11/12/1997	3979	519
Pyrene		<10	ug/L	10	11/12/1997	3979	519
VOLATILES-8240 AQ(PRESERVED)							
Acetone		<100	ug/L	100	11/05/1997		1454
Benzene		<5	ug/L	5	11/05/1997		1454

All parameters should be less than the reporting limit.

B - Blank contamination.

QUALITY CONTROL REPORT
BLANKS

George Robinson
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Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Bromodichloromethane		<5	ug/L	5	11/05/1997		1454
Bromoform		<5	ug/L	5	11/05/1997		1454
Bromomethane		<10	ug/L	10	11/05/1997		1454
2-Butanone (MEK)		<100	ug/L	100	11/05/1997		1454
Carbon disulfide		<100	ug/L	100	11/05/1997		1454
Carbon tetrachloride		<5	ug/L	5	11/05/1997		1454
Chlorobenzene		<5	ug/L	5	11/05/1997		1454
Chloroethane		<10	ug/L	10	11/05/1997		1454
2-Chloroethylvinyl ether		<20	ug/L	20	11/05/1997		1454
Chloroform		<5	ug/L	5	11/05/1997		1454
Chloromethane		<10	ug/L	10	11/05/1997		1454
Dibromochloromethane		<5	ug/L	5	11/05/1997		1454
1,2-Dichlorobenzene		<5	ug/L	5	11/05/1997		1454
1,3-Dichlorobenzene		<5	ug/L	5	11/05/1997		1454
1,4-Dichlorobenzene		<5	ug/L	5	11/05/1997		1454
1,1-Dichloroethane		<5	ug/L	5	11/05/1997		1454
1,2-Dichloroethane		<5	ug/L	5	11/05/1997		1454
1,1-Dichloroethene		<5	ug/L	5	11/05/1997		1454
cis-1,2-Dichloroethene		<5	ug/L	5	11/05/1997		1454
trans-1,2-Dichloroethene		<5	ug/L	5	11/05/1997		1454
1,2-Dichloropropane		<5	ug/L	5	11/05/1997		1454
cis-1,3-Dichloropropene		<5	ug/L	5	11/05/1997		1454
trans-1,3-Dichloropropene		<5	ug/L	5	11/05/1997		1454
Ethyl benzene		<5	ug/L	5	11/05/1997		1454
2-Hexanone		<50	ug/L	50	11/05/1997		1454
4-Methyl-2-pentanone (MIBK)		<50	ug/L	50	11/05/1997		1454
Methylene chloride		<5	ug/L	5	11/05/1997		1454
Styrene		<5	ug/L	5	11/05/1997		1454

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
BLANKS

George Robinson
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P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
1,1,2,2-Tetrachloroethane		<5	ug/L	5	11/05/1997		1454
Tetrachloroethene		<5	ug/L	5	11/05/1997		1454
Toluene		<5	ug/L	5	11/05/1997		1454
1,1,1-Trichloroethane		<5	ug/L	5	11/05/1997		1454
1,1,2-Trichloroethane		<5	ug/L	5	11/05/1997		1454
Trichloroethene		<5	ug/L	5	11/05/1997		1454
Vinyl acetate		<50	ug/L	50	11/05/1997		1454
Vinyl chloride		<10	ug/L	10	11/05/1997		1454
Xylenes, Total		<5	ug/L	5	11/05/1997		1454

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
N-Nitrate/Nitrite		0.200	mg/L	0.214	107.0	11/12/1997	44
Sulfate		20.0	mg/L	18.3	91.5	11/13/1997	608
Arsenic		1.00	mg/L	0.95	95.0	11/07/1997	1817
Arsenic		1.00	mg/L	0.97	97.0	11/10/1997	1818
Barium		1.00	mg/L	0.95	95.0	11/07/1997	1702
Barium		1.00	mg/L	1.03	103.0	11/10/1997	1703
Cadmium		1.00	mg/L	1.00	100.0	11/07/1997	1878
Cadmium		1.00	mg/L	1.02	102.0	11/10/1997	1879
Calcium		10.0	mg/L	9.95	99.5	11/14/1997	1868
Chromium		1.00	mg/L	1.03	103.0	11/07/1997	1877
Chromium		1.00	mg/L	0.99	99.0	11/10/1997	1878
Chromium		1.00	mg/L	0.99	99.0	11/20/1997	1878
Copper		1.00	mg/L	0.99	99.0	11/07/1997	1868
Copper		1.00	mg/L	1.03	103.0	11/10/1997	1869
Iron		10.0	mg/L	10.4	104.0	11/12/1997	1876
Lead		1.00	mg/L	1.03	103.0	11/07/1997	1887
Lead		1.00	mg/L	1.00	100.0	11/10/1997	1888
Magnesium		10.0	mg/L	10.0	100.0	11/14/1997	1866
Manganese		10.00	mg/L	9.79	97.9	11/12/1997	1854
Mercury, CVAA		0.0050	mg/L	0.0049	98.0	11/05/1997	1466
Potassium		100.0	mg/L	98.6	98.6	11/12/1997	1858
Selenium		1.00	mg/L	0.99	99.0	11/07/1997	1815
Selenium		1.00	mg/L	1.02	102.0	11/10/1997	1816
Silver		1.00	mg/L	0.98	98.0	11/07/1997	1872
Silver		1.00	mg/L	0.96	96.0	11/10/1997	1873
Silver		1.00	mg/L	1.00	100.0	11/20/1997	1873
Sodium		10.0	mg/L	10.0	100.0	11/12/1997	1869
Sodium		10.0	mg/L	10.2	102.0	11/14/1997	1875
Zinc		1.00	mg/L	0.97	97.0	11/07/1997	1873
Zinc		1.00	mg/L	0.97	97.0	11/10/1997	1874

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
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11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
BASE/NEUTRALS - 8270 AQUEOUS							
Acenaphthene		50	ug/L	51	102.0	11/12/1997	519
Benzo(a)pyrene		50	ug/L	47	94.0	11/12/1997	519
Fluoranthene		50	ug/L	52	104.0	11/12/1997	519
BASE/NEUTRALS - 8270 AQUEOUS							
Acenaphthene		50	ug/L	51	102.0	11/13/1997	519
Benzo(a)pyrene		50	ug/L	46	92.0	11/13/1997	519
Fluoranthene		50	ug/L	51	102.0	11/13/1997	519
VOLATILES-8240 AQ(PRESERVED)							
Chloroform		20	ug/L	20.7	103.5	11/05/1997	1454
1,1-Dichloroethene		20	ug/L	23.1	115.5	11/05/1997	1454
1,2-Dichloropropane		20	ug/L	18.3	91.5	11/05/1997	1454
Ethyl benzene		20	ug/L	18	90.0	11/05/1997	1454
Toluene		20	ug/L	18	90.0	11/05/1997	1454
Vinyl chloride		20	ug/L	21	105.0	11/05/1997	1454

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Alkalinity, total (CACO3)		mg/L	118	100	218	100.0	100	228	110.0	9.5	11/12/1997		544
Alkalinity, total (CACO3)		mg/L	128	100	230	102.0	100	228	100.0	2.0	11/12/1997		544
Chloride		mg/L	560	400	970	102.5	400	960	100.0	2.5	11/13/1997		784
Chloride		mg/L	330	400	690	90.0	400	700	92.5	2.7	11/13/1997		784
N-Nitrate/Nitrite		mg/L	0.74	0.20	0.94	100.0	0.20	0.96	110.0	9.5	11/12/1997		44
N-Nitrate/Nitrite		mg/L	0.40	0.20	0.63	115.0	0.20	0.64	120.0	4.3	11/12/1997		44
Sulfate		mg/L	1930	2000	4170	112.0	2000	4120	109.5	2.3	11/13/1997		608
Sulfate		mg/L	1890	1500	3320	95.3	1500	3290	93.3	2.1	11/13/1997		608
Arsenic		mg/L	<0.03	1.00	0.86	86.0	1.00	0.86	86.0	0.0	11/07/1997	2165	1817
Arsenic		mg/L	<0.03	1.00	0.93	93.0	1.00	0.96	96.0	3.2	11/10/1997	2165	1818
Barium		mg/L	<0.01	1.00	0.91	91.0	1.00	0.93	93.0	2.2	11/07/1997	2165	1702
Barium		mg/L	<0.01	1.00	1.02	102.0	1.00	1.02	102.0	0.0	11/10/1997	2165	1703
Cadmium		mg/L	<0.01	1.00	0.89	89.0	1.00	0.92	92.0	3.3	11/07/1997	2165	1878
Cadmium		mg/L	<0.01	1.00	0.92	92.0	1.00	0.95	95.0	3.2	11/10/1997	2165	1879
Calcium		mg/L	610	100	710	100.0	100	729	119.0	17.4	11/12/1997	2165	1868
Calcium		mg/L	600	100	688	88.0	100	707	107.0	19.4	11/21/1997	2165	1868
Chromium		mg/L	<0.01	1.00	0.93	93.0	1.00	0.95	95.0	2.1	11/07/1997	2165	1877
Chromium		mg/L	<0.01	1.00	0.89	89.0	1.00	0.91	91.0	2.2	11/10/1997	2165	1878

NOTE: The Quality Control data in this report reflects the batch in which your sample was prepped and/or analyzed. The sample selected for QA may not necessarily be your sample.

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
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11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Copper		mg/L	<0.01	1.00	0.91	91.0	1.00	0.92	92.0	1.1	11/07/1997	2165	1868
Copper		mg/L	<0.01	1.00	0.96	96.0	1.00	0.98	98.0	2.1	11/10/1997	2165	1869
Iron		mg/L	<0.01	10.0	9.2	92.0	10.0	9.20	92.0	0.0	11/12/1997	2165	1876
Iron		mg/L	<0.01	11.0	10.6	96.4	11.0	9.66	87.8	9.3	11/12/1997	2165	1876
Iron		mg/L	<0.01	11.0	8.90	80.9	11.0	9.17	83.4	3.0	11/12/1997	2165	1876
Lead		mg/L	<0.03	1.00	0.95	95.0	1.00	0.95	95.0	0.0	11/07/1997	2165	1887
Lead		mg/L	<0.03	1.00	0.92	92.0	1.00	0.95	95.0	3.2	11/10/1997	2165	1888
Magnesium		mg/L	210	100	320	110.0	100	321	111.0	0.9	11/12/1997	2165	1866
Magnesium		mg/L	146	100	236	90.0	100	252	106.0	16.2	11/21/1997	2165	1866
Manganese		mg/L	<0.01	1.00	0.90	90.0	1.00	0.94	94.0	4.3	11/12/1997	2165	1854
Manganese		mg/L	<0.01	1.00	1.09	109.0	1.00	0.97	97.0	11.6	11/21/1997	2165	1854
Mercury, CVAA		mg/L	<0.0002	0.0050	0.0051	102.0	0.0050	0.0051	102.0	0.0	11/05/1997		1466
Mercury, CVAA		mg/L	<0.0002	0.0050	0.0053	106.0	0.0050	0.0053	106.0	0.0	11/05/1997		1466
Potassium		mg/L	<0.50	20.0	23.0	115.0	20.0	23.0	115.0	0.0	11/21/1997	2165	1858

NOTE: The Quality Control data in this report reflects the batch in which your sample was prepped and/or analyzed.
The sample selected for QA may not necessarily be your sample.

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
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P.O. Box 1188
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11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Potassium		mg/L	<0.50	20.0	21.0	105.0	20.0	22.0	110.0	4.7	11/12/1997	2165	1858
Potassium		mg/L	3.4	20.0	23.2	99.0	20.0	22.8	97.0	2.0	11/12/1997	2165	1858
Potassium		mg/L	3.5	20.0	21.2	88.5	20.0	21.9	92.0	3.9	11/12/1997	2165	1858
Selenium		mg/L	<0.04	1.00	0.93	93.0	1.00	0.90	90.0	3.3	11/07/1997	2165	1815
Selenium		mg/L	<0.04	1.00	0.92	92.0	1.00	0.95	95.0	3.2	11/10/1997	2165	1816
Silver		mg/L	<0.01	1.00	0.94	94.0	1.00	0.95	95.0	1.1	11/07/1997	2165	1872
Silver		mg/L	<0.01	1.00	0.92	92.0	1.00	0.93	93.0	1.1	11/10/1997	2165	1873
Sodium		mg/L	178	100	269	91.0	100	273	95.0	4.3	11/12/1997	2165	1875
Sodium		mg/L	225	100	314	89.0	100	331	106.0	17.3	11/21/1997	2165	1875
Zinc		mg/L	<0.03	1.00	0.92	92.0	1.00	0.90	90.0	2.2	11/07/1997	2165	1873
Zinc		mg/L	<0.03	1.00	0.92	92.0	1.00	0.94	94.0	2.2	11/10/1997	2165	1874

NOTE: The Quality Control data in this report reflects the batch in which your sample was prepped and/or analyzed.
The sample selected for QA may not necessarily be your sample.

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
VOLATILES-8240 AQ(PRESERVED)													
Benzene		ug/L	<5	50	51	102.0	50	55	110.0	7.5	11/05/1997		1454
Chlorobenzene		ug/L	<5	50	56	112.0	50	49	98.0	13.2	11/05/1997		1454
1,1-Dichloroethene		ug/L	<5	50	51	102.0	50	52	104.0	1.9	11/05/1997		1454
Toluene		ug/L	<5	50	57	114.0	50	48	96.0	17.0	11/05/1997		1454
richloroethene		ug/L	<5	50	51	102.0	50	47	94.0	8.1	11/05/1997		1454

NOTE: The Quality Control data in this report reflects the batch in which your sample was prepped and/or analyzed. The sample selected for QA may not necessarily be your sample.

QUALITY CONTROL REPORT
DUPLICATES

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Parameter	Flag	Units	Sample Result	Duplicate Sample Result	RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Total Dissolved Solids		mg/L	4000	4010	0.2	11/07/1997		769
Total Dissolved Solids		mg/L	3850	3840	0.3	11/07/1997		769

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	LCS Dup Conc. Found	LCS Dup % Rec	LCS % RPD	Flag	Date Analyzed
Alkalinity, total (CACO3)		544	2500	mg/L	2600	104.0					11/12/1997
Chloride		784	1000	mg/L	1050	105.0					11/13/1997
N-Nitrate/Nitrite		44	0.500	mg/L	0.453	90.6					11/12/1997
Sulfate		608	20.0	mg/L	18.1	90.5					11/13/1997
Arsenic	2165	1819	1.00	mg/L	0.96	96.0					11/12/1997
Barium	2165	1704	1.00	mg/L	0.93	93.0					11/12/1997
Cadmium	2165	1880	1.00	mg/L	0.97	97.0					11/12/1997
Calcium	2165	1852	11.0	mg/L	10.4	94.5					11/12/1997
Chromium	2165	1879	1.00	mg/L	1.01	101.0					11/12/1997
Copper	2165	1870	1.00	mg/L	0.97	97.0					11/12/1997
Iron	2165	1876	1.00	mg/L	1.00	100.0					11/12/1997
Lead	2165	1889	1.00	mg/L	0.99	99.0					11/12/1997
Magnesium	2165	1860	10.0	mg/L	11.0	110.0					11/12/1997
Manganese	2165	1854	1.00	mg/L	1.03	103.0					11/12/1997
Mercury, CVAA		1466	0.0050	mg/L	0.0054	108.0					11/05/1997
Potassium	2165	1858	20.0	mg/L	19.6	98.0					11/12/1997
Selenium	2165	1817	1.00	mg/L	0.99	99.0					11/12/1997
Silver	2165	1874	1.00	mg/L	0.96	96.0					11/12/1997
Sodium	2165	1869	10.0	mg/L	11.5	115.0					11/12/1997

LCS - Laboratory Control Standard

For samples with insufficient sample volume, an LCS/LCS duplicate is reported instead of an MS/MSD.

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04412

Project Description: TWP Rosewell Compressor Station
Job Description:

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	LCS Dup Conc. Found	LCS Dup % Rec	LCS % RPD	Flag	Date Analyzed
Zinc	2165	1875	1.00	mg/L	0.96	96.0					11/12/1997
Total Dissolved Solids		769	2000	mg/L	1950	97.5					11/07/1997
BASE/NEUTRALS - 8270 AQUEOUS											
Acenaphthene	3979	519	100	ug/L	66	66.0	79	79.0	17.9		11/12/1997
Pyrene	3979	519	100	ug/L	75	75.0	82	82.0	8.9		11/12/1997
VOLATILES-8240 AQ(PRESERVED)											
Benzene		1454	50	ug/L	51.6	103.2					11/05/1997
Chlorobenzene		1454	50	ug/L	51.3	102.6					11/05/1997
1,1-Dichloroethene		1454	50	ug/L	55.4	110.8					11/05/1997
Toluene		1454	50	ug/L	41.4	82.8					11/05/1997
Trichloroethene		1454	50	ug/L	48.9	97.8					11/05/1997

LCS - Laboratory Control Standard

For samples with insufficient sample volume, an LCS/LCS duplicate is reported instead of an MS/MSD.

CHAIN OF CUSTODY RECORD

EPIC LABORATORIES, INC.

1555 Valwood Pkwy., Ste. 100
Carrollton, Texas 75006

Dallas (972) 406-8100
Austin (512) 928-8905
Houston (281) 286-1400

COMPANY: ENRON OPERATIONS CORP
ADDRESS: P.O. BOX 1188 HOUSTON TX 77251
PHONE: (713)646-7327 FAX: (713)646-7867
PROJECT NAME/LOCATION: TWP - ROSWELL COMPRESSOR STA.
PROJECT NUMBER:
PROJECT MANAGER:

REPORT TO: GEORGE ROBERTSON C/O ENRON OPERATIONS CORP ATTN: 3AC3142
INVOICE TO: P.O. BOX 1188 HOUSTON, TX 77251
P.O. NO.:
EPIC QUOTE NO.:

SAMPLED BY
SANDY SHARP (PRINT NAME) — SIGNATURE
(PRINT NAME) — SIGNATURE

DATE	TIME	SAMPLE ID / DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: *VOC's 8240	*PAH's 8270	NITRATE & NITRITE AS NITROGEN 353.2	ALKALINITY, CHLORIDE, SULFATE & TDS	METALS (CAT'D, 6010 INCLUDING: AS, Ba, Cd, Cr, Pb, Hg, Se, Ag, SiO2, Mn, Zn, Fe, Mg, Na & K)	COMMENTS
10/31/97	1410	MW-6	A	X		2/G		1/P	1/P	1/P/G	X	X	X	X	X	*VOC's INCLUDING 1,2-DICHLOROETHANE (CIS- & TRANS-) & DICHLOROBENZENE (O-, M- & P-)
10/31/97	1535	MW-5	"	"		"		"	"	"	"	"	"	"	"	
11/1/97	1115	MW-10	"	"		"		"	"	"	"	"	"	"	"	
11/1/97	1240	MW-11	"	"		"		"	"	"	"	"	"	"	"	*PAH's INCLUDING NAPHTHALENE, 1-METHYLNAPHTHALENE & ISOMERS (1-, & 2-)

To assist us in selecting the proper method:

Is this work being conducted for regulatory compliance monitoring? [X] Yes [ ] No

Is this work being conducted for regulatory enforcement action? [ ] Yes [X] No

Which regulations apply: [ ] RCRA [ ] UST [X] Other [ ] NPDES Wastewater [ ] Drinking Water [ ] None

CONDITION OF SAMPLE: BOTTLES INTACT? [ ] YES [ ] NO; FIELD FILTERED? [ ] YES [ ] NO
COC SEALS PRESENT AND INTACT? [ ] YES [ ] NO; VOLATILES FREE OF HEADSPACE? [ ] YES [ ] NO
TEMPERATURE UPON RECEIPT: ____ °c; BOTTLES SUPPLIED BY EPIC? [ ] YES [ ] NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT [ ] (PLEASE PROVIDE SHIPPING CHARGE AND CARRIER INSTRUCTIONS)
I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS AT ~~A CHARGE OF $5 PER SAMPLE~~ [X]

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
SANDY SHARP	11/3/97	0815			11/4	1030	B. Walker

METHOD OF SHIPMENT:

REMARKS: Airbill # 4871 938724

PT 1 - ORIGINAL - WHITE PT 2 - EPIC PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

CHAIN OF CUSTODY

A chain of custody is one of the first steps in sample control in the laboratory. The chain of custody is a "contract" between the client and the laboratory to insure that all information from the client is transmitted to the laboratory in an ordered fashion.

Procedure

A A three copy chain of custody shall be used. A ball-point pen, either blue or black shall be used, pressing hard to make all three copies.

B Writing legibly, or printing fill out the chain of custody as follows:

1 Name of Company
Address of Company
Phone and Fax Number

2 Project Name/Location
Project Number
Project Manager

3 Report To
Name and Address, if different from above (enter in remark section)

4 Invoice to
Name and Address, if different from above (enter in remark section)

5 Purchase Order Number and EPIC Quote Number (if applicable)

6 Sample Information
Date and Time
Sample ID/Description
Grab or Comp
# of Containers/Type
Matrix
Preserved - Y/N

7 Parameters to be tested on samples
Check parameter squares with sample descriptions

8 Comments
Special Methods and Detection Limits
Known Sample Contamination

9 Sample Disposal Instructions

THE WORK WILL BE UNDERTAKEN IN ACCORDANCE WITH EPIC'S STANDARD TERMS AND CONDITIONS, WHICH INCLUDE THE REQUIREMENT THAT PAYMENT IS DUE WITHIN THIRTY (30) DAYS FROM THE DATE OF INVOICE.

EPIC LABORATORIES, INC.

1555 Valwood Pkwy., Ste. 100
Carrollton, Texas 75006

Dallas (972) 406-8100
Austin (512) 928-8905
Houston (281) 286-1400

CHAIN OF CUSTODY RECORD

COMPANY ENRON OPERATIONS CORP
ADDRESS P.O BOX 1188 HOUSTON, TX 77251
PHONE (713) 646-7327 FAX (713) 646-7867
PROJECT NAME/LOCATION TWP - ROSWELL COMPRESSOR STATION
PROJECT NUMBER
PROJECT MANAGER

REPORT TO: GEORGE ROBINSON C/O ENRON OPERATIONS CORP ATTN: 3AC 3142
INVOICE TO: P.O. BOX 1188 HOUSTON, TX 77251
P.O. NO.:
EPIC QUOTE NO.:

SAMPLED BY
SANDY SHARP (PRINT NAME) SIGNATURE
(PRINT NAME) SIGNATURE

DATE	TIME	SAMPLE ID / DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: *VOC's 8240	*PAH's 8270	(NITRATE & NITRITE AS NITROGEN (353.2))	TOTAL ALKALINITY	CHLORIDE/SULFATE	METALS 7470/6010 (As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Cu, Fe, Mn, Zn) (Ca, K, Na, Mg)	
11/1/97	1430	MW-19	A	X		3/G		Y/P	1/P	III/PG	X	X	X		X		X
11/1/97	1545	MW-18	"	"		"		"	"	"	X	X	X		X		X
11/2/97	1030	MW-17	"	"		"		"	"	"	X	X	X		X		X
11/2/97	1155	MW-15	"	"		"		"	"	"	X	X	X		X		X

To assist us in selecting the proper method:

Is this work being conducted for regulatory compliance monitoring? ☒ Yes ☐ No

Is this work being conducted for regulatory enforcement action? ☐ Yes ☒ No

Which regulations apply: ☐ RCRA ☐ UST ☒ Other ☐ NPDES Wastewater ☐ Drinking Water ☐ None

COMMENTS

*VOC's INCLUDING 1,2-dichloroethane (CIS-&TRANS-) & DICHLOROBENZENE (O-, M-, & P-)

*PAHS INCLUDING MONOMETHYLNAPHTHALENE ISOMERS (1- & 2-)

CONDITION OF SAMPLE: BOTTLES INTACT? ☐ YES ☐ NO FIELD FILTERED? ☐ YES ☐ NO
COC SEALS PRESENT AND INTACT? ☐ YES ☐ NO VOLATILES FREE OF HEADSPACE? ☐ YES ☐ NO
TEMPERATURE UPON RECEIPT: _____ °c BOTTLES SUPPLIED BY EPIC? ☐ YES ☐ NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT ☐ (PLEASE PROVIDE SHIPPING CHARGE AND CARRIER INSTRUCTIONS)
I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS AT A CHARGE OF ~~$5 PER SAMPLE~~ ☒

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
SANDY SHARP	11/3/97	0815			11/4	1030	B. Walker

METHOD OF SHIPMENT:

REMARKS: Airbill # 4871 9388 31

PT 1 - ORIGINAL - WHITE PT 2 - EPIC PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

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CHAIN OF CUSTODY RECORD

EPIC LABORATORIES, INC.
1555 Valwood Pkwy., Ste. 100
Carrollton, Texas 75006

Dallas (972) 406-8100
Austin (512) 928-8905
Houston (281) 286-1400

COMPANY: ENRON Operations Corp
ADDRESS: P.O. BOX 1188 Houston TX 77251
PHONE: (713) 646-7327 FAX: (713) 646-7867
PROJECT NAME/LOCATION: TWA Roswell Corp
PROJECT NUMBER:
PROJECT MANAGER:

REPORT TO: George Robinson c/o ENRON Operations Corp EB 3AC3142
INVOICE TO: P.O. BOX 1188 HOUSTON TX 77251
P.O. NO.:
EPIC QUOTE NO.:

SAMPLED BY
Sandy Sharp (PRINT NAME) — SIGNATURE
(PRINT NAME) — SIGNATURE

DATE	TIME	SAMPLE ID / DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: * VOC's 8240	* PAH's 8270	Nitrate & Nitrite (as Nitrogen) (353.2)	Total Alkalinity, TDS	Chloride & Sulfate	Metals 7470/6010 (As, Ba, Cd, Cr, Pb, Hg, Se, Ag, F, Mn, Zn) & Ca, K, Na, Mg
11/2/97	1545	MW-9	A	X		6		1	1	1	X	X	X		X	X
11/2/97	1555	MW-8	"	"		"		"	"	"	X	X	X		X	X
11/2/97	1700	MW-14	"	"		"		"	"	"	X	X	X		X	X
11/3/97	1110	MW-7	"	"		"		"	"	"	X	X	X		X	X

To assist us in selecting the proper method:
Is this work being conducted for regulatory compliance monitoring? [X] Yes [ ] No
Is this work being conducted for regulatory enforcement action? [ ] Yes [X] No
Which regulations apply: [ ] RCRA [ ] NPDES Wastewater [ ] UST [ ] Drinking Water [X] Other [ ] None

COMMENTS

* VOC's Including 1,2-Dichloroethane (cis- & trans-) & Dichlorobenzene (o-, m-, & p-)

* PAH's Including monomethyl naphthalene Isomers (1-, & 2-)

CONDITION OF SAMPLE: BOTTLES INTACT? [ ] YES [ ] NO; FIELD FILTERED? [ ] YES [ ] NO; COC SEALS PRESENT AND INTACT? [ ] YES [ ] NO; VOLATILES FREE OF HEADSPACE? [ ] YES [ ] NO; TEMPERATURE UPON RECEIPT: ____ °c; BOTTLES SUPPLIED BY EPIC? [ ] YES [ ] NO

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RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
Sandy Sharp	11/3/97	1700			11/4	1030	B. Walker

METHOD OF SHIPMENT:
REMARKS: Airbill # 4871 9388 53

PT 1 - ORIGINAL - WHITE PT 2 - EPIC PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

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Name and Address, if different from above (enter in remark section)

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LABORATORIES, INC.

ANALYTICAL AND QUALITY CONTROL REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420

Page 1

Project Description:
Job Description: TWP Roswell Compressor Station

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to EPIC Laboratories, Inc. for analysis:

Sample Number	Sample Description	Date Taken	Time Taken	Date Received
341391	MW-3	11/03/1997	13:15	11/05/1997
341392	MW-22	11/03/1997	14:30	11/05/1997
341393	MW-20	11/03/1997	15:45	11/05/1997
341394	MW-24 (MW-12)	11/03/1997	10:00	11/05/1997
341395	Trip Blank			11/05/1997
341396	MW-12	11/04/1997	10:15	11/05/1997
341397	MW-21	11/04/1997	12:25	11/05/1997
341398	MW-13	11/04/1997	14:05	11/05/1997

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Debby Skogen

Debby Skogen
Project Coordinator

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

1555 Valwood Parkway, Suite 100, Carrollton, Texas 75006 (972) 406-8100 Fax: (972) 484-2969
2621 Ridgepoint Drive, Suite 135, Austin, Texas 78754 (512) 928-8905 Fax: (512) 928-3208
13802 Placid Brook Court, Houston, Texas 77059 (281) 286-1400 Fax: (281) 286-2424

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341391

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-3

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		110	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		370	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		1.1	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1840	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		790	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		180	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/07/1997	bwb		1468	0.0002
Potassium		3.0	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		290	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3450	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341391

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-3

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		86	% Rec	S-8270A		11/13/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		82	% Rec	S-8270A		11/13/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		107	% Rec	S-8270A		11/13/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Benzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromodichloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromoform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromomethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon disulfide		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloroethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/06/1997	zst		1455	20
Chloroform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloromethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Dibromochloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341391

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-3

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Ethyl benzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
2-Hexanone		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Methylene chloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Styrene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Tetrachloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Toluene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Trichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Vinyl acetate		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Vinyl chloride		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Xylenes, Total		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
SURR: 1,2-Dichloroethane-d4		93	% Rec	S-8240A		11/06/1997	zst		1455	76-114
SURR: Toluene-d8		104	% Rec	S-8240A		11/06/1997	zst		1455	88-110
SURR: 4-Bromofluorobenzene		88	% Rec	S-8240A		11/06/1997	zst		1455	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341392

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-22

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		132	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		380	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.85	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1840	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		780	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		3.3	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		160	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		0.07	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/07/1997	bwb		1468	0.0002
Potassium		3.6	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		290	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3570	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341392

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-22

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		77	% Rec	S-8270A		11/13/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		75	% Rec	S-8270A		11/13/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		93	% Rec	S-8270A		11/13/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Benzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromodichloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromoform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromomethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon disulfide		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloroethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/06/1997	zst		1455	20
Chloroform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloromethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Dibromochloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5

ANALYTICAL RESULTS REPORT

George Robinson
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P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341392

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-22

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Ethyl benzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
2-Hexanone		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Methylene chloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Styrene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Tetrachloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Toluene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Trichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Vinyl acetate		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Vinyl chloride		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Xylenes, Total		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
SURR: 1,2-Dichloroethane-d4		100	% Rec	S-8240A		11/06/1997	zst		1455	76-114
SURR: Toluene-d8		109	% Rec	S-8240A		11/06/1997	zst		1455	88-110
SURR: 4-Bromofluorobenzene		87	% Rec	S-8240A		11/06/1997	zst		1455	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341393

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-20

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		208	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		290	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.23	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1950	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		670	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		0.02	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		0.39	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		140	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/07/1997	bwb		1468	0.0002
Potassium		2.6	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		270	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		0.22	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3710	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341393

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-20

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		82	% Rec	S-8270A		11/13/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		81	% Rec	S-8270A		11/13/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		94	% Rec	S-8270A		11/13/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Benzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromodichloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromoform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromomethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon disulfide		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloroethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/06/1997	zst		1455	20
Chloroform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloromethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Dibromochloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethane		10	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethene		86	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5

ANALYTICAL RESULTS REPORT

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Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341393

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-20

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Ethyl benzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
2-Hexanone		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Methylene chloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Styrene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Tetrachloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Toluene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,1-Trichloroethane		28	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Trichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Vinyl acetate		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Vinyl chloride		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Xylenes, Total		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
SURR: 1,2-Dichloroethane-d4		103	% Rec	S-8240A		11/06/1997	zst		1455	76-114
SURR: Toluene-d8		100	% Rec	S-8240A		11/06/1997	zst		1455	88-110
SURR: 4-Bromofluorobenzene		88	% Rec	S-8240A		11/06/1997	zst		1455	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341394

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-24

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		102	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		400	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.40	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1760	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		710	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		150	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		0.43	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/07/1997	bwb		1468	0.0002
Potassium		2.4	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		320	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3400	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341394

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-24

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		84	% Rec	S-8270A		11/13/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		83	% Rec	S-8270A		11/13/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		109	% Rec	S-8270A		11/13/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Benzene		260	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromodichloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromoform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromomethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon disulfide		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloroethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/06/1997	zst		1455	20
Chloroform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloromethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Dibromochloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341394

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-24

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Ethyl benzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
2-Hexanone		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Methylene chloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Styrene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Tetrachloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Toluene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Trichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Vinyl acetate		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Vinyl chloride		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Xylenes, Total		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
SURR: 1,2-Dichloroethane-d4		103	% Rec	S-8240A		11/06/1997	zst		1455	76-114
SURR: Toluene-d8		104	% Rec	S-8240A		11/06/1997	zst		1455	88-110
SURR: 4-Bromofluorobenzene		86	% Rec	S-8240A		11/06/1997	zst		1455	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341395

