

GW - 52

MONITORING REPORTS

DATE:

1998

RECEIVED

JUL 02 1999

**ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION**

**PHASE IV ASSESSMENT REPORT,
GROUND WATER MONITORING REPORT,
& PHASE V ASSESSMENT WORK PLAN**

**TRANSWESTERN PIPELINE COMPANY
ROSWELL COMPRESSOR STATION NO. 9**

Attachment #7

**Laboratory Reports for the September 1998
New Monitor Well Soil Borings and
Background Soil Sampling Event**



****SUMMARY REPORT****

09/18/98

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

Company: Cypress Engineering, Inc.
Site:
Project No:
Project: TWP Roswell STA 9

ANALYTICAL DATA
NOTE: ND - Not Detected

SPL ID MATRIX	CLIENT ID DATE SAMPLED	BENZENE	TOLUENE	ETHYLBENZ.	XYLENE	TPH-IR	TPH-GC	LEAD	MTBE
9809207-01 SOIL	MW-26 (10-12ft) 09/01/98 09:40:00					15 10mg/kg			
9809207-02 SOIL	MW-26 (48-50ft) 09/01/98 14:15:00					10 10mg/kg			
9809207-03 SOIL	MW-27 (38-40ft) 09/01/98 09:55:00					10 10mg/kg			
9809207-05 SOIL	BG-1A (10-12ft) 09/01/98 08:00:00					ND 10mg/kg			
9809207-06 SOIL	BG-1B (12-14ft) 09/01/98 08:12:00					ND 10mg/kg			
9809207-07 SOIL	BG-2A (10-12ft) 09/01/98 09:03:00					10 10mg/kg			
9809207-08 SOIL	BG-2B (12-14ft) 09/01/98 09:12:00					70 10mg/kg			
9809207-09 SOIL	BG-3A (10-12ft) 09/01/98 09:56:00					ND 10mg/kg			
9809207-10 SOIL	BG-3B (12-14ft) 09/01/98 10:10:00					ND 10mg/kg			
9809207-11 SOIL	BG-4A (10-12ft) 09/01/98 11:15:00					ND 10mg/kg			

TPH-IR - Method Modified 418.1 *


SPL, Inc., - Project Manager



****SUMMARY REPORT****

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

09/18/98

Company: Cypress Engineering, Inc.
Site:
Project No:
Project: TWP Roswell STA 9

ANALYTICAL DATA
NOTE: ND - Not Detected

SPL ID MATRIX	CLIENT ID DATE SAMPLED	BENZENE	TOLUENE	ETHYLBENZ.	XYLENE	TPH-IR	TPH-GC	LEAD	MTBE
9809207-12 SOIL	BG-4B (12-14ft) 09/01/98 11:20:00					ND 10mg/kg			
9809207-13 SOIL	BG-5A (10-12ft) 09/01/98 11:56:00					1900 20mg/kg			
9809207-14 SOIL	BG-5B (12-14ft) 09/01/98 12:05:00					860 10mg/kg			
9809207-15 SOIL	BG-6A (10-12ft) 09/01/98 12:45:00					ND 10mg/kg			
9809207-16 SOIL	BG-6B (12-14ft) 09/01/98 13:00:00					10 10mg/kg			
9809207-17 SOIL	BG-7A (10-12ft) 09/01/98 14:00:00					ND 10mg/kg			
9809207-18 SOIL	BG-7B (12-14ft) 09/01/98 14:05:00					ND 10mg/kg			
9809207-19 SOIL	BG-8A (10-12ft) 09/01/98 14:50:00					ND 10mg/kg			
9809207-20 SOIL	BG-8B (12-14ft) 09/01/98 15:10:00					ND 10mg/kg			

TPH-IR - Method Modified 418.1 *


SPL, Inc., - Project Manager



September 18, 1998

Mr. George Robinson
CYPRESS ENGINEERING, INC.
10235 W. Little York Rd #256
Houston, TX 77040

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on September 4, 1998. The sample(s) was assigned to Certificate of Analysis No.(s) 9809207 and analyzed for all parameters as listed on the chain of custody.

Sample "BG-5B(12-14)"(SPL#9809207-14B) was randomly chosen as a Quality Control sample for Metals analysis by SW-846 method 6010. The Matrix Spike Duplicate (MSD) recovery was outside of advisable limits for Aluminum. A Laboratory Control Sample (LCS) was analyzed as a Quality Control check for the analytical batch and all recoveries were within acceptable limits.

Any data flags or quality control exceptions 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


Electa Brown
Project Manager

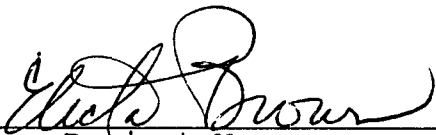


HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-09-207

Approved for Release by:



Electa Brown, Project Manager

9-19-98

Date

Greg Grandits
Laboratory Director

Cynthia Schreiner
Quality Assurance Officer

The attached analytical data package may not be reproduced except in full without the express written approval of this laboratory.
The results relate only to the samples tested.
Results reported on a Wet Weight Basis unless otherwise noted.

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

Certificate of Analysis No. H9-9809207-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-26 (10-12ft)**PROJECT NO:**
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:40:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	6160	10	mg/kg	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.5	0.5	mg/kg	
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	81.4	0.5	mg/kg	
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	0.4	0.3	mg/L	
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	0.5	0.5	mg/kg	

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. H9-9809207-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-26 (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:40:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	4	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	5	2	mg/kg	

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. H9-9809207-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-26 (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:40:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	4.9	0.5	mg/kg	
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	15	10	mg/kg	
Sonication Extraction - semivolatiles Method 3550B *** Analyzed by: GT Date: 09/08/98 10:00:00	09/08/98			
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98			
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	

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. H9-9809207-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9

PROJECT NO:

SITE:

MATRIX: SOIL

SAMPLED BY: Cypress Engineering

DATE SAMPLED: 09/01/98 09:40:00

SAMPLE ID: MW-26 (10-12ft)

DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	18	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	92	1	%	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	21.0	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	19	2	mg/kg	

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. H9-9809207-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

09/18/98

PROJECT: TWP Roswell STA 9

PROJECT NO:

SITE:

MATRIX: SOIL

SAMPLED BY: Cypress Engineering

DATE SAMPLED: 09/01/98 09:40:00

SAMPLE ID: MW-26 (10-12ft)

DATE RECEIVED: 09/04/98

ANALYTICAL DATA

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

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



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

Certificate of Analysis No. H9-9809207-01

Cypress Engineering, Inc.

SAMPLE ID: MW-26 (10-12ft)

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

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/Kg	94	70	120
Toluene-d8	50 ug/Kg	92	80	140
4-Bromofluorobenzene	50 ug/Kg	96	74	130

ANALYZED BY: HLW

DATE/TIME: 09/09/98 12:28:00

METHOD: 8260 Soil, 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. H9-9809207-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-26 (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:40:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	PQL*	UNITS	
Acenaphthene	ND	330	ug/Kg	
Acenaphthylene	ND	330	ug/Kg	
Aniline	ND	330	ug/Kg	
Anthracene	ND	330	ug/Kg	
Benzo(a)Anthracene	ND	330	ug/Kg	
Benzo(b)Fluoranthene	ND	330	ug/Kg	
Benzo(k)Fluoranthene	ND	330	ug/Kg	
Benzo(a)Pyrene	ND	330	ug/Kg	
Benzoic Acid	ND	1600	ug/Kg	
Benzo(g,h,i)Perylene	ND	330	ug/Kg	
Benzyl alcohol	ND	330	ug/Kg	
4-Bromophenylphenyl ether	ND	330	ug/Kg	
Butylbenzylphthalate	ND	330	ug/Kg	
di-n-Butyl phthalate	ND	330	ug/Kg	
Carbazole	ND	330	ug/Kg	
4-Chloroaniline	ND	330	ug/Kg	
bis(2-Chloroethoxy)Methane	ND	330	ug/Kg	
bis(2-Chloroethyl)Ether	ND	330	ug/Kg	
bis(2-Chloroisopropyl)Ether	ND	330	ug/Kg	
4-Chloro-3-Methylphenol	ND	330	ug/Kg	
2-Chloronaphthalene	ND	330	ug/Kg	
2-Chlorophenol	ND	330	ug/Kg	
4-Chlorophenylphenyl ether	ND	330	ug/Kg	
Chrysene	ND	330	ug/Kg	
Dibenz(a,h)Anthracene	ND	330	ug/Kg	
Dibenzofuran	ND	330	ug/Kg	
1,2-Dichlorobenzene	ND	330	ug/Kg	
1,3-Dichlorobenzene	ND	330	ug/Kg	
1,4-Dichlorobenzene	ND	330	ug/Kg	
3,3'-Dichlorobenzidine	ND	330	ug/Kg	
2,4-Dichlorophenol	ND	330	ug/Kg	
Diethylphthalate	ND	330	ug/Kg	
2,4-Dimethylphenol	ND	330	ug/Kg	
Dimethyl Phthalate	ND	330	ug/Kg	
4,6-Dinitro-2-Methylphenol	ND	800	ug/Kg	
2,4-Dinitrophenol	ND	800	ug/Kg	
2,4-Dinitrotoluene	ND	330	ug/Kg	
2,6-Dinitrotoluene	ND	330	ug/Kg	

METHOD: 8270C, Semivolatile Organics - Soil
(continued on next page)



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

Certificate of Analysis No. H9-9809207-01

Cypress Engineering, Inc.

SAMPLE ID: MW-26 (10-12ft)

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,2-Diphenylhydrazine	ND	330	ug/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	ug/Kg
Fluoranthene	ND	330	ug/Kg
Fluorene	ND	330	ug/Kg
Hexachlorobenzene	ND	330	ug/Kg
Hexachlorobutadiene	ND	330	ug/Kg
Hexachloroethane	ND	330	ug/Kg
Hexachlorocyclopentadiene	ND	330	ug/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	ug/Kg
Isophorone	ND	330	ug/Kg
2-Methylnaphthalene	ND	330	ug/Kg
2-Methylphenol	ND	330	ug/Kg
4-Methylphenol	ND	330	ug/Kg
Naphthalene	ND	330	ug/Kg
2-Nitroaniline	ND	800	ug/Kg
3-Nitroaniline	ND	800	ug/Kg
4-Nitroaniline	ND	800	ug/Kg
Nitrobenzene	ND	330	ug/Kg
2-Nitrophenol	ND	330	ug/Kg
4-Nitrophenol	ND	800	ug/Kg
N-Nitrosodiphenylamine	ND	330	ug/Kg
N-Nitroso-Di-n-Propylamine	ND	330	ug/Kg
Di-n-Octyl Phthalate	ND	330	ug/Kg
Pentachlorophenol	ND	800	ug/Kg
Phenanthrene	ND	330	ug/Kg
Phenol	ND	330	ug/Kg
Pyrene	ND	330	ug/Kg
Pyridine	ND	330	ug/Kg
1,2,4-Trichlorobenzene	ND	330	ug/Kg
2,4,5-Trichlorophenol	ND	800	ug/Kg
2,4,6-Trichlorophenol	ND	330	ug/Kg

METHOD: 8270C, Semivolatile Organics - Soil
(continued on next page)



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

Certificate of Analysis No. H9-9809207-01

Cypress Engineering, Inc.

SAMPLE ID: MW-26 (10-12ft)

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	1600 ug/Kg	39	23	120
2-Fluorobiphenyl	1600 ug/Kg	46	30	115
Terphenyl-d14	1600 ug/Kg	56	18	137
Phenol-d5	2500 ug/Kg	44	24	113
2-Fluorophenol	2500 ug/Kg	52	25	121
2,4,6-Tribromophenol	2500 ug/Kg	64	19	122

ANALYZED BY: RY

DATE/TIME: 09/10/98 15:09:00

EXTRACTED BY: GT

DATE/TIME: 09/08/98 10:00:00

METHOD: 8270C, Semivolatile Organics - Soil

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. H9-9809207-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-26 (48-50ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:15:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	1120	10	mg/kg	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	2.1	0.5	mg	
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	43.9	0.5	mg/kg	
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L	
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg	

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. H9-9809207-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-26 (48-50ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:15:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	5	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	4	2	mg/kg	

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. H9-9809207-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9

PROJECT NO:

SITE:

MATRIX: SOIL

SAMPLED BY: Cypress Engineering

DATE SAMPLED: 09/01/98 14:15:00

SAMPLE ID: MW-26 (48-50ft)

DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	4.0	0.5	mg/kg	
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	10	10	mg/	
Sonication Extraction - semivolatiles Method 3550B *** Analyzed by: GT Date: 09/08/98 10:00:00	09/08/98			
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98			
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	

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. H9-9809207-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-26 (48-50ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:15:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	83	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	7.3	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	15	2	mg/kg	

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.