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: Trip Blank

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Benzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromodichloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromoform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromomethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon disulfide		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloroethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/06/1997	zst		1455	20
Chloroform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloromethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Dibromochloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichloropropane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Ethyl benzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
2-Hexanone		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Methylene chloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Styrene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Tetrachloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Toluene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341395

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: Trip Blank

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Trichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Vinyl acetate		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Vinyl chloride		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Xylenes, Total		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
SURR: 1,2-Dichloroethane-d4		107	% Rec	S-8240A		11/06/1997	zst		1455	76-114
SURR: Toluene-d8		109	% Rec	S-8240A		11/06/1997	zst		1455	88-110
SURR: 4-Bromofluorobenzene		88	% Rec	S-8240A		11/06/1997	zst		1455	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341396

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-12

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		102	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		390	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.40	mg/L	E-353.3		11/12/1997	cgl		44	0.05
Sulfate		1630	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		880	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		180	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		0.31	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/07/1997	bwb		1468	0.0002
Potassium		2.6	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		330	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3340	mg/L	E-160.1		11/07/1997	cgl		769	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341396

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-12

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		71	% Rec	S-8270A		11/13/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		64	% Rec	S-8270A		11/13/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		94	% Rec	S-8270A		11/13/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Benzene		340	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromodichloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromoform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromomethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon disulfide		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloroethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/06/1997	zst		1455	20
Chloroform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloromethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Dibromochloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341396

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-12

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Ethyl benzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
2-Hexanone		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Methylene chloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Styrene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Tetrachloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Toluene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Trichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Vinyl acetate		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Vinyl chloride		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Xylenes, Total		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
SURR: 1,2-Dichloroethane-d4		105	% Rec	S-8240A		11/06/1997	zst		1455	76-114
SURR: Toluene-d8		93	% Rec	S-8240A		11/06/1997	zst		1455	88-110
SURR: 4-Bromofluorobenzene		87	% Rec	S-8240A		11/06/1997	zst		1455	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341397

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-21

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		118	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		410	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		0.36	mg/L	E-353.3		11/12/1997	cgl		45	0.05
Sulfate		1760	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		810	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		<0.01	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		190	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		0.40	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/07/1997	bwb		1468	0.0002
Potassium		4.0	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		260	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3700	mg/L	E-160.1		11/11/1997	cgl		770	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
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11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341397

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-21

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		66	% Rec	S-8270A		11/13/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		65	% Rec	S-8270A		11/13/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		83	% Rec	S-8270A		11/13/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Benzene		170	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromodichloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromoform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromomethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon disulfide		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloroethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/06/1997	zst		1455	20
Chloroform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloromethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Dibromochloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341397

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-21

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Ethyl benzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
2-Hexanone		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Methylene chloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Styrene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Tetrachloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Toluene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Trichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Vinyl acetate		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Vinyl chloride		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Xylenes, Total		15	ug/L	S-8240A		11/06/1997	zst		1455	5
SURR: 1,2-Dichloroethane-d4		101	% Rec	S-8240A		11/06/1997	zst		1455	76-114
SURR: Toluene-d8		107	% Rec	S-8240A		11/06/1997	zst		1455	88-110
SURR: 4-Bromofluorobenzene		88	% Rec	S-8240A		11/06/1997	zst		1455	86-115

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
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Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341398

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-13

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		152	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		460	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		<0.05	mg/L	E-353.3		11/12/1997	cgl		45	0.05
Sulfate		1720	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1818	0.03
Barium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1703	0.01
Cadmium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1879	0.01
Calcium		680	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1868	5.0
Chromium		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1878	0.01
Copper		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1869	0.01
Iron		0.67	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1876	0.01
Lead		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1888	0.03
Magnesium		150	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1866	1.0
Manganese		2.4	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1854	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/07/1997	bwb		1468	0.0002
Potassium		3.0	mg/L	S-6010B	11/06/1997	11/12/1997	sps	2165	1858	0.50
Selenium		<0.04	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1816	0.04
Silver		<0.01	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1873	0.01
Sodium		200	mg/L	S-6010B	11/06/1997	11/14/1997	sps	2165	1875	5.0
Zinc		<0.03	mg/L	S-6010B	11/06/1997	11/10/1997	sps	2165	1874	0.03
Total Dissolved Solids		3760	mg/L	E-160.1		11/11/1997	cgl		770	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
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11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341398

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-13

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		78	% Rec	S-8270A		11/13/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		73	% Rec	S-8270A		11/13/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		102	% Rec	S-8270A		11/13/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Benzene		590	ug/L	S-8240A		11/06/1997	zst		1455	25
Bromodichloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromoform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Bromomethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon disulfide		<100	ug/L	S-8240A		11/06/1997	zst		1455	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloroethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/06/1997	zst		1455	20
Chloroform		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Chloromethane		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Dibromochloromethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5

ANALYTICAL RESULTS REPORT

George Robinson
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Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420
Sample Number: 341398

Project Description:
Job Description: TWP Roswell Compressor Station

Sample Description: MW-13

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Ethyl benzene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
2-Hexanone		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Methylene chloride		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Styrene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Tetrachloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Toluene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Trichloroethene		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
Vinyl acetate		<50	ug/L	S-8240A		11/06/1997	zst		1455	50
Vinyl chloride		<10	ug/L	S-8240A		11/06/1997	zst		1455	10
Xylenes, Total		<5	ug/L	S-8240A		11/06/1997	zst		1455	5
SURR: 1,2-Dichloroethane-d4		105	% Rec	S-8240A		11/06/1997	zst		1455	76-114
SURR: Toluene-d8		107	% Rec	S-8240A		11/06/1997	zst		1455	88-110
SURR: 4-Bromofluorobenzene		95	% Rec	S-8240A		11/06/1997	zst		1455	86-115

QUALITY CONTROL REPORT
BLANKS

George Robinson
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P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420

Project Description:
Job Description: TWP Roswell Compressor Station

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Alkalinity, total (CACO3)		<5.0	mg/L	5.0	11/12/1997		544
Chloride		<5.0	mg/L	5.0	11/13/1997		784
N-Nitrate/Nitrite		<0.05	mg/L	0.05	11/12/1997		44
N-Nitrate/Nitrite		<0.05	mg/L	0.05	11/12/1997		45
Sulfate		<5.0	mg/L	5.0	11/13/1997		608
Arsenic		<0.03	mg/L	0.03	11/11/1997	2165	1819
Barium		<0.01	mg/L	0.01	11/11/1997	2165	1704
Cadmium		<0.01	mg/L	0.01	11/11/1997	2165	1880
Calcium	B	0.22	mg/L	0.50	11/11/1997	2165	1862
Chromium		<0.01	mg/L	0.01	11/11/1997	2165	1879
Copper		<0.01	mg/L	0.01	11/11/1997	2165	1870
Iron		<0.1	mg/L	0.01	11/11/1997	2165	1876
Lead		<0.03	mg/L	0.03	11/11/1997	2165	1889
Magnesium		<0.10	mg/L	0.10	11/11/1997	2165	1860
Manganese		<0.01	mg/L	0.01	11/11/1997	2165	1854
Mercury, CVAA		<0.0002	mg/L	0.0002	11/07/1997		1468
Potassium		<0.50	mg/L	0.50	11/11/1997	2165	1858
Selenium		<0.04	mg/L	0.04	11/11/1997	2165	1817
Silver		<0.01	mg/L	0.01	11/11/1997	2165	1874
Sodium	B	0.69	mg/L	0.50	11/11/1997	2165	1869
Zinc		<0.03	mg/L	0.03	11/11/1997	2165	1875
Total Dissolved Solids		<5	mg/L	5	11/07/1997		769
Total Dissolved Solids		<5	mg/L	5	11/11/1997		770
BASE/NEUTRALS - 8270 AQUEOUS							
Acenaphthene		<10	ug/L	10	11/12/1997	3979	519

All parameters should be less than the reporting limit.

B - Blank contamination.

QUALITY CONTROL REPORT
BLANKS

George Robinson
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Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420

Project Description:
Job Description: TWP Roswell Compressor Station

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Acenaphthylene		<10	ug/L	10	11/12/1997	3979	519
Anthracene		<10	ug/L	10	11/12/1997	3979	519
Benzo(a)anthracene		<10	ug/L	10	11/12/1997	3979	519
Benzo(b)fluoranthene		<10	ug/L	10	11/12/1997	3979	519
Benzo(k)fluoranthene		<10	ug/L	10	11/12/1997	3979	519
Benzo(g,h,i)perylene		<10	ug/L	10	11/12/1997	3979	519
Benzo(a)pyrene		<10	ug/L	10	11/12/1997	3979	519
Chrysene		<10	ug/L	10	11/12/1997	3979	519
Dibenz(a,h)anthracene		<10	ug/L	10	11/12/1997	3979	519
Fluoranthene		<10	ug/L	10	11/12/1997	3979	519
Fluorene		<10	ug/L	10	11/12/1997	3979	519
Indeno(1,2,3-cd)pyrene		<10	ug/L	10	11/12/1997	3979	519
1-Methylnaphthalene		<10	ug/L	10	11/12/1997	3979	519
2-Methylnaphthalene		<10	ug/L	10	11/12/1997	3979	519
Naphthalene		<10	ug/L	10	11/12/1997	3979	519
Phenanthrene		<10	ug/L	10	11/12/1997	3979	519
Pyrene		<10	ug/L	10	11/12/1997	3979	519
VOLATILES-8240 AQ(PRESERVED)							
Acetone		<100	ug/L	100	11/06/1997		1455
Benzene		<5	ug/L	5	11/06/1997		1455
Bromodichloromethane		<5	ug/L	5	11/06/1997		1455
Bromoform		<5	ug/L	5	11/06/1997		1455
Bromomethane		<10	ug/L	10	11/06/1997		1455
2-Butanone (MEK)		<100	ug/L	100	11/06/1997		1455
Carbon disulfide		<100	ug/L	100	11/06/1997		1455
Carbon tetrachloride		<5	ug/L	5	11/06/1997		1455
Chlorobenzene		<5	ug/L	5	11/06/1997		1455
Chloroethane		<10	ug/L	10	11/06/1997		1455

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
BLANKS

George Robinson
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Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420

Project Description:
Job Description: TWP Roswell Compressor Station

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
2-Chloroethylvinyl ether		<20	ug/L	20	11/06/1997		1455
Chloroform		<5	ug/L	5	11/06/1997		1455
Chloromethane		<10	ug/L	10	11/06/1997		1455
Dibromochloromethane		<5	ug/L	5	11/06/1997		1455
1,2-Dichlorobenzene		<5	ug/L	5	11/06/1997		1455
1,3-Dichlorobenzene		<5	ug/L	5	11/06/1997		1455
1,4-Dichlorobenzene		<5	ug/L	5	11/06/1997		1455
1,1-Dichloroethane		<5	ug/L	5	11/06/1997		1455
1,2-Dichloroethane		<5	ug/L	5	11/06/1997		1455
1,1-Dichloroethene		<5	ug/L	5	11/06/1997		1455
cis-1,2-Dichloroethene		<5	ug/L	5	11/06/1997		1455
trans-1,2-Dichloroethene		<5	ug/L	5	11/06/1997		1455
1,2-Dichloropropane		<5	ug/L	5	11/06/1997		1455
cis-1,3-Dichloropropene		<5	ug/L	5	11/06/1997		1455
trans-1,3-Dichloropropene		<5	ug/L	5	11/06/1997		1455
Ethyl benzene		<5	ug/L	5	11/06/1997		1455
2-Hexanone		<50	ug/L	50	11/06/1997		1455
4-Methyl-2-pentanone (MIBK)		<50	ug/L	50	11/06/1997		1455
Methylene chloride		<5	ug/L	5	11/06/1997		1455
Styrene		<5	ug/L	5	11/06/1997		1455
1,1,2,2-Tetrachloroethane		<5	ug/L	5	11/06/1997		1455
Tetrachloroethene		<5	ug/L	5	11/06/1997		1455
Toluene		<5	ug/L	5	11/06/1997		1455
1,1,1-Trichloroethane		<5	ug/L	5	11/06/1997		1455
1,1,2-Trichloroethane		<5	ug/L	5	11/06/1997		1455
Trichloroethene		<5	ug/L	5	11/06/1997		1455
Vinyl acetate		<50	ug/L	50	11/06/1997		1455
Vinyl chloride		<10	ug/L	10	11/06/1997		1455
Xylenes, Total		<5	ug/L	5	11/06/1997		1455

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420

Project Description:
Job Description: TWP Roswell Compressor Station

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
N-Nitrate/Nitrite		0.200	mg/L	0.214	107.0	11/12/1997	44
N-Nitrate/Nitrite		0.200	mg/L	0.207	103.5	11/12/1997	45
Sulfate		20.0	mg/L	18.3	91.5	11/13/1997	608
Arsenic		1.00	mg/L	0.97	97.0	11/10/1997	1818
Barium		1.00	mg/L	1.03	103.0	11/10/1997	1703
Cadmium		1.00	mg/L	1.02	102.0	11/10/1997	1879
Calcium		10.0	mg/L	9.95	99.5	11/14/1997	1868
Chromium		1.00	mg/L	0.99	99.0	11/10/1997	1878
Copper		1.00	mg/L	1.03	103.0	11/10/1997	1869
Iron		10.00	mg/L	10.4	104.0	11/12/1997	1876
Lead		1.00	mg/L	1.00	100.0	11/10/1997	1888
Magnesium		10.0	mg/L	10.0	100.0	11/14/1997	1866
Manganese		10.00	mg/L	9.79	97.9	11/12/1997	1854
Mercury, CVAA		0.0050	mg/L	0.0051	102.0	11/07/1997	1468
Potassium		100.00	mg/L	98.6	98.6	11/12/1997	1858
Selenium		1.00	mg/L	1.02	102.0	11/10/1997	1816
Silver		1.00	mg/L	0.96	96.0	11/10/1997	1873
Sodium		10.0	mg/L	10.2	102.0	11/14/1997	1875
Zinc		1.00	mg/L	0.97	97.0	11/10/1997	1874
BASE/NEUTRALS - 8270 AQUEOUS							
Acenaphthene		50	ug/L	51	102.0	11/12/1997	519
Benzo(a)pyrene		50	ug/L	47	94.0	11/12/1997	519
Fluoranthene		50	ug/L	52	104.0	11/12/1997	519
BASE/NEUTRALS - 8270 AQUEOUS							
Acenaphthene		50	ug/L	51	102.0	11/13/1997	519
Benzo(a)pyrene		50	ug/L	46	92.0	11/13/1997	519
Fluoranthene		50	ug/L	51	102.0	11/13/1997	519
VOLATILES-8240 AQ(PRESERVED)							

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420

Project Description:
Job Description: TWP Roswell Compressor Station

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
Chloroform		20	ug/L	24.3	121.5	11/06/1997	1455
1,1-Dichloroethene		20	ug/L	26.9	134.5	11/06/1997	1455
1,2-Dichloropropane		20	ug/L	21.0	105.0	11/06/1997	1455
Ethyl benzene		20	ug/L	17.2	86.0	11/06/1997	1455
Toluene		20	ug/L	21.1	105.5	11/06/1997	1455
Vinyl chloride		20	ug/L	25.2	126.0	11/06/1997	1455

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
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Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420

Project Description:
Job Description: TWP Roswell Compressor Station

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Alkalinity, total (CACO3)		mg/L	118	100	218	100.0	100	228	110.0	9.5	11/12/1997		544
Alkalinity, total (CACO3)		mg/L	128	100	230	102.0	100	228	100.0	2.0	11/12/1997		544
Chloride		mg/L	560	400	970	102.5	400	960	100.0	2.5	11/13/1997		784
Chloride		mg/L	330	400	690	90.0	400	700	92.5	2.7	11/13/1997		784
N-Nitrate/Nitrite		mg/L	0.74	0.20	0.94	100.0	0.20	0.96	110.0	9.5	11/12/1997		44
N-Nitrate/Nitrite		mg/L	0.40	0.20	0.63	115.0	0.20	0.64	120.0	4.3	11/12/1997		44
N-Nitrate/Nitrite		mg/L	<0.05	0.20	0.22	110.0	0.20	0.21	105.0	4.7	11/12/1997		45
Sulfate		mg/L	1930	2000	4170	112.0	2000	4120	109.5	2.3	11/13/1997		608
Sulfate		mg/L	1890	1500	3320	95.3	1500	3290	93.3	2.1	11/13/1997		608
Arsenic		mg/L	<0.03	1.00	0.86	86.0	1.00	0.86	86.0	0.0	11/07/1997	2165	1817
Arsenic		mg/L	<0.03	1.00	0.93	93.0	1.00	0.96	96.0	3.2	11/10/1997	2165	1818
Barium		mg/L	<0.01	1.00	0.91	91.0	1.00	0.93	93.0	2.2	11/07/1997	2165	1702
Barium		mg/L	<0.01	1.00	1.02	102.0	1.00	1.02	102.0	0.0	11/10/1997	2165	1703
Cadmium		mg/L	<0.01	1.00	0.89	89.0	1.00	0.92	92.0	3.3	11/07/1997	2165	1878
Cadmium		mg/L	<0.01	1.00	0.92	92.0	1.00	0.95	95.0	3.2	11/10/1997	2165	1879
Calcium		mg/L	610	100	710	100.0	100	729	119.0	17.4	11/12/1997	2165	1868
Calcium		mg/L	600	100	688	88.0	100	707	107.0	19.4	11/21/1997	2165	1868
Chromium		mg/L	<0.01	1.00	0.93	93.0	1.00	0.95	95.0	2.1	11/07/1997	2165	1877
Chromium		mg/L	<0.01	1.00	0.89	89.0	1.00	0.91	91.0	2.2	11/10/1997	2165	1878
Copper		mg/L	<0.01	1.00	0.91	91.0	1.00	0.92	92.0	1.1	11/07/1997	2165	1868
Copper		mg/L	<0.01	1.00	0.96	96.0	1.00	0.98	98.0	2.1	11/10/1997	2165	1869
Iron		mg/L	<0.01	10.0		100.0	10.0	9.6	96.0	4.0	11/21/1997	2165	1876
Iron		mg/L	<0.01	10.0	9.2	92.0	10.0	9.20	92.0	0.0	11/12/1997	2165	1876
Iron		mg/L	<0.01	11.0	10.6	96.4	11.0	9.66	87.8	9.3	11/12/1997	2165	1876

NOTE: The Quality Control data in this report reflects the batch in which your sample was prepped and/or analyzed. The sample selected for QA may not necessarily be your sample.

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
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P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420

Project Description:
Job Description: TWP Roswell Compressor Station

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Iron		mg/L	<0.01	11.0	8.90	80.9	11.0	9.17	83.4	3.0	11/12/1997	2165	1876
Lead		mg/L	<0.03	1.00	0.95	95.0	1.00	0.95	95.0	0.0	11/07/1997	2165	1887
Lead		mg/L	<0.03	1.00	0.92	92.0	1.00	0.95	95.0	3.2	11/10/1997	2165	1888
Magnesium		mg/L	210	100	320	110.0	100	321	111.0	0.9	11/12/1997	2165	1866
Magnesium		mg/L	146	100	236	90.0	100	252	106.0	16.2	11/21/1997	2165	1866
Manganese		mg/L	<0.01	1.00	0.90	90.0	1.00	0.94	94.0	4.3	11/12/1997	2165	1854
Manganese		mg/L	<0.01	1.00	1.09	109.0	1.00	0.97	97.0	11.6	11/21/1997	2165	1854
Manganese		mg/L	<0.01	1.00	1.00	100.0	1.00	1.00	100.0	0.0	11/12/1997	2165	1854
Manganese		mg/L	<0.01	1.00	1.00	100.0	1.00	1.00	100.0	0.0	11/21/1997	2165	1854
Mercury, CVAA		mg/L	<0.0002	0.0050	0.0053	106.0	0.0050	0.0052	104.0	1.9	11/07/1997		1468
Mercury, CVAA		mg/L	<0.0002	0.0050	0.0056	112.0	0.0050	0.0055	110.0	1.8	11/07/1997		1468
Potassium		mg/L	<0.50	20.0	23.0	115.0	20.0	23.0	115.0	0.0	11/21/1997	2165	1858
Potassium		mg/L	<0.50	20.0	21.0	105.0	20.0	22.0	110.0	4.7	11/12/1997	2165	1858
Potassium		mg/L	3.4	20.0	23.2	99.0	20.0	22.8	97.0	2.0	11/12/1997	2165	1858
Potassium		mg/L	3.5	20.0	21.2	88.5	20.0	21.9	92.0	3.9	11/12/1997	2165	1858
Selenium		mg/L	<0.04	1.00	0.93	93.0	1.00	0.90	90.0	3.3	11/07/1997	2165	1815
Selenium		mg/L	<0.04	1.00	0.92	92.0	1.00	0.95	95.0	3.2	11/10/1997	2165	1816
Silver		mg/L	<0.01	1.00	0.94	94.0	1.00	0.95	95.0	1.1	11/07/1997	2165	1872
Silver		mg/L	<0.01	1.00	0.92	92.0	1.00	0.93	93.0	1.1	11/10/1997	2165	1873
Sodium		mg/L	178	100	269	91.0	100	273	95.0	4.3	11/12/1997	2165	1875

NOTE: The Quality Control data in this report reflects the batch in which your sample was prepped and/or analyzed. The sample selected for QA may not necessarily be your sample.

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420

Project Description:
Job Description: TWP Roswell Compressor Station

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Sodium		mg/L	225	100	314	89.0	100	331	106.0	17.3	11/21/1997	2165	1875
Zinc		mg/L	<0.03	1.00	0.92	92.0	1.00	0.90	90.0	2.2	11/07/1997	2165	1873
Zinc		mg/L	<0.03	1.00	0.92	92.0	1.00	0.94	94.0	2.2	11/10/1997	2165	1874
VOLATILES-8240 AQ(PRESERVED)													
Benzene		ug/L	<5	20	23.1	115.5	20	20.2	101.0	13.4	11/06/1997		1455
Chlorobenzene		ug/L	<5	20	24.1	120.5	20	22.4	112.0	7.3	11/06/1997		1455
1,1-Dichloroethene		ug/L	<5	20	30.0	150.0	20	25.3	126.5	17.0	11/06/1997		1455
Toluene		ug/L	<5	20	20.8	104.0	20	19.7	98.5	5.3	11/06/1997		1455
Trichloroethene		ug/L	<5	20	21.6	108.0	20	20.8	104.0	3.8	11/06/1997		1455

NOTE: The Quality Control data in this report reflects the batch in which your sample was prepped and/or analyzed. The sample selected for QA may not necessarily be your sample.

QUALITY CONTROL REPORT
DUPLICATES

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420

Project Description:
Job Description: TWF Roswell Compressor Station

Parameter	Flag	Units	Sample Result	Duplicate Sample Result	RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Total Dissolved Solids		mg/L	4000	4010	0.2	11/07/1997		769
Total Dissolved Solids		mg/L	3850	3840	0.3	11/07/1997		769
Total Dissolved Solids		mg/L	3700	3680	0.5	11/11/1997		770

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420

Project Description:
Job Description: TWP Roswell Compressor Station

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	LCS Dup Conc. Found	LCS Dup % Rec	LCS % RPD	Flag	Date Analyzed
Alkalinity, total (CACO3)		544	2500	mg/L	2600	104.0					11/12/1997
Chloride		784	1000	mg/L	1050	105.0					11/13/1997
N-Nitrate/Nitrite		44	0.500	mg/L	0.453	90.6					11/12/1997
N-Nitrate/Nitrite		45	0.500	mg/L	0.453	90.6					11/12/1997
Sulfate		608	20.0	mg/L	18.1	90.5					11/13/1997
Arsenic	2165	1819	1.00	mg/L	0.96	96.0					11/12/1997
Barium	2165	1704	1.00	mg/L	0.93	93.0					11/12/1997
Cadmium	2165	1880	1.00	mg/L	0.97	97.0					11/12/1997
Calcium	2165	1862	11.0	mg/L	10.4	94.5					11/12/1997
Chromium	2165	1879	1.00	mg/L	1.01	101.0					11/12/1997
Copper	2165	1870	1.00	mg/L	0.97	97.0					11/12/1997
Iron	2165	1876	1.00	mg/L	1.00	100.0					11/12/1997
Lead	2165	1889	1.00	mg/L	0.99	99.0					11/12/1997
Magnesium	2165	1860	10.0	mg/L	11.0	110.0					11/12/1997
Manganese	2165	1854	1.00	mg/L	1.03	103.0					11/12/1997
Mercury, CVAA		1468	0.0050	mg/L	0.0055	110.0					11/07/1997
Potassium	2165	1858	20.0	mg/L	19.6	98.0					11/12/1997
Selenium	2165	1887	1.00	mg/L	0.99	99.0					11/12/1997
Silver	2165	1874	1.00	mg/L	0.96	96.0					11/12/1997
Sodium	2165	1869	10.0	mg/L	11.5	115.0					11/12/1997
Zinc	2165	1875	1.00	mg/L	0.96	96.0					11/12/1997
Total Dissolved Solids		769	2000	mg/L	1950	97.5					11/07/1997
Total Dissolved Solids		770	2000	mg/L	1970	98.5					11/11/1997
BASE/NEUTRALS - 8270 AQUEOUS											
Acenaphthene	3979	519	100	ug/L	66	66.0	79	79.0	17.9		11/12/1997
Pyrene	3979	519	100	ug/L	75	75.0	82	82.0	8.9		11/12/1997
VOLATILES-8240 AQ(PRESERVED)											
Benzene		1455	20	ug/L	20.2	101.0					11/06/1997

LCS - Laboratory Control Standard

For samples with insufficient sample volume, an LCS/LCS duplicate is reported instead of an MS/MSD.

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/25/1997

EPIC Job Number: 97.04420

Project Description:
Job Description: TWP Roswell Compressor Station

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	LCS Dup Conc. Found	LCS Dup % Rec	LCS % RPD	Flag	Date Analyzed
Chlorobenzene		1455	20	ug/L	24.0	120.0					11/06/1997
1,1-Dichloroethene		1455	20	ug/L	24.2	121.0					11/06/1997
Toluene		1455	20	ug/L	20.0	100.0					11/06/1997
Trichloroethene		1455	20	ug/L	20.7	103.5					11/06/1997

LCS - Laboratory Control Standard

For samples with insufficient sample volume, an LCS/LCS duplicate is reported instead of an MS/MSD.

CHAIN OF CUSTODY RECORD

EPIC LABORATORIES, INC.

1555 Valwood Pkwy., Ste. 100
Carrollton, Texas 75006

Dallas (972) 406-8100
Austin (512) 928-8905
Houston (281) 286-1400

COMPANY: ENRON OPERATIONS CORP
ADDRESS: P.O. BOX 1188 HOUSTON TX 77251
PHONE: (713) 646-7327 FAX: (713) 646-7867
PROJECT NAME/LOCATION: TWP RASWELL COMPRESSOR STN
PROJECT NUMBER:
PROJECT MANAGER:

REPORT TO: GEORGE ROBINSON C/O ENRON OPERATIONS CORP.
INVOICE TO: ATTN: 3AC3142 P.O. BOX 1188 HOUSTON, TX 77251
P.O. NO.:
EPIC QUOTE NO.:

SAMPLED BY: SANDY SHARP (PRINT NAME) — SIGNATURE
(PRINT NAME) — SIGNATURE

DATE	TIME	SAMPLE ID / DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: * VOC's 8240	* PAH's 8270	Nitrate & Nitrate as Nitrogen 353.2	Total Alkalinity to Chlorine & Sulfate	Metals 7470/6010 (Cas, Ba, Cd, Cr, Pb, Hg, Se, Ag, Ca, Fe, Mn, Zn & Na, K, Mg, No	COMMENTS
11/3/97	1315	MW-3	A	X		2/G		1/P	1/A	1/G	X	X	X	X	X	* VOC'S INCLUDING 1,2-DICHLOROETHANE (CIS- & TRANS-) & DICHLOROBENZENE (O-, M- & P-)
11/3/97	1430	MW-22	X	X		X		X	X	X	X	X	X	X	X	
11/3/97	~~1500~~ 1545	MW-20	X	X		X		X	X	X	X	X	X	X	X	
11/3/97	1000	MW-24	X	X		X		X	X	X	X	X	X	X	X	
		TRIP BLANK				X					X					* PAH'S INCLUDING 1-METHYLNAPHTHALENE ISOMERS (1- & 2-)

To assist us in selecting the proper method:
Is this work being conducted for regulatory compliance monitoring? [X] Yes [ ] No
Is this work being conducted for regulatory enforcement action? [ ] Yes [X] No
Which regulations apply: [ ] RCRA [ ] UST [X] Other [ ] NPDES Wastewater [ ] Drinking Water [ ] None

CONDITION OF SAMPLE: BOTTLES INTACT? [ ] YES [ ] NO FIELD FILTERED? [ ] YES [ ] NO
COC SEALS PRESENT AND INTACT? [ ] YES [ ] NO VOLATILES FREE OF HEADSPACE? [ ] YES [ ] NO
TEMPERATURE UPON RECEIPT: _____ °c BOTTLES SUPPLIED BY EPIC? [ ] YES [ ] NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT [ ] (PLEASE PROVIDE SHIPPING CHARGE AND CARRIER INSTRUCTIONS)
I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS AT A CHARGE OF ~~$5 PER SAMPLE~~ [X]

RELINQUISHED BY	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
	11/4/97	1700			11/5/97	0940	B. Walker

METHOD OF SHIPMENT:
REMARKS: Airbill # 487193 8842

PT 1 - ORIGINAL - WHITE PT 2 - EPIC PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

CHAIN OF CUSTODY

A chain of custody is one of the first steps in sample control in the laboratory. The chain of custody is a "contract" between the client and the laboratory to insure that all information from the client is transmitted to the laboratory in an ordered fashion.

Procedure

A A three copy chain of custody shall be used. A ball-point pen, either blue or black shall be used, pressing hard to make all three copies.

B Writing legibly, or printing fill out the chain of custody as follows:

1. Name of Company
   Address of Company
   Phone and Fax Number
2. Project Name/Location
   Project Number
   Project Manager
3. Report To
   Name and Address, if different from above (enter in remark section)
4. Invoice to
   Name and Address, if different from above (enter in remark section)
5. Purchase Order Number and EPIC Quote Number (if applicable)
6. Sample Information
   Date and Time
   Sample ID/Description
   Grab or Comp
   # of Containers/Type
   Matrix
   Preserved - Y/N
7. Parameters to be tested on samples
   Check parameter squares with sample descriptions
8. Comments
   Special Methods and Detection Limits
   Known Sample Contamination
9. Sample Disposal Instructions

THE WORK WILL BE UNDERTAKEN IN ACCORDANCE WITH EPIC'S STANDARD TERMS AND CONDITIONS, WHICH INCLUDE THE REQUIREMENT THAT PAYMENT IS DUE WITHIN THIRTY (30) DAYS FROM THE DATE OF INVOICE.

EPIC LABORATORIES, INC.

1555 Valwood Pkwy., Ste. 100
Carrollton, Texas 75006

Dallas (972) 406-8100
Austin (512) 928-8905
Houston (281) 286-1400

CHAIN OF CUSTODY RECORD

COMPANY Enron Operations Corp
ADDRESS P.O. Box 1188 Houston TX 77251
PHONE (713) 646-7327 FAX (713) 646-7867
PROJECT NAME/LOCATION Transw. Roswell Compressor Sta.
PROJECT NUMBER
PROJECT MANAGER

REPORT TO George Robinson Enron Operations Corp
INVOICE TO: Attn: 3AC 3142 P.O. Box 1188
P.O. NO.: Houston, TX
EPIC QUOTE NO.: 77251

SAMPLED BY Sandy Stuart (PRINT NAME) SIGNATURE [signature]
(PRINT NAME) SIGNATURE

ANALYSES: VOC's 8240 | PAH's 8270 | Nitrite & Nitrate | TKN Nitrogen 353.2 | Total Alkalinity TDS | Chlorine & Sulfate | Metals 7470/6010 | As, Ba, Cd, Cr, Pb, Hg | Se, Ag, Cu, Fe, Mn, Zn | Ca, K, Na, Mg

DATE	TIME	SAMPLE ID / DESCRIPTION	MATRIX	GRAB	COMP	HCl	NaOH	HNO3	H2SO4	OTHER	VOC's 8240	PAH's 8270	Nitrite & Nitrate	TKN	Total Alkalinity TDS	Chlorine & Sulfate	Metals 7470/6010	As, Ba...	Se, Ag...	Ca, K, Na, Mg
11/4/97	1015	MW-12	A	X		Z		1/P	1/P	1/G	X	X	X		X		X			
11/4/97	1225	MW-21	X	X		X		X	X	X	X	X	X		X		X			
11/4/97	1405	MW-13	X	X		X		X	X	X	X	X	X		X		X			
		TRIP BLANK				X					X									

To assist us in selecting the proper method:
Is this work being conducted for regulatory compliance monitoring? ☒ Yes ☐ No
Is this work being conducted for regulatory enforcement action? ☐ Yes ☒ No
Which regulations apply: ☐ RCRA ☐ UST ☒ Other ☐ NPDES Wastewater ☐ Drinking Water ☐ None

COMMENTS
* VOC's Including 1,2-Dichloroethene (cis & trans-) & Dichlorobenzene (o-, m- & p-)
* PAH's Including Monomethylnaphthalene - Isomers (1- & 2-)
* No Trip Blank in this cooler. BW

CONDITION OF SAMPLE: BOTTLES INTACT? ☐ YES ☐ NO FIELD FILTERED? ☐ YES ☐ NO
COC SEALS PRESENT AND INTACT? ☐ YES ☐ NO VOLATILES FREE OF HEADSPACE? ☐ YES ☐ NO
TEMPERATURE UPON RECEIPT: ______ °C BOTTLES SUPPLIED BY EPIC? ☐ YES ☐ NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT ☐ (PLEASE PROVIDE SHIPPING CHARGE AND CARRIER INSTRUCTIONS)
I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS AT A CHARGE OF $5 PER SAMPLE ☒

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
[signature]	11/4/97	1700			11/5/97	0945	B. Walker

METHOD OF SHIPMENT:
REMARKS: Airbill # 487 938746

PT 1 - ORIGINAL - WHITE PT 2 - EPIC PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

CHAIN OF CUSTODY

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   Project Number
   Project Manager
3. Report To
   Name and Address, if different from above (enter in remark section)
4. Invoice to
   Name and Address, if different from above (enter in remark section)
5. Purchase Order Number and EPIC Quote Number (if applicable)
6. Sample Information
   Date and Time
   Sample ID/Description
   Grab or Comp
   # of Containers/Type
   Matrix
   Preserved - Y/N
7. Parameters to be tested on samples
   Check parameter squares with sample descriptions
8. Comments
   Special Methods and Detection Limits
   Known Sample Contamination
9. Sample Disposal Instructions

THE WORK WILL BE UNDERTAKEN IN ACCORDANCE WITH EPIC'S STANDARD TERMS AND CONDITIONS, WHICH INCLUDE THE REQUIREMENT THAT PAYMENT IS DUE WITHIN THIRTY (30) DAYS FROM THE DATE OF INVOICE.

LABORATORIES, INC.

ANALYTICAL AND QUALITY CONTROL REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444

Project Description:
Job Description: TWP Roswell Compressor Sta.

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to EPIC Laboratories, Inc. for analysis:

Sample Number	Sample Description	Date Taken	Time Taken	Date Received
341536	Monitoring Well 23-D	11/05/1997	12:50	11/06/1997
341537	Trip Blank			11/06/1997

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Debby Skogen
Debby Skogen
Project Coordinator

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444
Sample Number: 341536

Project Description:
Job Description: TWP Roswell Compressor Sta.

Sample Description: Monitoring Well 23-D

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Alkalinity, total (CACO3)		128	mg/L	SM-2320B		11/12/1997	cgl		544	5.0
Chloride		330	mg/L	S-9252		11/13/1997	cgl		784	5.0
N-Nitrate/Nitrite		<0.05	mg/L	E-353.3		11/12/1997	cgl		45	0.05
Sulfate		1900	mg/L	S-9038		11/13/1997	cgl		608	5.0
Arsenic		<0.03	mg/L	S-6010B	11/12/1997	11/12/1997	sps	2169	1820	0.03
Barium		0.02	mg/L	S-6010B	11/12/1997	11/12/1997	sps	2169	1705	0.01
Cadmium		<0.01	mg/L	S-6010B	11/12/1997	11/12/1997	sps	2169	1881	0.01
Calcium		600	mg/L	S-6010B	11/12/1997	11/14/1997	sps	2169	1868	5.00
Chromium		<0.01	mg/L	S-6010B	11/12/1997	11/12/1997	sps	2169	1880	0.01
Copper		<0.01	mg/L	S-6010B	11/12/1997	11/13/1997	sps	2169	1872	0.01
Iron		0.38	mg/L	S-6010B	11/12/1997	11/14/1997	sps	2169	1882	0.01
Lead		<0.03	mg/L	S-6010B	11/12/1997	11/12/1997	sps	2169	1890	0.03
Magnesium		215	mg/L	S-6010B	11/12/1997	11/14/1997	sps	2169	1866	1.0
Manganese		0.11	mg/L	S-6010B	11/12/1997	11/14/1997	sps	2169	1860	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		11/11/1997	bwb		1469	0.0002
Potassium		3.5	mg/L	S-6010B	11/12/1997	11/14/1997	sps	2169	1864	0.50
Selenium		<0.04	mg/L	S-6010B	11/12/1997	11/12/1997	sps	2169	1818	0.04
Silver		<0.01	mg/L	S-6010B	11/12/1997	11/12/1997	sps	2169	1875	0.01
Sodium		300	mg/L	S-6010B	11/12/1997	11/14/1997	sps	2169	1875	5.0
Zinc		0.07	mg/L	S-6010B	11/12/1997	11/13/1997	sps	2169	1877	0.03
Total Dissolved Solids		3880	mg/L	E-160.1		11/11/1997	cgl		770	5
BASE/NEUTRALS - 8270 AQUEOUS					11/06/1997					
Acenaphthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Acenaphthylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(b)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(k)fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(g,h,i)perylene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Benzo(a)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Chrysene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Dibenz(a,h)anthracene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Fluoranthene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444
Sample Number: 341536

Project Description:
Job Description: TWP Roswell Compressor Sta.

Sample Description: Monitoring Well 23-D

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Fluorene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Indeno(1,2,3-cd)pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
1-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
2-Methylnaphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Naphthalene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Phenanthrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
Pyrene		<10	ug/L	S-8270A		11/13/1997	dtw	3979	519	10
SURR: 2-Fluorobiphenyl		84	% Rec	S-8270A		11/13/1997	dtw	3979	519	43-116
SURR: Nitrobenzene-d5		83	% Rec	S-8270A		11/13/1997	dtw	3979	519	35-114
SURR: Terphenyl-d14		106	% Rec	S-8270A		11/13/1997	dtw	3979	519	33-141
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/07/1997	zst		1456	100
Benzene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Bromodichloromethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Bromoform		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Bromomethane		<10	ug/L	S-8240A		11/07/1997	zst		1456	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/07/1997	zst		1456	100
Carbon disulfide		<100	ug/L	S-8240A		11/07/1997	zst		1456	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Chlorobenzene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Chloroethane		<10	ug/L	S-8240A		11/07/1997	zst		1456	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/07/1997	zst		1456	20
Chloroform		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Chloromethane		<10	ug/L	S-8240A		11/07/1997	zst		1456	10
Dibromochloromethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5

ANALYTICAL RESULTS REPORT

George Robinson
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Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444
Sample Number: 341536

Project Description:
Job Description: TWP Roswell Compressor Sta.

Sample Description: Monitoring Well 23-D

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,2-Dichloropropane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Ethyl benzene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
2-Hexanone		<50	ug/L	S-8240A		11/07/1997	zst		1456	50
Methylene chloride		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/07/1997	zst		1456	50
Styrene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Tetrachloroethene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Toluene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Trichloroethene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Vinyl acetate		<50	ug/L	S-8240A		11/07/1997	zst		1456	50
Vinyl chloride		<10	ug/L	S-8240A		11/07/1997	zst		1456	10
Xylenes, Total		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
SURR: 1,2-Dichloroethane-d4		99	% Rec	S-8240A		11/07/1997	zst		1456	76-114
SURR: Toluene-d8		105	% Rec	S-8240A		11/07/1997	zst		1456	88-110
SURR: 4-Bromofluorobenzene		110	% Rec	S-8240A		11/07/1997	zst		1456	86-115

ANALYTICAL RESULTS REPORT

George Robinson
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Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444
Sample Number: 341537

Project Description:
Job Description: TWP Roswell Compressor Sta.

Sample Description: Trip Blank

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
VOLATILES-8240 AQ(PRESERVED)										complete
Acetone		<100	ug/L	S-8240A		11/07/1997	zst		1456	100
Benzene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Bromodichloromethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Bromoform		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Bromomethane		<10	ug/L	S-8240A		11/07/1997	zst		1456	10
2-Butanone (MEK)		<100	ug/L	S-8240A		11/07/1997	zst		1456	100
Carbon disulfide		<100	ug/L	S-8240A		11/07/1997	zst		1456	100
Carbon tetrachloride		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Chlorobenzene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Chloroethane		<10	ug/L	S-8240A		11/07/1997	zst		1456	10
2-Chloroethylvinyl ether		<20	ug/L	S-8240A		11/07/1997	zst		1456	20
Chloroform		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Chloromethane		<10	ug/L	S-8240A		11/07/1997	zst		1456	10
Dibromochloromethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,2-Dichlorobenzene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,3-Dichlorobenzene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,4-Dichlorobenzene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,1-Dichloroethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,2-Dichloroethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,1-Dichloroethene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
trans-1,2-Dichloroethene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
cis-1,2-Dichloroethene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,2-Dichloropropane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
cis-1,3-Dichloropropene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
trans-1,3-Dichloropropene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Ethyl benzene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
2-Hexanone		<50	ug/L	S-8240A		11/07/1997	zst		1456	50
Methylene chloride		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
4-Methyl-2-pentanone (MIBK)		<50	ug/L	S-8240A		11/07/1997	zst		1456	50
Styrene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,1,2,2-Tetrachloroethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Tetrachloroethene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Toluene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444
Sample Number: 341537

Project Description:
Job Description: TWP Roswell Compressor Sta.

Sample Description: Trip Blank

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
1,1,1-Trichloroethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
1,1,2-Trichloroethane		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Trichloroethene		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
Vinyl acetate		<50	ug/L	S-8240A		11/07/1997	zst		1456	50
Vinyl chloride		<10	ug/L	S-8240A		11/07/1997	zst		1456	10
Xylenes, Total		<5	ug/L	S-8240A		11/07/1997	zst		1456	5
SURR: 1,2-Dichloroethane-d4		94	% Rec	S-8240A		11/07/1997	zst		1456	76-114
SURR: Toluene-d8		106	% Rec	S-8240A		11/07/1997	zst		1456	88-110
SURR: 4-Bromofluorobenzene		88	% Rec	S-8240A		11/07/1997	zst		1456	86-115

QUALITY CONTROL REPORT
BLANKS

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444

Project Description:
Job Description: TWP Roswell Compressor Sta.

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Alkalinity, total (CACO3)		<5.0	mg/L	5.0	11/12/1997		544
Chloride		<5.0	mg/L	5.0	11/13/1997		784
N-Nitrate/Nitrite		<0.05	mg/L		11/12/1997		45
Sulfate		<5.0	mg/L	5.0	11/13/1997		608
Arsenic		<0.03	mg/L	0.03	11/12/1997	2169	1820
Barium		<0.01	mg/L	0.01	11/12/1997	2169	1705
Cadmium		<0.01	mg/L	0.01	11/12/1997	2169	1881
Calcium		<0.50	mg/L	0.50	11/12/1997	2169	1868
Chromium		<0.01	mg/L	0.01	11/12/1997	2169	1880
Copper		<0.01	mg/L	0.01	11/12/1997	2169	1868
Iron		<0.01	mg/L	0.01	11/12/1997	2169	1876
Lead		<0.03	mg/L	0.03	11/12/1997	2169	1890
Magnesium		<0.10	mg/L	0.10	11/12/1997	2169	1866
Manganese		<0.01	mg/L	0.01	11/12/1997	2169	1854
Mercury, CVAA		<0.0002	mg/L	0.0002	11/11/1997		1469
Potassium		<0.50	mg/L	0.50	11/12/1997	2169	1858
Selenium		<0.04	mg/L	0.04	11/12/1997	2169	1818
Silver		<0.01	mg/L	0.01	11/12/1997	2169	1875
Sodium		<0.50	mg/L	0.50	11/12/1997	2169	1869
Zinc		<0.03	mg/L	0.03	11/12/1997	2169	1873

All parameters should be less than the reporting limit.

B - Blank contamination.

QUALITY CONTROL REPORT
BLANKS

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444

Project Description:
Job Description: TWP Roswell Compressor Sta.

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Total Dissolved Solids		<5	mg/L	5	11/11/1997		770
BASE/NEUTRALS - 8270 AQUEOUS							
Acenaphthene		<10	ug/L	10	11/12/1997	3979	519
Acenaphthylene		<10	ug/L	10	11/12/1997	3979	519
Anthracene		<10	ug/L	10	11/12/1997	3979	519
Benzo(a)anthracene		<10	ug/L	10	11/12/1997	3979	519
Benzo(b)fluoranthene		<10	ug/L	10	11/12/1997	3979	519
Benzo(k)fluoranthene		<10	ug/L	10	11/12/1997	3979	519
Benzo(g,h,i)perylene		<10	ug/L	10	11/12/1997	3979	519
Benzo(a)pyrene		<10	ug/L	10	11/12/1997	3979	519
Chrysene		<10	ug/L	10	11/12/1997	3979	519
Dibenz(a,h)anthracene		<10	ug/L	10	11/12/1997	3979	519
Fluoranthene		<10	ug/L	10	11/12/1997	3979	519
Fluorene		<10	ug/L	10	11/12/1997	3979	519
Indeno(1,2,3-cd)pyrene		<10	ug/L	10	11/12/1997	3979	519
1-Methylnaphthalene		<10	ug/L	10	11/12/1997	3979	519
2-Methylnaphthalene		<10	ug/L	10	11/12/1997	3979	519
Naphthalene		<10	ug/L	10	11/12/1997	3979	519
Phenanthrene		<10	ug/L	10	11/12/1997	3979	519
Pyrene		<10	ug/L	10	11/12/1997	3979	519
VOLATILES-8240 AQ(PRESERVED)							
Acetone		<100	ug/L	100	11/07/1997		1456
Benzene		<5	ug/L	5	11/07/1997		1456
Bromodichloromethane		<5	ug/L	5	11/07/1997		1456
Bromoform		<5	ug/L	5	11/07/1997		1456
Bromomethane		<10	ug/L	10	11/07/1997		1456
2-Butanone (MEK)		<100	ug/L	100	11/07/1997		1456
Carbon disulfide		<100	ug/L	100	11/07/1997		1456

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
BLANKS

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444

Project Description:
Job Description: TWP Roswell Compressor Sta.

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Carbon tetrachloride		<5	ug/L	5	11/07/1997		1456
Chlorobenzene		<5	ug/L	5	11/07/1997		1456
Chloroethane		<10	ug/L	10	11/07/1997		1456
2-Chloroethylvinyl ether		<20	ug/L	20	11/07/1997		1456
Chloroform		<5	ug/L	5	11/07/1997		1456
Chloromethane		<10	ug/L	10	11/07/1997		1456
Dibromochloromethane		<5	ug/L	5	11/07/1997		1456
1,2-Dichlorobenzene		<5	ug/L	5	11/07/1997		1456
1,3-Dichlorobenzene		<5	ug/L	5	11/07/1997		1456
1,4-Dichlorobenzene		<5	ug/L	5	11/07/1997		1456
1,1-Dichloroethane		<5	ug/L	5	11/07/1997		1456
1,2-Dichloroethane		<5	ug/L	5	11/07/1997		1456
1,1-Dichloroethene		<5	ug/L	5	11/07/1997		1456
cis-1,2-Dichloroethene		<5	ug/L	5	11/07/1997		1456
trans-1,2-Dichloroethene		<5	ug/L	5	11/07/1997		1456
1,2-Dichloropropane		<5	ug/L	5	11/07/1997		1456
cis-1,3-Dichloropropene		<5	ug/L	5	11/07/1997		1456
trans-1,3-Dichloropropene		<5	ug/L	5	11/07/1997		1456
Ethyl benzene		<5	ug/L	5	11/07/1997		1456
2-Hexanone		<50	ug/L	50	11/07/1997		1456
4-Methyl-2-pentanone (MIBK)		<50	ug/L	50	11/07/1997		1456
Methylene chloride		<5	ug/L	5	11/07/1997		1456
Styrene		<5	ug/L	5	11/07/1997		1456
1,1,2,2-Tetrachloroethane		<5	ug/L	5	11/07/1997		1456
Tetrachloroethene		<5	ug/L	5	11/07/1997		1456
Toluene		<5	ug/L	5	11/07/1997		1456
1,1,1-Trichloroethane		<5	ug/L	5	11/07/1997		1456
1,1,2-Trichloroethane		<5	ug/L	5	11/07/1997		1456

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
BLANKS

George Robinson
ENRON CORPORATION
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P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444

Project Description:
Job Description: TWP Roswell Compressor Sta.

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Trichloroethene		<5	ug/L	5	11/07/1997		1456
Vinyl acetate		<50	ug/L	50	11/07/1997		1456
Vinyl chloride		<10	ug/L	10	11/07/1997		1456
Xylenes, Total		<5	ug/L	5	11/07/1997		1456

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444

Project Description:
Job Description: TWP Roswell Compressor Sta.

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
N-Nitrate/Nitrite		0.200	mg/L	0.207	103.5	11/12/1997	45
Sulfate		20.0	mg/L	18.3	91.5	11/13/1997	608
Arsenic		1.00	mg/L	1.09	109.0	11/12/1997	1820
Barium		1.00	mg/L	1.03	103.0	11/12/1997	1705
Cadmium		1.00	mg/L	1.07	107.0	11/12/1997	1881
Calcium		10.0	mg/L	9.95	99.5	11/14/1997	1868
Chromium		1.00	mg/L	1.09	109.0	11/12/1997	1880
Copper		1.00	mg/L	1.03	103.0	11/13/1997	1872
Iron		10.0	mg/L	10.3	103.0	11/14/1997	1882
Lead		1.00	mg/L	1.06	106.0	11/12/1997	1890
Magnesium		10.0	mg/L	10.0	100.0	11/14/1997	1866
Manganese		10.0	mg/L	9.70	97.0	11/14/1997	1860
Mercury, CVAA		0.0050	mg/L	0.0049	98.0	11/11/1997	1469
Potassium		100	mg/L	96.1	96.1	11/14/1997	1864
Silver		1.00	mg/L	1.06	106.0	11/12/1997	1875
Sodium		10.0	mg/L	10.2	102.0	11/14/1997	1875
Zinc		1.00	mg/L	0.98	98.0	11/13/1997	1877
BASE/NEUTRALS - 8270 AQUEOUS							
Acenaphthene		50	ug/L	51	102.0	11/12/1997	519
Benzo(a)pyrene		50	ug/L	47	94.0	11/12/1997	519
Fluoranthene		50	ug/L	52	104.0	11/12/1997	519
BASE/NEUTRALS - 8270 AQUEOUS							
Acenaphthene		50	ug/L	51	102.0	11/13/1997	519
Benzo(a)pyrene		50	ug/L	46	92.0	11/13/1997	519
Fluoranthene		50	ug/L	51	102.0	11/13/1997	519
VOLATILES-8240 AQ(PRESERVED)							
Chloroform		20	ug/L	21.8	109.0	11/07/1997	1456
1,1-Dichloroethene		20	ug/L	21.7	108.5	11/07/1997	1456

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444

Project Description:
Job Description: TWP Roswell Compressor Sta.

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
1,2-Dichloropropane		20	ug/L	16	80.0	11/07/1997	1456
Ethyl benzene		20	ug/L	18.3	91.5	11/07/1997	1456
Toluene		20	ug/L	19.9	99.5	11/07/1997	1456
Vinyl chloride		20	ug/L	18.6	93.0	11/07/1997	1456

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
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Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444

Project Description:
Job Description: TWP Roswell Compressor Sta.

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Alkalinity, total (CACO3)		mg/L	118	100	218	100.0	100	228	110.0	9.5	11/12/1997		544
Alkalinity, total (CACO3)		mg/L	128	100	230	102.0	100	228	100.0	2.0	11/12/1997		544
Chloride		mg/L	560	400	970	102.5	400	960	100.0	2.5	11/13/1997		784
Chloride		mg/L	330	400	690	90.0	400	700	92.5	2.7	11/13/1997		784
[illegible]-Nitrate/Nitrite		mg/L	<0.05	0.20	0.22	110.0	0.20	0.21	105.0	4.7	11/12/1997		45
[illegible]lfate		mg/L	1930	2000	4170	112.0	2000	4120	109.5	2.3	11/13/1997		608
Sulfate		mg/L	1890	1500	3320	95.3	1500	3290	93.3	2.1	11/13/1997		608
Arsenic		mg/L	<0.03	1.00	0.91	91.0	1.00	0.91	91.0	0.0	11/12/1997	2169	1820
Barium		mg/L	0.02	1.00	0.97	95.0	1.00	0.95	93.0	2.1	11/12/1997	2169	1705
Cadmium		mg/L	<0.01	1.00	0.92	92.0	1.00	0.89	89.0	3.3	11/12/1997	2169	1881
Calcium		mg/L	600	100	699	99.0	100	695	95.0	4.1	11/14/1997	2169	1868
Chromium		mg/L	<0.01	1.00	0.87	87.0	1.00	0.84	84.0	3.5	11/12/1997	2169	1880
Copper		mg/L	<0.01	1.00	0.93	93.0	1.00	0.90	90.0	3.3	11/13/1997	2169	1872
Iron		mg/L	0.38	10.0	11.5	111.2	10.0	10.4	100.2	10.4	11/14/1997	2169	1882
Lead		mg/L	<0.03	1.00	0.91	91.0	1.00	0.89	89.0	2.2	11/12/1997	2169	1890
Magnesium		mg/L	215	100	305	90.0	100	304	89.0	1.1	11/14/1997	2169	1866
Manganese		mg/L	0.11	1.00	1.05	94.0	1.00	1.03	92.0	2.2	11/14/1997	2169	1860
Mercury, CVAA		mg/L	<0.0002	0.0050	0.0056	112.0	0.0050	0.0053	106.0	5.5	11/11/1997		1469
Potassium		mg/L	3.52	20.0	21.5	89.9	20.0	21.9	91.9	2.2	11/14/1997	2169	1864
Selenium		mg/L	<0.04	1.00	0.95	95.0	1.00	0.92	92.0	3.2	11/12/1997	2169	1818
Silver		mg/L	<0.01	1.00	0.91	91.0	1.00	0.91	91.0	0.0	11/12/1997	2169	1875
Sodium		mg/L	301	100	385	84.0	100	384	83.0	1.2	11/14/1997	2169	1875
Zinc		mg/L	0.07	1.00	1.13	106.0	1.00	1.19	112.0	5.5	11/13/1997	2169	1877
VOLATILES-8240 AQ(PRESERVED)													
Benzene		ug/L	<5	50	48	96.0	50	40	80.0	18.2	11/07/1997		1456

NOTE: The Quality Control data in this report reflects the batch in which your sample was prepped and/or analyzed. The sample selected for QA may not necessarily be your sample.

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444

Project Description:
Job Description: TWP Roswell Compressor Sta.

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Chlorobenzene		ug/L	<5	50	54	108.0	50	49	98.0	9.6	11/07/1997		1456
1,1-Dichloroethene		ug/L	<5	50	52	104.0	50	53	106.0	1.9	11/07/1997		1456
Toluene		ug/L	<5	50	49	98.0	50	53	106.0	7.7	11/07/1997		1456
Trichloroethene		ug/L	<5	50	41	82.0	50	46	92.0	11.5	11/07/1997		1456

NOTE: The Quality Control data in this report reflects the batch in which your sample was prepped and/or analyzed. The sample selected for QA may not necessarily be your sample.

QUALITY CONTROL REPORT
DUPLICATES

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444

Project Description:
Job Description: TWP Roswell Compressor Sta.

Parameter	Flag	Units	Sample Result	Duplicate Sample Result	RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Total Dissolved Solids		mg/L	3700	3680	0.5	11/11/1997		770

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

11/24/1997

EPIC Job Number: 97.04444

Project Description:
Job Description: TWP Roswell Compressor Sta.

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	LCS Dup Conc. Found	LCS Dup % Rec	LCS % RPD	Flag	Date Analyzed
Alkalinity, total (CACO3)		544	2500	mg/L	2600	104.0					11/12/1997
Chloride		784	1000	mg/L	1050	105.0					11/13/1997
N-Nitrate/Nitrite		45	0.500	mg/L	0.453	90.6					11/12/1997
Sulfate		608	20.0	mg/L	18.1	90.5					11/13/1997
Arsenic	2169	1820	1.00	mg/L	0.94	94.0					11/12/1997
Barium	2169	1705	1.00	mg/L	0.93	93.0					11/12/1997
Cadmium	2169	1881	1.00	mg/L	0.96	96.0					11/12/1997
Chromium	2169	1880	1.00	mg/L	0.91	91.0					11/12/1997
Copper	2169	1872	1.00	mg/L	0.95	95.0					11/13/1997
Iron	2169	1882	11.0	mg/L	10.6	96.4					11/14/1997
Lead	2169	1890	1.00	mg/L	0.98	98.0					11/12/1997
Magnesium	2169	1866	10.0	mg/L	10.6	106.0					11/14/1997
Manganese	2169	1860	1.00	mg/L	0.96	96.0					11/14/1997
Mercury, CVAA		1469	0.0050	mg/L	0.0056	112.0					11/11/1997
Potassium	2169	1864	20.0	mg/L	17.8	89.0					11/14/1997
Selenium	2169	1818	1.00	mg/L	0.96	96.0					11/12/1997
Silver	2169	1875	1.00	mg/L	0.95	95.0					11/12/1997
Sodium	2169	1875	11.0	mg/L	11.2	101.8					11/14/1997
Zinc		1877	1.00	mg/L	0.95	95.0					11/13/1997
Total Dissolved Solids		770	2000	mg/L	1970	98.5					11/11/1997
BASE/NEUTRALS - 8270 AQUEOUS											
Acenaphthene	3979	519	100	ug/L	66	66.0	79	79.0	17.9		11/12/1997
Pyrene	3979	519	100	ug/L	75	75.0	82	82.0	8.9		11/12/1997
VOLATILES-8240 AQ(PRESERVED)											
Benzene		1456	50	ug/L	47	94.0					11/07/1997
Chlorobenzene		1456	50	ug/L	54	108.0					11/07/1997
1,1-Dichloroethene		1456	50	ug/L	65	130.0					11/07/1997
Toluene		1456	50	ug/L	49	98.0					11/07/1997
Trichloroethene		1456	50	ug/L	48	96.0					11/07/1997

LCS - Laboratory Control Standard

For samples with insufficient sample volume, an LCS/LCS duplicate is reported instead of an MS/MSD.

CHAIN OF CUSTODY RECORD

EPIC LABORATORIES, INC.
1555 Valwood Pkwy., Ste. 100
Carrollton, Texas 75006

Dallas (972) 406-8100
Austin (512) 928-8905
Houston (281) 286-1400

COMPANY: ENRON OPERATIONS, CORP
ADDRESS: P.O. BOX 1188 HOUSTON TX 77251
PHONE: (713) 646-7327 FAX: (713) 646-7867
PROJECT NAME/LOCATION: FNP ROSWELL COMPRESSOR STA.
PROJECT NUMBER:
PROJECT MANAGER:

REPORT TO: GEORGE ROBINSON C/O ENRON OPERATIONS CORP
INVOICE TO: ATTN: 3AC3142 P.O. BOX 1188 HOUSTON, TX 77251
P.O. NO.:
EPIC QUOTE NO.:

SAMPLED BY: (PRINT NAME) CLAY BARNHILL — SIGNATURE
(PRINT NAME) — SIGNATURE

To assist us in selecting the proper method:
Is this work being conducted for regulatory compliance monitoring? ☒ Yes ☐ No
Is this work being conducted for regulatory enforcement action? ☐ Yes ☒ No
Which regulations apply: ☐ RCRA ☐ NPDES Wastewater ☐ UST ☐ Drinking Water ☒ Other ☐ None

DATE	TIME	SAMPLE ID / DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	* VOC's 8240	* PAH's 8270	Nitrate & Nitrate (As Nitrogen) 353.2	Total Alkalinity, TDS	Chloride & Sulfate	Metals 7470/6010 (As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Tl, Mu, Zn & Ca, K, Na, Mg)	COMMENTS
11/5/97	12:50	Monitor well 23-D, 1x liter Amber 1x liter, 2x 500mL, 2x40mL vials	A	X		2/6		1/6	1/6	1/6	X	X	X		X	X	
		TRIP BLANK									X						* VOC's Including 1,2-Dichloroethene (cis-&trans-) & Dichlorobenzene (o-, m-, & p-)
																	* PAH's Including Monoethylnaphthalene - Isomers (1- & 2-)

CONDITION OF SAMPLE: BOTTLES INTACT? ☐ YES ☐ NO FIELD FILTERED? ☐ YES ☐ NO
COC SEALS PRESENT AND INTACT? ☐ YES ☐ NO VOLATILES FREE OF HEADSPACE? ☐ YES ☐ NO
TEMPERATURE UPON RECEIPT: _____ °c BOTTLES SUPPLIED BY EPIC? ☐ YES ☐ NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT ☐ (PLEASE PROVIDE SHIPPING CHARGE AND CARRIER INSTRUCTIONS)
I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS AT A CHARGE OF ~~$3 PER SAMPLE~~ ☒

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
	11/5/97	16:40			11/6/97	1100	B. Walker

METHOD OF SHIPMENT: FED-EX
REMARKS: Airbill # 487193820

PT 1 - ORIGINAL - WHITE PT 2 - EPIC PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

CHAIN OF CUSTODY

A chain of custody is one of the first steps in sample control in the laboratory. The chain of custody is a "contract" between the client and the laboratory to insure that all information from the client is transmitted to the laboratory in an ordered fashion.

Procedure

A A three copy chain of custody shall be used. A ball-point pen, either blue or black shall be used, pressing hard to make all three copies.

B Writing legibly, or printing fill out the chain of custody as follows:

1 Name of Company
Address of Company
Phone and Fax Number

2 Project Name/Location
Project Number
Project Manager

3 Report To
Name and Address, if different from above (enter in remark section)

4 Invoice to
Name and Address, if different from above (enter in remark section)

5 Purchase Order Number and EPIC Quote Number (if applicable)

6 Sample Information
Date and Time
Sample ID/Description
Grab or Comp
# of Containers/Type
Matrix
Preserved - Y/N

7 Parameters to be tested on samples
Check parameter squares with sample descriptions

8 Comments
Special Methods and Detection Limits
Known Sample Contamination

9 Sample Disposal Instructions

THE WORK WILL BE UNDERTAKEN IN ACCORDANCE WITH EPIC'S STANDARD TERMS AND CONDITIONS, WHICH INCLUDE THE REQUIREMENT THAT PAYMENT IS DUE WITHIN THIRTY (30) DAYS FROM THE DATE OF INVOICE.

ANNUAL GROUND WATER MONITORING REPORT

& PHASE IV ASSESSMENT WORK PLAN FOR

ROSWELL COMPRESSOR STATION NO. 9

SURFACE IMPOUNDMENTS

Volume III: Lab Reports for the 1st Quarter 1998 Sampling Event

MAR 3

Prepared for:

Transwestern Pipeline Company

Prepared by:

Cypress Engineering Services, Inc.

10235 West Little York Road, Suite 256

Houston, TX 77040

March 23, 1998

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

February 16, 1998

Mr. George Robinson
CYPRESS ENGINEERING, INC.
16300 Katy Frwy, #210
Houston, TX 77094

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on January 31, 1998. The sample(s) was assigned to Certificate of Analysis No.(s)9801E24 and analyzed for all parameters as listed on the chain of custody.

Any data flag or quality control exception associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s).

If you have any questions or comments pertaining to this data report, please do not hesitate to contact me. Please reference the above Certificate of Analysis No. during any inquiries.