Certificate of Analysis No. H9-9809207-02

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

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

09/18/98

PROJECT: TWP Roswell STA 9

PROJECT NO:

SITE:

MATRIX: SOIL

SAMPLED BY: Cypress Engineering

DATE SAMPLED: 09/01/98 14:15:00

SAMPLE ID: MW-26 (48-50ft)

DATE RECEIVED: 09/04/98

ANALYTICAL DATA

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

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



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

Certificate of Analysis No. H9-9809207-02

Cypress Engineering, Inc.

SAMPLE ID: MW-26 (48-50ft)

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

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/Kg	90	70	120
Toluene-d8	50 ug/Kg	92	80	140
4-Bromofluorobenzene	50 ug/Kg	96	74	130

ANALYZED BY: HLW

DATE/TIME: 09/09/98 14:20:00

METHOD: 8260 Soil, 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.



Certificate of Analysis No. H9-9809207-02

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-26 (48-50ft)PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:15:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	ug/Kg
Acenaphthylene	ND	330	ug/Kg
Aniline	ND	330	ug/Kg
Anthracene	ND	330	ug/Kg
Benzo(a)Anthracene	ND	330	ug/Kg
Benzo(b)Fluoranthene	ND	330	ug/Kg
Benzo(k)Fluoranthene	ND	330	ug/Kg
Benzo(a)Pyrene	ND	330	ug/Kg
Benzoic Acid	ND	1600	ug/Kg
Benzo(g,h,i)Perylene	ND	330	ug/Kg
Benzyl alcohol	ND	330	ug/Kg
4-Bromophenylphenyl ether	ND	330	ug/Kg
Butylbenzylphthalate	ND	330	ug/Kg
di-n-Butyl phthalate	ND	330	ug/Kg
Carbazole	ND	330	ug/Kg
4-Chloroaniline	ND	330	ug/Kg
bis(2-Chloroethoxy)Methane	ND	330	ug/Kg
bis(2-Chloroethyl)Ether	ND	330	ug/Kg
bis(2-Chloroisopropyl)Ether	ND	330	ug/Kg
4-Chloro-3-Methylphenol	ND	330	ug/Kg
2-Chloronaphthalene	ND	330	ug/Kg
2-Chlorophenol	ND	330	ug/Kg
4-Chlorophenylphenyl ether	ND	330	ug/Kg
Chrysene	ND	330	ug/Kg
Dibenz(a,h)Anthracene	ND	330	ug/Kg
Dibenzofuran	ND	330	ug/Kg
1,2-Dichlorobenzene	ND	330	ug/Kg
1,3-Dichlorobenzene	ND	330	ug/Kg
1,4-Dichlorobenzene	ND	330	ug/Kg
3,3'-Dichlorobenzidine	ND	330	ug/Kg
2,4-Dichlorophenol	ND	330	ug/Kg
Diethylphthalate	ND	330	ug/Kg
2,4-Dimethylphenol	ND	330	ug/Kg
Dimethyl Phthalate	ND	330	ug/Kg
4,6-Dinitro-2-Methylphenol	ND	800	ug/Kg
2,4-Dinitrophenol	ND	800	ug/Kg
2,4-Dinitrotoluene	ND	330	ug/Kg
2,6-Dinitrotoluene	ND	330	ug/Kg

METHOD: 8270C, Semivolatile Organics - Soil
(continued on next page)

**HOUSTON LABORATORY**

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0901

Certificate of Analysis No. H9-9809207-02

Cypress Engineering, Inc.

SAMPLE ID: MW-26 (48-50ft)

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,2-Diphenylhydrazine	ND	330	ug/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	ug/Kg
Fluoranthene	ND	330	ug/Kg
Fluorene	ND	330	ug/Kg
Hexachlorobenzene	ND	330	ug/Kg
Hexachlorobutadiene	ND	330	ug/Kg
Hexachloroethane	ND	330	ug/Kg
Hexachlorocyclopentadiene	ND	330	ug/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	ug/Kg
Isophorone	ND	330	ug/Kg
2-Methylnaphthalene	ND	330	ug/Kg
2-Methylphenol	ND	330	ug/Kg
4-Methylphenol	ND	330	ug/Kg
Naphthalene	ND	330	ug/Kg
2-Nitroaniline	ND	800	ug/Kg
3-Nitroaniline	ND	800	ug/Kg
4-Nitroaniline	ND	800	ug/Kg
Nitrobenzene	ND	330	ug/Kg
2-Nitrophenol	ND	330	ug/Kg
4-Nitrophenol	ND	800	ug/Kg
N-Nitrosodiphenylamine	ND	330	ug/Kg
N-Nitroso-Di-n-Propylamine	ND	330	ug/Kg
Di-n-Octyl Phthalate	ND	330	ug/Kg
Pentachlorophenol	ND	800	ug/Kg
Phenanthrene	ND	330	ug/Kg
Phenol	ND	330	ug/Kg
Pyrene	ND	330	ug/Kg
Pyridine	ND	330	ug/Kg
1,2,4-Trichlorobenzene	ND	330	ug/Kg
2,4,5-Trichlorophenol	ND	800	ug/Kg
2,4,6-Trichlorophenol	ND	330	ug/Kg

METHOD: 8270C, Semivolatile Organics - Soil
(continued on next page)



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

Certificate of Analysis No. H9-9809207-02

Cypress Engineering, Inc.

SAMPLE ID: MW-26 (48-50ft)

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	1600 ug/Kg	52	23	120
2-Fluorobiphenyl	1600 ug/Kg	62	30	115
Terphenyl-d14	1600 ug/Kg	58	18	137
Phenol-d5	2500 ug/Kg	56	24	113
2-Fluorophenol	2500 ug/Kg	56	25	121
2,4,6-Tribromophenol	2500 ug/Kg	72	19	122

ANALYZED BY: RY

DATE/TIME: 09/10/98 18:31:00

EXTRACTED BY: GT

DATE/TIME: 09/08/98 10:00:00

METHOD: 8270C, Semivolatile Organics - Soil

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. H9-9809207-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-27 (38-40ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:55:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	6200	10	mg/kg	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	2.7	0.5	mg/kg	
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	28.0	0.5	mg/kg	
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	0.5	0.3	mg/L	
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg	

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. H9-9809207-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-27 (38-40ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:55:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	8	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	6	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	7	2	mg/kg	

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. H9-9809207-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-27 (38-40ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:55:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	4.9	0.5	mg/kg	
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	10	10	mg/kg	
Sonication Extraction - semivolatiles Method 3550B *** Analyzed by: GT Date: 09/08/98 10:00:00	09/08/98			
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98			
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	0.7	0.5	mg/kg	

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. H9-9809207-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-27 (38-40ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:55:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	90	1	%	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	22.1	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	22	2	mg/kg	

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. H9-9809207-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-27 (38-40ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:55:00
DATE RECEIVED: 09/04/98

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

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



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

Certificate of Analysis No. H9-9809207-03

Cypress Engineering, Inc.

SAMPLE ID: MW-27 (38-40ft)

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

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/Kg	96	70	120
Toluene-d8	50 ug/Kg	92	80	140
4-Bromofluorobenzene	50 ug/Kg	96	74	130

ANALYZED BY: HLW

DATE/TIME: 09/09/98 14:50:00

METHOD: 8260 Soil, 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.



Certificate of Analysis No. H9-9809207-03

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

09/18/98

PROJECT: TWP Roswell STA 9

PROJECT NO:

SITE:

MATRIX: SOIL

SAMPLED BY: Cypress Engineering

DATE SAMPLED: 09/01/98 09:55:00

SAMPLE ID: MW-27 (38-40ft)

DATE RECEIVED: 09/04/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	ug/Kg
Acenaphthylene	ND	330	ug/Kg
Aniline	ND	330	ug/Kg
Anthracene	ND	330	ug/Kg
Benzo(a)Anthracene	ND	330	ug/Kg
Benzo(b)Fluoranthene	ND	330	ug/Kg
Benzo(k)Fluoranthene	ND	330	ug/Kg
Benzo(a)Pyrene	ND	330	ug/Kg
Benzoic Acid	ND	1600	ug/Kg
Benzo(g,h,i)Perylene	ND	330	ug/Kg
Benzyl alcohol	ND	330	ug/Kg
4-Bromophenylphenyl ether	ND	330	ug/Kg
Butylbenzylphthalate	ND	330	ug/Kg
di-n-Butyl phthalate	ND	330	ug/Kg
Carbazole	ND	330	ug/Kg
4-Chloroaniline	ND	330	ug/Kg
bis(2-Chloroethoxy)Methane	ND	330	ug/Kg
bis(2-Chloroethyl)Ether	ND	330	ug/Kg
bis(2-Chloroisopropyl)Ether	ND	330	ug/Kg
4-Chloro-3-Methylphenol	ND	330	ug/Kg
2-Chloronaphthalene	ND	330	ug/Kg
2-Chlorophenol	ND	330	ug/Kg
4-Chlorophenylphenyl ether	ND	330	ug/Kg
Chrysene	ND	330	ug/Kg
Dibenz(a,h)Anthracene	ND	330	ug/Kg
Dibenzofuran	ND	330	ug/Kg
1,2-Dichlorobenzene	ND	330	ug/Kg
1,3-Dichlorobenzene	ND	330	ug/Kg
1,4-Dichlorobenzene	ND	330	ug/Kg
3,3'-Dichlorobenzidine	ND	330	ug/Kg
2,4-Dichlorophenol	ND	330	ug/Kg
Diethylphthalate	ND	330	ug/Kg
2,4-Dimethylphenol	ND	330	ug/Kg
Dimethyl Phthalate	ND	330	ug/Kg
4,6-Dinitro-2-Methylphenol	ND	800	ug/Kg
2,4-Dinitrophenol	ND	800	ug/Kg
2,4-Dinitrotoluene	ND	330	ug/Kg
2,6-Dinitrotoluene	ND	330	ug/Kg

METHOD: 8270C, Semivolatile Organics - Soil
(continued on next page)



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

Certificate of Analysis No. H9-9809207-03

Cypress Engineering, Inc.

SAMPLE ID: MW-27 (38-40ft)

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,2-Diphenylhydrazine	ND	330	ug/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	ug/Kg
Fluoranthene	ND	330	ug/Kg
Fluorene	ND	330	ug/Kg
Hexachlorobenzene	ND	330	ug/Kg
Hexachlorobutadiene	ND	330	ug/Kg
Hexachloroethane	ND	330	ug/Kg
Hexachlorocyclopentadiene	ND	330	ug/Kg
Indeno(1,2,3-cd)Pyrene	ND	330	ug/Kg
Isophorone	ND	330	ug/Kg
2-Methylnaphthalene	ND	330	ug/Kg
2-Methylphenol	ND	330	ug/Kg
4-Methylphenol	ND	330	ug/Kg
Naphthalene	ND	330	ug/Kg
2-Nitroaniline	ND	800	ug/Kg
3-Nitroaniline	ND	800	ug/Kg
4-Nitroaniline	ND	800	ug/Kg
Nitrobenzene	ND	330	ug/Kg
2-Nitrophenol	ND	330	ug/Kg
4-Nitrophenol	ND	800	ug/Kg
N-Nitrosodiphenylamine	ND	330	ug/Kg
N-Nitroso-Di-n-Propylamine	ND	330	ug/Kg
Di-n-Octyl Phthalate	ND	330	ug/Kg
Pentachlorophenol	ND	800	ug/Kg
Phenanthrene	ND	330	ug/Kg
Phenol	ND	330	ug/Kg
Pyrene	ND	330	ug/Kg
Pyridine	ND	330	ug/Kg
1,2,4-Trichlorobenzene	ND	330	ug/Kg
2,4,5-Trichlorophenol	ND	800	ug/Kg
2,4,6-Trichlorophenol	ND	330	ug/Kg

METHOD: 8270C, Semivolatile Organics - Soil
(continued on next page)



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

Certificate of Analysis No. H9-9809207-03

Cypress Engineering, Inc.

SAMPLE ID: MW-27 (38-40ft)

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	1600 ug/Kg	50	23	120
2-Fluorobiphenyl	1600 ug/Kg	58	30	115
Terphenyl-d14	1600 ug/Kg	62	18	137
Phenol-d5	2500 ug/Kg	48	24	113
2-Fluorophenol	2500 ug/Kg	48	25	121
2,4,6-Tribromophenol	2500 ug/Kg	64	19	122

ANALYZED BY: RY

DATE/TIME: 09/10/98 19:04:00

EXTRACTED BY: GT

DATE/TIME: 09/08/98 10:00:00

METHOD: 8270C, Semivolatile Organics - Soil

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
8860 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9809207-04

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-27 (60-62ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	11600	10	mg/kg	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	4.8	0.5	mg	
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	156	0.5	mg/kg	
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	0.9	0.3	mg/L	
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg	

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. H9-9809207-04

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-27 (60-62ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	6	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	13	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	12	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	11	2	mg/kg	

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. H9-9809207-04

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-27 (60-62ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	9.0	0.5	mg/kg	
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98			
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	0.7	0.5	mg/kg	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	

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. H9-9809207-04

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: MW-27 (60-62ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Solids	75	1	% wt	
CLP Inorganics SOW				
Analyzed by: TK				
Date: 09/04/98 12:00:00				
Thallium, Total	ND	0.5	mg/kg	
Method 6010B ***				
Analyzed by: EG				
Date: 09/15/98 10:49:00				
Vanadium, Total	25.0	0.5	mg/kg	
Method 6010B ***				
Analyzed by: EG				
Date: 09/11/98 11:10:00				
Zinc, Total	42	2	mg/kg	
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				

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. H9-9809207-04

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

09/18/98

PROJECT: TWP Roswell STA 9

PROJECT NO:

SITE:

MATRIX: SOIL

SAMPLED BY: Cypress Engineering

DATE SAMPLED: 09/01/98 14:00:00

SAMPLE ID: MW-27 (60-62ft)

DATE RECEIVED: 09/04/98

ANALYTICAL DATA

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

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



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

Certificate of Analysis No. H9-9809207-04

Cypress Engineering, Inc.

SAMPLE ID: MW-27 (60-62ft)

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

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/Kg	90	70	120
Toluene-d8	50 ug/Kg	92	80	140
4-Bromofluorobenzene	50 ug/Kg	98	74	130

ANALYZED BY: HLW

DATE/TIME: 09/09/98 15:20:00

METHOD: 8260 Soil, 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. H9-9809207-05

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-1A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 08:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	1520	10	mg/kg	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.9	0.5	mg	
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	96.9	0.5	mg/kg	
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L	
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg	

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. H9-9809207-05

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-1A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 08:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	4	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	2	mg/kg	

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. H9-9809207-05

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-1A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 08:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	5.0	0.5	mg/kg	
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	ND	10	mg	
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98			
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	

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. H9-9809207-05

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-1A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 08:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	98	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	15.5	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	13	2	mg/kg	

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. H9-9809207-06

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9

PROJECT NO:

SITE:

MATRIX: SOIL

SAMPLED BY: Cypress Engineering

DATE SAMPLED: 09/01/98 08:12:00

SAMPLE ID: BG-1B (12-14ft)

DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	1130	10	mg/kg
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	10.2	0.5	mg
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	280	0.5	mg/kg
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg

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. H9-9809207-06

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-1B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 08:12:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	2	mg/kg	

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. H9-9809207-06

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-1B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 08:12:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	6.2	0.5	mg/kg	
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	ND	10	mg/	
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98			
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	0.5	0.5	mg/kg	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	

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. H9-9809207-06

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-1B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 08:12:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	99	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	10.5	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	23	2	mg/kg	

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. H9-9809207-07

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9

PROJECT NO:

SITE:

MATRIX: SOIL

SAMPLED BY: Cypress Engineering

DATE SAMPLED: 09/01/98 09:03:00

SAMPLE ID: BG-2A (10-12ft)

DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	1400	10	mg/kg
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.1	0.5	mg
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	97.4	0.5	mg/kg
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg

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. H9-9809207-07

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-2A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:03:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	1	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	1	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	2	mg/kg	

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. H9-9809207-07

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-2A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:03:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98		
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	4.8	0.5	mg/kg
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	10	10	mg
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98		
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg

O - Defined in COMMENTS below.

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. H9-9809207-07

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-2A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:03:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	99	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	17.4	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	11	2	mg/kg	

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
8860 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9809207-08

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-2B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:12:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	2330	10	mg/kg
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.0	0.5	mg
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	148	0.5	mg/kg
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg

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. H9-9809207-08

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-2B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:12:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	4	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	2	mg/kg	

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. H9-9809207-08

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-2B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:12:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	5.2	0.5	mg/kg	
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	70	10	mg	
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98			
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	

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. H9-9809207-08

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-2B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:12:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	97	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	18.5	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	15	2	mg/kg	

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. H9-9809207-09

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-3A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:56:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	890	10	mg/kg
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.2	0.5	mg/
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	130	0.5	mg/kg
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg

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. H9-9809207-09

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-3A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:56:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	1	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	2	mg/kg	

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. H9-9809207-09

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-3A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:56:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98		
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.8	0.5	mg/kg
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	ND	10	mg/
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98		
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg

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. H9-9809207-09

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-3A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 09:56:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	98	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	8.2	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	9	2	mg/kg	

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
8830 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9809207-10

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-3B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 10:10:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA		RESULTS	DETECTION LIMIT	UNITS
PARAMETER				
Silver, Total		ND	1	mg/kg
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				
Aluminum, Total		1090	10	mg/kg
Method 6010B ***				
Analyzed by: EG				
Date: 09/11/98 11:10:00				
Arsenic, Total		2.9	0.5	mg
Method 6010B ***				
Analyzed by: EG				
Date: 09/15/98 10:49:00				
Barium, Total		103	0.5	mg/kg
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				
Beryllium, Total		ND	0.3	mg/L
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				
Cadmium, Total		ND	0.5	mg/kg
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				

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. H9-9809207-10

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-3B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 10:10:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	1	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	2	mg/kg	

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. H9-9809207-10

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-3B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 10:10:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98		
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	2.8	0.5	mg/kg
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	ND	10	mg/
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98		
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg

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. H9-9809207-10

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-3B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 10:10:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	98	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	13.5	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	7	2	mg/kg	

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. H9-9809207-11

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-4A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 11:15:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA		RESULTS	DETECTION LIMIT	UNITS
PARAMETER				
Silver, Total		ND	1	mg/kg
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				
Aluminum, Total		2100	10	mg/kg
Method 6010B ***				
Analyzed by: EG				
Date: 09/11/98 11:10:00				
Arsenic, Total		3.8	0.5	mg
Method 6010B ***				
Analyzed by: EG				
Date: 09/15/98 10:49:00				
Barium, Total		442	0.5	mg/kg
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				
Beryllium, Total		0.3	0.3	mg/L
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				
Cadmium, Total		ND	0.5	mg/kg
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				

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. H9-9809207-11

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-4A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 11:15:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	2	mg/kg	

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. H9-9809207-11

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-4A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 11:15:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98		
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	4.1	0.5	mg/kg
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	ND	10	mg/
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98		
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg

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. H9-9809207-11

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-4A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 11:15:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	97	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	26.5	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	18	2	mg/kg	

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. H9-9809207-12

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9

PROJECT NO:

SITE:

MATRIX: SOIL

SAMPLED BY: Cypress Engineering

DATE SAMPLED: 09/01/98 11:20:00

SAMPLE ID: BG-4B (12-14ft)

DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	2600	10	mg/kg
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.0	0.5	mg
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	188	0.5	mg/kg
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg

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. H9-9809207-12

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-4B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 11:20:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	1	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	2	mg/kg	

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. H9-9809207-12

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-4B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 11:20:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA		RESULTS	DETECTION LIMIT	UNITS
PARAMETER				
Acid Digestion - Solids, ICP		09/09/98		
Method 3050B ***				
Analyzed by: GJ				
Date: 09/09/98 19:00:00				
Lead, Total		5.2	0.5	mg/kg
Method 6010B ***				
Analyzed by: EG				
Date: 09/15/98 10:49:00				
Total Recoverable Petroleum Hydrocarbons		ND	10	mg
Method Modified 418.1 *				
Analyzed by: ADA				
Date: 09/09/98 09:00:00				
Preparation, Solubles		09/04/98		
Analyzed by: TK				
Date: 09/04/98 15:00:00				
Antimony, Total		ND	0.5	mg/kg
Method 6010B ***				
Analyzed by: EG				
Date: 09/15/98 10:49:00				
Selenium, Total		ND	0.5	mg/kg
Method 6010B ***				
Analyzed by: EG				
Date: 09/15/98 10:49:00				

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. H9-9809207-12

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-4B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 11:20:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	93	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	12.8	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	19	2	mg/kg	

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. H9-9809207-13

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-5A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 11:56:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA		RESULTS	DETECTION LIMIT	UNITS
PARAMETER				
Silver, Total		ND	1	mg/kg
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				
Aluminum, Total		1440	10	mg/kg
Method 6010B ***				
Analyzed by: EG				
Date: 09/11/98 11:10:00				
Arsenic, Total		21.8	0.5	mg
Method 6010B ***				
Analyzed by: EG				
Date: 09/15/98 10:49:00				
Barium, Total		129	0.5	mg/kg
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				
Beryllium, Total		ND	0.3	mg/L
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				
Cadmium, Total		1.2	0.5	mg/kg
Method 6010B ***				
Analyzed by: JM				
Date: 09/16/98 09:20:00				

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. H9-9809207-13

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-5A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 11:56:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	11	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	10	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	0.03	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	2	mg/kg	

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. H9-9809207-13

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-5A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 11:56:00
DATE RECEIVED: 09/04/98

PARAMETER	ANALYTICAL DATA	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00		09/09/98		
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00		19.0	0.5	mg/kg
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00		1900	20	mg
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00		09/04/98		
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00		1.3	0.5	mg/kg
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00		ND	0.5	mg/kg

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.



Certificate of Analysis No. H9-9809207-13

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

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-5A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 11:56:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	6	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	98	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	11.4	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	162	2	mg/kg	

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. H9-9809207-14

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-5B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 12:05:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	1650	10	mg/kg
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.2	0.5	mg
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	207	0.5	mg/kg
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg

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. H9-9809207-14

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-5B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 12:05:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	4	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	2	mg/kg	

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. H9-9809207-14

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-5B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 12:05:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	5.0	0.5	mg/kg	
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	860	10	mg/	
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98			
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	

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. H9-9809207-14

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-5B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 12:05:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	97	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	8.5	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	24	2	mg/kg	

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. H9-9809207-15

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-6A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 12:45:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	580	10	mg/kg
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.4	0.5	mg
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	177	0.5	mg/kg
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg

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. H9-9809207-15

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-6A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 12:45:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	1	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	1	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	2	mg/kg	

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. H9-9809207-15

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-6A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 12:45:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	4.1	0.5	mg/kg	
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	ND	10	mg	
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98			
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	0.6	0.5	mg/kg	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	

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. H9-9809207-15

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-6A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 12:45:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	99	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	9.7	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	11	2	mg/kg	

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. H9-9809207-16

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-6B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 13:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	1250	10	mg/kg	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	4.6	0.5	mg/	
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	253	0.5	mg/kg	
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L	
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg	

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. H9-9809207-16

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-6B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 13:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	4	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	2	mg/kg	

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. H9-9809207-16

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-6B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 13:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	13.3	0.5	mg/kg	
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	10	10	mg	
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98			
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	

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. H9-9809207-16

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-6B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 13:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	99	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	13.6	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	16	2	mg/kg	

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. H9-9809207-17

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9

PROJECT NO:

SITE:

MATRIX: SOIL

SAMPLED BY: Cypress Engineering

DATE SAMPLED: 09/01/98 14:00:00

SAMPLE ID: BG-7A (10-12ft)

DATE RECEIVED: 09/04/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	680	10	mg/kg
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	2.8	0.5	mg
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	120	0.5	mg/kg
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg

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. H9-9809207-17

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-7A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	1	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	2	mg/kg	

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. H9-9809207-17

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-7A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	4.3	0.5	mg/kg	
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	ND	10	mg	
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98			
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	

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. H9-9809207-17

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-7A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:00:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	98	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	11.0	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	10	2	mg/kg	

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. H9-9809207-18

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-7B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:05:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	930	10	mg/kg	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	2.2	0.5	mg/	
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	306	0.5	mg/kg	
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L	
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg	

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. H9-9809207-18

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-7B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:05:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	1	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	2	mg/kg	

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. H9-9809207-18

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-7B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:05:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.3	0.5	mg/kg	
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	ND	10	mg/	
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98			
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	