Again, SPL is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Southern Petroleum Laboratories

Shannon Tyrell
Client Services Representative

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-01-E24

Approved for Release by:

Shannon Tyrell, Client Services Representative 2/17/98
Date

Greg Grandits
Laboratory Director

Idelis Williams
Quality Assurance Officer

The attached analytical data package may not be reproduced except in full without the express written approval of this laboratory.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E24-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-9

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 17:00:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	80	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	459	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1800	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/03/98	3730	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	0.6	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: AM Date: 02/04/98 09:00:00	02/04/98		

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E24-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-9

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 17:00:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.008	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	639	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E24-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-9

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 17:00:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/10/98 15:22:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	5	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	193	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.030	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
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Certificate of Analysis No. H9-9801E24-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-9

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 17:00:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	248	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E24-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-9

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 17:00:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics
(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E24-01

Cypress Engineering, Inc. **SAMPLE ID:** MW-9

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	98	76	114
Toluene-d8	50 ug/L	100	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: JC DATE/TIME: 02/02/98 19:06:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E24-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-9

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 17:00:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	92	35	114
2-Fluorobiphenyl	50 ug/L	96	43	116
Terphenyl-d14	50 ug/L	90	33	141
Phenol-d5	75 ug/L	21	10	110
2-Fluorophenol	75 ug/L	35	21	110
2,4,6-Tribromophenol	75 ug/L	104	10	123

ANALYZED BY: YL DATE/TIME: 02/06/98 19:31:00
EXTRACTED BY: AM DATE/TIME: 02/04/98 09:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E24-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-8

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 12:20:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	96	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	347	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1900	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/03/98	2960	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	0.1	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: AM Date: 02/04/98 09:00:00	02/04/98		

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
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Certificate of Analysis No. H9-9801E24-02

Cypress Engineering, Inc.
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Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-8

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 12:20:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	634	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E24-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-8

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 12:20:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/10/98 15:22:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	3	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	219	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801E24-02

Cypress Engineering, Inc.
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Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-8

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 12:20:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	168	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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8880 INTERCHANGE DRIVE
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Certificate of Analysis No. H9-9801E24-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-8

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 12:20:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E24-02

Cypress Engineering, Inc. **SAMPLE ID:** MW-8

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	96	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: JC DATE/TIME: 02/02/98 20:24:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E24-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-8

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 12:20:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	68	35	114
2-Fluorobiphenyl	50 ug/L	70	43	116
Terphenyl-d14	50 ug/L	90	33	141
Phenol-d5	75 ug/L	16	10	110
2-Fluorophenol	75 ug/L	27	21	110
2,4,6-Tribromophenol	75 ug/L	75	10	123

ANALYZED BY: YL DATE/TIME: 02/06/98 20:04:00
EXTRACTED BY: AM DATE/TIME: 02/04/98 09:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

QUALITY CONTROL

DOCUMENTATION

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.: 9801E24 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: MW-9

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	48	96	61-145
Trichloroethene	50	0	48	96	71-120
Benzene	50	0	55	110	76-127
Toluene	50	0	56	112	76-125
Chlorobenzene	50	0	51	102	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	48	96	0	14	61-145
Trichloroethene	50	48	96	0	14	71-120
Benzene	50	55	110	0	11	76-127
Toluene	50	55	110	2	13	76-125
Chlorobenzene	50	51	102	0	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name:
Client SDG: n980202
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: LCS
Level: LOW
Operator: JC
Data Type: MS DATA
SampleType: METHSPIKE
SpikeList File: 8260_water.spk
Quant Type: ISTD
Sublist File: 8260.sub
Method File: /var/chem/n.i/n980202.b/n8260w.m
Misc Info: N033W1//N033CW1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
8 1,1-Dichloroethene	50	49	98.00	61-145
29 Trichloroethene	50	50	100.00	71-120
25 Benzene	50	56	112.00	76-127
37 Toluene	50	56	112.00	76-125
45 Chlorobenzene	50	53	106.00	75-130

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 21 1,2-Dichloroethane	50	48	96.00	76-114
$ 36 Toluene-d8	50	51	102.00	88-110
$ 56 Bromofluorobenzene	50	45	90.00	86-115

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980202122720

Reported on: 02/04/98 17:19
Analyzed on: 02/02/98 18:41
Analyst: JC

METHOD 8260/8240 N033B01

Compound	Result	Detection Limit	Units
Dichlorodifluoromethane	ND	10	ug/L
Chloromethane	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Bromomethane	ND	10	ug/L
Chloroethane	ND	10	ug/L
Trichlorofluoromethane	ND	5	ug/L
Acetone	ND	100	ug/L
1,1-Dichloroethene	ND	5	ug/L
Methylene Chloride	ND	5	ug/L
Carbon Disulfide	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Chloroform	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Benzene	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Dibromomethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980202122720

Reported on: 02/04/98 17:19
Analyzed on: 02/02/98 18:41
Analyst: JC

METHOD 8260/8240 N033B01

Compound	Result	Detection Limit	Units
1,3-Dichloropropane	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Bromoform	ND	5	ug/L
Styrene	ND	5	ug/L
Xylene (Total)	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
N-Propylbenzene	ND	5	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
n-Butylbenzene	ND	5	ug/L
1,2-Dibromo-3-Chlorcpropan	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980202122720

Reported on: 02/04/98 17:19
Analyzed on: 02/02/98 18:41
Analyst: JC

METHOD 8260/8240 N033B01

Surrogate	Result	QC Criteria	Units
1,2-Dichloroethane-d4	94	76-114	% Recovery
Toluene-d8	104	88-110	% Recovery
Bromofluorobenzene	92	86-115	% Recovery

Samples in Batch 9801E24-01 9801E24-02

Notes

ND - Not detected.

WATER SEMIVOLATILE MATRIX/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.:980204 SAS No.: SDG No.:

Matrix Spike - EPA Sample No. :SBLK

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	LIMITS
Phenol	75	0	19	25	12-110
2-Chlorophenol	75	0	54	72	27-123
1,4-Dichlorobenzenzene	50	0	41	82	36- 97
N-Nitroso-di-n-pro.(1)	50	0	42	84	41-116
1,2,4-Trichlorobenzene	50	0	47	94	39- 98
4-Chloro-3-methylphenol	75	0	67	89	23- 97
Acenaphthene	50	0	46	92	46-118
4-Nitrophenol	75	0	23	31	30-150
2,4-Dinitrotoluene	50	0	45	90	50-150
Pentachlorophenol	75	0	78	104	9-125
Pyrene	50	0	49	98	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.#	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75	22	29	15	42	12-110
2-Chlorophenol	75	60	80	11	40	27-123
1,4-Dichlorobenzenene	50	45	90	9	28	36- 97
N-Nitroso-di-n-pro.(1)	50	48	96	13	38	41-116
1,2,4-Trichlorobenzene	50	48	96	2	28	39- 98
4-Chloro-3-methylphenol	75	49	92	3	42	23- 97
Acenaphthene	50	50	100	8	31	46-118
4-Nitrophenol	75	25	33	6	50	30-150
2,4-Dinitrotoluene	50	50	100	11	50	50-150
Pentachlorophenol	75	84	112	7	50	9-125
Pyrene	50	51	102	4	31	26-127

(1) N-Nitroso-di-n-propylamine

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

WATER SEMIVOLATILE MATRIX/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.:980204 SAS No.: SDG No.:

Matrix Spike - EPA Sample No. :SBLK

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	LIMITS
Phenol	75	0	19	25	12-110
2-Chlorophenol	75	0	54	72	27-123
1,4-Dichlorobenzenzene	50	0	41	82	36- 97
N-Nitroso-di-n-pro.(1)	50	0	42	84	41-116
1,2,4-Trichlorobenzene	50	0	47	94	39- 98
4-Chloro-3-methylphenol	75	0	67	89	23- 97
Acenaphthene	50	0	46	92	46-118
4-Nitrophenol	75	0	23	31	30-150
2,4-Dinitrotoluene	50	0	45	90	50-150
Pentachlorophenol	75	0	78	104	9-125
Pyrene	50	0	49	98	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.#	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75	22	29	15	42	12-110
2-Chlorophenol	75	60	80	11	40	27-123
1,4-Dichlorobenzenene	50	45	90	9	28	36- 97
N-Nitroso-di-n-pro.(1)	50	48	96	13	38	41-116
1,2,4-Trichlorobenzene	50	48	96	2	28	39- 98
4-Chloro-3-methylphenol	75	49	92	3	42	23- 97
Acenaphthene	50	50	100	8	31	46-118
4-Nitrophenol	75	25	33	6	50	30-150
2,4-Dinitrotoluene	50	50	100	11	50	50-150
Pentachlorophenol	75	84	112	7	50	9-125
Pyrene	50	51	102	4	31	26-127

(1) N-Nitroso-di-n-propylamine

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

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HOUSTON, TEXAS 77054
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SPL Blank QC Report

Matrix: Aqueous
Sample ID: BLANK
Batch: E980204042301

Reported on: 02/12/98 15:31
Analyzed on: 02/06/98 15:40
Analyst: YL

METHOD 8270 H035B03

Compound	Result	Detection Limit	Units
Naphthalene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Acenaphthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Pyrene	ND	5	ug/L
Benzo[a]anthracene	ND	5	ug/L
Chrysene	ND	5	ug/L
Benzo[b]fluoranthene	ND	5	ug/L
Benzo[k]fluoranthene	ND	5	ug/L
Benzo[a]pyrene	ND	5	ug/L
Indeno[1,2,3-cd]pyrene	ND	5	ug/L
Dibenz[a,h]anthracene	ND	5	ug/L
Benzo[g,h,i]perylene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

Surrogate	Result	QC Criteria	Units
Nitrobenzene-d5	96	35-114	% Recovery
2-Fluorobiphenyl	102	43-116	% Recovery
Terphenyl-d14	106	33-141	% Recovery
2-Fluorophenol	44	21-110	% Recovery
Phenol-d5	28	10-110	% Recovery
2,4,6-Tribromophenol	108	10-123	% Recovery

Samples in Batch 9801E24-01 9801E24-02

Notes

ND - Not detected.

ICP Spectroscopy Method 6010 Quality Control Report

Matrix: DISSOLVED Units: mg/L Analyst: RS

Date:020398 Time:0122 File Name: 020398C2 Checked:

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HOUSTON, TEXAS 77054
(713) 660-0901

2/4/95

Laboratory Control Sample

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver	ND	2.00	2.08	104	1.60	2.40
Aluminum						
Arsenic	ND	4.00	4.13	103	3.20	4.80
Barium	ND	2.00	2.07	104	1.60	2.40
Beryllium						
Calcium	ND	20.00	21.43	107	16.00	24.00
Cadmium	ND	2.00	1.98	99	1.60	2.40
Cobalt						
Chromium	ND	2.00	2.06	103	1.60	2.40
Copper	ND	2.00	2.08	104	1.60	2.40
Iron	ND	2.00	2.10	105	1.60	2.40
Potassium	ND	20.00	20.89	104	16.00	24.00
Magnesium	ND	20.00	20.88	104	16.00	24.00
Manganese	ND	2.00	2.09	104	1.60	2.40
Sodium	ND	20.00	21.81	109	16.00	24.00
Nickel						
Lead	ND	2.00	2.02	101	1.60	2.40
Antimony						
Selenium	ND	4.00	4.10	103	3.20	4.80
Thallium						
Vanadium						
Zinc	ND	2.00	2.05	102	1.60	2.40

Work Orders in Batch

Work Order	Fractions
98-01-D95	01E-04E
98-01-E24	01E-02E
98-01-E25	01E-03E
98-01-E27	01E-03E
98-01-E30	01E-02E
98-01-634	04E

Matrix Spike - Spike Duplicate Results **Work Order Spiked: 9801D95-01E**

Element	Sample Result	Spike Added	Matrix Spike Result	Matrix Spike Recovery		Matrix Spike Duplicate Result	Matrix Spike Duplicate Recovery		QC Limits % Recovery		Spike RPD %		QC Limits %
Silver	ND	1.0	1.042	104.2		1.059	105.9		80	120	1.6		20.0
Aluminum													
Arsenic	ND	2.0	2.211	110.6		2.316	115.8		80	120	4.6		20.0
Barium	0.0204	1.0	1.046	102.6		1.06	104.0		80	120	1.4		20.0
Beryllium													
Calcium	611.9	100.0	721	109.1		724.1	112.2		80	120	2.8		20.0
Cadmium	ND	1.0	1.051	105.1		1.077	107.7		80	120	2.4		20.0
Cobalt													
Chromium	ND	1.0	1.02	102.0		1.052	105.2		80	120	3.1		20.0
Copper	ND	1.0	1.059	105.9		1.076	107.6		80	120	1.6		20.0
Iron	ND	1.0	1.022	102.2		1.05	105.0		80	120	2.7		20.0
Potassium	6.544	10.0	16.14	96.0		16.66	101.2		80	120	5.3		20.0
Magnesium	183	10.0	188.7	57.0	*	193.2	102.0		80	120	56.6	**	20.0
Manganese	0.141	1.0	1.182	104.1		1.215	107.4		80	120	3.1		20.0
Sodium	245.8	10.0	251	52.0	*	250.8	50.0	*	80	120	3.9		20.0
Nickel													
Lead	ND	1.0	1.036	103.6		1.058	105.8		80	120	2.1		20.0
Antimony													
Selenium	ND	2.0	2.299	115.0		2.385	119.2		80	120	3.7		20.0
Thallium													
Vanadium													
Zinc	ND	1.0	1.069	106.9		1.098	109.8		80	120	2.7		20.0

* Values Outside QC Range Due To Matrix Interference.
** Values Outside QC Range.
Elements Bench Spiked:ALL 10X DILUTION on Ca

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/10/98
Analyzed on: 02/10/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Blank Value ug/L	LCS Concentration ug/L	Measured Concentration ug/L	% Recovery	QC Limits Recovery
LCS	ND	2.00	1.93	96.5	80 - 120

-9802520

Samples in batch:

9801D31-01E	9801D31-02E	9801D31-03E	9801D31-04E
9801D40-01E	9801D40-02E	9801E24-01E	9801E24-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/10/98
Analyzed on: 02/10/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Method Blank ug/L	Sample Result ug/L	Spike Added ug/L	Matrix Spike Result ug/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result ug/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801E24-01E	ND	ND	2.00	1.94	97.0	1.85	92.5	4.8	20	75 -125

-9802520

Samples in batch:

9801D31-01E 9801D31-02E 9801D31-03E 9801D31-04E
9801D40-01E 9801D40-02E 9801E24-01E 9801E24-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	90	87	96.7	95 - 113

-9802581

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B	9801E27-02B	9801E27-03B
9801E30-01B	9801E30-02B		

COMMENTS:

SPL LCS ID #94453182-12

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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D95-01B	88	86	2.3	18

-9802499

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B		

COMMENTS:

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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Blank Value MG/L	LCS Concentration MG/L	Measured Concentration MG/L	% Recovery	QC Limits Recovery
LCS	ND	170.0	168.39	99.1	94 - 106

-9802509

mples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B	9801E27-02B	9801E27-03B
9801E30-01B	9801E30-02B	9802369-02A	9802413-01D
9802413-02D	9802413-03D	9802414-01D	9802414-02D

COMMENTS:
LCS=SPL ID#94453182-12

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Method Blank MG/L	Sample Result MG/L	Spike Added MG/L	Matrix Spike Result MG/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result MG/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801D95-01B	ND	70.9	50.0	119.11	96.4	119.64	97.5	1.1	5	92 -109

-9802507

Samples in batch:

9801D95-01B 9801D95-02B 9801D95-03B 9801D95-04B
9801E24-01B 9801E24-02B 9801E25-01B 9801E25-02B
9801E25-03B 9801E27-01B

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	8.48	7.61	89.7	82 - 111

-9802483

Samples in batch:

9801D31-01C	9801D31-02C	9801D31-03C	9801D31-04C
9801D40-01C	9801D40-02C	9801D55-01E	9801D95-01B
9801D95-02B	9801D95-03B	9801D95-04B	9801E24-01B
9801E24-02B	9801E25-01B	9801E25-02B	9801E25-03B
9801E27-01B	9801E27-02B	9801E30-01B	9801E30-02B

COMMENTS:

SPL LCS#: 94453182-12

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PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801E30-01B	ND	6.13	10.00	14.86	87.3	14.92	87.9	0.7	9.5	84 -120

-9802484

Samples in batch:

9801D95-04B 9801E24-01B 9801E24-02B 9801E25-01B
9801E25-02B 9801E25-03B 9801E27-01B 9801E27-02B
9801E30-01B 9801E30-02B

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/04/98
Analyzed on: 02/03/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Total Dissolved Solids
Method 160.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D55-01F	121	119	1.7	5

-9802156

Samples in batch:

9801D55-01F	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E27-01B	9801E27-02B
9801E27-03B	9802051-03A		

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/13/98
Analyzed on: 02/13/98
Analyst: DAM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	1.00	1.06	106	92 - 111

-9802632

Samples in batch:

9801C50-01K	9801D95-01C	9801D95-02C	9801D95-03C
9801D95-04C	9801E24-01C	9801E24-02C	9801E25-01C
9801E25-02C	9801E25-03C	9801E27-01C	9801E27-02C
9801E27-03C	9801E30-01C	9801E30-02C	

COMMENTS:

LCS = SPL ID#:94435156-13

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/13/98
Analyzed on: 02/13/98
Analyst: DAM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	% REC
9801D95-01C	ND	ND	2.50	2.74	110	2.72	109	0.9	12	87 -120

-9802629

Samples in batch:

9801D95-01C 9801D95-02C 9801D95-03C 9801D95-04C
9801E24-01C 9801E24-02C 9801E25-01C 9801E25-02C
9801E25-03C

COMMENTS:

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

SPL, Inc.	SPL Workorder No: 9801E24	19631
Analysis Request & Chain of Custody Record		page 1 of 1

Client Name: CYPRESS ENGINEERING
Address/Phone: 16300 KATY FREEWAY, STE 210 HOUSTON TX 77094 (281) 578-3115
Client Contact: GEORGE ROBINSON
Project Name: TRANSWESTERN PIPELINE
Project Number:
Project Location: ROSWELL STA. 9
Invoice To: GEORGE ROBINSON

matrix: W=water S=soil SL=sludge O=other:
bottle: P=plastic A=amber glass G=glass V=vial
size: 1=1 liter 4=4oz 40=vial 8=8oz 16=16oz
pres.: 1=HCl 2=HNO3 3=H2SO4 O=other:

SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres.	Number of Containers	VOC'S (8260) INCLUDE: 1,2 DICHLOROETHENE (CIS- & TRANS-) & DICHLOROBENZENE (O-, M-, P-)	TDS, CHLORIDE, SULFATE, TOTAL ALKALINITY	NITRITE & NITRATE AS NITROGEN (353.2)	PAH'S (8270) INCLUDING MONOMETHYLNAPHTHALENE ISOMERS (1- & 2-)		METALS 7470/6010 As, Ba, Cd, Cr, Pb, Hg, Se,	Ag, Cu, Fe, Mn, Zn, Ca, K, Na, Mg		
MW-9	1/29/98	1700		X	W	G	40/1	1/0	3/1	X			X					
MW-9		1700				P	1	3/0	1/2		X	X			X			
MW-8		1220				G	40/1	1/0	3/1	X			X					
MW-8		1220				P	1	3/0	1/2		X	X			X			

Client/Consultant Remarks: SEE SHANNON FOR LEVEL III REPORTING DETAILS

Laboratory remarks: RT

Intact? ☐ Y ☐ N
Temp: 4°C

Requested TAT
24hr ☐ 72hr ☐
48hr ☐ Standard ☒
Other ☐ ______

Special Reporting Requirements: Fax Results ☐ Raw Data ☐ Standard QC ☐ Level 3 QC ☒ Level 4 QC ☐

Special Detection Limits (specify):

PM review (initial):

Relinquished by	date	time	Received by
1. Relinquished by Sampler: [signature]	1/30/98	0830	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	1-31-98	1000	6. Received by Laboratory: [signature]

☐ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901
☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (318) 237-4775
☐ 459 Hughes Drive, Traverse City, MI 49684 (616) 947-5777
☐ 1511 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 447-6868

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
1-31-98	1410

SPL Sample ID:
9801E24

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		4 C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	801513330209	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
[signature]	1-31-98

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

February 18, 1998

Mr. George Robinson
CYPRESS ENGINEERING, INC.
16300 Katy Frwy. #210
Houston, TX 77094

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on January 29,1998. The sample(s) was assigned to Certificate of Analysis No.(s) 9801D31 and analyzed for all parameters as listed on the chain of custody.

The samples for the Metals analyses were received unfiltered and unpreserved. This is not compliant with method requirement. Therefore, the samples were filtered and preserved at SPL and analyzed for Dissolved Metals.

Per the client's request, this project was completed as a Level 2 with standard QC and not Level 3 as noted on the chain of custody.

Any data flag or quality control exception associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s).

If you have any questions or comments pertaining to this data report, please do not hesitate to contact me. Please reference the above Certificate of Analysis No. during any inquiries.

Again, SPL is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Southern Petroleum Laboratories

Shannon Tyrell
Client Services Representative

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-01-D31

Approved for Release by:

Shannon Tyrell, Client Services Representative 2/18/98
Date

Greg Grandits
Laboratory Director

Idelis Williams
Quality Assurance Officer

The attached analytical data package may not be reproduced except in full without the express written approval of this laboratory.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-6

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/26/98 16:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: AM Date: 02/02/98 08:00:00	02/02/98		
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/09/98	96	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/10/98	335	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1500	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 01/30/98	2650	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: KS Date: 02/11/98	1.0	0.1	mg/L

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-6

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/26/98 16:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.007	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	517	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
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Certificate of Analysis No. H9-9801D31-01

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Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-6

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/26/98 16:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/10/98 15:22:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	4	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	151	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-6

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/26/98 16:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	152	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 01/30/98	01/30/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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8880 INTERCHANGE DRIVE
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Certificate of Analysis No. H9-9801D31-01

Cypress Engineering, Inc.
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Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-6

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/26/98 16:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-01

Cypress Engineering, Inc. **SAMPLE ID: MW-6**

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	90	76	114
Toluene-d8	50 ug/L	100	88	110
4-Bromofluorobenzene	50 ug/L	90	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 15:29:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-6

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/26/98 16:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	6	ug/L
Acenaphthylene	ND	6	ug/L
Anthracene	ND	6	ug/L
Benzo(a)Anthracene	ND	6	ug/L
Benzo(b)Fluoranthene	ND	6	ug/L
Benzo(k)Fluoranthene	ND	6	ug/L
Benzo(a)Pyrene	ND	6	ug/L
Benzo(g,h,i)Perylene	ND	6	ug/L
Chrysene	ND	6	ug/L
Dibenz(a,h)Anthracene	ND	6	ug/L
Fluoranthene	ND	6	ug/L
Fluorene	ND	6	ug/L
Indeno(1,2,3-cd)Pyrene	ND	6	ug/L
2-Methylnaphthalene	ND	6	ug/L
Naphthalene	ND	6	ug/L
Phenanthrene	ND	6	ug/L
Pyrene	ND	6	ug/L
1-Methylnaphthalene	ND	6	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	60	35	114
2-Fluorobiphenyl	50 ug/L	68	43	116
Terphenyl-d14	50 ug/L	98	33	141
Phenol-d5	75 ug/L	16	10	110
2-Fluorophenol	75 ug/L	27	21	110
2,4,6-Tribromophenol	75 ug/L	93	10	123

ANALYZED BY: RY DATE/TIME: 02/06/98 22:05:00
EXTRACTED BY: AM DATE/TIME: 02/02/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-5

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 11:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: AM Date: 02/02/98 08:00:00	02/02/98		
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/09/98	78	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/10/98	260	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	700	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/02/98	1180	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: KS Date: 02/11/98	1.8	0.1	mg/L

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801D31-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-5

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 11:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.047	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	300	0.1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-5

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 11:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/10/98 15:22:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	67.9	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
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ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-5

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 11:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	99.3	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 01/30/98	01/30/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-5

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 11:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

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Certificate of Analysis No. H9-9801D31-02

Cypress Engineering, Inc. **SAMPLE ID: MW-5**

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	94	76	114
Toluene-d8	50 ug/L	100	88	110
4-Bromofluorobenzene	50 ug/L	88	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 17:15:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-5

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 11:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	62	35	114
2-Fluorobiphenyl	50 ug/L	72	43	116
Terphenyl-d14	50 ug/L	102	33	141
Phenol-d5	75 ug/L	13	10	110
2-Fluorophenol	75 ug/L	27	21	110
2,4,6-Tribromophenol	75 ug/L	96	10	123

ANALYZED BY: RY DATE/TIME: 02/06/98 22:38:00
EXTRACTED BY: AM DATE/TIME: 02/02/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-11

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 12:25:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: AM Date: 02/02/98 08:00:00	02/02/98		
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/09/98	100	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/10/98	374	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1600	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/02/98	2940	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: KS Date: 02/11/98	0.7	0.1	mg/L

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801D31-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-11

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 12:25:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	612	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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Certificate of Analysis No. H9-9801D31-03

Cypress Engineering, Inc.
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ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-11

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 12:25:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/10/98 15:22:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	3	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	133	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-11

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 12:25:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	231	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 01/30/98	01/30/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801D31-03

Cypress Engineering, Inc.
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Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-11

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 12:25:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics
(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-03

Cypress Engineering, Inc. **SAMPLE ID: MW-11**

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	88	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	88	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 17:42:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-11

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 12:25:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	74	35	114
2-Fluorobiphenyl	50 ug/L	74	43	116
Terphenyl-d14	50 ug/L	98	33	141
Phenol-d5	75 ug/L	13	10	110
2-Fluorophenol	75 ug/L	28	21	110
2,4,6-Tribromophenol	75 ug/L	105	10	123

ANALYZED BY: RY DATE/TIME: 02/06/98 23:10:00
EXTRACTED BY: AM DATE/TIME: 02/02/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-04

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-10

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 14:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: AM Date: 02/02/98 08:00:00	02/02/98		
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/09/98	120	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/10/98	350	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98	1700	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/02/98	2910	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: KS Date: 02/11/98	0.7	0.1	mg/L

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-04

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-10

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 14:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.005	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	607	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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Certificate of Analysis No. H9-9801D31-04

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-10

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 14:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/10/98 15:22:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	4	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	138	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-10

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 14:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	197	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 01/30/98	01/30/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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Certificate of Analysis No. H9-9801D31-04

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Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-10

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 14:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
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Certificate of Analysis No. H9-9801D31-04

Cypress Engineering, Inc. **SAMPLE ID: MW-10**

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	90	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	88	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 18:08:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-04

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-10

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 14:10:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	76	35	114
2-Fluorobiphenyl	50 ug/L	74	43	116
Terphenyl-d14	50 ug/L	102	33	141
Phenol-d5	75 ug/L	15	10	110
2-Fluorophenol	75 ug/L	28	21	110
2,4,6-Tribromophenol	75 ug/L	105	10	123

ANALYZED BY: RY DATE/TIME: 02/06/98 23:42:00
EXTRACTED BY: AM DATE/TIME: 02/02/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-05

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA. 9
SAMPLED BY: Provided By SPL
SAMPLE ID: Trip Blank

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics
(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D31-05

Cypress Engineering, Inc. **SAMPLE ID:** Trip Blank

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	94	76	114
Toluene-d8	50 ug/L	100	88	110
4-Bromofluorobenzene	50 ug/L	90	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 18:34:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

QUALITY CONTROL

DOCUMENTATION

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.: 9801D31 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: MW-6

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	52	104	61-145
Trichloroethene	50	0	53	106	71-120
Benzene	50	0	55	110	76-127
Toluene	50	0	55	110	76-125
Chlorobenzene	50	0	54	108	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	54	108	4	14	61-145
Trichloroethene	50	53	106	0	14	71-120
Benzene	50	54	108	2	11	76-127
Toluene	50	54	108	2	13	76-125
Chlorobenzene	50	54	108	0	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name:
Client SDG: n980130
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: LCS
Level: LOW
Operator: JC
Data Type: MS DATA
SampleType: METHSPIKE
SpikeList File: 8260_water.spk
Quant Type: ISTD
Sublist File: 8260.sub
Method File: /var/chem/n.i/n980130.b/n8260w.m
Misc Info: N030W1//N030CW1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
8 1,1-Dichloroethene	50	50	100.00	61-145
29 Trichloroethene	50	51	102.00	71-120
25 Benzene	50	52	104.00	76-127
37 Toluene	50	52	104.00	76-125
45 Chlorobenzene	50	51	102.00	75-130

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 21 1,2-Dichloroethane	50	47	94.00	76-114
$ 36 Toluene-d8	50	50	100.00	88-110
$ 56 Bromofluorobenzene	50	46	92.00	86-115

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980130122720

Reported on: 02/05/98 09:38
Analyzed on: 01/30/98 12:51
Analyst: JC

METHOD 8260/8240 N030B01

Compound	Result	Detection Limit	Units
Dichlorodifluoromethane	ND	10	ug/L
Chloromethane	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Bromomethane	ND	10	ug/L
Chloroethane	ND	10	ug/L
Trichlorofluoromethane	ND	5	ug/L
Acetone	ND	100	ug/L
1,1-Dichloroethene	ND	5	ug/L
Methylene Chloride	ND	5	ug/L
Carbon Disulfide	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Chloroform	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Benzene	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Dibromomethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980130122720

Reported on: 02/05/98 09:38
Analyzed on: 01/30/98 12:51
Analyst: JC

METHOD 8260/8240 N030B01

Compound	Result	Detection Limit	Units
1,3-Dichloropropane	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Bromoform	ND	5	ug/L
Styrene	ND	5	ug/L
Xylene (Total)	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
N-Propylbenzene	ND	5	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
n-Butylbenzene	ND	5	ug/L
1,2-Dibromo-3-Chloropropan	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980130122720

Reported on: 02/05/98 09:38
Analyzed on: 01/30/98 12:51
Analyst: JC

METHOD 8260/8240 N030B01

Surrogate	Result	QC Criteria	Units
1,2-Dichloroethane-d4	96	76-114	% Recovery
Toluene-d8	100	88-110	% Recovery
Bromofluorobenzene	92	86-115	% Recovery

Samples in Batch 9801D31-01 9801D31-02 9801D31-03 9801D31-04 9801D31-05

Notes
ND - Not detected.

WATER SEMIVOLATILE MATRIX/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.:980202 SAS No.: SDG No.:

Matrix Spike - EPA Sample No. :SBLK

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	LIMITS
Phenol	75	0	19	25	12-110
2-Chlorophenol	75	0	54	72	27-123
1,4-Dichlorobenzenzene	50	0	41	82	36- 97
N-Nitroso-di-n-pro.(1)	50	0	42	84	41-116
1,2,4-Trichlorobenzene	50	0	47	94	39- 98
4-Chloro-3-methylphenol	75	0	67	89	23- 97
Acenaphthene	50	0	46	92	46-118
4-Nitrophenol	75	0	23	31	30-150
2,4-Dinitrotoluene	50	0	45	90	50-150
Pentachlorophenol	75	0	78	104	9-125
Pyrene	50	0	49	98	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.#	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75	22	29	15	42	12-110
2-Chlorophenol	75	60	80	11	40	27-123
1,4-Dichlorobenzenene	50	45	90	9	28	36- 97
N-Nitroso-di-n-pro.(1)	50	48	96	13	38	41-116
1,2,4-Trichlorobenzene	50	48	96	2	28	39- 98
4-Chloro-3-methylphenol	75	49	92	3	42	23- 97
Acenaphthene	50	50	100	8	31	46-118
4-Nitrophenol	75	25	33	6	50	30-150
2,4-Dinitrotoluene	50	50	100	11	50	50-150
Pentachlorophenol	75	84	112	7	50	9-125
Pyrene	50	51	102	4	31	26-127

(1) N-Nitroso-di-n-propylamine

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

HOUSTON LABORATORY
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HOUSTON, TEXAS 77054
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SPL Blank QC Report

Matrix: Aqueous
Sample ID: BLANK
Batch: E980202042258

Reported on: 02/11/98 10:25
Analyzed on: 02/04/98 03:05
Analyst: RY

METHOD 8270 J033B03

Compound	Result	Detection Limit	Units
Naphthalene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Acenaphthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Pyrene	ND	5	ug/L
Benzo[a]anthracene	ND	5	ug/L
Chrysene	ND	5	ug/L
Benzo[b]fluoranthene	ND	5	ug/L
Benzo[k]fluoranthene	ND	5	ug/L
Benzo[a]pyrene	ND	5	ug/L
Indeno[1,2,3-cd]pyrene	ND	5	ug/L
Dibenz[a,h]anthracene	ND	5	ug/L
Benzo[g,h,i]perylene	ND	5	ug/L

Surrogate	Result	QC Criteria	Units
Nitrobenzene-d5	68	35-114	% Recovery
2-Fluorobiphenyl	76	43-116	% Recovery
Terphenyl-d14	110	33-141	% Recovery
Phenol-d5	19	10-110	% Recovery
2-Fluorophenol	29	21-110	% Recovery
2,4,6-Tribromophenol	53	10-123	% Recovery

Samples in Batch 9801D31-01 9801D31-02 9801D31-03 9801D31-04

Notes
ND - Not detected.

ICP Spectroscopy Method 6010 Quality Control Report

Matrix: DISSOLVED Units: mg/L Analyst: RS

Date:020398 Time:0122 File Name: 020398C1 Checked:

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

2/4/98

Laboratory Control Sample

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver	ND	2.00	2.03	101	1.60	2.40
Aluminum						
Arsenic	ND	4.00	4.04	101	3.20	4.80
Barium	ND	2.00	2.04	102	1.60	2.40
Beryllium						
Calcium	ND	20.00	20.99	105	16.00	24.00
Cadmium	ND	2.00	1.93	97	1.60	2.40
Cobalt						
Chromium	ND	2.00	2.01	101	1.60	2.40
Copper	ND	2.00	2.03	102	1.60	2.40
Iron	ND	2.00	2.05	102	1.60	2.40
Potassium	ND	20.00	20.96	105	16.00	24.00
Magnesium	ND	20.00	20.39	102	16.00	24.00
Manganese	ND	2.00	2.03	102	1.60	2.40
Sodium	ND	20.00	21.55	108	16.00	24.00
Nickel						
Lead	ND	2.00	1.98	99	1.60	2.40
Antimony						
Selenium	ND	4.00	3.97	99	3.20	4.80
Thallium						
Vanadium						
Zinc	ND	2.00	1.99	100	1.60	2.40

Work Orders in Batch

Work Order	Fractions
98-01-D31	01E-04E
98-01-D40	01E-02E

Matrix Spike - Spike Duplicate Results **Work Order Spiked: 9801D31-01E**

Element	Sample Result	Spike Added	Matrix Spike Result	Matrix Spike Recovery		Matrix Spike Duplicate Result	Matrix Spike Duplicate Recovery		QC Limits % Recovery		Spike RPD %		QC Limits %
Silver	ND	1.0	1.005	100.5		1.036	103.6		80	120	3.0		20.0
Aluminum													
Arsenic	ND	2.0	2.155	107.7		2.216	110.8		80	120	2.8		20.0
Barium	0.0069	1.0	1.029	102.2		1.057	105.0		80	120	2.7		20.0
Beryllium													
Calcium	517	100.0	628.4	111.4		628.8	111.8		80	120	0.4		20.0
Cadmium	ND	1.0	1.014	101.4		1.056	105.6		80	120	4.1		20.0
Cobalt													
Chromium	ND	1.0	0.9958	99.6		1.031	103.1		80	120	3.5		20.0
Copper	ND	1.0	1.045	104.5		1.078	107.8		80	120	3.1		20.0
Iron	ND	1.0	0.9992	99.9		1.03	103.0		80	120	3.0		20.0
Potassium	3.552	10.0	14.41	108.6		14.42	108.7		80	120	0.1		20.0
Magnesium	151.4	10.0	159.5	81.0		164.5	131.0	*	80	120	47.2	**	20.0
Manganese	ND	1.0	1.016	101.6		1.05	105.0		80	120	3.3		20.0
Sodium	152.1	10.0	159.9	78.0	*	163.2	111.0		80	120	34.9	**	20.0
Nickel													
Lead	ND	1.0	1.005	100.5		1.038	103.8		80	120	3.2		20.0
Antimony													
Selenium	ND	2.0	2.167	108.4		2.248	112.4		80	120	3.7		20.0
Thallium													
Vanadium													
Zinc	ND	1.0	1.037	103.7		1.071	107.1		80	120	3.2		20.0

* Values Outside QC Range Due To Matrix Interference.
** Values Outside QC Range.
Elements Bench Spiked:ALL 10X DILUTION on Ca

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/10/98
Analyzed on: 02/10/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Blank Value ug/L	LCS Concentration ug/L	Measured Concentration ug/L	% Recovery	QC Limits Recovery
LCS	ND	2.00	1.93	96.5	80 - 120

-9802520

Samples in batch:

9801D31-01E	9801D31-02E	9801D31-03E	9801D31-04E
9801D40-01E	9801D40-02E	9801E24-01E	9801E24-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/10/98
Analyzed on: 02/10/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Method Blank ug/L	Sample Result ug/L	Spike Added ug/L	Matrix Spike Result ug/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result ug/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801E24-01E	ND	ND	2.00	1.94	97.0	1.85	92.5	4.8	20	75 - 125

-9802520

Samples in batch:

9801D31-01E 9801D31-02E 9801D31-03E 9801D31-04E
9801D40-01E 9801D40-02E 9801E24-01E 9801E24-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/09/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	90	86	95.6	95 - 113

-9802439

Samples in batch:

9801D31-01C 9801D31-02C 9801D31-03C 9801D31-04C
9801D40-01C 9801D40-02C

COMMENTS:

LCS ID#: 94453182-12

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/09/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D31-01C	96	100	4.1	18

-9802438

Samples in batch:

9801D31-01C 9801D31-02C 9801D31-03C 9801D31-04C
9801D40-01C 9801D40-02C

COMMENTS:

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/10/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Blank Value MG/L	LCS Concentration MG/L	Measured Concentration MG/L	% Recovery	QC Limits Recovery
LCS	ND	170.0	168.39	99.1	94 - 106

-9802423

Samples in batch:

9801D31-01C	9801D31-02C	9801D31-03C	9801D31-04C
9801D40-01C	9801D40-02C	9801D55-01E	9802386-01A

COMMENTS:
LCS =SPL ID#94453182-12

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/10/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Blank Value MG/L	LCS Concentration MG/L	Measured Concentration MG/L	% Recovery	QC Limits Recovery
LCS	ND	170.0	168.39	99.1	94 - 106

-9802423

Samples in batch:

9801D31-01C	9801D31-02C	9801D31-03C	9801D31-04C
9801D40-01C	9801D40-02C	9801D55-01E	9802386-01A

COMMENTS:
LCS =SPL ID#94453182-12

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/10/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Method Blank MGL	Sample Result MGL	Spike Added MGL	Matrix Spike Result MGL	Matrix Spike Recovery %	Matrix Spike Duplicate Result MGL	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9802386-01A	ND	69.30	50.0	118.4	98.2	118.76	98.9	0.7	5	92 -109

-9802422

Samples in batch:

9801D31-01C	9801D31-02C	9801D31-03C	9801D31-04C
9801D40-01C	9801D40-02C	9801D55-01E	9802386-01A

COMMENTS:

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	8.48	7.61	89.7	82 - 111

-9802483

Samples in batch:

9801D31-01C	9801D31-02C	9801D31-03C	9801D31-04C
9801D40-01C	9801D40-02C	9801D55-01E	9801D95-01B
9801D95-02B	9801D95-03B	9801D95-04B	9801E24-01B
9801E24-02B	9801E25-01B	9801E25-02B	9801E25-03B
9801E27-01B	9801E27-02B	9801E30-01B	9801E30-02B

COMMENTS:

SPL LCS#: 94453182-12

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	% REC
9801D31-02C	ND	6.51	10.00	15.57	90.6	15.90	93.9	3.6	9.5	84 -120

-9802482

Samples in batch:

9801D31-01C 9801D31-02C 9801D31-03C 9801D31-04C
9801D40-01C 9801D40-02C 9801D55-01E 9801D95-01B
9801D95-02B 9801D95-03B

COMMENTS:

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/02/98
Analyzed on: 01/30/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Total Dissolved Solids
Method 160.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D31-01C	2650	2720	2.6	5

-9802024

Samples in batch:

9801B97-06B 9801D31-01C

COMMENTS:

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/03/98
Analyzed on: 02/02/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Total Dissolved Solids
Method 160.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D31-02C	1180	1260	6.6 *	5

-9802075

Samples in batch:

9801D31-02C 9801D31-03C 9801D31-04C 9801D40-01C
9801D40-02C 9801D95-01B 9801E12-01A 9801E13-01A

COMMENTS:
* - RPD value is outside of QC criteria.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801D01-02C	ND	6.4	5.0	11.04	92.8	11.02	92.4	0.4	12	87 -120

-9802568

Samples in batch:

9801D01-02C	9801D31-01D	9801D31-02D	9801D31-03D
9801D31-04D	9801D40-01D	9801D40-02D	9802452-01M

COMMENTS:

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	2.00	1.89	94.5	92 - 111

-9802569

Samples in batch:

9801D01-02C 9801D31-01D 9801D31-02D 9801D31-03D
9801D31-04D 9801D40-01D 9801D40-02D 9802452-01M

COMMENTS:

LCS = SPL ID#:95535150-2

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No: 9801D31

19628

page 1 of 1

Client Name: CYPRESS ENGINEERING (281)578-3415

Address/Phone: 16300 KATY FREEWAY, STE 210, HOU TX 77094

Client Contact: GEORGE ROBINSON

Project Name: TRANSWESTERN PIPELINE

Project Number:

Project Location: ROSWELL STA. 9

Invoice To: GEORGE ROBINSON

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil SL=sludge O=other:)	bottle (P=plastic A=amber glass G=glass V=vial)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz)	pres. (1=HCl 2=HNO3 3=H2SO4 O=other:)	Number of Containers	VOCS 8260 INCLUDE: 1,2 DICHLOROETHENE (CIS- & TRANS-) & DICHLOROBENZENE (O-M-P-)	TDS, CHLORIDE, SULFATE, TOTAL ALKALINITY	NITRITE & NITRATE AS NITROGEN (353.2)	8270 PAHS INCLUDING MONOMETHYLNAPHTHALENE (ISOMERS 1- & 2-)		METALS 6010 AS, BA, CD, CR, PB, HG, SE, AG, CU, FE, MN, ZN, CA, K, NA, MG			
MW-6	1/26/98	1610		X	W	G	40/1	1/0	3/1	X			X					
MW-6	1/26/98	1610		X	W	P	1	3/0	1/2		X	X			X			
MW-5	1/27/98	1110		X	W	G	40/1	1/0	3/1	X			X					
MW-5	1/27/98	1110		X	W	P	1	3/0	1/2		X	X			X			
MW-11	1/27/98	1225		X	W	G	40/1	1/0	3/1	X			X					
MW-11	1/27/98	1225		X	W	P	1	3/0	1/2		X	X			X			
MW-10	1/27/98	1410		X	W	G	40/1	1/0	3/1	X			X					
MW-10	1/27/98	1410		X	W	P	1	3/0	1/2		X	X			X			

Client/Consultant Remarks: SEE SHANNON FOR LEVEL III QC REPORTING DETAILS

Laboratory remarks: OK

Intact? ☑ Y ☐ N

Temp: 4C

Requested TAT: 24hr ☐ 72hr ☐ 48hr ☐ Standard ☒ Other ☐ ______

Special Reporting Requirements: Fax Results ☐ Raw Data ☐ Standard QC ☐ Level 3 QC ☒ Level 4 QC ☐

Special Detection Limits (specify):

PM review (initial):

1. Relinquished by Sampler: [signature] date 1/28/98 time 0930
2. Received by:
3. Relinquished by: date time
4. Received by:
5. Relinquished by: date time
6. Received by Laboratory: [signature] 1/29/98 1000

☒ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901
☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (318) 237-4775
☐ 459 Hughes Drive, Traverse City, MI 49684 (616) 947-5777
☐ 1511 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 447-6868

SPL Houston Environmental Laboratory

Sample Login Checklist

Date: 1/29/98	Time: 1400

SPL Sample ID: 9801D31

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		4 C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	801513330220	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name: [signature]	Date: 1/29/98

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

February 18, 1998

Mr. George Robinson
CYPRESS ENGINEERING, INC.
16300 Katy Frwy. #210
Houston, TX 77094

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on January 29,1998. The sample(s) was assigned to Certificate of Analysis No.(s) 9801D40 and analyzed for all parameters as listed on the chain of custody.

The samples for the Metals analyses were received unfiltered and unpreserved. This is not compliant with method requirement. Therefore, the samples were filtered and preserved at SPL and analyzed for Dissolved Metals.

Per the client's request, this project was completed as a Level 2 with standard QC and not Level 3 as noted on the chain of custody.

Any data flag or quality control exception associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s).

If you have any questions or comments pertaining to this data report, please do not hesitate to contact me. Please reference the above Certificate of Analysis No. during any inquiries.

Again, SPL is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Southern Petroleum Laboratories

Shannon Tyrell
Client Services Representative

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-01-D40

Approved for Release by:

Shannon Tyrell, Client Services Representative Date 2/18/98

Greg Grandits
Laboratory Director

Idelis Williams
Quality Assurance Officer

The attached analytical data package may not be reproduced except in full without the express written approval of this laboratory.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-3

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 15:35:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: AM Date: 02/02/98 08:00:00	02/02/98		
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/09/98	102	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/10/98	398	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1700	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/02/98	2790	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: KS Date: 02/11/98	1.1	0.1	mg/L

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-3

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 15:35:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.014	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	643	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801D40-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-3

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 15:35:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/10/98 15:22:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	3	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	138	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801D40-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-3

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 15:35:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	212	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 01/30/98	01/30/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-3

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 15:35:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-01

Cypress Engineering, Inc. **SAMPLE ID: MW-3**

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	88	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	88	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 19:01:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-3

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 15:35:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	56	35	114
2-Fluorobiphenyl	50 ug/L	56	43	116
Terphenyl-d14	50 ug/L	92	33	141
Phenol-d5	75 ug/L	12	10	110
2-Fluorophenol	75 ug/L	21	21	110
2,4,6-Tribromophenol	75 ug/L	89	10	123

ANALYZED BY: RY DATE/TIME: 02/07/98 00:14:00
EXTRACTED BY: AM DATE/TIME: 02/02/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-19

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 16:50:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: AM Date: 02/02/98 08:00:00	02/02/98		
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/09/98	97	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/10/98	469	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1900	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/02/98	3330	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: KS Date: 02/11/98	0.9	0.1	mg/L

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-19

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 16:50:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.009	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	620	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-19

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 16:50:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/10/98 15:22:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	5	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	196	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-19

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 16:50:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	285	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 01/30/98	01/30/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-19

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 16:50:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-02

Cypress Engineering, Inc. **SAMPLE ID:** MW-19

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	94	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	86	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 19:27:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-19

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98 16:50:00
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	74	35	114
2-Fluorobiphenyl	50 ug/L	72	43	116
Terphenyl-d14	50 ug/L	94	33	141
Phenol-d5	75 ug/L	13	10	110
2-Fluorophenol	75 ug/L	28	21	110
2,4,6-Tribromophenol	75 ug/L	100	10	123

ANALYZED BY: RY DATE/TIME: 02/07/98 00:46:00
EXTRACTED BY: AM DATE/TIME: 02/02/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/18/98

PROJECT: Transwestern Pipeline
SITE: Roswell STA.9
SAMPLED BY: Provided By SPL
SAMPLE ID: Trip Blank

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/27/98
DATE RECEIVED: 01/29/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D40-03

Cypress Engineering, Inc. **SAMPLE ID:** Trip Blank

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	86	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	90	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 19:54:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

QUALITY CONTROL

DOCUMENTATION

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.: 9801D31 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: MW-6

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	52	104	61-145
Trichloroethene	50	0	53	106	71-120
Benzene	50	0	55	110	76-127
Toluene	50	0	55	110	76-125
Chlorobenzene	50	0	54	108	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	54	108	4	14	61-145
Trichloroethene	50	53	106	0	14	71-120
Benzene	50	54	108	2	11	76-127
Toluene	50	54	108	2	13	76-125
Chlorobenzene	50	54	108	0	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name:
Client SDG: n980130
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: LCS
Level: LOW
Operator: JC
Data Type: MS DATA
SampleType: METHSPIKE
SpikeList File: 8260_water.spk
Quant Type: ISTD
Sublist File: 8260.sub
Method File: /var/chem/n.i/n980130.b/n8260w.m
Misc Info: N030W1//N030CW1

	SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
8	1,1-Dichloroethene	50	50	100.00	61-145
29	Trichloroethene	50	51	102.00	71-120
25	Benzene	50	52	104.00	76-127
37	Toluene	50	52	104.00	76-125
45	Chlorobenzene	50	51	102.00	75-130

	SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 21	1,2-Dichloroethane	50	47	94.00	76-114
$ 36	Toluene-d8	50	50	100.00	88-110
$ 56	Bromofluorobenzene	50	46	92.00	86-115

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980130122720

Reported on: 02/04/98 17:40
Analyzed on: 01/30/98 12:51
Analyst: JC

METHOD 8260/8240 N030B01

Compound	Result	Detection Limit	Units
Dichlorodifluoromethane	ND	10	ug/L
Chloromethane	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Bromomethane	ND	10	ug/L
Chloroethane	ND	10	ug/L
Trichlorofluoromethane	ND	5	ug/L
Acetone	ND	100	ug/L
1,1-Dichloroethene	ND	5	ug/L
Methylene Chloride	ND	5	ug/L
Carbon Disulfide	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Chloroform	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Benzene	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Dibromomethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L

Notes
ND - Not detected.

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8880 INTERCHANGE DRIVE
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SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980130122720

Reported on: 02/04/98 17:40
Analyzed on: 01/30/98 12:51
Analyst: JC

METHOD 8260/8240 N030B01

Compound	Result	Detection Limit	Units
1,3-Dichloropropane	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Bromoform	ND	5	ug/L
Styrene	ND	5	ug/L
Xylene (Total)	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
N-Propylbenzene	ND	5	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
n-Butylbenzene	ND	5	ug/L
1,2-Dibromo-3-Chloropropan	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L

Notes
ND - Not detected.

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SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980130122720

Reported on: 02/04/98 17:40
Analyzed on: 01/30/98 12:51
Analyst: JC

METHOD 8260/8240 N030B01

Surrogate	Result	QC Criteria	Units
1,2-Dichloroethane-d4	96	76-114	% Recovery
Toluene-d8	100	88-110	% Recovery
Bromofluorobenzene	92	86-115	% Recovery

Samples in Batch 9801D40-01 9801D40-02 9801D40-03

Notes
ND - Not detected.

WATER SEMIVOLATILE MATRIX/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.:980202 SAS No.: SDG No.:

Matrix Spike - EPA Sample No. :SBLK

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	LIMITS
Phenol	75	0	19	25	12-110
2-Chlorophenol	75	0	54	72	27-123
1,4-Dichlorobenzenzene	50	0	41	82	36- 97
N-Nitroso-di-n-pro.(1)	50	0	42	84	41-116
1,2,4-Trichlorobenzene	50	0	47	94	39- 98
4-Chloro-3-methylphenol	75	0	67	89	23- 97
Acenaphthene	50	0	46	92	46-118
4-Nitrophenol	75	0	23	31	30-150
2,4-Dinitrotoluene	50	0	45	90	50-150
Pentachlorophenol	75	0	78	104	9-125
Pyrene	50	0	49	98	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.#	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75	22	29	15	42	12-110
2-Chlorophenol	75	60	80	11	40	27-123
1,4-Dichlorobenzenene	50	45	90	9	28	36- 97
N-Nitroso-di-n-pro.(1)	50	48	96	13	38	41-116
1,2,4-Trichlorobenzene	50	48	96	2	28	39- 98
4-Chloro-3-methylphenol	75	49	92	3	42	23- 97
Acenaphthene	50	50	100	8	31	46-118
4-Nitrophenol	75	25	33	6	50	30-150
2,4-Dinitrotoluene	50	50	100	11	50	50-150
Pentachlorophenol	75	84	112	7	50	9-125
Pyrene	50	51	102	4	31	26-127

(1) N-Nitroso-di-n-propylamine

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

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SPL Blank QC Report

Matrix: Aqueous
Sample ID: BLANK
Batch: E980202042258

Reported on: 02/11/98 10:34
Analyzed on: 02/04/98 03:05
Analyst: RY

METHOD 8270 J033B03

Compound	Result	Detection Limit	Units
Naphthalene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Acenaphthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Pyrene	ND	5	ug/L
Benzo[a]anthracene	ND	5	ug/L
Chrysene	ND	5	ug/L
Benzo[b]fluoranthene	ND	5	ug/L
Benzo[k]fluoranthene	ND	5	ug/L
Benzo[a]pyrene	ND	5	ug/L
Indeno[1,2,3-cd]pyrene	ND	5	ug/L
Dibenz[a,h]anthracene	ND	5	ug/L
Benzo[g,h,i]perylene	ND	5	ug/L

Surrogate	Result	QC Criteria	Units
Nitrobenzene-d5	68	35-114	% Recovery
2-Fluorobiphenyl	76	43-116	% Recovery
Terphenyl-d14	110	33-141	% Recovery
Phenol-d5	19	10-110	% Recovery
2-Fluorophenol	29	21-110	% Recovery
2,4,6-Tribromophenol	53	10-123	% Recovery

Samples in Batch 9801D40-01 9801D40-02

Notes

ND - Not detected.

ICP Spectroscopy Method 6010 Quality Control Report

Matrix: DISSOLVED Units: mg/L Analyst: RS

Date:020398 Time:0122 File Name: 020398C1 Checked:

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2/4/98

Laboratory Control Sample

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver	ND	2.00	2.03	101	1.60	2.40
Aluminum						
Arsenic	ND	4.00	4.04	101	3.20	4.80
Barium	ND	2.00	2.04	102	1.60	2.40
Beryllium						
Calcium	ND	20.00	20.99	105	16.00	24.00
Cadmium	ND	2.00	1.93	97	1.60	2.40
Cobalt						
Chromium	ND	2.00	2.01	101	1.60	2.40
Copper	ND	2.00	2.03	102	1.60	2.40
Iron	ND	2.00	2.05	102	1.60	2.40
Potassium	ND	20.00	20.96	105	16.00	24.00
Magnesium	ND	20.00	20.39	102	16.00	24.00
Manganese	ND	2.00	2.03	102	1.60	2.40
Sodium	ND	20.00	21.55	108	16.00	24.00
Nickel						
Lead	ND	2.00	1.98	99	1.60	2.40
Antimony						
Selenium	ND	4.00	3.97	99	3.20	4.80
Thallium						
Vanadium						
Zinc	ND	2.00	1.99	100	1.60	2.40

Work Orders in Batch

Work Order	Fractions
98-01-D31	01E-04E
98-01-D40	01E-02E

Matrix Spike - Spike Duplicate Results **Work Order Spiked: 9801D31-01E**

Element	Sample Result	Spike Added	Matrix Spike Result	Matrix Spike Recovery		Matrix Spike Duplicate Result	Matrix Spike Duplicate Recovery		QC Limits % Recovery		Spike RPD %		QC Limits %
Silver	ND	1.0	1.005	100.5		1.036	103.6		80	120	3.0		20.0
Aluminum													
Arsenic	ND	2.0	2.155	107.7		2.216	110.8		80	120	2.8		20.0
Barium	0.0069	1.0	1.029	102.2		1.057	105.0		80	120	2.7		20.0
Beryllium													
Calcium	517	100.0	628.4	111.4		628.8	111.8		80	120	0.4		20.0
Cadmium	ND	1.0	1.014	101.4		1.056	105.6		80	120	4.1		20.0
Cobalt													
Chromium	ND	1.0	0.9958	99.6		1.031	103.1		80	120	3.5		20.0
Copper	ND	1.0	1.045	104.5		1.078	107.8		80	120	3.1		20.0
Iron	ND	1.0	0.9992	99.9		1.03	103.0		80	120	3.0		20.0
Potassium	3.552	10.0	14.41	108.6		14.42	108.7		80	120	0.1		20.0
Magnesium	151.4	10.0	159.5	81.0		164.5	131.0	*	80	120	47.2	**	20.0
Manganese	ND	1.0	1.016	101.6		1.05	105.0		80	120	3.3		20.0
Sodium	152.1	10.0	159.9	78.0	*	163.2	111.0		80	120	34.9	**	20.0
Nickel													
Lead	ND	1.0	1.005	100.5		1.038	103.8		80	120	3.2		20.0
Antimony													
Selenium	ND	2.0	2.167	108.4		2.248	112.4		80	120	3.7		20.0
Thallium													
Vanadium													
Zinc	ND	1.0	1.037	103.7		1.071	107.1		80	120	3.2		20.0

* Values Outside QC Range Due To Matrix Interference.
** Values Outside QC Range.
Elements Bench Spiked:ALL 10X DILUTION on Ca

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/10/98
Analyzed on: 02/10/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Blank Value ug/L	LCS Concentration ug/L	Measured Concentration ug/L	% Recovery	QC Limits Recovery
LCS	ND	2.00	1.93	96.5	80 - 120

-9802520

Samples in batch:

9801D31-01E 9801D31-02E 9801D31-03E 9801D31-04E
9801D40-01E 9801D40-02E 9801E24-01E 9801E24-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/10/98
Analyzed on: 02/10/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Method Blank ug/L	Sample Result ug/L	Spike Added ug/L	Matrix Spike Result ug/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result ug/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801E24-01E	ND	ND	2.00	1.94	97.0	1.85	92.5	4.8	20	75 -125

-9802520

Samples in batch:

9801D31-01E 9801D31-02E 9801D31-03E 9801D31-04E
9801D40-01E 9801D40-02E 9801E24-01E 9801E24-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6

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PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/09/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	90	86	95.6	95 - 113

-9802439

Samples in batch:

9801D31-01C 9801D31-02C 9801D31-03C 9801D31-04C
9801D40-01C 9801D40-02C

COMMENTS:

LCS ID#: 94453182-12

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/09/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D31-01C	96	100	4.1	18

-9802438

Samples in batch:

9801D31-01C 9801D31-02C 9801D31-03C 9801D31-04C
9801D40-01C 9801D40-02C

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/10/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Blank Value MG/L	LCS Concentration MG/L	Measured Concentration MG/L	% Recovery	QC Limits Recovery
LCS	ND	170.0	168.39	99.1	94 - 106

-9802423

Samples in batch:

9801D31-01C	9801D31-02C	9801D31-03C	9801D31-04C
9801D40-01C	9801D40-02C	9801D55-01E	9802386-01A

COMMENTS:
LCS =SPL ID#94453182-12

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/10/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Method Blank MGL	Sample Result MGL	Spike Added MGL	Matrix Spike Result MGL	Matrix Spike Recovery %	Matrix Spike Duplicate Result MGL	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9802386-01A	ND	69.30	50.0	118.4	98.2	118.76	98.9	0.7	5	92 -109

-9802422

Samples in batch:

9801D31-01C	9801D31-02C	9801D31-03C	9801D31-04C
9801D40-01C	9801D40-02C	9801D55-01E	9802386-01A

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	8.48	7.61	89.7	82 - 111

-9802483

Samples in batch:

9801D31-01C	9801D31-02C	9801D31-03C	9801D31-04C
9801D40-01C	9801D40-02C	9801D55-01E	9801D95-01B
9801D95-02B	9801D95-03B	9801D95-04B	9801E24-01B
9801E24-02B	9801E25-01B	9801E25-02B	9801E25-03B
9801E27-01B	9801E27-02B	9801E30-01B	9801E30-02B

COMMENTS:

SPL LCS#: 94453182-12

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801D31-02C	ND	6.51	10.00	15.57	90.6	15.90	93.9	3.6	9.5	84 -120

-9802482

Samples in batch:

9801D31-01C 9801D31-02C 9801D31-03C 9801D31-04C
9801D40-01C 9801D40-02C 9801D55-01E 9801D95-01B
9801D95-02B 9801D95-03B

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/03/98
Analyzed on: 02/02/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Total Dissolved Solids
Method 160.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D31-02C	1180	1260	6.6 *	5

-9802075

Samples in batch:

9801D31-02C	9801D31-03C	9801D31-04C	9801D40-01C
9801D40-02C	9801D95-01B	9801E12-01A	9801E13-01A

COMMENTS:
* - RPD value is outside of QC criteria.

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	2.00	1.89	94.5	92 - 111

-9802569

Samples in batch:

9801D01-02C 9801D31-01D 9801D31-02D 9801D31-03D
9801D40-01D 9801D40-02D

COMMENTS:

LCS = SPL ID#:95535150-2

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	% REC
9801D01-02C	ND	6.4	5.0	11.04	92.8	11.02	92.4	0.4	12	87 -120

-9802568

Samples in batch:

9801D01-02C 9801D31-01D 9801D31-02D 9801D31-03D
9801D40-01D 9801D40-02D

COMMENTS:

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No: 9801D40

19639

page 1 of 1

Client Name: CYPRESS ENGINEERING (281) 578-3115

Address/Phone: 16300 Katy Freeway, Ste 210 Houston, TX 77094

Client Contact: George Robinson

Project Name: Transwestern Pipeline

Project Number:

Project Location: Roswell Sta. 9

Invoice To: George Robinson

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil SL=sludge O=other:)	bottle (P=plastic A=amber glass G=glass V=vial)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz)	pres. (1=HCl 2=HNO3 3=H2SO4 O=other:)	Number of Containers	Requested Analysis: VOA's 8260 (includes 12 dichloroethene (cis- & trans-) & dichlorobenzene (o-, m-, p-))	TDS, Chloride, Sulfate	Total Alkalinity	Nitrite & Nitrate as Nitrogen (353.2)	8270 PAH's (including monomethylnaphthalene isomers 1- & 2-)		Metals 7420/6010 As, Ba, Cd, Cr, Pb, Hg	Se, Ag, Cu, Fe, Mn, Zn, Ca, K, Na, Mg		
MW-3	1/27/98	1535		X	W	G	40/1	1/0	3/1	X				X					
MW-3	1/27/98	1535		X	W	P	1	3/0	1/2		X	X				X			
MW-19	1/27/98	1650		X	W	G	40/1	1/0	3/1	X				X					
MW-19	1/27/98	1650		X	W	P	1	3/0	1/2		X	X				X			
TRIP BLANK					W	G	40	1	2	X									

Client/Consultant Remarks: See Shannon for Level III QC Reporting Details

Laboratory remarks: PH 2 T

Intact? ☑ Y ☐ N

Temp: 4C

Requested TAT

24hr ☐ 72hr ☐

48hr ☐ Standard ☒

Other ☐ _____

Special Reporting Requirements: Fax Results ☐ Raw Data ☐ Standard QC ☐ Level 3 QC ☒ Level 4 QC ☐

Special Detection Limits (specify):

PM review (initial):

	date	time
1. Relinquished by Sampler:	1/28/98	0930
2. Received by:		
3. Relinquished by:	date	time
4. Received by:		
5. Relinquished by:	date	time
6. Received by Laboratory:	1/29/98	1000

☒ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901

☐ 459 Hughes Drive, Traverse City, MI 49684 (616) 947-5777

☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (318) 237-4775

☐ 1511 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 447-6868

SPL Houston Environmental Laboratory

Sample Login Checklist

Date: 11/29/98	Time: 1430

SPL Sample ID: 9801D40

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		4 C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	801573330231	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name: Arlon Stutz	Date: 11/29/98

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

February 18, 1998

Mr. George Robinson
CYPRESS ENGINEERING, INC.
16300 Katy Frwy. #210
Houston, TX 77094

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on January 30, 1998. The sample(s) was assigned to Certificate of Analysis No.(s) 9801D95 and analyzed for all parameters as listed on the chain of custody.

The samples for the Metals analyses were received unfiltered and unpreserved. This is not compliant with method requirement. Therefore, the samples were filtered and preserved at SPL and analyzed for Dissolved Metals.

Per the client's request, this project was completed as a Level 2 with standard QC and not Level 3 as noted on the chain of custody.

Any data flag or quality control exception associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s).

If you have any questions or comments pertaining to this data report, please do not hesitate to contact me. Please reference the above Certificate of Analysis No. during any inquiries.