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. H9-9809207-18

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-7B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:05:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	97	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	12.5	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	14	2	mg/kg	

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. H9-9809207-19

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-8A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:50:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	2720	10	mg/kg	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.2	0.5	mg	
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	84.1	0.5	mg/kg	
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L	
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg	

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. H9-9809207-19

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-8A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:50:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	3	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	2	mg/kg	

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. H9-9809207-19

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9

PROJECT NO:

SITE:

MATRIX: SOIL

SAMPLED BY: Cypress Engineering

DATE SAMPLED: 09/01/98 14:50:00

SAMPLE ID: BG-8A (10-12ft)

DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98		
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.7	0.5	mg/kg
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	ND	10	mg
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98		
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg

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. H9-9809207-19

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-8A (10-12ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 14:50:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg	
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	98	1	% wt	
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg	
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	21.5	0.5	mg/kg	
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	11	2	mg/kg	

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. H9-9809207-20

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-8B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 15:10:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Aluminum, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	1450	10	mg/kg	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	2.8	0.5	mg	
Barium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	195	0.5	mg/kg	
Beryllium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.3	mg/L	
Cadmium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	0.5	mg/kg	

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. H9-9809207-20

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-8B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 15:10:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cobalt, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	1	1	mg/kg	
Chromium, Hexavalent Method 3500-Cr D ** Analyzed by: PT Date: 09/05/98 12:00:00	ND	0.10	mg/kg	
Chromium, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	1	mg/kg	
Copper, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	2	1	mg/kg	
Mercury, Total Method 7471A *** Analyzed by: PB Date: 09/16/98 13:08:00	ND	0.03	mg/kg	
Nickel, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	2	mg/kg	

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. H9-9809207-20

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-8B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 15:10:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion - Solids, ICP Method 3050B *** Analyzed by: GJ Date: 09/09/98 19:00:00	09/09/98		
Lead, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	3.1	0.5	mg/kg
Total Recoverable Petroleum Hydrocarbons Method Modified 418.1 * Analyzed by: ADA Date: 09/09/98 09:00:00	ND	10	mg
Preparation, Solubles Analyzed by: TK Date: 09/04/98 15:00:00	09/04/98		
Antimony, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg
Selenium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg

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.



Certificate of Analysis No. H9-9809207-20

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

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 09/18/98

PROJECT: TWP Roswell STA 9
SITE:
SAMPLED BY: Cypress Engineering
SAMPLE ID: BG-8B (12-14ft)

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 09/01/98 15:10:00
DATE RECEIVED: 09/04/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Tin, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	ND	5	mg/kg
Solids CLP Inorganics SOW Analyzed by: TK Date: 09/04/98 12:00:00	98	1	% wt
Thallium, Total Method 6010B *** Analyzed by: EG Date: 09/15/98 10:49:00	ND	0.5	mg/kg
Vanadium, Total Method 6010B *** Analyzed by: EG Date: 09/11/98 11:10:00	14.2	0.5	mg/kg
Zinc, Total Method 6010B *** Analyzed by: JM Date: 09/16/98 09:20:00	11	2	mg/kg

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.

QUALITY CONTROL
DOCUMENTATION

3B
SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL

Contract:

Lab Code:

Case No: 9809207

SAS No: SDG No:

Matrix Spike - EPA Sample No: MW-26 (10-12FT)

Level(low/med) LOW

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC. #	QC LIMITS REC.
1,1-Dichloroethene	50	0	45	90	59-172
Trichloroethene	50	0	45	90	62-137
Benzene	50	0	45	90	66-142
Toluene	50	0	50	100	59-139
Chlorobenzene	50	0	52	104	60-133

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	MSD % REC.	#	QC LIMITS	
					% RPD #	REC.
1,1-Dichloroethene	50	52	104		14	22 59-172
Trichloroethene	50	51	102		13	24 62-137
Benzene	50	52	104		14	21 66-142
Toluene	50	55	110		10	21 59-139
Chlorobenzene	50	68	136	*	27 *	21 60-133

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: k980909
Sample Matrix: SOLID Fraction: VOA
Lab Smp Id: METHSPIKE-8260S/1X Client Smp ID: LAB CONT. SAMP.
Level: LOW Operator: HLW
Data Type: MS DATA SampleType: METHSPIKE
SpikeList File: 8240soil.spk Quant Type: ISTD
Sublist File: 8260.sub
Method File: /var/chem/k.i/k980909.b/k8260as.m
Misc Info: K252S1/K252B02/K252CS2

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
10 1,1-Dichloroethene	50	35	70.00	59-172
34 Trichloroethene	50	48	96.00	62-137
27 Benzene	50	45	90.00	66-142
43 Toluene	50	48	96.00	59-139
52 Chlorobenzene	50	49	98.00	60-133

SURROGATE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
\$ 23 1,2-Dichloroethane	50	45	90.00	70-120
\$ 40 Toluene-d8	50	46	92.00	80-140
\$ 61 Bromofluorobenzene	50	48	96.00	74-130



SPL Blank QC Report

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0901

Page 10

Matrix: Soil
Sample ID: VSBLK02
Batch: K980909094856

Reported on: 09/14/98 16:57

Analyzed on: 09/09/98 11:59

Analyst: HLW

METHOD 8260

K252B02

Compound	Result	Detection Limit	Units
Benzene	ND	5	ug/Kg
Bromobenzene	ND	5	ug/Kg
Bromochloromethane	ND	5	ug/Kg
Bromodichloromethane	ND	5	ug/Kg
Bromoform	ND	5	ug/Kg
Bromomethane	ND	10	ug/Kg
n-Butylbenzene	ND	5	ug/Kg
sec-Butylbenzene	ND	5	ug/Kg
tert-Butylbenzene	ND	5	ug/Kg
Carbon Tetrachloride	ND	5	ug/Kg
Chlorobenzene	ND	5	ug/Kg
Chloroethane	ND	10	ug/Kg
Chloroform	ND	5	ug/Kg
Chloromethane	ND	10	ug/Kg
2-Chlorotoluene	ND	5	ug/Kg
4-Chlorotoluene	ND	5	ug/Kg
Dibromochloromethane	ND	5	ug/Kg
1,2-Dibromo-3-chloropropan	ND	5	ug/Kg
1,2 Dibromoethane	ND	5	ug/Kg
Dibromomethane	ND	5	ug/Kg
1,2-Dichlorobenzene	ND	5	ug/Kg
1,3-Dichlorobenzene	ND	5	ug/Kg
1,4-Dichlorobenzene	ND	5	ug/Kg
Dichlorodifluoromethane	ND	10	ug/Kg
1,1-Dichloroethane	ND	5	ug/Kg
1,2-Dichloroethane	ND	5	ug/Kg
1,1-Dichloroethene	ND	5	ug/Kg
cis-1,2-Dichloroethene	ND	5	ug/Kg
trans-1,2-Dichloroethene	ND	5	ug/Kg
1,2-Dichloropropane	ND	5	ug/Kg
1,3-Dichloropropane	ND	5	ug/Kg
2,2-Dichloropropane	ND	5	ug/Kg
1,1-Dichloropropene	ND	5	ug/Kg
Ethylbenzene	ND	5	ug/Kg

Notes

ND - Not detected.



SPL Blank QC Report

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

Matrix: Soil
Sample ID: VSBLK02
Batch: K980909094856

Reported on: 09/14/98 16:57
Analyzed on: 09/09/98 11:59
Analyst: HLW

METHOD 8260

K252B02

Compound	Result	Detection Limit	Units
Hexachlorobutadiene	ND	5	ug/Kg
Isopropylbenzene	ND	5	ug/Kg
p-Isopropyltoluene	ND	5	ug/Kg
Methylene Chloride	ND	5	ug/Kg
Naphthalene	ND	5	ug/Kg
n-Propylbenzene	ND	5	ug/Kg
Styrene	ND	5	ug/Kg
1,1,1,2-Tetrachloroethane	ND	5	ug/Kg
1,1,2,2-Tetrachloroethane	ND	5	ug/Kg
Tetrachloroethene	ND	5	ug/Kg
Toluene	ND	5	ug/Kg
1,2,3-Trichlorobenzene	ND	5	ug/Kg
1,2,4-Trichlorobenzene	ND	5	ug/Kg
1,1,1-Trichloroethane	ND	5	ug/Kg
1,1,2-Trichloroethane	ND	5	ug/Kg
Trichloroethene	ND	5	ug/Kg
Trichlorofluoromethane	ND	5	ug/Kg
1,2,3-Trichloropropane	ND	5	ug/Kg
1,3,5-Trimethylbenzene	ND	5	ug/Kg
Vinyl Chloride	ND	10	ug/Kg
cis-1,3-Dichloropropene	ND	5	ug/Kg
trans-1,3-Dichloropropene	ND	5	ug/Kg
Xylene (Total)	ND	5	ug/Kg
1,2-Dichloroethene (total)	ND	5	ug/Kg
Acetone	ND	100	ug/Kg
2-Butanone	ND	20	ug/Kg
2-Hexanone	ND	10	ug/Kg
4-Methyl-2-Pentanone	ND	10	ug/Kg
Vinyl Acetate	ND	10	ug/Kg
Carbon Disulfide	ND	5	ug/Kg
2-Chloroethylvinylether	ND	10	ug/Kg
Methyl t-butyl ether	ND	10	ug/Kg
1,2,4-Trimethylbenzene	ND	5	ug/Kg

Notes

ND - Not detected.



SPL Blank QC Report

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 685-0901

Page 12

Matrix: Soil
Sample ID: VSBLK02
Batch: K980909094856

Reported on: 09/14/98 16:57

Analyzed on: 09/09/98 11:59

Analyst: HLW

METHOD 8260

K252B02

Surrogate	Result	QC Criteria	Units
1,2-Dichloroethane-d4	86	70-120	% Recovery
Toluene-d8	92	80-140	% Recovery
Bromofluorobenzene	96	74-130	% Recovery

Samples in Batch 9809207-01 9809207-02 9809207-03 9809207-04

Notes

ND - Not detected.

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL

Contract:

Lab Code: Case No: 9808A67

SAS No: SDG No:

Matrix Spike - EPA

Sample No: C-E1 (18-24IN)

Level (low/med):

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATIO (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC #	QC LIMITS REC
Phenol	2500	0	1300	52	12-110
2-Chlorophenol	2500	0	1300	52	27-123
1,4-Dichlorobenzene	1600	0	820	51	36- 97
N-Nitroso-di-n-propylamine	1600	0	1000	63	41-116
1,2,4-Trichlorobenzene	1600	0	890	56	39-110
4-Chloro-3-methylphenol	2500	0	1500	60	23-110
Acenaphthene	1600	0	990	62	46-125
4-Nitrophenol	2500	0	1300	52	25-150
2,4-Dinitrotoluene	1600	0	1000	63	50-150
Pentachlorophenol	2500	0	1500	60	9-125
Pyrene	1600	0	1000	63	26-127

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATIO (ug/kg)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC
Phenol	5000	2500	50	4	42	12-110
2-Chlorophenol	5000	2400	48	8	40	27-132
1,4-Dichlorobenzene	3200	1500	47	8	28	36- 97
N-Nitroso-di-n-propylamine	3200	1800	56	12	38	41-116
1,2,4-Trichlorobenzene	3200	1600	50	11	28	39-110
4-Chloro-3-methylphenol	5000	2800	56	7	42	23-110
Acenaphthene	3200	1800	56	10	31	46-125
4-Nitrophenol	5000	2100	42	21	50	25-150
2,4-Dinitrotoluene	3200	1900	59	7	50	50-150
Pentachlorophenol	5000	2400	48	22	50	9-125
Pyrene	3200	2200	69	9	31	26-127

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

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

SPL Houston Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Lab Smp Id: METHSPIKE-8270S
Level: LOW
Data Type: MS DATA
SpikeList File: 8270s.spk
Sublist File: 8270.sub
Method File: /var/chem/j.i/j980910.b/j8270s.m
Misc Info: E251S2/J251B02A/J253CC3

Client SDG: j980910
Fraction: SV
Operator: RY
SampleType: MS
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
5 Phenol	2500	1900	76.00	12-110
9 2-Chlorophenol	2500	1900	76.00	27-123
12 1,4-Dichlorobenzen	1600	1200	75.00	36-97
21 N-Nitroso-di-n-pro	1600	1100	68.75	41-116
31 1,2,4-Trichloroben	1600	1200	75.00	39-110
36 4-Chloro-3-methylp	2500	1900	76.00	23-110
49 Acenaphthene	1600	1400	87.50	46-125
51 4-Nitrophenol	2500	1700	68.00	25-150
53 2,4-Dinitrotoluene	1600	1200	75.00	50-150
64 Pentachlorophenol	2500	1900	76.00	9-125
71 Pyrene	1600	1300	81.25	26-127