Again, SPL is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Southern Petroleum Laboratories

Shannon Tyrell
Client Services Representative

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-01-D95

Approved for Release by:

Shannon Tyrell, Client Services Representative 2/18/98
Date

Greg Grandits
Laboratory Director

Idelis Williams
Quality Assurance Officer

The attached analytical data package may not be reproduced except in full without the express written approval of this laboratory.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-23D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 11:30:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	88	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	354	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1800	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/02/98	3180	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	ND	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: AM Date: 02/04/98 09:00:00	02/04/98		

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801D95-01

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Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-23D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 11:30:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.020	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	612	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
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Certificate of Analysis No. H9-9801D95-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-23D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 11:30:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/15/98 18:54:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	7	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	183	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.141	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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Cypress Engineering, Inc.
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Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-23D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 11:30:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	246	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
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02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-23D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 11:30:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics
(continued on next page)

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Certificate of Analysis No. H9-9801D95-01

Cypress Engineering, Inc. **SAMPLE ID:** MW-23D

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	94	76	114
Toluene-d8	50 ug/L	104	88	110
4-Bromofluorobenzene	50 ug/L	88	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 20:47:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801D95-01

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16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-23D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 11:30:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	80	35	114
2-Fluorobiphenyl	50 ug/L	92	43	116
Terphenyl-d14	50 ug/L	90	33	141
Phenol-d5	75 ug/L	21	10	110
2-Fluorophenol	75 ug/L	32	21	110
2,4,6-Tribromophenol	75 ug/L	108	10	123

ANALYZED BY: YL DATE/TIME: 02/06/98 17:19:00
EXTRACTED BY: AM DATE/TIME: 02/04/98 09:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-18

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 13:05:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	55	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	424	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1900	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/03/98	3100	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	0.8	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: AM Date: 02/04/98 09:00:00	02/04/98		

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801D95-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-18

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 13:05:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.017	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	641	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.006	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-18

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 13:05:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/15/98 18:54:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	7	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	225	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
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ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-18

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 13:05:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	166	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
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Certificate of Analysis No. H9-9801D95-02

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16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-18

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 13:05:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics
(continued on next page)

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Certificate of Analysis No. H9-9801D95-02

Cypress Engineering, Inc. **SAMPLE ID:** MW-18

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	92	76	114
Toluene-d8	50 ug/L	98	88	110
4-Bromofluorobenzene	50 ug/L	88	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 21:13:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-18

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 13:05:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	94	35	114
2-Fluorobiphenyl	50 ug/L	102	43	116
Terphenyl-d14	50 ug/L	98	33	141
Phenol-d5	75 ug/L	23	10	110
2-Fluorophenol	75 ug/L	37	21	110
2,4,6-Tribromophenol	75 ug/L	109	10	123

ANALYZED BY: YL DATE/TIME: 02/06/98 17:52:00
EXTRACTED BY: AM DATE/TIME: 02/04/98 09:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-17

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 14:35:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	64	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	444	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1700	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/03/98	2880	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	0.6	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: AM Date: 02/04/98 09:00:00	02/04/98		

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-17

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 14:35:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	629	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-17

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 14:35:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/15/98 18:54:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	3	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	168	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.018	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-17

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 14:35:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	249	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-17

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 14:35:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-03

Cypress Engineering, Inc. **SAMPLE ID:** MW-17

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	90	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	88	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 21:39:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-17

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 14:35:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	68	35	114
2-Fluorobiphenyl	50 ug/L	74	43	116
Terphenyl-d14	50 ug/L	96	33	141
Phenol-d5	75 ug/L	16	10	110
2-Fluorophenol	75 ug/L	27	21	110
2,4,6-Tribromophenol	75 ug/L	91	10	123

ANALYZED BY: YL DATE/TIME: 02/06/98 18:25:00
EXTRACTED BY: AM DATE/TIME: 02/04/98 09:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-04

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-15

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 15:35:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	82	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	453	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1800	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/03/98	2970	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	0.4	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: AM Date: 02/04/98 09:00:00	02/04/98		

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-04

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-15

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 15:35:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.010	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	638	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-04

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-15

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 15:35:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/15/98 18:54:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	4	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	174	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.015	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
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PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-04

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-15

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 15:35:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	259	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.04	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-04

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-15

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 15:35:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-04

Cypress Engineering, Inc. **SAMPLE ID:** MW-15

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	94	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	88	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 22:32:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-04

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-15

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98 15:35:00
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	80	35	114
2-Fluorobiphenyl	50 ug/L	88	43	116
Terphenyl-d14	50 ug/L	100	33	141
Phenol-d5	75 ug/L	20	10	110
2-Fluorophenol	75 ug/L	33	21	110
2,4,6-Tribromophenol	75 ug/L	104	10	123

ANALYZED BY: YL DATE/TIME: 02/06/98 18:58:00
EXTRACTED BY: AM DATE/TIME: 02/04/98 09:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-05

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Station 9
SAMPLED BY: Provided By SPL
SAMPLE ID: Trip Blank

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/28/98
DATE RECEIVED: 01/30/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801D95-05

Cypress Engineering, Inc. **SAMPLE ID:** Trip Blank

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	98	76	114
Toluene-d8	50 ug/L	100	88	110
4-Bromofluorobenzene	50 ug/L	88	86	115

ANALYZED BY: JC DATE/TIME: 01/30/98 22:58:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

QUALITY CONTROL

DOCUMENTATION

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.: 9801D31 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: MW-6

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	52	104	61-145
Trichloroethene	50	0	53	106	71-120
Benzene	50	0	55	110	76-127
Toluene	50	0	55	110	76-125
Chlorobenzene	50	0	54	108	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	54	108	4	14	61-145
Trichloroethene	50	53	106	0	14	71-120
Benzene	50	54	108	2	11	76-127
Toluene	50	54	108	2	13	76-125
Chlorobenzene	50	54	108	0	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name:
Client SDG: n980130
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: LCS
Level: LOW
Operator: JC
Data Type: MS DATA
SampleType: METHSPIKE
SpikeList File: 8260_water.spk
Quant Type: ISTD
Sublist File: 8260.sub
Method File: /var/chem/n.i/n980130.b/n8260w.m
Misc Info: N030W1//N030CW1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
8 1,1-Dichloroethene	50	50	100.00	61-145
29 Trichloroethene	50	51	102.00	71-120
25 Benzene	50	52	104.00	76-127
37 Toluene	50	52	104.00	76-125
45 Chlorobenzene	50	51	102.00	75-130

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 21 1,2-Dichloroethane	50	47	94.00	76-114
$ 36 Toluene-d8	50	50	100.00	88-110
$ 56 Bromofluorobenzene	50	46	92.00	86-115

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980130122720

Reported on: 02/05/98 10:10
Analyzed on: 01/30/98 12:51
Analyst: JC

METHOD 8260/8240 N030B01

Compound	Result	Detection Limit	Units
Dichlorodifluoromethane	ND	10	ug/L
Chloromethane	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Bromomethane	ND	10	ug/L
Chloroethane	ND	10	ug/L
Trichlorofluoromethane	ND	5	ug/L
Acetone	ND	100	ug/L
1,1-Dichloroethene	ND	5	ug/L
Methylene Chloride	ND	5	ug/L
Carbon Disulfide	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Chloroform	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Benzene	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Dibromomethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980130122720

Reported on: 02/05/98 10:10
Analyzed on: 01/30/98 12:51
Analyst: JC

METHOD 8260/8240 N030B01

Compound	Result	Detection Limit	Units
1,3-Dichloropropane	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Bromoform	ND	5	ug/L
Styrene	ND	5	ug/L
Xylene (Total)	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
N-Propylbenzene	ND	5	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
n-Butylbenzene	ND	5	ug/L
1,2-Dibromo-3-Chloropropan	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980130122720

Reported on: 02/05/98 10:10
Analyzed on: 01/30/98 12:51
Analyst: JC

METHOD 8260/8240 N030B01

Surrogate	Result	QC Criteria	Units
1,2-Dichloroethane-d4	96	76-114	% Recovery
Toluene-d8	100	88-110	% Recovery
Bromofluorobenzene	92	86-115	% Recovery

Samples in Batch 9801D95-01 9801D95-02 9801D95-03 9801D95-04 9801D95-05

Notes
ND - Not detected.

WATER SEMIVOLATILE MATRIX/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.:980204 SAS No.: SDG No.:

Matrix Spike - EPA Sample No. :SBLK

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	LIMITS
Phenol	75	0	19	25	12-110
2-Chlorophenol	75	0	54	72	27-123
1,4-Dichlorobenzenzene	50	0	41	82	36- 97
N-Nitroso-di-n-pro.(1)	50	0	42	84	41-116
1,2,4-Trichlorobenzene	50	0	47	94	39- 98
4-Chloro-3-methylphenol	75	0	67	89	23- 97
Acenaphthene	50	0	46	92	46-118
4-Nitrophenol	75	0	23	31	30-150
2,4-Dinitrotoluene	50	0	45	90	50-150
Pentachlorophenol	75	0	78	104	9-125
Pyrene	50	0	49	98	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.#	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75	22	29	15	42	12-110
2-Chlorophenol	75	60	80	11	40	27-123
1,4-Dichlorobenzenene	50	45	90	9	28	36- 97
N-Nitroso-di-n-pro.(1)	50	48	96	13	38	41-116
1,2,4-Trichlorobenzene	50	48	96	2	28	39- 98
4-Chloro-3-methylphenol	75	49	92	3	42	23- 97
Acenaphthene	50	50	100	8	31	46-118
4-Nitrophenol	75	25	33	6	50	30-150
2,4-Dinitrotoluene	50	50	100	11	50	50-150
Pentachlorophenol	75	84	112	7	50	9-125
Pyrene	50	51	102	4	31	26-127

(1) N-Nitroso-di-n-propylamine

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

WATER SEMIVOLATILE MATRIX/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.:980204 SAS No.: SDG No.:

Matrix Spike - EPA Sample No. :SBLK

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	LIMITS
Phenol	75	0	19	25	12-110
2-Chlorophenol	75	0	54	72	27-123
1,4-Dichlorobenzenzene	50	0	41	82	36- 97
N-Nitroso-di-n-pro.(1)	50	0	42	84	41-116
1,2,4-Trichlorobenzene	50	0	47	94	39- 98
4-Chloro-3-methylphenol	75	0	67	89	23- 97
Acenaphthene	50	0	46	92	46-118
4-Nitrophenol	75	0	23	31	30-150
2,4-Dinitrotoluene	50	0	45	90	50-150
Pentachlorophenol	75	0	78	104	9-125
Pyrene	50	0	49	98	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.#	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75	22	29	15	42	12-110
2-Chlorophenol	75	60	80	11	40	27-123
1,4-Dichlorobenzenene	50	45	90	9	28	36- 97
N-Nitroso-di-n-pro.(1)	50	48	96	13	38	41-116
1,2,4-Trichlorobenzene	50	48	96	2	28	39- 98
4-Chloro-3-methylphenol	75	49	92	3	42	23- 97
Acenaphthene	50	50	100	8	31	46-118
4-Nitrophenol	75	25	33	6	50	30-150
2,4-Dinitrotoluene	50	50	100	11	50	50-150
Pentachlorophenol	75	84	112	7	50	9-125
Pyrene	50	51	102	4	31	26-127

(1) N-Nitroso-di-n-propylamine

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: BLANK
Batch: E980204042301

Reported on: 02/12/98 15:41
Analyzed on: 02/06/98 15:40
Analyst: YL

METHOD 8270 H035B03

Compound	Result	Detection Limit	Units
Naphthalene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Acenaphthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Pyrene	ND	5	ug/L
Benzo[a]anthracene	ND	5	ug/L
Chrysene	ND	5	ug/L
Benzo[b]fluoranthene	ND	5	ug/L
Benzo[k]fluoranthene	ND	5	ug/L
Benzo[a]pyrene	ND	5	ug/L
Indeno[1,2,3-cd]pyrene	ND	5	ug/L
Dibenz[a,h]anthracene	ND	5	ug/L
Benzo[g,h,i]perylene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

Surrogate	Result	QC Criteria	Units
Nitrobenzene-d5	96	35-114	% Recovery
2-Fluorobiphenyl	102	43-116	% Recovery
Terphenyl-d14	106	33-141	% Recovery
2-Fluorophenol	44	21-110	% Recovery
Phenol-d5	28	10-110	% Recovery
2,4,6-Tribromophenol	108	10-123	% Recovery

Samples in Batch 9801D95-01 9801D95-02 9801D95-03 9801D95-04

Notes
ND - Not detected.

ICP Spectroscopy Method 6010 Quality Control Report

Matrix: DISSOLVED Units: mg/L Analyst: RS

Date:020398 Time:0122 File Name: 020398C2 Checked:

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

2/4/95

Laboratory Control Sample

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver	ND	2.00	2.08	104	1.60	2.40
Aluminum						
Arsenic	ND	4.00	4.13	103	3.20	4.80
Barium	ND	2.00	2.07	104	1.60	2.40
Beryllium						
Calcium	ND	20.00	21.43	107	16.00	24.00
Cadmium	ND	2.00	1.98	99	1.60	2.40
Cobalt						
Chromium	ND	2.00	2.06	103	1.60	2.40
Copper	ND	2.00	2.08	104	1.60	2.40
Iron	ND	2.00	2.10	105	1.60	2.40
Potassium	ND	20.00	20.89	104	16.00	24.00
Magnesium	ND	20.00	20.88	104	16.00	24.00
Manganese	ND	2.00	2.09	104	1.60	2.40
Sodium	ND	20.00	21.81	109	16.00	24.00
Nickel						
Lead	ND	2.00	2.02	101	1.60	2.40
Antimony						
Selenium	ND	4.00	4.10	103	3.20	4.80
Thallium						
Vanadium						
Zinc	ND	2.00	2.05	102	1.60	2.40

Work Orders in Batch

Work Order	Fractions
98-01-D95	01E-04E
98-01-E24	01E-02E
98-01-E25	01E-03E
98-01-E27	01E-03E
98-01-E30	01E-02E
98-01-634	04E

Matrix Spike - Spike Duplicate Results **Work Order Spiked: 9801D95-01E**

Element	Sample Result	Spike Added	Matrix Spike Result	Matrix Spike Recovery		Matrix Spike Duplicate Result	Matrix Spike Duplicate Recovery		QC Limits % Recovery		Spike RPD %		QC Limits %
Silver	ND	1.0	1.042	104.2		1.059	105.9		80	120	1.6		20.0
Aluminum													
Arsenic	ND	2.0	2.211	110.6		2.316	115.8		80	120	4.6		20.0
Barium	0.0204	1.0	1.046	102.6		1.06	104.0		80	120	1.4		20.0
Beryllium													
Calcium	611.9	100.0	721	109.1		724.1	112.2		80	120	2.8		20.0
Cadmium	ND	1.0	1.051	105.1		1.077	107.7		80	120	2.4		20.0
Cobalt													
Chromium	ND	1.0	1.02	102.0		1.052	105.2		80	120	3.1		20.0
Copper	ND	1.0	1.059	105.9		1.076	107.6		80	120	1.6		20.0
Iron	ND	1.0	1.022	102.2		1.05	105.0		80	120	2.7		20.0
Potassium	6.544	10.0	16.14	96.0		16.66	101.2		80	120	5.3		20.0
Magnesium	183	10.0	188.7	57.0	*	193.2	102.0		80	120	56.6	**	20.0
Manganese	0.141	1.0	1.182	104.1		1.215	107.4		80	120	3.1		20.0
Sodium	245.8	10.0	251	52.0	*	250.8	50.0	*	80	120	3.9		20.0
Nickel													
Lead	ND	1.0	1.036	103.6		1.058	105.8		80	120	2.1		20.0
Antimony													
Selenium	ND	2.0	2.299	115.0		2.385	119.2		80	120	3.7		20.0
Thallium													
Vanadium													
Zinc	ND	1.0	1.069	106.9		1.098	109.8		80	120	2.7		20.0

* Values Outside QC Range Due To Matrix Interference.
** Values Outside QC Range.
Elements Bench Spiked:ALL 10X DILUTION on Ca

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/15/98
Analyzed on: 02/15/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Blank Value ug/L	LCS Concentration ug/L	Measured Concentration ug/L	% Recovery	QC Limits Recovery
LCS	ND	2.00	1.90	95.0	80 - 120

-9802685

Samples in batch:

9801D95-01E	9801D95-02E	9801D95-03E	9801D95-04E
9801E25-01E	9801E25-02E	9801E25-03E	9801E27-01E
9801E27-02E	9801E27-03E	9801E30-01E	9801E30-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6
* VALUES OUTSIDE QC RANGE DUE TO MATRIX INTERFERENCE

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HOUSTON, TEXAS 77054
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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/15/98
Analyzed on: 02/15/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Method Blank ug/L	Sample Result ug/L	Spike Added ug/L	Matrix Spike Result ug/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result ug/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801E30-02E	ND	ND	2.00	1.25	62.5*	1.33	66.5*	6.2	20	75 -125

-9802685

Samples in batch:

9801D95-01E	9801D95-02E	9801D95-03E	9801D95-04E
9801E25-01E	9801E25-02E	9801E25-03E	9801E27-01E
9801E27-02E	9801E27-03E	9801E30-01E	9801E30-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6
* VALUES OUTSIDE QC RANGE DUE TO MATRIX INTERFERENCE

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HOUSTON, TEXAS 77054
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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	90	87	96.7	95 - 113

-9802581

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B	9801E27-02B	9801E27-03B
9801E30-01B	9801E30-02B		

COMMENTS:

SPL LCS ID #94453182-12

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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D95-01B	88	86	2.3	18

-9802499

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B		

COMMENTS:

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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Blank Value MG/L	LCS Concentration MG/L	Measured Concentration MG/L	% Recovery	QC Limits Recovery
LCS	ND	170.0	168.39	99.1	94 - 106

-9802509

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B	9801E27-02B	9801E27-03B
9801E30-01B	9801E30-02B	9802369-02A	9802413-01D
9802413-02D	9802413-03D	9802414-01D	9802414-02D

COMMENTS:
LCS=SPL ID#94453182-12

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PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Method Blank MG/L	Sample Result MG/L	Spike Added MG/L	Matrix Spike Result MG/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result MG/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801D95-01B	ND	70.9	50.0	119.11	96.4	119.64	97.5	1.1	5	92 -109

-9802507

Samples in batch:

9801D95-01B 9801D95-02B 9801D95-03B 9801D95-04B
9801E24-01B 9801E24-02B 9801E25-01B 9801E25-02B
9801E25-03B 9801E27-01B

COMMENTS:

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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	8.48	7.61	89.7	82 - 111

-9802483

Samples in batch:

9801D31-01C	9801D31-02C	9801D31-03C	9801D31-04C
9801D40-01C	9801D40-02C	9801D55-01E	9801D95-01B
9801D95-02B	9801D95-03B	9801D95-04B	9801E24-01B
9801E24-02B	9801E25-01B	9801E25-02B	9801E25-03B
9801E27-01B	9801E27-02B	9801E30-01B	9801E30-02B

COMMENTS:

SPL LCS#: 94453182-12

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PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	% REC
9801D31-02C	ND	6.51	10.00	15.57	90.6	15.90	93.9	3.6	9.5	84 -120

-9802482

Samples in batch:

9801D31-01C 9801D31-02C 9801D31-03C 9801D31-04C
9801D40-01C 9801D40-02C 9801D55-01E 9801D95-01B
9801D95-02B 9801D95-03B

COMMENTS:

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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801E30-01B	ND	6.13	10.00	14.86	87.3	14.92	87.9	0.7	9.5	84 -120

-9802484

Samples in batch:

9801D95-04B 9801E24-01B 9801E24-02B 9801E25-01B
9801E25-02B 9801E25-03B 9801E27-01B 9801E27-02B
9801E30-01B 9801E30-02B

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/03/98
Analyzed on: 02/02/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Total Dissolved Solids
Method 160.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D31-02C	1180	1260	6.6	5

-9802075

Samples in batch:

9801D31-02C 9801D31-03C 9801D31-04C 9801D40-01C
9801D40-02C 9801D95-01B 9801E12-01A 9801E13-01A

COMMENTS:
* - RPD value is outside of QC criteria.

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/04/98
Analyzed on: 02/03/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Total Dissolved Solids
Method 160.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D55-01F	121	119	1.7	5

-9802156

Samples in batch:

9801D55-01F	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E27-01B	9801E27-02B
9801E27-03B	9802051-03A		

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/13/98
Analyzed on: 02/13/98
Analyst: DAM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	1.00	1.06	106	92 - 111

-9802632

Samples in batch:

9801C50-01K	9801D95-01C	9801D95-02C	9801D95-03C
9801D95-04C	9801E24-01C	9801E24-02C	9801E25-01C
9801E25-02C	9801E25-03C	9801E27-01C	9801E27-02C
9801E27-03C	9801E30-01C	9801E30-02C	

COMMENTS:

LCS = SPL ID#:94435156-13

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PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/13/98
Analyzed on: 02/13/98
Analyst: DAM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801D95-01C	ND	ND	2.50	2.74	110	2.72	109	0.9	12	87 -120

-9802629

Samples in batch:

9801D95-01C 9801D95-02C 9801D95-03C 9801D95-04C
9801E24-01C 9801E24-02C 9801E25-01C 9801E25-02C
9801E25-03C

COMMENTS:

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

SPL

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No: 9801D95

19629

page 1 of 1

Client Name: CYPRESS ENGINEERING

Address/Phone: 16300 KATY FREEWAY, SUITE 210, HOUSTON TX 7709[illegible] (281) 578-3115

Client Contact: GEORGE ROBINSON

Project Name: TRANSWESTERN PIPELINE

Project Number:

Project Location: ROSWELL STATION 9

Invoice To: GEORGE ROBINSON

Requested Analysis

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil SL=sludge O=other:)	bottle (P=plastic A=amber glass G=glass V=vial)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz)	pres. (1=HCl 2=HNO3 3=H2SO4 O=other:)	Number of Containers	VOC'S 8260 INCLUDING 1,2 DICHLOROETHENE (CIS- & TRANS-) DICHLOROBENZENE (O-, M-, P-)	TDS, CHLORIDE, SULFATE, TOTAL ALKALINITY	NITRITE & NITRATE AS NITROGEN (353.2)	PAH'S (8270) INCLUDING MONOMETHYLNAPHTHALENE (1- & 2- ISOMERS)		METALS (7420/6010) AS, BA, Cd, Cr, Pb, Hg, Se, Ag, Cu, Fe, Mn, Zn, Ca, K, Na, Mg			
MW-23D	1/28/98	1130		X	W	G	40/1	1/0	3/1	X			X					
MW-23D	1/28/98	1130		X	W	P	1	3/0	1/2		X	X			X			
MW-18	1/28/98	1305		X	W	G	40/1	1/0	3/1	X			X					
MW-18	1/28/98	1305		X	W	P	1	3/0	1/2		X	X			X			
MW-17	1/28/98	1435		X	W	G	40/1	1/0	3/1	X			X					
MW-17	1/28/98	1435		X	W	P	1	3/0	1/2		X	X			X			
MW-15	1/28/98	1535		X	W	G	40/1	1/0	3/1	X			X					
MW-15	1/28/98	1535		X	W	P	1	3/0	1/2		X	X			X			
TRIP BLANK					W	G	40	1	2	X								

Client/Consultant Remarks: SEE SHANNON FOR LEVEL III QC REPORTING DETAILS

Laboratory remarks: Fed EX 801513330210

Intact? ☑ Y ☐ N

Temp: 3°C

Requested TAT

- ☐ 24hr
- ☐ 72hr
- ☐ 48hr
- ☒ Standard
- ☐ Other ______

Special Reporting Requirements: Fax Results ☐ Raw Data ☐ Standard QC ☐ Level 3 QC ☒ Level 4 QC ☐

Special Detection Limits (specify):

PM review (initial):

	date	time	
1. Relinquished by Sampler: [signature]	1/29/98	0830	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	1-30-98	1000	6. Received by Laboratory: [signature]

- ☐ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901
- ☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (318) 237-4775
- ☐ 459 Hughes Drive, Traverse City, MI 49684 (616) 947-5777
- ☐ 1511 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 447-6868

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
1-30-98	1500

SPL Sample ID:
9801D95

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			✓
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		3 C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	8015133070	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
[signature]	1-30-98

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

February 18, 1998

Mr. George Robinson
CYPRESS ENGINEERING, INC.
16300 Katy Frwy, #210
Houston, TX 77094

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on January 31, 1998. The sample(s) was assigned to Certificate of Analysis No.(s)9801E27 and analyzed for all parameters as listed on the chain of custody.

The samples for the Metals analyses were received unfiltered and unpreserved. This is not compliant with method requirement. Therefore, the samples were filtered and preserved at SPL and analyzed for Dissolved Metals.

Per the client's request, this project was completed as a Level 2 with standard QC and not Level 3 as noted on the chain of custody.

Any data flag or quality control exception associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s).

If you have any questions or comments pertaining to this data report, please do not hesitate to contact me. Please reference the above Certificate of Analysis No. during any inquiries.

Again, SPL is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Southern Petroleum Laboratories

Shannon Tyrell
Client Services Representative

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-01-E27

Approved for Release by:

Shannon Tyrell 2/18/98

Shannon Tyrell, Client Services Representative Date

Greg Grandits
Laboratory Director

Idelis Williams
Quality Assurance Officer

The attached analytical data package may not be reproduced except in full without the express written approval of this laboratory.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-22

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 13:45:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	85	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	394	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1700	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/03/98	2690	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	0.9	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: DL Date: 02/05/98 08:00:00	02/05/98		

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-22

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 13:45:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.007	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	660	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
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Certificate of Analysis No. H9-9801E27-01

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Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-22

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 13:45:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/15/98 18:54:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	4	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	130	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-22

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 13:45:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	218	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801E27-01

Cypress Engineering, Inc.
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Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-22

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 13:45:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-01

Cypress Engineering, Inc. **SAMPLE ID:** MW-22

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	96	76	114
Toluene-d8	50 ug/L	100	88	110
4-Bromofluorobenzene	50 ug/L	90	86	115

ANALYZED BY: JC DATE/TIME: 02/03/98 18:54:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-22

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 13:45:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	60	35	114
2-Fluorobiphenyl	50 ug/L	68	43	116
Terphenyl-d14	50 ug/L	88	33	141
Phenol-d5	75 ug/L	16	10	110
2-Fluorophenol	75 ug/L	25	21	110
2,4,6-Tribromophenol	75 ug/L	93	10	123

ANALYZED BY: YL DATE/TIME: 02/10/98 12:54:00
EXTRACTED BY: DL DATE/TIME: 02/05/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-7

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 15:15:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	86	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	288	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1800	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/03/98	2730	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	ND	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: DL Date: 02/05/98 08:00:00	02/05/98		

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801E27-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-7

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 15:15:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.014	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	630	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-7

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 15:15:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/15/98 18:54:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	7	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	206	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.120	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-7

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 15:15:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	140	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.03	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-7

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 15:15:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics
(continued on next page)

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Certificate of Analysis No. H9-9801E27-02

Cypress Engineering, Inc. **SAMPLE ID:** MW-7

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	96	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: JC DATE/TIME: 02/03/98 19:20:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-7

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 15:15:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	76	35	114
2-Fluorobiphenyl	50 ug/L	88	43	116
Terphenyl-d14	50 ug/L	98	33	141
Phenol-d5	75 ug/L	17	10	110
2-Fluorophenol	75 ug/L	28	21	110
2,4,6-Tribromophenol	75 ug/L	103	10	123

ANALYZED BY: YL DATE/TIME: 02/10/98 13:28:00
EXTRACTED BY: DL DATE/TIME: 02/05/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-14

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 16:30:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	82	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	368	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1700	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/03/98	2890	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	0.2	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: DL Date: 02/05/98 08:00:00	02/05/98		

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-14

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 16:30:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.012	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	664	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-14

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 16:30:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/15/98 18:54:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	5	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	157	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.013	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
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PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-14

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 16:30:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	169	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-14

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 16:30:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics
(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-03

Cypress Engineering, Inc. **SAMPLE ID:** MW-14

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	96	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	88	86	115

ANALYZED BY: JC DATE/TIME: 02/03/98 19:46:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-14

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98 16:30:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	62	35	114
2-Fluorobiphenyl	50 ug/L	72	43	116
Terphenyl-d14	50 ug/L	100	33	141
Phenol-d5	75 ug/L	16	10	110
2-Fluorophenol	75 ug/L	27	21	110
2,4,6-Tribromophenol	75 ug/L	95	10	123

ANALYZED BY: YL DATE/TIME: 02/10/98 14:01:00
EXTRACTED BY: DL DATE/TIME: 02/05/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-04

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Provided By SPL
SAMPLE ID: Trip Blank

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/29/98
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E27-04

Cypress Engineering, Inc. **SAMPLE ID:** Trip Blank

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	92	76	114
Toluene-d8	50 ug/L	104	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: JC DATE/TIME: 02/03/98 20:12:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

QUALITY CONTROL

DOCUMENTATION

3A
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.: 9801E25 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: MW-21

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	54	108	61-145
Trichloroethene	50	0	51	102	71-120
Benzene	50	490	530	80	76-127
Toluene	50	0	58	116	76-125
Chlorobenzene	50	0	52	104	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	52	104	4	14	61-145
Trichloroethene	50	49	98	4	14	71-120
Benzene	50	520	60*	29*	11	76-127
Toluene	50	58	116	0	13	76-125
Chlorobenzene	50	52	104	0	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits due to matrix interference

RPD: 1 out of 5 outside limits
Spike Recovery: 1 out of 10 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name:
Client SDG: n980203
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: LCS
Level: LOW
Operator: JC
Data Type: MS DATA
SampleType: METHSPIKE
SpikeList File: 8260_water.spk
Quant Type: ISTD
Sublist File: 8260.sub
Method File: /var/chem/n.i/n980203.b/n8260w.m
Misc Info: N034W1//N034CW1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
8 1,1-Dichloroethene	50	51	102.00	61-145
29 Trichloroethene	50	49	98.00	71-120
25 Benzene	50	57	114.00	76-127
37 Toluene	50	56	112.00	76-125
45 Chlorobenzene	50	51	102.00	75-130

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 21 1,2-Dichloroethane	50	48	96.00	76-114
$ 36 Toluene-d8	50	51	102.00	88-110
$ 56 Bromofluorobenzene	50	46	92.00	86-115

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980203122720

Reported on: 02/09/98 13:48
Analyzed on: 02/03/98 15:54
Analyst: JC

METHOD 8260/8240 N034B01

Compound	Result	Detection Limit	Units
Dichlorodifluoromethane	ND	10	ug/L
Chloromethane	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Bromomethane	ND	10	ug/L
Chloroethane	ND	10	ug/L
Trichlorofluoromethane	ND	5	ug/L
Acetone	ND	100	ug/L
1,1-Dichloroethene	ND	5	ug/L
Methylene Chloride	ND	5	ug/L
Carbon Disulfide	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Chloroform	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Benzene	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Dibromomethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980203122720

Reported on: 02/09/98 13:48
Analyzed on: 02/03/98 15:54
Analyst: JC

METHOD 8260/8240 N034B01

Compound	Result	Detection Limit	Units
1,3-Dichloropropane	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Bromoform	ND	5	ug/L
Styrene	ND	5	ug/L
Xylene (Total)	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
N-Propylbenzene	ND	5	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
n-Butylbenzene	ND	5	ug/L
1,2-Dibromo-3-Chloropropan	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L

Notes
ND - Not detected.

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SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980203122720

Reported on: 02/09/98 13:48
Analyzed on: 02/03/98 15:54
Analyst: JC

METHOD 8260/8240 N034B01

Surrogate	Result	QC Criteria	Units
1,2-Dichloroethane-d4	96	76-114	% Recovery
Toluene-d8	100	88-110	% Recovery
Bromofluorobenzene	92	86-115	% Recovery

Samples in Batch 9801E27-01 9801E27-02 9801E27-03 9801E27-04

Notes
ND - Not detected.

WATER SEMIVOLATILE MATRIX/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.:9802120 SAS No.: SDG No.:

Matrix Spike - EPA Sample No. :GCF-WP-01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	LIMITS
Phenol	75	0	16	21	12-110
2-Chlorophenol	75	0	49	65	27-123
1,4-Dichlorobenzenzene	50	0	39	78	36- 97
N-Nitroso-di-n-pro.(1)	50	0	42	84	41-116
1,2,4-Trichlorobenzene	50	0	44	88	39- 98
4-Chloro-3-methylphenol	75	0	61	81	23- 97
Acenaphthene	50	0	44	88	46-118
4-Nitrophenol	75	0	21	28*	30-150
2,4-Dinitrotoluene	50	0	42	84	50-150
Pentachlorophenol	75	0	74	99	9-125
Pyrene	50	0	46	92	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.#	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75	14	19	10	42	12-110
2-Chlorophenol	75	40	53	20	40	27-123
1,4-Dichlorobenzenene	50	31	62	23	28	36- 97
N-Nitroso-di-n-pro.(1)	50	35	70	18	38	41-116
1,2,4-Trichlorobenzene	50	34	68	26	28	39- 98
4-Chloro-3-methylphenol	75	52	69	3	42	23- 97
Acenaphthene	50	37	74	17	31	46-118
4-Nitrophenol	75	22	29*	4	50	30-150
2,4-Dinitrotoluene	50	39	78	7	50	50-150
Pentachlorophenol	75	74	99	0	50	9-125
Pyrene	50	45	90	2	31	26-127

(1) N-Nitroso-di-n-propylamine

* - Values outside of QC limits due to matrix interference.

RPD: 0 out of 11 outside limits
Spike Recovery: 2 out of 22 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name:
Client SDG: h980209
Sample Matrix: LIQUID
Fraction: SV
Lab Smp Id: METHSPIKE-8270W
Level: LOW
Operator: YL
Data Type: MS DATA
SampleType: MS
SpikeList File: 8270w.spk
Quant Type: ISTD
Sublist File: lcs.sub
Method File: /var/chem/h.i/h980209.b/h8270w.m
Misc Info: E036F3/H036B03/H040CC1

	SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
5	Phenol	75	24	32.00	12-110
9	2-Chlorophenol	75	51	68.00	27-123
12	1,4-Dichlorobenzen	50	33	66.00	36-97
21	N-Nitroso-di-n-pro	50	43	86.00	41-116
31	1,2,4-Trichloroben	50	40	80.00	39-98
36	4-Chloro-3-methylp	75	70	93.33	23-97
49	Acenaphthene	50	47	94.00	46-118
51	4-Nitrophenol	75	37	49.33	30-150
53	2,4-Dinitrotoluene	50	49	98.00	50-150
64	Pentachlorophenol	75	92	122.67	9-125
71	Pyrene	50	52	104.00	26-127

	SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 23	Nitrobenzene-d5	50	37	74.00	35-114
$ 41	2-Fluorobiphenyl	50	45	90.00	43-116
$ 72	Terphenyl-d14	50	50	100.00	33-141
$ 3	2-Fluorophenol	75	30	40.00	21-110
$ 4	Phenol-d5	75	22	29.33	10-110
$ 61	2,4,6-Tribromophen	75	82	109.33	10-123

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SPL Blank QC Report

Matrix: Aqueous
Sample ID: BLANK
Batch: E980205042258

Reported on: 02/13/98 10:27
Analyzed on: 02/09/98 10:54
Analyst: YL

METHOD 8270 H036B03A

Compound	Result	Detection Limit	Units
Naphthalene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Acenaphthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Pyrene	ND	5	ug/L
Benzo[a]anthracene	ND	5	ug/L
Chrysene	ND	5	ug/L
Benzo[b]fluoranthene	ND	5	ug/L
Benzo[k]fluoranthene	ND	5	ug/L
Benzo[a]pyrene	ND	5	ug/L
Indeno[1,2,3-cd]pyrene	ND	5	ug/L
Dibenz[a,h]anthracene	ND	5	ug/L
Benzo[g,h,i]perylene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

Surrogate	Result	QC Criteria	Units
Nitrobenzene-d5	60	35-114	% Recovery
2-Fluorobiphenyl	68	43-116	% Recovery
Terphenyl-d14	100	33-141	% Recovery
2-Fluorophenol	32	21-110	% Recovery
Phenol-d5	21	10-110	% Recovery
2,4,6-Tribromophenol	99	10-123	% Recovery

Samples in Batch 9801E27-01 9801E27-02 9801E27-03

Notes
ND - Not detected.