SURROGATE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
\$ 3 2-Fluorophenol	2500	2300	92.00	25-121
\$ 4 Phenol-d5	2500	2000	80.00	24-113
\$ 61 2,4,6-Tribromophen	2500	2300	92.00	19-122
\$ 23 Nitrobenzene-d5	1600	1200	75.00	23-120
\$ 41 2-Fluorobiphenyl	1600	1400	87.50	30-115
\$ 72 Terphenyl-d14	1600	1200	75.00	18-137



SPL Blank QC Report

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0303

Page

Matrix: Soil
Sample ID: BLANK
Batch: E980908044707

Reported on: 09/17/98 16:46
Analyzed on: 09/10/98 14:03
Analyst: RY

METHOD 8270 J251B02A

Compound	Result	Detection Limit	Units
Pyridine	ND	330	ug/Kg
Phenol	ND	330	ug/Kg
Aniline	ND	330	ug/Kg
bis(2-Chloroethyl) ether	ND	330	ug/Kg
2-Chlorophenol	ND	330	ug/Kg
1,3-Dichlorobenzene	ND	330	ug/Kg
1,4-Dichlorobenzene	ND	330	ug/Kg
Benzyl alcohol	ND	330	ug/Kg
1,2-Dichlorobenzene	ND	330	ug/Kg
2-Methylphenol	ND	330	ug/Kg
bis(2-chloroisopropyl) ether	ND	330	ug/Kg
4-Methylphenol	ND	330	ug/Kg
N-Nitroso-di-n-propylamine	ND	330	ug/Kg
Hexachloroethane	ND	330	ug/Kg
Nitrobenzene	ND	330	ug/Kg
Isophorone	ND	330	ug/Kg
2-Nitrophenol	ND	330	ug/Kg
2,4-Dimethylphenol	ND	330	ug/Kg
Benzoic acid	ND	1600	ug/Kg
bis(2-Chloroethoxy) methane	ND	330	ug/Kg
2,4-Dichlorophenol	ND	330	ug/Kg
1,2,4-Trichlorobenzene	ND	330	ug/Kg
Naphthalene	ND	330	ug/Kg
4-Chloroaniline	ND	330	ug/Kg
Hexachlorobutadiene	ND	330	ug/Kg
4-Chloro-3-methylphenol	ND	330	ug/Kg
2-Methylnaphthalene	ND	330	ug/Kg
Hexachlorocyclopentadiene	ND	330	ug/Kg
2,4,6-Trichlorophenol	ND	330	ug/Kg
2,4,5-Trichlorophenol	ND	800	ug/Kg
2-Chloronaphthalene	ND	330	ug/Kg
2-Nitroaniline	ND	800	ug/Kg
Dimethylphthalate	ND	330	ug/Kg
2,6-Dinitrotoluene	ND	330	ug/Kg

Notes

ND - Not detected.



SPL Blank QC Report

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0901

Page 8

Matrix: Soil
Sample ID: BLANK
Batch: E980908044707

Reported on: 09/17/98 16:46
Analyzed on: 09/10/98 14:03
Analyst: RY

METHOD 8270 J251B02A

Compound	Result	Detection Limit	Units
Acenaphthylene	ND	330	ug/Kg
3-Nitroaniline	ND	800	ug/Kg
Acenaphthene	ND	330	ug/Kg
2,4-Dinitrophenol	ND	800	ug/Kg
4-Nitrophenol	ND	800	ug/Kg
Dibenzofuran	ND	330	ug/Kg
2,4-Dinitrotoluene	ND	330	ug/Kg
Diethylphthalate	ND	330	ug/Kg
4-Chlorophenyl-phenylether	ND	330	ug/Kg
Fluorene	ND	330	ug/Kg
4-Nitroaniline	ND	800	ug/Kg
4,6-Dinitro-2-methylphenol	ND	800	ug/Kg
n-Nitrosodiphenylamine	ND	330	ug/Kg
1,2-Diphenylhydrazine	ND	330	ug/Kg
4-Bromophenyl-phenylether	ND	330	ug/Kg
Hexachlorobenzene	ND	330	ug/Kg
Pentachlorophenol	ND	800	ug/Kg
Phenanthrene	ND	330	ug/Kg
Anthracene	ND	330	ug/Kg
Carbazole	ND	330	ug/Kg
Di-n-butylphthalate	ND	330	ug/Kg
Fluoranthene	ND	330	ug/Kg
Pyrene	ND	330	ug/Kg
Butylbenzylphthalate	ND	330	ug/Kg
3,3'-Dichlorobenzidine	ND	330	ug/Kg
Benzo[a]anthracene	ND	330	ug/Kg
Chrysene	ND	330	ug/Kg
bis(2-Ethylhexyl)phthalate	ND	330	ug/Kg
Di-n-octylphthalate	ND	330	ug/Kg
Benzo[b]fluoranthene	ND	330	ug/Kg
Benzo[k]fluoranthene	ND	330	ug/Kg
Benzo[a]pyrene	ND	330	ug/Kg
Indeno[1,2,3-cd]pyrene	ND	330	ug/Kg
Dibenz[a,h]anthracene	ND	330	ug/Kg

Notes

ND - Not detected.



SPL Blank QC Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 668-0901

page

Matrix: Soil
Sample ID: BLANK
Batch: E980908044707

Reported on: 09/17/98 16:46
Analyzed on: 09/10/98 14:03
Analyst: RY

METHOD 8270 J251B02A

Compound	Result	Detection Limit	Units
Benzo[g,h,i]perylene	ND	330	ug/Kg

Surrogate	Result	QC Criteria	Units
2-Fluorophenol	92	25-121	% Recovery
Phenol-d5	76	24-113	% Recovery
2,4,6-Tribromophenol	84	19-122	% Recovery
Nitrobenzene-d5	61	23-120	% Recovery
2-Fluorobiphenyl	81	30-115	% Recovery
Terphenyl-d14	75	18-137	% Recovery

Samples in Batch 9809207-01 9809207-02 9809207-03

Notes

ND - Not detected.



Matrix: Soil

Units: mg/Kg

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0901

Date: 091698

Time: 0920

File Name: 0916JM7

Laboratory Control Sample Lot#239

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver	ND	57.2	45	78	40.8	73.5
Aluminum						
Arsenic						
Barium	ND	195	142	73	128	261
Beryllium	ND	78.9	62	79	56.5	101
Calcium						
Cadmium	ND	114	91	80	84.9	142
Cobalt	ND	73.7	58	78	51.8	95.6
Chromium	ND	175	141	80	121	229
Copper	ND	91	77	84	64.6	117
Iron						
Potassium						
Molybdenum						
Manganese						
Sodium						
Nickel	ND	68.3	52	76	38.1	98.6
Lead						
Antimony						
Selenium						
Tin	ND	174	141	81	124	224
Vanadium						
Zinc	ND	190	157	83	144	236

Work Orders in Batch

Work Order Fractions

98-09-207 01B-20B

Matrix Spike - Spike Duplicate Results

Work Order Spiked: 9809207-01B

Element	Sample Result	Spike Added	Matrix Spike Result	Matrix Spike Recovery	Matrix Spike Duplicate Result	Matrix Spike Duplicate Recovery	Q.C. Limits % Recovery	Spike RPD %	QC Limits %
Silver	ND	100	87.8	88	87.53	88	80 120	0.3	20.0
Aluminum									
Arsenic									
Barium	81.38	100	161.5	80	161.1	80	80 120	0.5	20.0
Beryllium	0.3608	100	82.88	83	81.17	81	80 120	2.1	20.0
Calcium									
Cadmium	ND	100	83.52	84	83.19	83	80 120	0.4	20.0
Cobalt	2.402	100	86.22	84	86.29	84	80 120	0.1	20.0
Chromium	2.26	100	82.2	80	83.89	82	80 120	2.1	20.0
Copper	4.217	100	93.97	90	93.13	89	80 120	0.9	20.0
Iron									
Potassium									
Molybdenum									
Manganese									
Sodium									
Nickel	4.872	100	90.15	85	89.95	85	80 120	0.2	20.0
Lead									
Antimony									
Selenium									
Tin	18.34	200	189.9	86	190	86	80 120	0.1	20.0
Vanadium									
Zinc	18.51	100	103.5	85	105.9	87	80 120	2.8	20.0

Elements Post Spiked: BA, CO, NI, SN

Checked *Jm 9/17/98*



Matrix: Soil

Units: mg/Kg

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0901

Date: 091198

Time: 1110

File Name: 0911ML1

Laboratory Control Sample Lot#238

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver						
Aluminum	ND	5370	3594	67	2850	7890
Arsenic						
Barium						
Beryllium						
Calcium						
Cadmium						
Cobalt						
Chromium						
Copper						
Iron						
Potassium						
Molybdenum						
Manganese						
Sodium						
Nickel						
Lead						
Antimony						
Selenium						
Thallium						
Vanadium	ND	56.9	49	86	38.8	75
Zinc						

Work Orders in Batch

Work Order Fractions

98-09-207 01B-13B

Matrix Spike - Spike Duplicate Results

Work Order Spiked: 9809320-01B

Element	Sample Result	Spike Added	Matrix Spike Result	Matrix Spike Recovery	Matrix Spike Duplicate Result	Matrix Spike Duplicate Recovery	Q.C. Limits % Recovery		Spike RPD %	QC Limits %
Silver										
Aluminum	363.5	100	458.9	95	460.4	97	80	120	1.6	20.0
Arsenic										
Barium										
Beryllium										
Calcium										
Cadmium										
Cobalt										
Chromium										
Copper										
Iron										
Potassium										
Molybdenum										
Manganese										
Sodium										
Nickel										
Lead										
Antimony										
Selenium										
Thallium										
Vanadium	4.149	100	98.53	94	98.14	94	80	120	0.4	20.0
Zinc										

Elements Post Spiked: Al.

Checked Jan 9/17/98



Matrix: Soil

Units: mg/Kg

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0901

Date: 091198

Time: 1110

File Name: 0911ML2

Laboratory Control Sample Lot#238

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver						
Aluminum	ND	5370	4578	85	2850	7890
Arsenic						
Barium						
Beryllium						
Calcium						
Cadmium						
Cobalt						
Chromium						
Copper						
Iron						
Potassium						
Molybdenum						
Manganese						
Sodium						
Nickel						
Lead						
Antimony						
Selenium						
Thallium						
Vanadium	ND	56.9	55	97	38.8	75
Zinc						

Work Orders in Batch

Work Order Fractions

98-09-207 14B-20B

Matrix Spike - Spike Duplicate Results

Work Order Spiked: 9809207-14B

Element	Sample Result	Spike Added	Matrix Spike Result	Matrix Spike Recovery	Matrix Spike Duplicate Result	Matrix Spike Duplicate Recovery	Q.C. Limits % Recovery	Spike RPD %	QC Limits %
Silver									
Aluminum	1650	100	1743	93	1728	78	* 80 120	17.5	20.0
Arsenic									
Barium									
Beryllium									
Calcium									
Cadmium									
Cobalt									
Chromium									
Copper									
Iron									
Potassium									
Molybdenum									
Manganese									
Sodium									
Nickel									
Lead									
Antimony									
Selenium									
Thallium									
Vanadium	8.522	100	100.4	92	98.6	90	80 120	2.0	20.0
Zinc									

Elements Post Spiked: Al.

Checked *gm 9/17/98*

* Values Outside QC Range Due To Matrix Interference.



Matrix: Soil

Units: mg/Kg

HOUSTON LABORATORY

8860 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0901

Date: 091598

Time: 1049

File Name: 0915ML5

Laboratory Control Sample Lot#239

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver						
Aluminum						
Arsenic	ND	163	143	87	102	225
Barium						
Beryllium						
Calcium						
Cadmium						
Cobalt						
Chromium						
Copper						
Iron						
Potassium						
Molybdenum						
Manganese						
Sodium						
Nickel						
Lead	ND	66	57	86	44.7	87.3
Antimony	ND	26.6	104	392	3.49	49.6
Selenium	ND	123	47	38	91.4	155
Thallium	ND	80	69	86	45.8	114
Vanadium						
Zinc						

Work Orders in Batch

Work Order Fractions

98-09-207 01B-20B

Matrix Spike - Spike Duplicate Results

Work Order Spiked: 9809207-01B

Element	Sample Result	Spike Added	Matrix Spike Result	Matrix Spike Recovery	Matrix Spike Duplicate Result	Matrix Spike Duplicate Recovery	Q.C. Limits % Recovery	Spike RPD %	QC Limits %
Silver									
Aluminum									
Arsenic	ND	200	174	87	172.9	86	80 120	0.6	20.0
Barium									
Beryllium									
Calcium									
Cadmium									
Cobalt									
Chromium									
Copper									
Iron									
Potassium									
Molybdenum									
Manganese									
Sodium									
Nickel									
Lead	ND	100	89.45	89	88.4	88	80 120	1.2	20.0
Antimony	ND	200	171.9	86	173.8	87	80 120	1.1	20.0
Selenium	ND	200	160.6	80	161.1	81	80 120	0.3	20.0
Thallium	ND	200	166.9	83	165.2	83	80 120	1.0	20.0
Vanadium									
Zinc									

Checked EG 9/17/98



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

** SPL QUALITY CONTROL REPORT **

Matrix: Soil

Reported on: 09/16/98

Analyzed on: 09/16/98

Analyst: PB

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, Total
Method 7471A ***

SPL Sample ID Number	Blank Value mg/Kg	Certified Value mg/Kg	Measured Concentration mg/Kg	Mandatory Range of Measured Concentration
LCS	ND	1.34	1.27	0.66 - 2.02

-9809523

Samples in batch:

9809207-01B	9809207-02B	9809207-03B	9809207-04B
9809207-05B	9809207-06B	9809207-07B	9809207-08B
9809207-09B	9809207-10B	9809207-11B	9809207-12B
9809207-13B	9809207-14B	9809207-15B	9809207-16B
9809207-17B	9809207-18B	9809207-19B	9809207-20B

COMMENTS:

LCS= SPL ID# 94-452-46-6



** SPL QUALITY CONTROL REPORT **

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

Matrix: Soil

Reported on: 09/16/98
Analyzed on: 09/16/98
Analyst: PB

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, Total
Method 7471A ***

SPL Sample ID Number	Method Blank mg/Kg	Sample Result mg/Kg	Spike Added mg/Kg	Matrix Spike		Matrix Spike Duplicate		RPD (%)	QC LIMITS (Advisory)		
				Result mg/Kg	Recovery %	Result mg/Kg	Recovery %		RPD Max	% REC	
9809207-01B	ND	ND	0.33	0.34	103	0.33	100	3.0	20	75	-125

-9809523

Samples in batch:

9809207-01B	9809207-02B	9809207-03B	9809207-04B
9809207-05B	9809207-06B	9809207-07B	9809207-08B
9809207-09B	9809207-10B	9809207-11B	9809207-12B
9809207-13B	9809207-14B	9809207-15B	9809207-16B
9809207-17B	9809207-18B	9809207-19B	9809207-20B

COMMENTS:

LCS= SPL ID# 94-452-46-6



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

**** SPL QUALITY CONTROL REPORT ****

Matrix: Soil

Reported on: 09/05/98
Analyzed on: 09/05/98
Analyst: PT

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:

Chromium, Hexavalent
Method 3500-Cr D **

SPL Sample	Method	Sample	Spike	Matrix Spike		Matrix Spike Duplicate		RPD	QC LIMITS (Advisory)		
ID Number	Blank mg/kg	Result mg/kg	Added mg/kg	Result mg/kg	Recovery %	Result mg/kg	Recovery %	(%)	RPD Max	% REC	
9809207-01B	ND	ND	0.50	0.52	104	0.51	102	1.9	20	80	-120

-9809184

Samples in batch:

9809207-01B 9809207-02B 9809207-03B 9809207-04B
9809207-05B 9809207-06B 9809207-07B 9809207-08B

COMMENTS:



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

** SPL QUALITY CONTROL REPORT **

Matrix: Soil

Reported on: 09/05/98
Analyzed on: 09/05/98
Analyst: PT

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:

Chromium, Hexavalent
Method 3500-Cr D **

SPL Sample	Method	Sample	Spike	Matrix Spike		Matrix Spike Duplicate		RPD	QC LIMITS (Advisory)		
ID Number	Blank mg/kg	Result mg/kg	Added mg/kg	Result mg/kg	Recovery %	Result mg/kg	Recovery %	(%)	RPD Max	% REC	
9809207-09B	ND	ND	0.50	0.50	100	0.51	102	2.0	20	80	-120

-9809185

Samples in batch:

9809207-09B 9809207-10B 9809207-11B 9809207-12B
9809207-13B 9809207-14B 9809207-15B 9809207-16B

COMMENTS:



**** SPL QUALITY CONTROL REPORT ****

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

Matrix: Soil

Reported on: 09/05/98
Analyzed on: 09/05/98
Analyst: PT

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:

Chromium, Hexavalent
Method 3500-Cr D **

SPL Sample	Method	Sample	Spike	Matrix Spike		Matrix Spike Duplicate		RPD	QC LIMITS (Advisory)		
ID Number	Blank mg/kg	Result mg/kg	Added mg/kg	Result mg/kg	Recovery %	Result mg/kg	Recovery %	(%)	RPD Max	% REC	
9809207-17B	ND	ND	0.50	0.52	104	0.51	102	1.9	20	80	-120

-9809186

Samples in batch:

9809207-17B 9809207-18B 9809207-19B 9809207-20B

COMMENTS:



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

** SPL QUALITY CONTROL REPORT **

Matrix: Soil

Reported on: 09/09/98
Analyzed on: 09/09/98
Analyst: ADA

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:

Total Recoverable Petroleum Hydrocarbons
Method Modified 418.1 *

SPL Sample	Method	Sample	Spike	Matrix Spike		Matrix Spike Duplicate		RPD	QC LIMITS (Advisory)	
ID Number	Blank mg/kg	Result mg/kg	Added mg/kg	Result mg/kg	Recovery %	Result mg/kg	Recovery %	(%)	RPD Max	% REC
9809207-15B	ND	5	209	190	88.5	190	88.5	0	8.1	79 -115

980910ADA

-9809309

Samples in batch:

9809207-01B	9809207-02B	9809207-03B	9809207-05B
9809207-06B	9809207-07B	9809207-08B	9809207-09B
9809207-10B	9809207-11B	9809207-12B	9809207-13B
9809207-14B	9809207-15B	9809207-16B	9809207-17B
9809207-18B	9809207-19B	9809207-20B	

COMMENTS:



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

** SPL QUALITY CONTROL REPORT **

Matrix: Soil

Reported on: 09/04/98

Analyzed on: 09/04/98

Analyst: TK

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

Solids
CLP Inorganics SOW

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration % wt	Duplicate Sample % wt	RPD	RPD Max.
9809162-01B	80	80	0	20

-9809155

Samples in batch:

9809162-01B	9809162-02B	9809162-03B	9809162-04B
9809162-05B	9809162-06B	9809162-07A	9809162-08A
9809207-01B	9809207-02B	9809207-03B	9809207-04B
9809207-05B	9809207-06B	9809207-07B	9809207-08B
9809207-09B	9809207-10B	9809207-11B	9809207-12B

COMMENTS:



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

** SPL QUALITY CONTROL REPORT **

Matrix: Soil

Reported on: 09/04/98

Analyzed on: 09/04/98

Analyst: TK

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

Solids
CLP Inorganics SOW

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration % wt	Duplicate Sample % wt	RPD	RPD Max.
9809207-13B	98	98	0	20

-9809157

Samples in batch:

9809101-01A	9809207-13B	9809207-14B	9809207-15B
9809207-16B	9809207-17B	9809207-18B	9809207-19B
9809207-20B	9809219-01B	9809219-02B	9809219-03B
9809219-04B	9809219-05B	9809219-06B	9809219-07B
9809219-08B	9809219-09B		

COMMENTS:

CHAIN OF CUSTODY
AND
SAMPLE RECEIPT CHECKLIST



SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No:

9809207

50213

page 1 of 2

Client Name: Cypress Engineering
 Address/Phone: 10235 West Little York, #250
 Client Contact: George Robinson/Houston,
 Project Name: TWP Roswell / TX 77040
 Project Number:
 Project Location: Roswell, NM
 Invoice To: George Robinson

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

Number of Containers

VOCs (8260)
 including cis + trans 1,2-DCE
 & o-m-x, p-DCE
 SVOCs (8270)
 including
 1-2-methylphthalene

Requested Analysis

TPH (418.1)
 Total Metals
 Al, Sb, As, Ba, Be, Cd, Cr (Total), Cr (VI), Cu, Pb, Hg, Se, Ti, Ag, Ni, Sn, V, Zn

SAMPLE ID	DATE	TIME	comp	grab	W	S	SL	P	A	G	V	1	4	40	8	16	1	2	3	Number of Containers	VOCs (8260)	SVOCs (8270)	TPH (418.1)	Total Metals	Al, Sb, As, Ba, Be, Cd, Cr (Total), Cr (VI), Cu, Pb, Hg, Se, Ti, Ag, Ni, Sn, V, Zn
MW-26 (10-12')	9-1-98	9:40		X	S		G	4oz				1								2	✓	✓	✓	✓	
MW-26 (48-50')	9-1-98	14:15		X	S		G	4oz				1								2	✓	✓	✓	✓	
MW-27 (38-40')	9-2-98	9:55		X	S		G	4oz				1								1	✓	✓	✓	✓	
MW-27 (60-62')	9-2-98	14:00		X	S		G	4oz				1								1	✓	✓	✓	✓	
BG-1A (10-12')	9-3-98	8:00		X	S		G	16oz				1								1			✓	✓	
BG-1B (12-14')	9-3-98	8:12		X	S		G	16oz				1								1			✓	✓	
BG-2A (10-12')	9-3-98	9:03		X	S		G	8oz				1								1			✓	✓	
BG-2B (12-14')	9-3-98	9:12		X	S		G	8oz				1								1			✓	✓	
BG-3A (10-12')	9-3-98	9:56		X	S		G	8oz				1								1			✓	✓	
BG-3B (12-14')	9-3-98	10:10		X	S		G	8oz				1								1			✓	✓	

Client/Consultant Remarks:

Laboratory remarks:

Intact? ☐ Y ☐ NTemp: 2°

Requested TAT

24hr ☐ 72hr ☐
 48hr ☐ Standard ☒
 Other ☐

Special Reporting Requirements

Standard QC ☒

Fax Results

Level 3 QC ☐Raw Data ☐Level 4 QC ☐

Special Detection Limits (specify):

PM review (initial):

1. Relinquished by Sampler:

3. Relinquished by:

5. Relinquished by:

date

date

date

time

time

time

2. Received by:

4. Received by:

6. Received by Laboratory:

9/4/98 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
☐ 1501 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 447-6868



SPL, Inc.