ICP Spectroscopy Method 6010 Quality Control Report

Matrix: DISSOLVED Units: mg/L Analyst: RS

Date:020398 Time:0122 File Name: 020398C2 Checked:

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2/4/95

Laboratory Control Sample

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver	ND	2.00	2.08	104	1.60	2.40
Aluminum						
Arsenic	ND	4.00	4.13	103	3.20	4.80
Barium	ND	2.00	2.07	104	1.60	2.40
Beryllium						
Calcium	ND	20.00	21.43	107	16.00	24.00
Cadmium	ND	2.00	1.98	99	1.60	2.40
Cobalt						
Chromium	ND	2.00	2.06	103	1.60	2.40
Copper	ND	2.00	2.08	104	1.60	2.40
Iron	ND	2.00	2.10	105	1.60	2.40
Potassium	ND	20.00	20.89	104	16.00	24.00
Magnesium	ND	20.00	20.88	104	16.00	24.00
Manganese	ND	2.00	2.09	104	1.60	2.40
Sodium	ND	20.00	21.81	109	16.00	24.00
Nickel						
Lead	ND	2.00	2.02	101	1.60	2.40
Antimony						
Selenium	ND	4.00	4.10	103	3.20	4.80
Thallium						
Vanadium						
Zinc	ND	2.00	2.05	102	1.60	2.40

Work Orders in Batch

Work Order	Fractions
98-01-D95	01E-04E
98-01-E24	01E-02E
98-01-E25	01E-03E
98-01-E27	01E-03E
98-01-E30	01E-02E
98-01-634	04E

Matrix Spike - Spike Duplicate Results **Work Order Spiked: 9801D95-01E**

Element	Sample Result	Spike Added	Matrix Spike Result	Matrix Spike Recovery		Matrix Spike Duplicate Result	Matrix Spike Duplicate Recovery		QC Limits % Recovery		Spike RPD %		QC Limits %
Silver	ND	1.0	1.042	104.2		1.059	105.9		80	120	1.6		20.0
Aluminum													
Arsenic	ND	2.0	2.211	110.6		2.316	115.8		80	120	4.6		20.0
Barium	0.0204	1.0	1.046	102.6		1.06	104.0		80	120	1.4		20.0
Beryllium													
Calcium	611.9	100.0	721	109.1		724.1	112.2		80	120	2.8		20.0
Cadmium	ND	1.0	1.051	105.1		1.077	107.7		80	120	2.4		20.0
Cobalt													
Chromium	ND	1.0	1.02	102.0		1.052	105.2		80	120	3.1		20.0
Copper	ND	1.0	1.059	105.9		1.076	107.6		80	120	1.6		20.0
Iron	ND	1.0	1.022	102.2		1.05	105.0		80	120	2.7		20.0
Potassium	6.544	10.0	16.14	96.0		16.66	101.2		80	120	5.3		20.0
Magnesium	183	10.0	188.7	57.0	*	193.2	102.0		80	120	56.6	**	20.0
Manganese	0.141	1.0	1.182	104.1		1.215	107.4		80	120	3.1		20.0
Sodium	245.8	10.0	251	52.0	*	250.8	50.0	*	80	120	3.9		20.0
Nickel													
Lead	ND	1.0	1.036	103.6		1.058	105.8		80	120	2.1		20.0
Antimony													
Selenium	ND	2.0	2.299	115.0		2.385	119.2		80	120	3.7		20.0
Thallium													
Vanadium													
Zinc	ND	1.0	1.069	106.9		1.098	109.8		80	120	2.7		20.0

* Values Outside QC Range Due To Matrix Interference.
** Values Outside QC Range.
Elements Bench Spiked:ALL 10X DILUTION on Ca

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/15/98
Analyzed on: 02/15/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Blank Value ug/L	LCS Concentration ug/L	Measured Concentration ug/L	% Recovery	QC Limits Recovery
LCS	ND	2.00	1.90	95.0	80 - 120

-9802685

Samples in batch:

9801D95-01E	9801D95-02E	9801D95-03E	9801D95-04E
9801E25-01E	9801E25-02E	9801E25-03E	9801E27-01E
9801E27-02E	9801E27-03E	9801E30-01E	9801E30-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6
* VALUES OUTSIDE QC RANGE DUE TO MATRIX INTERFERENCE

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/15/98
Analyzed on: 02/15/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Method Blank ug/L	Sample Result ug/L	Spike Added ug/L	Matrix Spike Result ug/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result ug/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	% REC
9801E30-02E	ND	ND	2.00	1.25	62.5 *	1.33	66.5 *	6.2	20	75 -125

-9802685

Samples in batch:

9801D95-01E	9801D95-02E	9801D95-03E	9801D95-04E
9801E25-01E	9801E25-02E	9801E25-03E	9801E27-01E
9801E27-02E	9801E27-03E	9801E30-01E	9801E30-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6
* VALUES OUTSIDE QC RANGE DUE TO MATRIX INTERFERENCE

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	90	87	96.7	95 - 113

-9802581

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B	9801E27-02B	9801E27-03B
9801E30-01B	9801E30-02B		

COMMENTS:

SPL LCS ID #94453182-12

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D95-01B	88	86	2.3	18

-9802499

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B		

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801E27-02B	86	85	1.2	18

-9802500

Samples in batch:

9801E27-02B 9801E27-03B 9801E30-01B 9801E30-02B

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Blank Value MG/L	LCS Concentration MG/L	Measured Concentration MG/L	% Recovery	QC Limits Recovery
LCS	ND	170.0	168.39	99.1	94 - 106

-9802509

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B	9801E27-02B	9801E27-03B
9801E30-01B	9801E30-02B	9802369-02A	9802413-01D
9802413-02D	9802413-03D	9802414-01D	9802414-02D

COMMENTS:
LCS=SPL ID#94453182-12

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Method Blank MG/L	Sample Result MG/L	Spike Added MG/L	Matrix Spike Result MG/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result MG/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801D95-01B	ND	70.9	50.0	119.11	96.4	119.64	97.5	1.1	5	92 -109

-9802507

Samples in batch:

9801D95-01B 9801D95-02B 9801D95-03B 9801D95-04B
9801E24-01B 9801E24-02B 9801E25-01B 9801E25-02B
9801E25-03B 9801E27-01B

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Method Blank MG/L	Sample Result MG/L	Spike Added MG/L	Matrix Spike Result MG/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result MG/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801E27-02B	ND	57.61	50.0	106.70	98.2	107.24	99.3	1.1	5	92 -109

-9802512

Samples in batch:

9801E27-02B 9801E27-03B 9801E30-01B 9801E30-02B
9802369-02A 9802413-01D 9802413-02D 9802413-03D
9802414-01D 9802414-02D

COMMENTS:
LCS=SPL ID#94453182-12

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	8.48	7.61	89.7	82 - 111

-9802483

Samples in batch:

9801D31-01C	9801D31-02C	9801D31-03C	9801D31-04C
9801D40-01C	9801D40-02C	9801D55-01E	9801D95-01B
9801D95-02B	9801D95-03B	9801D95-04B	9801E24-01B
9801E24-02B	9801E25-01B	9801E25-02B	9801E25-03B
9801E27-01B	9801E27-02B	9801E30-01B	9801E30-02B

COMMENTS:

SPL LCS#: 94453182-12

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	% REC
9801E30-01B	ND	6.13	10.00	14.86	87.3	14.92	87.9	0.7	9.5	84 -120

-9802484

Samples in batch:

9801D95-04B 9801E24-01B 9801E24-02B 9801E25-01B
9801E25-02B 9801E25-03B 9801E27-01B 9801E27-02B
9801E30-01B 9801E30-02B

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	8.48	7.57	89.3	82 - 111

-9802488

Samples in batch:

9801E27-03B 9802110-01A

COMMENTS:

SPL LCS#: 94453182-12

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PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9802110-01A	ND	3.40	10.00	11.16	77.6*	10.62	72.2*	7.2	9.5	84 -120

-9802486

Samples in batch:

9801E27-03B 9802110-01A

COMMENTS:

* Values were outside of QC range due to matrix interference.

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/04/98
Analyzed on: 02/03/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Total Dissolved Solids
Method 160.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D55-01F	121	119	1.7	5

-9802156

Samples in batch:

9801D55-01F	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E27-01B	9801E27-02B
9801E27-03B	9802051-03A		

COMMENTS:

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/13/98
Analyzed on: 02/13/98
Analyst: DAM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	1.00	1.06	106	92 - 111

-9802632

Samples in batch:

9801C50-01K	9801D95-01C	9801D95-02C	9801D95-03C
9801D95-04C	9801E24-01C	9801E24-02C	9801E25-01C
9801E25-02C	9801E25-03C	9801E27-01C	9801E27-02C
9801E27-03C	9801E30-01C	9801E30-02C	

COMMENTS:

LCS = SPL ID#:94435156-13

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/13/98
Analyzed on: 02/13/98
Analyst: DAM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801275-03C	ND	0.23	2.50	2.96	109	2.98	110	0.9	12	87 -120

-9802630

Samples in batch:

9801C50-01K 9801E27-01C 9801E27-02C 9801E27-03C
9801E30-01C 9801E30-02C

COMMENTS:

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No: 9801E27 | 19632 | page ___ of ___

Client Name: CYPRESS ENGINEERING
Address/Phone: 16300 KATY FREEWAY, SUITE 210 HOUSTON TX 77094 (281) 578-3415
Client Contact: GEORGE ROBINSON
Project Name: TRANSWESTERN PIPELINE
Project Number:
Project Location: ROSWELL STA 9
Invoice To: GEORGE ROBINSON

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil SL=sludge O=other:)	bottle (P=plastic A=amber glass G=glass V=vial)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz)	pres. (1=HCl 2=HNO3 3=H2SO4 O=other:)	Number of Containers	Requested Analysis: VOCs 8260 INCLUDE: 1,2 DICHLOROETHENE (CIS-&TRANS-) & DICHLOROBENZENE (O-,M-,P-)	Requested Analysis: TDS, CHLORIDE, SULFATE, TOTAL ALKALINITY	Requested Analysis: NITRATE & NITRATE AS NITROGEN (353.2)	Requested Analysis: PAHS (8270) INCLUDING NAPHTHALENE & 2-METHYLNAPHTHALENE ISOMERS (1-&2-)	Requested Analysis:	Requested Analysis: METALS 7470/6010 AG, BA, CD, CR, PB, HG, SE, AG, CU, FE, MN, ZN, CA, K, NA, MG	Requested Analysis:	Requested Analysis:	Requested Analysis:
MW-22	1/29/98	1345		X	W	G	40/1	1/0	3/1	X			X					
MW-22		1345				P	1	3/0	1/2		X	X			X			
MW-7		1515				G	40/1	1/0	3/1	X			X					
MW-7		1515				P	1	3/0	1/2		X	X			X			
MW-14		1630				G	40/1	1/0	3/1	X			X					
MW-14		1630				P	1	3/0	1/2		X	X			X			
TRIP BLANK						G	40	1/	2									

Client/Consultant Remarks: SEE SHANNON FOR LEVEL III REPORTING DETAILS

Laboratory remarks: RM 27

MPS 932 2662 115

Intact? Y N

Temp: 4°C

Requested TAT

24hr ☐ 72hr ☐ 48hr ☐ Standard ☒ Other ☐ _____

Special Reporting Requirements: Fax Results ☐ Raw Data ☐ Standard QC ☐ Level 3 QC ☒ Level 4 QC ☐

Special Detection Limits (specify):

PM review (initial):

1. Relinquished by Sampler:	date 1/30/98	time 1830	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 1-31-98	time 1000	6. Received by Laboratory:

☐ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901
☐ 459 Hughes Drive, Traverse City, MI 49684 (616) 947-5777
☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (318) 237-4775
☐ 1511 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 447-6868

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
1-31-98	1435

SPL Sample ID:
9801E27

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		4 C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	932266 2115	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
[signature]	1-31-98

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

February 18, 1998

Mr. George Robinson
CYPRESS ENGINEERING, INC.
16300 Katy Frwy, #210
Houston, TX 77094

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on January 31, 1998. The sample(s) was assigned to Certificate of Analysis No.(s)9801E30 and analyzed for all parameters as listed on the chain of custody.

The samples for the Metals analyses were received unfiltered and unpreserved. This is not compliant with method requirement. Therefore, the samples were filtered and preserved at SPL and analyzed for Dissolved Metals.

Per the client's request, this project was completed as a Level 2 with standard QC and not Level 3 as noted on the chain of custody.

Any data flag or quality control exception associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s).

If you have any questions or comments pertaining to this data report, please do not hesitate to contact me. Please reference the above Certificate of Analysis No. during any inquiries.

Again, SPL is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Southern Petroleum Laboratories

Shannon Tyrell
Client Services Representative

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-01-E30

Approved for Release by:

Shannon Tyrell, Client Services Representative 2/18/98 Date

Greg Grandits
Laboratory Director

Idelis Williams
Quality Assurance Officer

The attached analytical data package may not be reproduced except in full without the express written approval of this laboratory.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E30-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-13

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 15:10:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	113	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	490	10	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1500	250	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/04/98	2970	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	ND	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: DL Date: 02/05/98 08:00:00	02/05/98		

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
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Certificate of Analysis No. H9-9801E30-01

Cypress Engineering, Inc.
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Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-13

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 15:10:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.009	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	707	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
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Certificate of Analysis No. H9-9801E30-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-13

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 15:10:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.86	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/15/98 18:54:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	3	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	143	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	1.50	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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Certificate of Analysis No. H9-9801E30-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-13

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 15:10:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	174	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
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Certificate of Analysis No. H9-9801E30-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-13

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 15:10:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	61	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics
(continued on next page)

HOUSTON LABORATORY
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HOUSTON, TEXAS 77054
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Certificate of Analysis No. H9-9801E30-01

Cypress Engineering, Inc. **SAMPLE ID:** MW-13

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	96	76	114
Toluene-d8	50 ug/L	100	88	110
4-Bromofluorobenzene	50 ug/L	90	86	115

ANALYZED BY: JC DATE/TIME: 02/03/98 20:37:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E30-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-13

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 15:10:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	62	35	114
2-Fluorobiphenyl	50 ug/L	76	43	116
Terphenyl-d14	50 ug/L	96	33	141
Phenol-d5	75 ug/L	19	10	110
2-Fluorophenol	75 ug/L	27	21	110
2,4,6-Tribromophenol	75 ug/L	109	10	123

ANALYZED BY: YL DATE/TIME: 02/10/98 14:34:00
EXTRACTED BY: DL DATE/TIME: 02/05/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E30-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-20

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 13:50:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	155	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	306	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1700	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/04/98	3090	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	2.8	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: DL Date: 02/05/98 08:00:00	02/05/98		

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801E30-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-20

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 13:50:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	680	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E30-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-20

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 13:50:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/15/98 18:54:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	3	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	137	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. H9-9801E30-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-20

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 13:50:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	238	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E30-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-20

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 13:50:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	12	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	72	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E30-02

Cypress Engineering, Inc. **SAMPLE ID:** MW-20

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	96	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: JC DATE/TIME: 02/03/98 21:03:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E30-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-20

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 13:50:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	62	35	114
2-Fluorobiphenyl	50 ug/L	74	43	116
Terphenyl-d14	50 ug/L	80	33	141
Phenol-d5	75 ug/L	16	10	110
2-Fluorophenol	75 ug/L	25	21	110
2,4,6-Tribromophenol	75 ug/L	99	10	123

ANALYZED BY: YL DATE/TIME: 02/10/98 15:08:00
EXTRACTED BY: DL DATE/TIME: 02/05/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E30-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Provided By SPL
SAMPLE ID: Trip Blank

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E30-03

Cypress Engineering, Inc. **SAMPLE ID:** Trip Blank

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	96	76	114
Toluene-d8	50 ug/L	104	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: JC DATE/TIME: 02/03/98 21:29:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

QUALITY CONTROL

DOCUMENTATION

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.: 9801E25 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: MW-21

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	54	108	61-145
Trichloroethene	50	0	51	102	71-120
Benzene	50	490	530	80	76-127
Toluene	50	0	58	116	76-125
Chlorobenzene	50	0	52	104	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	52	104	4	14	61-145
Trichloroethene	50	49	98	4	14	71-120
Benzene	50	520	60*	29*	11	76-127
Toluene	50	58	116	0	13	76-125
Chlorobenzene	50	52	104	0	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits due to matrix interference

RPD: 1 out of 5 outside limits
Spike Recovery: 1 out of 10 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name:
Client SDG: n980203
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: LCS
Level: LOW
Operator: JC
Data Type: MS DATA
SampleType: METHSPIKE
SpikeList File: 8260_water.spk
Quant Type: ISTD
Sublist File: 8260.sub
Method File: /var/chem/n.i/n980203.b/n8260w.m
Misc Info: N034W1//N034CW1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
8 1,1-Dichloroethene	50	51	102.00	61-145
29 Trichloroethene	50	49	98.00	71-120
25 Benzene	50	57	114.00	76-127
37 Toluene	50	56	112.00	76-125
45 Chlorobenzene	50	51	102.00	75-130

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 21 1,2-Dichloroethane	50	48	96.00	76-114
$ 36 Toluene-d8	50	51	102.00	88-110
$ 56 Bromofluorobenzene	50	46	92.00	86-115

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980203122720

Reported on: 02/06/98 16:06
Analyzed on: 02/03/98 15:54
Analyst: JC

METHOD 8260/8240 N034B01

Compound	Result	Detection Limit	Units
Dichlorodifluoromethane	ND	10	ug/L
Chloromethane	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Bromomethane	ND	10	ug/L
Chloroethane	ND	10	ug/L
Trichlorofluoromethane	ND	5	ug/L
Acetone	ND	100	ug/L
1,1-Dichloroethene	ND	5	ug/L
Methylene Chloride	ND	5	ug/L
Carbon Disulfide	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Chloroform	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Benzene	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Dibromomethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980203122720

Reported on: 02/06/98 16:06
Analyzed on: 02/03/98 15:54
Analyst: JC

METHOD 8260/8240 N034B01

Compound	Result	Detection Limit	Units
1,3-Dichloropropane	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Bromoform	ND	5	ug/L
Styrene	ND	5	ug/L
Xylene (Total)	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
N-Propylbenzene	ND	5	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
n-Butylbenzene	ND	5	ug/L
1,2-Dibromo-3-Chloropropan	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980203122720

Reported on: 02/06/98 16:06
Analyzed on: 02/03/98 15:54
Analyst: JC

METHOD 8260/8240 N034B01

Surrogate	Result	QC Criteria	Units
1,2-Dichloroethane-d4	96	76-114	% Recovery
Toluene-d8	100	88-110	% Recovery
Bromofluorobenzene	92	86-115	% Recovery

Samples in Batch 9801E30-01 9801E30-02 9801E30-03

Notes
ND - Not detected.

WATER SEMIVOLATILE MATRIX/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.:9802120 SAS No.: SDG No.:

Matrix Spike - EPA Sample No. :GCF-WP-01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	LIMITS
Phenol	75	0	16	21	12-110
2-Chlorophenol	75	0	49	65	27-123
1,4-Dichlorobenzenzene	50	0	39	78	36- 97
N-Nitroso-di-n-pro.(1)	50	0	42	84	41-116
1,2,4-Trichlorobenzene	50	0	44	88	39- 98
4-Chloro-3-methylphenol	75	0	61	81	23- 97
Acenaphthene	50	0	44	88	46-118
4-Nitrophenol	75	0	21	28*	30-150
2,4-Dinitrotoluene	50	0	42	84	50-150
Pentachlorophenol	75	0	74	99	9-125
Pyrene	50	0	46	92	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.#	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75	14	19	10	42	12-110
2-Chlorophenol	75	40	53	20	40	27-123
1,4-Dichlorobenzenene	50	31	62	23	28	36- 97
N-Nitroso-di-n-pro.(1)	50	35	70	18	38	41-116
1,2,4-Trichlorobenzene	50	34	68	26	28	39- 98
4-Chloro-3-methylphenol	75	52	69	3	42	23- 97
Acenaphthene	50	37	74	17	31	46-118
4-Nitrophenol	75	22	29*	4	50	30-150
2,4-Dinitrotoluene	50	39	78	7	50	50-150
Pentachlorophenol	75	74	99	0	50	9-125
Pyrene	50	45	90	2	31	26-127

(1) N-Nitroso-di-n-propylamine

* - Values outside of QC limits due to matrix interference.

RPD: 0 out of 11 outside limits
Spike Recovery: 2 out of 22 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name: Client SDG: h980209
Sample Matrix: LIQUID Fraction: SV
Lab Smp Id: METHSPIKE-8270W
Level: LOW Operator: YL
Data Type: MS DATA SampleType: MS
SpikeList File: 8270w.spk Quant Type: ISTD
Sublist File: lcs.sub
Method File: /var/chem/h.i/h980209.b/h8270w.m
Misc Info: E036F3/H036B03/H040CC1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
5 Phenol	75	24	32.00	12-110
9 2-Chlorophenol	75	51	68.00	27-123
12 1,4-Dichlorobenzen	50	33	66.00	36-97
21 N-Nitroso-di-n-pro	50	43	86.00	41-116
31 1,2,4-Trichloroben	50	40	80.00	39-98
36 4-Chloro-3-methylp	75	70	93.33	23-97
49 Acenaphthene	50	47	94.00	46-118
51 4-Nitrophenol	75	37	49.33	30-150
53 2,4-Dinitrotoluene	50	49	98.00	50-150
64 Pentachlorophenol	75	92	122.67	9-125
71 Pyrene	50	52	104.00	26-127

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 23 Nitrobenzene-d5	50	37	74.00	35-114
$ 41 2-Fluorobiphenyl	50	45	90.00	43-116
$ 72 Terphenyl-d14	50	50	100.00	33-141
$ 3 2-Fluorophenol	75	30	40.00	21-110
$ 4 Phenol-d5	75	22	29.33	10-110
$ 61 2,4,6-Tribromophen	75	82	109.33	10-123

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: BLANK
Batch: E980205042258

Reported on: 02/13/98 10:25
Analyzed on: 02/09/98 10:54
Analyst: YL

METHOD 8270 H036B03A

Compound	Result	Detection Limit	Units
Naphthalene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Acenaphthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Pyrene	ND	5	ug/L
Benzo[a]anthracene	ND	5	ug/L
Chrysene	ND	5	ug/L
Benzo[b]fluoranthene	ND	5	ug/L
Benzo[k]fluoranthene	ND	5	ug/L
Benzo[a]pyrene	ND	5	ug/L
Indeno[1,2,3-cd]pyrene	ND	5	ug/L
Dibenz[a,h]anthracene	ND	5	ug/L
Benzo[g,h,i]perylene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

Surrogate	Result	QC Criteria	Units
Nitrobenzene-d5	60	35-114	% Recovery
2-Fluorobiphenyl	68	43-116	% Recovery
Terphenyl-d14	100	33-141	% Recovery
2-Fluorophenol	32	21-110	% Recovery
Phenol-d5	21	10-110	% Recovery
2,4,6-Tribromophenol	99	10-123	% Recovery

Samples in Batch 9801E30-01 9801E30-02

Notes
ND - Not detected.

ICP Spectroscopy Method 6010 Quality Control Report

Matrix: DISSOLVED Units: mg/L Analyst: RS

Date:020398 Time:0122 File Name: 020398C2 Checked:

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

2/4/98

Laboratory Control Sample

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver	ND	2.00	2.08	104	1.60	2.40
Aluminum						
Arsenic	ND	4.00	4.13	103	3.20	4.80
Barium	ND	2.00	2.07	104	1.60	2.40
Beryllium						
Calcium	ND	20.00	21.43	107	16.00	24.00
Cadmium	ND	2.00	1.98	99	1.60	2.40
Cobalt						
Chromium	ND	2.00	2.06	103	1.60	2.40
Copper	ND	2.00	2.08	104	1.60	2.40
Iron	ND	2.00	2.10	105	1.60	2.40
Potassium	ND	20.00	20.89	104	16.00	24.00
Magnesium	ND	20.00	20.88	104	16.00	24.00
Manganese	ND	2.00	2.09	104	1.60	2.40
Sodium	ND	20.00	21.81	109	16.00	24.00
Nickel						
Lead	ND	2.00	2.02	101	1.60	2.40
Antimony						
Selenium	ND	4.00	4.10	103	3.20	4.80
Thallium						
Vanadium						
Zinc	ND	2.00	2.05	102	1.60	2.40

Work Orders in Batch

Work Order	Fractions
98-01-D95	01E-04E
98-01-E24	01E-02E
98-01-E25	01E-03E
98-01-E27	01E-03E
98-01-E30	01E-02E
98-01-634	04E

Matrix Spike - Spike Duplicate Results **Work Order Spiked: 9801D95-01E**

Element	Sample Result	Spike Added	Matrix Spike Result	Matrix Spike Recovery		Matrix Spike Duplicate Result	Matrix Spike Duplicate Recovery		QC Limits % Recovery		Spike RPD %		QC Limits %
Silver	ND	1.0	1.042	104.2		1.059	105.9		80	120	1.6		20.0
Aluminum													
Arsenic	ND	2.0	2.211	110.6		2.316	115.8		80	120	4.6		20.0
Barium	0.0204	1.0	1.046	102.6		1.06	104.0		80	120	1.4		20.0
Beryllium													
Calcium	611.9	100.0	721	109.1		724.1	112.2		80	120	2.8		20.0
Cadmium	ND	1.0	1.051	105.1		1.077	107.7		80	120	2.4		20.0
Cobalt													
Chromium	ND	1.0	1.02	102.0		1.052	105.2		80	120	3.1		20.0
Copper	ND	1.0	1.059	105.9		1.076	107.6		80	120	1.6		20.0
Iron	ND	1.0	1.022	102.2		1.05	105.0		80	120	2.7		20.0
Potassium	6.544	10.0	16.14	96.0		16.66	101.2		80	120	5.3		20.0
Magnesium	183	10.0	188.7	57.0	*	193.2	102.0		80	120	56.6	**	20.0
Manganese	0.141	1.0	1.182	104.1		1.215	107.4		80	120	3.1		20.0
Sodium	245.8	10.0	251	52.0	*	250.8	50.0	*	80	120	3.9		20.0
Nickel													
Lead	ND	1.0	1.036	103.6		1.058	105.8		80	120	2.1		20.0
Antimony													
Selenium	ND	2.0	2.299	115.0		2.385	119.2		80	120	3.7		20.0
Thallium													
Vanadium													
Zinc	ND	1.0	1.069	106.9		1.098	109.8		80	120	2.7		20.0

* Values Outside QC Range Due To Matrix Interference.
** Values Outside QC Range.
Elements Bench Spiked:ALL 10X DILUTION on Ca

HOUSTON LABORATORY
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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/15/98
Analyzed on: 02/15/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Blank Value ug/L	LCS Concentration ug/L	Measured Concentration ug/L	% Recovery	QC Limits Recovery
LCS	ND	2.00	1.90	95.0	80 - 120

-9802685

Samples in batch:

9801D95-01E	9801D95-02E	9801D95-03E	9801D95-04E
9801E25-01E	9801E25-02E	9801E25-03E	9801E27-01E
9801E27-02E	9801E27-03E	9801E30-01E	9801E30-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6
* VALUES OUTSIDE QC RANGE DUE TO MATRIX INTERFERENCE

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/15/98
Analyzed on: 02/15/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample	Method	Sample	Spike	Matrix Spike		Matrix Spike Duplicate		RPD	QC LIMITS (Advisory)	
ID Number	Blank ug/L	Result ug/L	Added ug/L	Result ug/L	Recovery %	Result ug/L	Recovery %	(%)	RPD Max	% REC
9801E30-02E	ND	ND	2.00	1.25	62.5 *	1.33	66.5 *	6.2	20	75 -125

-9802685

Samples in batch:

9801D95-01E	9801D95-02E	9801D95-03E	9801D95-04E
9801E25-01E	9801E25-02E	9801E25-03E	9801E27-01E
9801E27-02E	9801E27-03E	9801E30-01E	9801E30-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6
* VALUES OUTSIDE QC RANGE DUE TO MATRIX INTERFERENCE

HOUSTON LABORATORY
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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	90	87	96.7	95 - 113

-9802581

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B	9801E27-02B	9801E27-03B
9801E30-01B	9801E30-02B		

COMMENTS:

SPL LCS ID #94453182-12

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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801E27-02B	86	85	1.2	18

-9802500

Samples in batch:

9801E27-02B 9801E27-03B 9801E30-01B 9801E30-02B

COMMENTS:

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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Blank Value MG/L	LCS Concentration MG/L	Measured Concentration MG/L	% Recovery	QC Limits Recovery
LCS	ND	170.0	168.39	99.1	94 - 106

-9802509

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B	9801E27-02B	9801E27-03B
9801E30-01B	9801E30-02B	9802369-02A	9802413-01D
9802413-02D	9802413-03D	9802414-01D	9802414-02D

COMMENTS:
LCS=SPL ID#94453182-12

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Method Blank MG/L	Sample Result MG/L	Spike Added MG/L	Matrix Spike Result MG/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result MG/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801E27-02B	ND	57.61	50.0	106.70	98.2	107.24	99.3	1.1	5	92 -109

-9802512

Samples in batch:

9801E27-02B	9801E27-03B	9801E30-01B	9801E30-02B
9802369-02A	9802413-01D	9802413-02D	9802413-03D
9802414-01D	9802414-02D		

COMMENTS:
LCS=SPL ID#94453182-12

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	8.48	7.61	89.7	82 - 111

-9802483

Samples in batch:

9801D31-01C	9801D31-02C	9801D31-03C	9801D31-04C
9801D40-01C	9801D40-02C	9801D55-01E	9801D95-01B
9801D95-02B	9801D95-03B	9801D95-04B	9801E24-01B
9801E24-02B	9801E25-01B	9801E25-02B	9801E25-03B
9801E27-01B	9801E27-02B	9801E30-01B	9801E30-02B

COMMENTS:

SPL LCS#: 94453182-12

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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801E30-01B	ND	6.13	10.00	14.86	87.3	14.92	87.9	0.7	9.5	84 -120

-9802484

Samples in batch:

9801D95-04B	9801E24-01B	9801E24-02B	9801E25-01B
9801E25-02B	9801E25-03B	9801E27-01B	9801E27-02B
9801E30-01B	9801E30-02B		

COMMENTS:

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PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/05/98
Analyzed on: 02/04/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Total Dissolved Solids
Method 160.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9802093-01A	2610	2700	3.4	5

-9802208

Samples in batch:

9801E30-01B 9801E30-02B 9802093-01A

COMMENTS:

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/13/98
Analyzed on: 02/13/98
Analyst: DAM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	1.00	1.06	106	92 - 111

-9802632

Samples in batch:

9801C50-01K	9801D95-01C	9801D95-02C	9801D95-03C
9801D95-04C	9801E24-01C	9801E24-02C	9801E25-01C
9801E25-02C	9801E25-03C	9801E27-01C	9801E27-02C
9801E27-03C	9801E30-01C	9801E30-02C	

COMMENTS:

LCS = SPL ID#:94435156-13

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PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/13/98
Analyzed on: 02/13/98
Analyst: DAM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	% REC
9801275-03C	ND	0.23	2.50	2.96	109	2.98	110	0.9	12	87 -120

-9802630

Samples in batch:

9801C50-01K 9801E27-01C 9801E27-02C 9801E27-03C
9801E30-01C 9801E30-02C

COMMENTS:

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No: 9801E30

19630

page 1 of 1

Client Name: CYPRESS ENGINEERING

Address/Phone: 16300 KATY FREEWAY, SUITE 210 HOUSTON TX 77094 (281) 578-3115

Client Contact: GEORGE ROBINSON

Project Name: ~~ROSWELL STA. 9~~ TRANSWESTERN PIPELINE

Project Number:

Project Location: ROSWELL STA. 9

Invoice To: GEORGE ROBINSON

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil SL=sludge O=other:)	bottle (P=plastic A=amber glass G=glass V=vial)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz)	pres. (1=HCl 2=HNO3 3=H2SO4 O=other:)	Number of Containers	Requested Analysis: VOC'S 8240 INCLUDE 1,2 DICHLOROETHENE(CIS+TRANS) & DICHLOROBENZENE(O-,M-,P-)	Requested Analysis: TDS, CHLORIDE, SULFATE, TOTAL ALKALINITY	Requested Analysis: NITRITE & NITRATE AS NITROGEN (353.2)	Requested Analysis: PAH'S (8270) INCLUDING NAPHTHALENE, 2-METHYLNAPHTHALENE & ISOMERS (1-&2-)	Requested Analysis: DISSOLVED METALS 6470/6010 As, Ba, Cd, Cr, Pb, Hg	Requested Analysis: Se, Ag, Ca, Fe, Mn, Zn	Requested Analysis: Ba, K, Na, Mg	Requested Analysis:	Requested Analysis:
MW-13	1/30/98	1510		X	W	G	40/1	1/0	3/1	X			X					
MW-13		1510				P	1	3/0	1/2		X	X			X			
MW-20		1350				G	40/1	1/0	3/1	X			X					
MW-20		1350				P	#1	3/0	1/2		X	X			X			
TRIP BLANK						G	40	1	2									

Client/Consultant Remarks: SEE SHANNON FOR LEVEL III QC REPORTING DETAILS

Laboratory remarks: MPS 932 2662 036

Intact? Y N

Temp: 4°C

Requested TAT

24hr ☐ 72hr ☐

48hr ☐ Standard ☒

Other ☐ _____

Special Reporting Requirements: Fax Results ☐ Raw Data ☐ Standard QC ☐ Level 3 QC ☒ Level 4 QC ☐

Special Detection Limits (specify):

PM review (initial):

	date	time		
1. Relinquished by Sampler:	1/30/98	1710	2. Received by:	
3. Relinquished by:	date	time	4. Received by:	
5. Relinquished by:	1-31-98	1000	6. Received by Laboratory:	

☐ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901

☐ 459 Hughes Drive, Traverse City, MI 49684 (616) 947-5777

☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (318) 237-4775

☐ 1511 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 4[illegible]6868

SPL Houston Environmental Laboratory

Sample Login Checklist

Date: 1/31/98	Time: 1400

SPL Sample ID: 9801

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		4 C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	9322662-036	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name: Lulen Stell	Date: 1/31/98

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

February 18, 1998

Mr. George Robinson
CYPRESS ENGINEERING, INC.
16300 Katy Frwy, #210
Houston, TX 77094

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on January 31, 1998. The sample(s) was assigned to Certificate of Analysis No.(s)9801E25 and analyzed for all parameters as listed on the chain of custody.