SPL Workorder No:

9809207

50214

page 2 of 2

Analysis Request & Chain of Custody Record

Client Name: <u>Cypress Engineering</u>					matrix		bottle	size	pres.	Requested Analysis									
Address/Phone: <u>10235 West Little York, #256</u>					S=soil		A=amber glass	4=4oz	2=HNO3	TPH (418.1) Total Metals Al, Sb, As, Ba, Be, Cd, Cr (Total), Cr (VI), Cu, Pb, Hg, Se, Tl, Ag, Ni, Sn, V, Zn									
Client Contact: <u>George Robinson / Houston, TX</u>					O=other:		V=vial	16=16oz	O=other:										
Project Name: <u>TWP Roswell / 77040</u>					W=water		P=plastic	1=1 liter	1=HCl										
Project Number: <u> </u>					SL=sludge		G=glass	8=8oz	3=H2SO4										
Project Location: <u>Roswell, NM</u>																			
Invoice To: <u>George Robinson</u>																			
SAMPLE ID	DATE	TIME	comp	grab															
BG-4A (10-12')	9-3-98	11:15		X	S	G	8oz	1											
BG-4B (12-14')		11:20																	
BG-5A (10-12')		11:56																	
BG-5B (12-14')		12:05																	
BG-6A (10-12')		12:45																	
BG-6B (12-14')		13:00																	
BG-7A (10-12')		14:00																	
BG-7B (12-14')		14:05																	
BG-8A (10-12')		14:50																	
BG-8B (12-14')		15:10																	
Client/Consultant Remarks:					Laboratory remarks:										Intact? ☐ Y ☐ N				
															Temp: 8°				
Requested TAT			Special Reporting Requirements			Fax Results ☒			Raw Data ☐			Special Detection Limits (specify):			PM review (initial):				
24hr ☐ 72hr ☐			Standard QC ☒			Level 3 QC ☐			Level 4 QC ☐						EB 9/4				
48hr ☐ Standard ☒			1. Relinquished by: <u>George Robinson</u>			date <u>9/3/98</u>			time <u>17:00</u>			2. Received by:							
Other ☐			3. Relinquished by:			date			time			4. Received by:							
			5. Relinquished by:			date			time			6. Received by Laboratory: <u>Veritas</u> <u>9/4/98</u> <u>(100)</u>							

☐ 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

☐ 1501 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 47-6868

SPL Houston Environmental Laboratory

Sample Login Checklist

Date: 9-4-98	Time: 1000
-----------------	---------------

SPL Sample ID: 9809207

		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:	7° C	
10	Method of sample delivery to SPL:	SPL Delivery	
		Client Delivery	
		FedEx Delivery (airbill #)	806949039017
		Other:	
11	Method of sample disposal:	SPL Disposal	✓
		HOLD	
		Return to Client	

Name: [Signature]	Date: 9-4-98
----------------------	-----------------

**PHASE IV ASSESSMENT REPORT,
GROUND WATER MONITORING REPORT,
& PHASE V ASSESSMENT WORK PLAN**

**TRANSWESTERN PIPELINE COMPANY
ROSWELL COMPRESSOR STATION NO. 9**

Attachment #8

**Laboratory Reports for the October 1998
Ground Water Sampling Event**



F A X T R A N S M I S S I O N

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

MEMO FROM: Electa Brown

COMPANY: SPL, INC - HOUSTON, TX

FAX #: (713) 660-8975

PHONE #: (713) 660-0901

NUMBER OF PAGES TO FOLLOW: 27

DATE: 12/22/98

MEMO TO: ~~George Robinson~~ (713) 646-7867

COMPANY: Cypress Engineering, Inc.

FAX #: ~~713 660-8975~~ SANDY Sharp

REFERENCE: LAB# 98-10-D65
Enron/TWP Roswell Station

Roswell Station, Roswell, NM

COMMENTS: The additional METALS

This report contains preliminary data, pending final review, unless signed by a Project Manager. A final report will follow in the mail.

This transmission may contain confidential information. Reading, copying, or distribution of this material is forbidden without the permission of the person to whom this transmission is intended. If you have received this transmission in error, please call SPL to arrange for the return of this transmission at our expense.



Certificate of Analysis No. H9-9810D65-01

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

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO ₃ Method 310.1 * Analyzed by: TK Date: 12/16/98 14:00:00	134	1	mg/L
Chloride Method 325.3 * Analyzed by: CV Date: 11/09/98 14:00:00	320	10	mg/L
Sulfate Method 375.4 * Analyzed by: TW Date: 11/09/98 15:00:00	2080	250	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: DS Date: 11/05/98 13:30:00	3500	100	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: CV Date: 11/04/98 10:30:00	5.1	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: KL Date: 11/05/98 14:00:00	11/05/98		

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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.01	mg/L	
Arsenic, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Barium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	0.009	0.005	mg/L	
Cadmium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Chromium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.01	mg/L	
Mercury, Dissolved Method 7470 A*** Analyzed by: PB Date: 11/04/98 15:33:00	ND	0.0002	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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Lead, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L
Selenium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	0.007	0.005	mg/L
Silver, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.01	mg/L
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L
Barium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	0.016	0.005	mg/L
Calcium, Total Method 6010B *** Analyzed by: JM Date: 12/18/98 09:45:00	650	0.2	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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L
Chromium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.01	mg/L
Copper, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	ND	0.01	mg/L
Iron, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	0.82	0.02	mg/L
Mercury, Total Method 7470 A*** Analyzed by: PB Date: 11/04/98 15:33:00	ND	0.0002	mg/L
Potassium, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	5	2	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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Magnesium, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	132	0.1	mg/L
Manganese, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	0.082	0.005	mg/L
Sodium, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	215	0.5	mg/L
Acid Digestion-Aqueous, ICP Method 3010A *** Analyzed by: EE Date: 11/03/98 08:30:00	11/03/98		
Lead, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L
Selenium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	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.



Certificate of Analysis No. H9-9810D65-01

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

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

PARAMETER	ANALYTICAL DATA	RESULTS	DETECTION LIMIT	UNITS
Zinc, Total		ND	0.02	mg/L
Method 6010B ***				
Analyzed by: JM				
Date: 12/17/98 09:25:00				

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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	100	ug/L
Benzene	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
2-Butanone	ND	20	ug/L
Carbon Disulfide	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chloroethane	ND	10	ug/L
2-Chloroethylvinylether	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
total-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Methylene Chloride	ND	5	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
Styrene	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	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
Vinyl Acetate	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L

METHOD: 8240, Volatile Organics - Water
(continued on next page)



HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0801

Certificate of Analysis No. H9-9810D65-01

Cypress Engineering, Inc.

SAMPLE ID: Monitor Well 26

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	106	80	120
Toluene-d8	50 ug/L	100	88	110
4-Bromofluorobenzene	50 ug/L	90	86	115

ANALYZED BY: GT

DATE/TIME: 11/02/98 19:32:00

METHOD: 8240, Volatile 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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

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

SURROGATES

	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	70	35	114
2-Fluorobiphenyl	50 ug/L	74	43	116
Terphenyl-d14	50 ug/L	76	33	141
Phenol-d5	75 ug/L	21	10	110
2-Fluorophenol	75 ug/L	37	21	110
2,4,6-Tribromophenol	75 ug/L	88	10	123

ANALYZED BY: RY

DATE/TIME: 11/11/98 15:19:00

EXTRACTED BY: KL

DATE/TIME: 11/05/98 14:00:00

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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO ₃ Method 310.1 * Analyzed by: TK Date: 12/16/98 14:00:00	121	1	mg/L
Chloride Method 325.3 * Analyzed by: CV Date: 11/09/98 14:00:00	340	10	mg/L
Sulfate Method 375.4 * Analyzed by: TW Date: 11/09/98 15:00:00	2470	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: DS Date: 11/05/98 13:30:00	3000	100	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: CV Date: 11/04/98 10:30:00	ND	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: KL Date: 11/05/98 14:00:00	11/05/98		

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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Silver, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.01	mg/L
Arsenic, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	0.006	0.005	mg/L
Barium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	0.007	0.005	mg/L
Cadmium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L
Chromium, Dissolved Method 6010B *** Analyzed by: JM Date: 11/16/98 09:00:00	ND	0.01	mg/L
Mercury, Dissolved Method 7470 A*** Analyzed by: PB Date: 11/04/98 15:33:00	ND	0.0002	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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Lead, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Selenium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Silver, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.01	mg/L	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L	
Barium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	0.011	0.005	mg/L	
Calcium, Total Method 6010B *** Analyzed by: JM Date: 12/18/98 09:45:00	596	0.2	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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L
Chromium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.01	mg/L
Copper, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	ND	0.01	mg/L
Iron, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	0.58	0.02	mg/L
Mercury, Total Method 7470 A*** Analyzed by: PB Date: 11/04/98 15:33:00	ND	0.0002	mg/L
Potassium, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	4	2	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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Magnesium, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	162	0.1	mg/L
Manganese, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	0.109	0.005	mg/L
Sodium, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	161	0.5	mg/L
Acid Digestion-Aqueous, ICP Method 3010A *** Analyzed by: EE Date: 11/03/98 08:30:00	11/03/98		
Lead, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L
Selenium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

PARAMETER	ANALYTICAL DATA		DETECTION LIMIT	UNITS
	RESULTS			
Zinc, Total	0.03		0.02	mg/L
Method 6010B ***				
Analyzed by: JM				
Date: 12/17/98 09:25:00				

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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	100	ug/L
Benzene	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
2-Butanone	ND	20	ug/L
Carbon Disulfide	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chloroethane	ND	10	ug/L
2-Chloroethylvinylether	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
total-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Methylene Chloride	ND	5	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
Styrene	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	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
Vinyl Acetate	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L

METHOD: 8240, Volatile Organics - Water
(continued on next page)



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

Certificate of Analysis No. H9-9810D65-02

Cypress Engineering, Inc.

SAMPLE ID: Monitor Well 25D

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	102	80	120
Toluene-d8	50 ug/L	100	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: GT

DATE/TIME: 11/02/98 19:55:00

METHOD: 8240, Volatile 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) 660-0801

Certificate of Analysis No. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

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

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	72	35	114
2-Fluorobiphenyl	50 ug/L	78	43	116
Terphenyl-d14	50 ug/L	84	33	141
Phenol-d5	75 ug/L	24	10	110
2-Fluorophenol	75 ug/L	40	21	110
2,4,6-Tribromophenol	75 ug/L	97	10	123

ANALYZED BY: RY DATE/TIME: 11/11/98 15:50:00
EXTRACTED BY: KL DATE/TIME: 11/05/98 14:00:00
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) 680-0901

Certificate of Analysis No. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Alkalinity, as CaCO ₃ Method 310.1 * Analyzed by: TK Date: 12/16/98 14:00:00	157	1	mg/L
Chloride Method 325.3 * Analyzed by: CV Date: 11/09/98 14:00:00	350	10	mg/L
Sulfate Method 375.4 * Analyzed by: TW Date: 11/09/98 15:00:00	1880	100	mg/L
Total Dissolved Solids Method 160.1 * Analyzed by: DS Date: 11/05/98 13:30:00	3300	100	mg/L
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: CV Date: 11/04/98 10:30:00	ND	0.1	mg/L
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: KL Date: 11/05/98 14:00:00	11/05/98		

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. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.01	mg/L	
Arsenic, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	0.009	0.005	mg/L	
Barium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	0.015	0.005	mg/L	
Cadmium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Chromium, Dissolved Method 6010B *** Analyzed by: JM Date: 11/16/98 09:00:00	ND	0.01	mg/L	
Mercury, Dissolved Method 7470 A*** Analyzed by: FB Date: 11/04/98 15:33:00	ND	0.0002	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) 660-0801

Certificate of Analysis No. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Lead, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Selenium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Silver, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.01	mg/L	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L	
Barium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	0.026	0.005	mg/L	
Calcium, Total Method 6010B *** Analyzed by: JM Date: 12/18/98 09:45:00	622	0.2	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. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cadmium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L	
Chromium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.01	mg/L	
Copper, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	0.01	0.01	mg/L	
Iron, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	1.43	0.02	mg/L	
Mercury, Total Method 7470 A*** Analyzed by: PB Date: 11/04/98 15:33:00	ND	0.0002	mg/L	
Potassium, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	5	2	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.



Certificate of Analysis No. H9-9810D65-03

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77064
PHONE (713) 660-0801

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Magnesium, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	99.5	0.1	mg/L	
Manganese, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	0.220	0.005	mg/L	
Sodium, Total Method 6010B *** Analyzed by: JM Date: 12/17/98 09:25:00	208	0.5	mg/L	
Acid Digestion-Aqueous, ICP Method 3010A *** Analyzed by: EE Date: 11/03/98 08:30:00	11/03/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	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.



Certificate of Analysis No. H9-9810D65-03

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

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Zinc, Total	0.05	0.02	mg/L	
Method 6010B ***				
Analyzed by: JM				
Date: 12/17/98 09:25:00				

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. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	100	ug/L
Benzene	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
2-Butanone	ND	20	ug/L
Carbon Disulfide	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chloroethane	ND	10	ug/L
2-Chloroethylvinylether	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
total-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Methylene Chloride	ND	5	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
Styrene	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	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
Vinyl Acetate	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L

METHOD: 8240, Volatile Organics - Water
(continued on next page)



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

Certificate of Analysis No. H9-9810D65-03

Cypress Engineering, Inc.

SAMPLE ID: Monitor Well 24D

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	106	80	120
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	90	86	115

ANALYZED BY: GT

DATE/TIME: 11/02/98 20:18:00

METHOD: 8240, Volatile 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
8980 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

12/22/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

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

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	74	35	114
2-Fluorobiphenyl	50 ug/L	80	43	116
Terphenyl-d14	50 ug/L	76	33	141
Phenol-d5	75 ug/L	23	10	110
2-Fluorophenol	75 ug/L	40	21	110
2,4,6-Tribromophenol	75 ug/L	97	10	123

ANALYZED BY: RY

DATE/TIME: 11/11/98 16:20:00

EXTRACTED BY: KL

DATE/TIME: 11/05/98 14:00:00

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

November 17, 1998

Mr. George Robinson
CYPRESS ENGINEERING, INC.
10235 W. Little York Rd #256
Houston, TX 77040

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on October 31, 1998. The sample(s) was assigned to Certificate of Analysis No.(s) 9810D65 and analyzed for all parameters as listed on the chain of custody.