The samples for the Metals analyses were received unfiltered and unpreserved. This is not compliant with method requirement. Therefore, the samples were filtered and preserved at SPL and analyzed for Dissolved Metals.

Per the client's request, this project was completed as a Level 2 with standard QC and not Level 3 as noted on the chain of custody.

Any data flag or quality control exception associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s).

If you have any questions or comments pertaining to this data report, please do not hesitate to contact me. Please reference the above Certificate of Analysis No. during any inquiries.

Again, SPL is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Southern Petroleum Laboratories

Shannon Tyrell
Client Services Representative

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-01-E25

Approved for Release by:

Shannon Tyrell, Client Services Representative 2/18/98
Date

Greg Grandits
Laboratory Director

Idelis Williams
Quality Assurance Officer

The attached analytical data package may not be reproduced except in full without the express written approval of this laboratory.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-21

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 11:10:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	88	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	440	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1700	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/05/98	3020	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	ND	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: DL Date: 02/05/98 08:00:00	02/05/98		

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-21

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 11:10:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.029	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	654	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-21

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 11:10:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.21	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/15/98 18:54:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	4	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	153	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.835	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-21

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 11:10:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	199	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

LABORATORY
CHANGE DRIVE
TEXAS 77054
713) 660-0901

Certificate of Analysis No. H9-9801E25-01

ss Engineering, Inc.
Katy Frwy. #210
on, TX 77094
George Robinson

02/16/98

CT: Transwestern Pipeline
Roswell Sta. 9
ED BY: Cypress Engineering
E ID: MW-21

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 11:10:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

RAMETER	RESULTS	PQL*	UNITS	NITS	UPPER LIMIT
enzene	700	50	ug/L	ug/L	
romobenzene	ND	5	ug/L	ug/L	
romochloromethane	ND	5	ug/L	ug/L	
romodichloromethane	ND	5	ug/L	ug/L	
romoform	ND	5	ug/L	ug/L	
romomethane	ND	10	ug/L	ug/L	
-Butylbenzene	ND	5	ug/L	ug/L	
ec-Butylbenzene	ND	5	ug/L	ug/L	
ert-Butylbenzene	ND	5	ug/L	ug/L	
arbon tetrachloride	ND	5	ug/L	ug/L	
lorobenzene	ND	5	ug/L	ug/L	
lo dibromomethane	ND	5	ug/L	ug/L	
lo ethane	ND	10	ug/L	ug/L	
loroform	ND	5	ug/L	ug/L	
loromethane	ND	10	ug/L	ug/L	
-Chlorotoluene	ND	5	ug/L	ug/L	
-Chlorotoluene	ND	5	ug/L	ug/L	
2-Dibromo-3-chloropropane	ND	5	ug/L	ug/L	
2-Dibromoethane	ND	5	ug/L	ug/L	
bromomethane	ND	5	ug/L		
2-Dichlorobenzene	ND	5	ug/L		
3-Dichlorobenzene	ND	5	ug/L		
4-Dichlorobenzene	ND	5	ug/L		
chlorodifluoromethane	ND	10	ug/L		
1-Dichloroethane	ND	5	ug/L		
2-Dichloroethane	ND	5	ug/L		
1-Dichloroethene	ND	5	ug/L		
s-1,2-Dichloroethene	ND	5	ug/L		
ans-1,2-Dichloroethene	ND	5	ug/L		
2-Dichloropropane	ND	5	ug/L		
3-Dichloropropane	ND	5	ug/L		
2-Dichloropropane	ND	5	ug/L		
1-Dichloropropene	ND	5	ug/L		
hylbenzene	ND	5	ug/L		
xachlorobutadiene	ND	5	ug/L		
opropylbenzene	ND	5	ug/L		
Isopropyltoluene	ND	5	ug/L		
thylene chloride	ND	5	ug/L		

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-01

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-21

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 11:10:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	64	35	114
2-Fluorobiphenyl	50 ug/L	76	43	116
Terphenyl-d14	50 ug/L	92	33	141
Phenol-d5	75 ug/L	17	10	110
2-Fluorophenol	75 ug/L	27	21	110
2,4,6-Tribromophenol	75 ug/L	100	10	123

ANALYZED BY: YL DATE/TIME: 02/09/98 17:03:00
EXTRACTED BY: DL DATE/TIME: 02/05/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-12

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 12:05:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	74	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	421	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1600	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/05/98	2680	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	0.3	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: DL Date: 02/05/98 08:00:00	02/05/98		

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-12

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 12:05:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	625	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-12

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 12:05:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.05	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/15/98 18:54:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	2	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	120	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.444	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-12

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 12:05:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	209	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-12

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 12:05:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	310	25	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-02

Cypress Engineering, Inc. **SAMPLE ID:** MW-12

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	10	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	96	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: JC DATE/TIME: 02/03/98 17:37:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-02

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-12

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98 12:05:00
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	62	35	114
2-Fluorobiphenyl	50 ug/L	74	43	116
Terphenyl-d14	50 ug/L	94	33	141
Phenol-d5	75 ug/L	17	10	110
2-Fluorophenol	75 ug/L	28	21	110
2,4,6-Tribromophenol	75 ug/L	105	10	123

ANALYZED BY: YL DATE/TIME: 02/09/98 17:36:00
EXTRACTED BY: DL DATE/TIME: 02/05/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-24

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO3 Method 310.1 * Analyzed by: TW Date: 02/11/98	87	1	mg/L
Chloride Method 325.3 * Analyzed by: TV Date: 02/11/98	437	5	mg/L
Sulfate Method 375.4 * Analyzed by: EM Date: 02/11/98 15:00:00	1700	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: KS Date: 02/05/98	2600	10	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: DAM Date: 02/13/98 09:00:00	ND	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: DL Date: 02/05/98 08:00:00	02/05/98		

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-24

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.025	0.005	mg/L
Calcium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	647	1	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-24

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Copper, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.01	mg/L
Iron, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.24	0.02	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: AG Date: 02/15/98 18:54:00	ND	0.0002	mg/L
Potassium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	4	2	mg/L
Magnesium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	151	0.1	mg/L
Manganese, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.798	0.005	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

DATE: 02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-24

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Sodium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	201	0.5	mg/L
Dissolved Metals Prep. Method 3005A *** Analyzed by: SRC Date: 02/02/98	02/02/98		
Lead, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.05	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	ND	0.1	mg/L
Zinc, Dissolved Method 6010B *** Analyzed by: PS Date: 02/03/98	0.03	0.02	mg/L

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-24

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	700	50	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-03

Cypress Engineering, Inc. **SAMPLE ID:** MW-24

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	24	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	96	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: JC DATE/TIME: 02/03/98 18:02:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-03

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-24

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Anthracene	ND	5	ug/L
Benzo(a)Anthracene	ND	5	ug/L
Benzo(b)Fluoranthene	ND	5	ug/L
Benzo(k)Fluoranthene	ND	5	ug/L
Benzo(a)Pyrene	ND	5	ug/L
Benzo(g,h,i)Perylene	ND	5	ug/L
Chrysene	ND	5	ug/L
Dibenz(a,h)Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Indeno(1,2,3-cd)Pyrene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Pyrene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	68	35	114
2-Fluorobiphenyl	50 ug/L	80	43	116
Terphenyl-d14	50 ug/L	100	33	141
Phenol-d5	75 ug/L	17	10	110
2-Fluorophenol	75 ug/L	27	21	110
2,4,6-Tribromophenol	75 ug/L	101	10	123

ANALYZED BY: YL DATE/TIME: 02/09/98 18:10:00
EXTRACTED BY: DL DATE/TIME: 02/05/98 08:00:00
METHOD: 8270C, Semivolatile Organics - Water
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-04

Cypress Engineering, Inc.
16300 Katy Frwy. #210
Houston, TX 77094
ATTN: George Robinson

02/16/98

PROJECT: Transwestern Pipeline
SITE: Roswell Sta. 9
SAMPLED BY: Provided by SPL
SAMPLE ID: Trip Blank

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 01/30/98
DATE RECEIVED: 01/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
n-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
Carbon tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chlorodibromomethane	ND	5	ug/L
Chloroethane	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,2-Dibromo-3-chloropropane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Dibromomethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
Methylene chloride	ND	5	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9801E25-04

Cypress Engineering, Inc. **SAMPLE ID:** Trip Blank

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	ND	5	ug/L
n-Propylbenzene	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
Vinyl chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L
Acetone	ND	100	ug/L
Carbon Disulfide	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
2-Hexanone	ND	10	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	96	76	114
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: JC DATE/TIME: 02/03/98 18:28:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

QUALITY CONTROL

DOCUMENTATION

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.: 9801E25 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: MW-21

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	54	108	61-145
Trichloroethene	50	0	51	102	71-120
Benzene	50	490	530	80	76-127
Toluene	50	0	58	116	76-125
Chlorobenzene	50	0	52	104	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	52	104	4	14	61-145
Trichloroethene	50	49	98	4	14	71-120
Benzene	50	520	60*	29*	11	76-127
Toluene	50	58	116	0	13	76-125
Chlorobenzene	50	52	104	0	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits due to matrix interference

RPD: 1 out of 5 outside limits
Spike Recovery: 1 out of 10 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name:
Client SDG: n980203
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: LCS
Level: LOW
Operator: JC
Data Type: MS DATA
SampleType: METHSPIKE
SpikeList File: 8260_water.spk
Quant Type: ISTD
Sublist File: 8260.sub
Method File: /var/chem/n.i/n980203.b/n8260w.m
Misc Info: N034W1//N034CW1

	SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
8	1,1-Dichloroethene	50	51	102.00	61-145
29	Trichloroethene	50	49	98.00	71-120
25	Benzene	50	57	114.00	76-127
37	Toluene	50	56	112.00	76-125
45	Chlorobenzene	50	51	102.00	75-130

	SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 21	1,2-Dichloroethane	50	48	96.00	76-114
$ 36	Toluene-d8	50	51	102.00	88-110
$ 56	Bromofluorobenzene	50	46	92.00	86-115

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.: 9802120 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: GCF-WP-01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	53	106	61-145
Trichloroethene	50	0	50	100	71-120
Benzene	50	0	61	122	76-127
Toluene	50	0	59	118	76-125
Chlorobenzene	50	0	54	108	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	54	108	2	14	61-145
Trichloroethene	50	50	100	0	14	71-120
Benzene	50	61	122	0	11	76-127
Toluene	50	59	118	0	13	76-125
Chlorobenzene	50	54	108	0	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name:
Client SDG: n980204
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: LCS
Level: LOW
Operator: JC
Data Type: MS DATA
SampleType: METHSPIKE
SpikeList File: 8260_water.spk
Quant Type: ISTD
Sublist File: 8260.sub
Method File: /var/chem/n.i/n980204.b/n8260w.m
Misc Info: N035W1//N035CW1

	SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
8	1,1-Dichloroethene	50	52	104.00	61-145
29	Trichloroethene	50	49	98.00	71-120
25	Benzene	50	58	116.00	76-127
37	Toluene	50	57	114.00	76-125
45	Chlorobenzene	50	52	104.00	75-130

	SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 21	1,2-Dichloroethane	50	47	94.00	76-114
$ 36	Toluene-d8	50	51	102.00	88-110
$ 56	Bromofluorobenzene	50	47	94.00	86-115

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980204122720

Reported on: 02/09/98 10:16
Analyzed on: 02/04/98 09:22
Analyst: JC

METHOD 8260/8240/624 N035B01

Compound	Result	Detection Limit	Units
Dichlorodifluoromethane	ND	10	ug/L
Chloromethane	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Bromomethane	ND	10	ug/L
Chloroethane	ND	10	ug/L
Trichlorofluoromethane	ND	5	ug/L
Acetone	ND	100	ug/L
1,1-Dichloroethene	ND	5	ug/L
Methylene Chloride	ND	5	ug/L
Carbon Disulfide	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Chloroform	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Benzene	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Dibromomethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980204122720

Reported on: 02/09/98 10:16
Analyzed on: 02/04/98 09:22
Analyst: JC

METHOD 8260/8240/624 N035B01

Compound	Result	Detection Limit	Units
1,3-Dichloropropane	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Bromoform	ND	5	ug/L
Styrene	ND	5	ug/L
Xylene (Total)	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
N-Propylbenzene	ND	5	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
n-Butylbenzene	ND	5	ug/L
1,2-Dibromo-3-Chloropropan	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
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SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980204122720

Reported on: 02/09/98 10:16
Analyzed on: 02/04/98 09:22
Analyst: JC

METHOD 8260/8240/624 N035B01

Surrogate	Result	QC Criteria	Units
1,2-Dichloroethane-d4	94	76-114	% Recovery
Toluene-d8	104	88-110	% Recovery
Bromofluorobenzene	94	86-115	% Recovery

Samples in Batch 9801E25-03

Notes

ND - Not detected.

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SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980203122720

Reported on: 02/09/98 10:16
Analyzed on: 02/03/98 15:54
Analyst: JC

METHOD 8260/8240 N034B01

Compound	Result	Detection Limit	Units
Dichlorodifluoromethane	ND	10	ug/L
Chloromethane	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Bromomethane	ND	10	ug/L
Chloroethane	ND	10	ug/L
Trichlorofluoromethane	ND	5	ug/L
Acetone	ND	100	ug/L
1,1-Dichloroethene	ND	5	ug/L
Methylene Chloride	ND	5	ug/L
Carbon Disulfide	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
2,2-Dichloropropane	ND	5	ug/L
Bromochloromethane	ND	5	ug/L
Chloroform	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Benzene	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Dibromomethane	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
2-Chloroethylvinylether	ND	10	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
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PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980203122720

Reported on: 02/09/98 10:16
Analyzed on: 02/03/98 15:54
Analyst: JC

METHOD 8260/8240 N034B01

Compound	Result	Detection Limit	Units
1,3-Dichloropropane	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Bromoform	ND	5	ug/L
Styrene	ND	5	ug/L
Xylene (Total)	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
Bromobenzene	ND	5	ug/L
N-Propylbenzene	ND	5	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
n-Butylbenzene	ND	5	ug/L
1,2-Dibromo-3-Chloropropan	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
Naphthalene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L

Notes
ND - Not detected.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
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PHONE (713) 660-0901

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: N980203122720

Reported on: 02/09/98 10:16
Analyzed on: 02/03/98 15:54
Analyst: JC

METHOD 8260/8240 N034B01

Surrogate	Result	QC Criteria	Units
1,2-Dichloroethane-d4	96	76-114	% Recovery
Toluene-d8	100	88-110	% Recovery
Bromofluorobenzene	92	86-115	% Recovery

Samples in Batch 9801E25-01 9801E25-02 9801E25-03 9801E25-04

Notes
ND - Not detected.

WATER SEMIVOLATILE MATRIX/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.:9802120 SAS No.: SDG No.:

Matrix Spike - EPA Sample No. :GCF-WP-01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	LIMITS
Phenol	75	0	16	21	12-110
2-Chlorophenol	75	0	49	65	27-123
1,4-Dichlorobenzenzene	50	0	39	78	36- 97
N-Nitroso-di-n-pro.(1)	50	0	42	84	41-116
1,2,4-Trichlorobenzene	50	0	44	88	39- 98
4-Chloro-3-methylphenol	75	0	61	81	23- 97
Acenaphthene	50	0	44	88	46-118
4-Nitrophenol	75	0	21	28*	30-150
2,4-Dinitrotoluene	50	0	42	84	50-150
Pentachlorophenol	75	0	74	99	9-125
Pyrene	50	0	46	92	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.#	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75	14	19	10	42	12-110
2-Chlorophenol	75	40	53	20	40	27-123
1,4-Dichlorobenzenene	50	31	62	23	28	36- 97
N-Nitroso-di-n-pro.(1)	50	35	70	18	38	41-116
1,2,4-Trichlorobenzene	50	34	68	26	28	39- 98
4-Chloro-3-methylphenol	75	52	69	3	42	23- 97
Acenaphthene	50	37	74	17	31	46-118
4-Nitrophenol	75	22	29*	4	50	30-150
2,4-Dinitrotoluene	50	39	78	7	50	50-150
Pentachlorophenol	75	74	99	0	50	9-125
Pyrene	50	45	90	2	31	26-127

(1) N-Nitroso-di-n-propylamine

* - Values outside of QC limits due to matrix interference.

RPD: 0 out of 11 outside limits
Spike Recovery: 2 out of 22 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name:
Client SDG: h980209
Sample Matrix: LIQUID
Fraction: SV
Lab Smp Id: METHSPIKE-8270W
Level: LOW
Operator: YL
Data Type: MS DATA
SampleType: MS
SpikeList File: 8270w.spk
Quant Type: ISTD
Sublist File: lcs.sub
Method File: /var/chem/h.i/h980209.b/h8270w.m
Misc Info: E036F3/H036B03/H040CC1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
5 Phenol	75	24	32.00	12-110
9 2-Chlorophenol	75	51	68.00	27-123
12 1,4-Dichlorobenzen	50	33	66.00	36-97
21 N-Nitroso-di-n-pro	50	43	86.00	41-116
31 1,2,4-Trichloroben	50	40	80.00	39-98
36 4-Chloro-3-methylp	75	70	93.33	23-97
49 Acenaphthene	50	47	94.00	46-118
51 4-Nitrophenol	75	37	49.33	30-150
53 2,4-Dinitrotoluene	50	49	98.00	50-150
64 Pentachlorophenol	75	92	122.67	9-125
71 Pyrene	50	52	104.00	26-127

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 23 Nitrobenzene-d5	50	37	74.00	35-114
$ 41 2-Fluorobiphenyl	50	45	90.00	43-116
$ 72 Terphenyl-d14	50	50	100.00	33-141
$ 3 2-Fluorophenol	75	30	40.00	21-110
$ 4 Phenol-d5	75	22	29.33	10-110
$ 61 2,4,6-Tribromophen	75	82	109.33	10-123

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SPL Blank QC Report

Matrix: Aqueous
Sample ID: BLANK
Batch: E980205042258

Reported on: 02/13/98 10:27
Analyzed on: 02/09/98 10:54
Analyst: YL

METHOD 8270 H036B03A

Compound	Result	Detection Limit	Units
Naphthalene	ND	5	ug/L
2-Methylnaphthalene	ND	5	ug/L
Acenaphthylene	ND	5	ug/L
Acenaphthene	ND	5	ug/L
Fluorene	ND	5	ug/L
Phenanthrene	ND	5	ug/L
Anthracene	ND	5	ug/L
Fluoranthene	ND	5	ug/L
Pyrene	ND	5	ug/L
Benzo[a]anthracene	ND	5	ug/L
Chrysene	ND	5	ug/L
Benzo[b]fluoranthene	ND	5	ug/L
Benzo[k]fluoranthene	ND	5	ug/L
Benzo[a]pyrene	ND	5	ug/L
Indeno[1,2,3-cd]pyrene	ND	5	ug/L
Dibenz[a,h]anthracene	ND	5	ug/L
Benzo[g,h,i]perylene	ND	5	ug/L
1-Methylnaphthalene	ND	5	ug/L

Surrogate	Result	QC Criteria	Units
Nitrobenzene-d5	60	35-114	% Recovery
2-Fluorobiphenyl	68	43-116	% Recovery
Terphenyl-d14	100	33-141	% Recovery
2-Fluorophenol	32	21-110	% Recovery
Phenol-d5	21	10-110	% Recovery
2,4,6-Tribromophenol	99	10-123	% Recovery

Samples in Batch 9801E25-01 9801E25-02 9801E25-03

Notes
ND - Not detected.

ICP Spectroscopy Method 6010 Quality Control Report

Matrix: DISSOLVED Units: mg/L Analyst: RS

Date:020398 Time:0122 File Name: 020398C2 Checked:

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(713) 660-0901

2/4/95

Laboratory Control Sample

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver	ND	2.00	2.08	104	1.60	2.40
Aluminum						
Arsenic	ND	4.00	4.13	103	3.20	4.80
Barium	ND	2.00	2.07	104	1.60	2.40
Beryllium						
Calcium	ND	20.00	21.43	107	16.00	24.00
Cadmium	ND	2.00	1.98	99	1.60	2.40
Cobalt						
Chromium	ND	2.00	2.06	103	1.60	2.40
Copper	ND	2.00	2.08	104	1.60	2.40
Iron	ND	2.00	2.10	105	1.60	2.40
Potassium	ND	20.00	20.89	104	16.00	24.00
Magnesium	ND	20.00	20.88	104	16.00	24.00
Manganese	ND	2.00	2.09	104	1.60	2.40
Sodium	ND	20.00	21.81	109	16.00	24.00
Nickel						
Lead	ND	2.00	2.02	101	1.60	2.40
Antimony						
Selenium	ND	4.00	4.10	103	3.20	4.80
Thallium						
Vanadium						
Zinc	ND	2.00	2.05	102	1.60	2.40

Work Orders in Batch

Work Order	Fractions
98-01-D95	01E-04E
98-01-E24	01E-02E
98-01-E25	01E-03E
98-01-E27	01E-03E
98-01-E30	01E-02E
98-01-634	04E

Matrix Spike - Spike Duplicate Results **Work Order Spiked: 9801D95-01E**

Element	Sample Result	Spike Added	Matrix Spike Result	Matrix Spike Recovery		Matrix Spike Duplicate Result	Matrix Spike Duplicate Recovery		QC Limits % Recovery		Spike RPD %		QC Limits %
Silver	ND	1.0	1.042	104.2		1.059	105.9		80	120	1.6		20.0
Aluminum													
Arsenic	ND	2.0	2.211	110.6		2.316	115.8		80	120	4.6		20.0
Barium	0.0204	1.0	1.046	102.6		1.06	104.0		80	120	1.4		20.0
Beryllium													
Calcium	611.9	100.0	721	109.1		724.1	112.2		80	120	2.8		20.0
Cadmium	ND	1.0	1.051	105.1		1.077	107.7		80	120	2.4		20.0
Cobalt													
Chromium	ND	1.0	1.02	102.0		1.052	105.2		80	120	3.1		20.0
Copper	ND	1.0	1.059	105.9		1.076	107.6		80	120	1.6		20.0
Iron	ND	1.0	1.022	102.2		1.05	105.0		80	120	2.7		20.0
Potassium	6.544	10.0	16.14	96.0		16.66	101.2		80	120	5.3		20.0
Magnesium	183	10.0	188.7	57.0	*	193.2	102.0		80	120	56.6	**	20.0
Manganese	0.141	1.0	1.182	104.1		1.215	107.4		80	120	3.1		20.0
Sodium	245.8	10.0	251	52.0	*	250.8	50.0	*	80	120	3.9		20.0
Nickel													
Lead	ND	1.0	1.036	103.6		1.058	105.8		80	120	2.1		20.0
Antimony													
Selenium	ND	2.0	2.299	115.0		2.385	119.2		80	120	3.7		20.0
Thallium													
Vanadium													
Zinc	ND	1.0	1.069	106.9		1.098	109.8		80	120	2.7		20.0

* Values Outside QC Range Due To Matrix Interference.
** Values Outside QC Range.
Elements Bench Spiked:ALL 10X DILUTION on Ca

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/15/98
Analyzed on: 02/15/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Blank Value ug/L	LCS Concentration ug/L	Measured Concentration ug/L	% Recovery	QC Limits Recovery
LCS	ND	2.00	1.90	95.0	80 - 120

-9802685

Samples in batch:

9801D95-01E	9801D95-02E	9801D95-03E	9801D95-04E
9801E25-01E	9801E25-02E	9801E25-03E	9801E27-01E
9801E27-02E	9801E27-03E	9801E30-01E	9801E30-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6
* VALUES OUTSIDE QC RANGE DUE TO MATRIX INTERFERENCE

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8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/15/98
Analyzed on: 02/15/98
Analyst: AG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Mercury, Dissolved
Method 7470 A***

SPL Sample ID Number	Method Blank ug/L	Sample Result ug/L	Spike Added ug/L	Matrix Spike Result ug/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result ug/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	% REC
9801E30-02E	ND	ND	2.00	1.25	62.5 *	1.33	66.5 *	6.2	20	75 -125

-9802685

Samples in batch:

9801D95-01E	9801D95-02E	9801D95-03E	9801D95-04E
9801E25-01E	9801E25-02E	9801E25-03E	9801E27-01E
9801E27-02E	9801E27-03E	9801E30-01E	9801E30-02E

COMMENTS:
LCS = SPL ID# 94-452-39-6
* VALUES OUTSIDE QC RANGE DUE TO MATRIX INTERFERENCE

HOUSTON LABORATORY
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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	90	87	96.7	95 - 113

-9802581

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B	9801E27-02B	9801E27-03B
9801E30-01B	9801E30-02B		

COMMENTS:

SPL LCS ID #94453182-12

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PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: TW

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Alkalinity, as CaCO3
Method 310.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D95-01B	88	86	2.3	18

-9802499

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B		

COMMENTS:

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8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Blank Value MG/L	LCS Concentration MG/L	Measured Concentration MG/L	% Recovery	QC Limits Recovery
LCS	ND	170.0	168.39	99.1	94 - 106

-9802509

Samples in batch:

9801D95-01B	9801D95-02B	9801D95-03B	9801D95-04B
9801E24-01B	9801E24-02B	9801E25-01B	9801E25-02B
9801E25-03B	9801E27-01B	9801E27-02B	9801E27-03B
9801E30-01B	9801E30-02B	9802369-02A	9802413-01D
9802413-02D	9802413-03D	9802414-01D	9802414-02D

COMMENTS:
LCS=SPL ID#94453182-12

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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/12/98
Analyzed on: 02/11/98
Analyst: TV

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Chloride
Method 325.3 *

SPL Sample ID Number	Method Blank MG/L	Sample Result MG/L	Spike Added MG/L	Matrix Spike Result MG/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result MG/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	QC LIMITS (Advisory) % REC
9801D95-01B	ND	70.9	50.0	119.11	96.4	119.64	97.5	1.1	5	92 -109

-9802507

Samples in batch:

9801D95-01B 9801D95-02B 9801D95-03B 9801D95-04B
9801E24-01B 9801E24-02B 9801E25-01B 9801E25-02B
9801E25-03B 9801E27-01B

COMMENTS:

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	8.48	7.61	89.7	82 - 111

-9802483

Samples in batch:

9801D31-01C	9801D31-02C	9801D31-03C	9801D31-04C
9801D40-01C	9801D40-02C	9801D55-01E	9801D95-01B
9801D95-02B	9801D95-03B	9801D95-04B	9801E24-01B
9801E24-02B	9801E25-01B	9801E25-02B	9801E25-03B
9801E27-01B	9801E27-02B	9801E30-01B	9801E30-02B

COMMENTS:

SPL LCS#: 94453182-12

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/11/98
Analyzed on: 02/11/98
Analyst: EM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Sulfate
Method 375.4 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	% REC
9801E30-01B	ND	6.13	10.00	14.86	87.3	14.92	87.9	0.7	9.5	84 -120

-9802484

Samples in batch:

9801D95-04B	9801E24-01B	9801E24-02B	9801E25-01B
9801E25-02B	9801E25-03B	9801E27-01B	9801E27-02B
9801E30-01B	9801E30-02B		

COMMENTS:

HOUSTON LABORATORY
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PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/06/98
Analyzed on: 02/05/98
Analyst: KS

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Total Dissolved Solids
Method 160.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9801D99-01C	910	890	2.2	5

-9802272

Samples in batch:

9801D99-01C 9801E25-01B 9801E25-02B 9801E25-03B
9802210-01B 9802249-01A

COMMENTS:

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/13/98
Analyzed on: 02/13/98
Analyst: DAM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	1.00	1.06	106	92 - 111

-9802632

Samples in batch:

9801C50-01K	9801D95-01C	9801D95-02C	9801D95-03C
9801D95-04C	9801E24-01C	9801E24-02C	9801E25-01C
9801E25-02C	9801E25-03C	9801E27-01C	9801E27-02C
9801E27-03C	9801E30-01C	9801E30-02C	

COMMENTS:

LCS = SPL ID#:94435156-13

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 02/13/98
Analyzed on: 02/13/98
Analyst: DAM

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Nitrate-Nitrite, as N
Method 353.3 *

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	% REC
9801D95-01C	ND	ND	2.50	2.74	110	2.72	109	0.9	12	87 -120

-9802629

Samples in batch:

9801D95-01C 9801D95-02C 9801D95-03C 9801D95-04C
9801E24-01C 9801E24-02C 9801E25-01C 9801E25-02C
9801E25-03C

COMMENTS:

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No: 9801E25 | 19633 | page 1 of 1

Client Name: Cypress Engineering
Address/Phone: 16300 Katy Freeway, Suite 210 Houston TX 77094 281-578-3115
Client Contact: George Robinson
Project Name: Transwestern Pipeline
Project Number:
Project Location: Roswell Sta. 9
Invoice To: George Robinson

matrix: W=water S=soil SL=sludge O=other:
bottle: P=plastic A=amber glass G=glass V=vial
size: 1=1 liter 4=4oz 40=vial 8=8oz 16=16oz
pres.: 1=HCl 2=HNO3 3=H2SO4 O=other:

Requested Analysis:
(A) VOC'S 8260 INCLUDES 1,2 DICHLOROETHENE (CIS, TRANS) & DICHLOROBENZENE (O-M-P)
(B) TDS, CHLORIDE, SULFATE TOTAL ALKALINITY
(C) NITRITE & NITRATE AS NITROGEN (353.2)
(D) PAH'S 8270 INCLUDING MONOMETHYLNAPHTHALENE ISOMERS (1-&2-)
(E) METALS DISSOLVED TOTAL 6010 As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Cu, Fe, Mn, Zn, Ca, K, Na, Mg

SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres.	Number of Containers	(A)	(B)	(C)	(D)		(E)			
MW-21	1/30/98	1110		X	W	G	40/1	1/0	3/1	X			X					
MW-21		1110				P	1	3/0	1/2		X	X			X			
MW-12		1205				G	40/1	1/0	3/1	X			X					
MW-12		1205				P	1	3/0	1/2		X	X			X			
MW-24						G	40/1	1/0	3/1	X			X					
MW-24						P	1	3/0	1/2		X	X			X			
Trip Blank						G	40	1	2									

Client/Consultant Remarks: See Shannon for Level II Reporting Details

Laboratory remarks: P2-1

Intact? ☐ Y ☐ N
Temp: 4

Requested TAT: 24hr ☐ 72hr ☐ 48hr ☐ Standard ☑ Other ☐ ______

Special Reporting Requirements: Fax Results ☐ Raw Data ☐ Standard QC ☐ Level 3 QC ☒ Level 4 QC ☐

Special Detection Limits (specify):

PM review (initial):

	date	time	
1. Relinquished By Sampler: [signature]	1/30/98	1710	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	1-31-98	1000	6. Received by Laboratory: [signature]

☐ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901
☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (318) 237-4775
☐ 459 Hughes Drive, Traverse City, MI 49684 (616) 947-5777
☐ 1511 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 447-6868

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
1-31-92	1430

SPL Sample ID:
9801E25

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		4 C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	800416706103	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
[signature]	1-31-92