Sample "Monitor Well 26-01"(SPL#9810D65-01) was randomly chosen as a quality Control sample for Total metals analysis by SW-846 method 6010. The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) recoveries were outside of advisable limits for Lead. A Laboratory Control Sample (LCS) was analyzed as a Quality Control check for the analytical batch and all recoveries were within acceptable limits.

Any data flags or quality control exceptions 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

A handwritten signature in cursive script, reading "Electa Brown", is written over a horizontal line.

Electa Brown
Project Manager



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

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-10-D65

Approved for Release by:

A handwritten signature in cursive script, reading "Electa Brown", is written over a horizontal line.

Electa Brown, Project Manager

A handwritten date "11-18-98" is written in cursive script over a horizontal line.

Date

Greg Grandits
Laboratory Director

Cynthia Schreiner
Quality Assurance Officer

The attached analytical data package may not be reproduced except in full without the express written approval of this laboratory.
The results relate only to the samples tested.
Results reported on a Wet Weight Basis unless otherwise noted.



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

Certificate of Analysis No. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Chloride Method 325.3 * Analyzed by: CV Date: 11/09/98 14:00:00	320	10	mg/L	
Sulfate Method 375.4 * Analyzed by: TW Date: 11/09/98 15:00:00	2080	250	mg/L	
Total Dissolved Solids Method 160.1 * Analyzed by: DS Date: 11/05/98 13:30:00	3500	100	mg/L	
Nitrate-Nitrite, as N Method 353.3 * Analyzed by: CV Date: 11/04/98 10:30:00	5.1	0.1	mg/L	
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: KL Date: 11/05/98 14:00:00	11/05/98			

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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.01	mg/L	
Arsenic, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Barium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	0.009	0.005	mg/L	
Cadmium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Chromium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.01	mg/L	
Mercury, Dissolved Method 7470 A*** Analyzed by: PB Date: 11/04/98 15:33:00	ND	0.0002	mg/L	
Lead, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Selenium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	0.007	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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Silver, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.01	mg/L	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L	
Barium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	0.016	0.005	mg/L	
Cadmium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Chromium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	.0.01	mg/L	
Mercury, Total Method 7470 A*** Analyzed by: PB Date: 11/04/98 15:33:00	ND	0.0002	mg/L	
Acid Digestion-Aqueous, ICP Method 3010A *** Analyzed by: EE Date: 11/03/98 08:30:00	11/03/98			
Lead, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	100	ug/L
Benzene	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
2-Butanone	ND	20	ug/L
Carbon Disulfide	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chloroethane	ND	10	ug/L
2-Chloroethylvinylether	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
total-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Methylene Chloride	ND	5	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
Styrene	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L

METHOD: 8240, Volatile Organics - Water
(continued on next page)



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

Certificate of Analysis No. H9-9810D65-01

Cypress Engineering, Inc.

SAMPLE ID: Monitor Well 26

ANALYTICAL DATA (continued)				
PARAMETER	RESULTS	PQL*	UNITS	
1,1,2-Trichloroethane	ND	5	ug/L	
Trichloroethene	ND	5	ug/L	
Trichlorofluoromethane	ND	5	ug/L	
Vinyl Acetate	ND	10	ug/L	
Vinyl Chloride	ND	10	ug/L	
Xylenes (total)	ND	5	ug/L	

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	106	80	120
Toluene-d8	50 ug/L	100	88	110
4-Bromofluorobenzene	50 ug/L	90	86	115

ANALYZED BY: GT

DATE/TIME: 11/02/98 19:32:00

METHOD: 8240, Volatile 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. H9-9810D65-01

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 26

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 16:30:00
DATE RECEIVED: 10/31/98

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

METHOD: 8270C, Semivolatile Organics - Water
(continued on next page)



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

Certificate of Analysis No. H9-9810D65-01

Cypress Engineering, Inc.

SAMPLE ID: Monitor Well 26

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	70	35	114
2-Fluorobiphenyl	50 ug/L	74	43	116
Terphenyl-d14	50 ug/L	76	33	141
Phenol-d5	75 ug/L	21	10	110
2-Fluorophenol	75 ug/L	37	21	110
2,4,6-Tribromophenol	75 ug/L	88	10	123

ANALYZED BY: RY

DATE/TIME: 11/11/98 15:19:00

EXTRACTED BY: KL

DATE/TIME: 11/05/98 14:00:00

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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Chloride	340	10	mg/L	
Method 325.3 *				
Analyzed by: CV				
Date: 11/09/98 14:00:00				
Sulfate	2470	100	mg/L	
Method 375.4 *				
Analyzed by: TW				
Date: 11/09/98 15:00:00				
Total Dissolved Solids	3000	100	mg/L	
Method 160.1 *				
Analyzed by: DS				
Date: 11/05/98 13:30:00				
Nitrate-Nitrite, as N	ND	0.1	mg/L	
Method 353.3 *				
Analyzed by: CV				
Date: 11/04/98 10:30:00				

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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA		RESULTS	DETECTION LIMIT	UNITS
PARAMETER				
Liquid-liquid extraction SEMIVOLATILES		11/05/98		
Method 3520C ***				
Analyzed by: KL				
Date: 11/05/98 14:00:00				
Silver, Dissolved		ND	0.01	mg/L
Method 6010B ***				
Analyzed by: EG				
Date: 11/12/98 10:32:00				
Arsenic, Dissolved		0.006	0.005	mg/L
Method 6010B ***				
Analyzed by: EG				
Date: 11/12/98 10:32:00				
Barium, Dissolved		0.007	0.005	mg/L
Method 6010B ***				
Analyzed by: EG				
Date: 11/12/98 10:32:00				

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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cadmium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Chromium, Dissolved Method 6010B *** Analyzed by: JM Date: 11/16/98 09:00:00	ND	0.01	mg/L	
Mercury, Dissolved Method 7470 A*** Analyzed by: PB Date: 11/04/98 15:33:00	ND	0.0002	mg/L	
Lead, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Selenium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Silver, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.01	mg/L	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L	
Barium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	0.011	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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cadmium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L	
Chromium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.01	mg/L	
Mercury, Total Method 7470 A*** Analyzed by: PB Date: 11/04/98 15:33:00	ND	0.0002	mg/L	
Acid Digestion-Aqueous, ICP Method 3010A *** Analyzed by: EE Date: 11/03/98 08:30:00	11/03/98			

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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Lead, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	100	ug/L
Benzene	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
2-Butanone	ND	20	ug/L
Carbon Disulfide	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chloroethane	ND	10	ug/L
2-Chloroethylvinylether	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
total-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Methylene Chloride	ND	5	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
Styrene	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L

METHOD: 8240, Volatile Organics - Water
(continued on next page)



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

Certificate of Analysis No. H9-9810D65-02

Cypress Engineering, Inc.

SAMPLE ID: Monitor Well 25D

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	102	80	120
Toluene-d8	50 ug/L	100	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: GT

DATE/TIME: 11/02/98 19:55:00

METHOD: 8240, Volatile Organics - Water

NOTES: * - Practical Quantitation Limit
NA - Not Analyzed

ND - Not Detected

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. H9-9810D65-02

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 25D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:15:00
DATE RECEIVED: 10/31/98

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	

METHOD: 8270C, Semivolatile Organics - Water
(continued on next page)



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

Certificate of Analysis No. H9-9810D65-02

Cypress Engineering, Inc.

SAMPLE ID: Monitor Well 25D

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	72	35	114
2-Fluorobiphenyl	50 ug/L	78	43	116
Terphenyl-d14	50 ug/L	84	33	141
Phenol-d5	75 ug/L	24	10	110
2-Fluorophenol	75 ug/L	40	21	110
2,4,6-Tribromophenol	75 ug/L	97	10	123

ANALYZED BY: RY

DATE/TIME: 11/11/98 15:50:00

EXTRACTED BY: KL

DATE/TIME: 11/05/98 14:00:00

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. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Chloride	350	10	mg/L	
Method 325.3 *				
Analyzed by: CV				
Date: 11/09/98 14:00:00				
Sulfate	1880	100	mg/L	
Method 375.4 *				
Analyzed by: TW				
Date: 11/09/98 15:00:00				
Total Dissolved Solids	3300	100	mg/L	
Method 160.1 *				
Analyzed by: DS				
Date: 11/05/98 13:30:00				
Nitrate-Nitrite, as N	ND	0.1	mg/L	
Method 353.3 *				
Analyzed by: CV				
Date: 11/04/98 10:30:00				

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. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Liquid-liquid extraction SEMIVOLATILES Method 3520C *** Analyzed by: KL Date: 11/05/98 14:00:00	11/05/98			
Silver, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.01	mg/L	
Arsenic, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	0.009	0.005	mg/L	
Barium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	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
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cadmium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Chromium, Dissolved Method 6010B *** Analyzed by: JM Date: 11/16/98 09:00:00	ND	0.01	mg/L	
Mercury, Dissolved Method 7470 A*** Analyzed by: PB Date: 11/04/98 15:33:00	ND	0.0002	mg/L	
Lead, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	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. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Selenium, Dissolved Method 6010B *** Analyzed by: EG Date: 11/12/98 10:32:00	ND	0.005	mg/L	
Silver, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.01	mg/L	
Arsenic, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L	
Barium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	0.026	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. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cadmium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L	
Chromium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.01	mg/L	
Mercury, Total Method 7470 A*** Analyzed by: PB Date: 11/04/98 15:33:00	ND	0.0002	mg/L	
Acid Digestion-Aqueous, ICP Method 3010A *** Analyzed by: EE Date: 11/03/98 08:30:00	11/03/98			

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. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

DATE: 11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Lead, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	ND	0.005	mg/L	
Selenium, Total Method 6010B *** Analyzed by: EG Date: 11/10/98 10:45:00	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. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	100	ug/L
Benzene	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	10	ug/L
2-Butanone	ND	20	ug/L
Carbon Disulfide	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chloroethane	ND	10	ug/L
2-Chloroethylvinylether	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
total-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
2-Hexanone	ND	10	ug/L
Methylene Chloride	ND	5	ug/L
4-Methyl-2-Pentanone	ND	10	ug/L
Styrene	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L

METHOD: 8240, Volatile Organics - Water
(continued on next page)



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

Certificate of Analysis No. H9-9810D65-03

Cypress Engineering, Inc.

SAMPLE ID: Monitor Well 24D

ANALYTICAL DATA (continued)			
PARAMETER	RESULTS	PQL*	UNITS
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Trichlorofluoromethane	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Xylenes (total)	ND	5	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	106	80	120
Toluene-d8	50 ug/L	102	88	110
4-Bromofluorobenzene	50 ug/L	90	86	115

ANALYZED BY: GT

DATE/TIME: 11/02/98 20:18:00

METHOD: 8240, Volatile 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. H9-9810D65-03

Cypress Engineering, Inc.
10235 W. Little York Rd #256
Houston, TX 77040
ATTN: George Robinson

11/17/98

PROJECT: Enron/TWP Roswell Station
SITE: Roswell Station, Roswell, NM
SAMPLED BY: Cypress Engineering
SAMPLE ID: Monitor Well 24D

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 10/29/98 17:30:00
DATE RECEIVED: 10/31/98

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	

METHOD: 8270C, Semivolatile Organics - Water
(continued on next page)



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

Certificate of Analysis No. H9-9810D65-03

Cypress Engineering, Inc.

SAMPLE ID: Monitor Well 24D

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
Nitrobenzene-d5	50 ug/L	74	35	114
2-Fluorobiphenyl	50 ug/L	80	43	116
Terphenyl-d14	50 ug/L	76	33	141
Phenol-d5	75 ug/L	23	10	110
2-Fluorophenol	75 ug/L	40	21	110
2,4,6-Tribromophenol	75 ug/L	97	10	123

ANALYZED BY: RY

DATE/TIME: 11/11/98 16:20:00

EXTRACTED BY: KL

DATE/TIME: 11/05/98 14:00:00

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

3B
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL

Contract:

Lab Code:

Case No: 9810C35

SAS No: SDG No:

Matrix Spike - EPA

Sample No: MW-15

Level(low/med) Low

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
1,1-Dichloroethene	50	0	42	84	61-145
Trichloroethene	50	0	42	84	71-120
Benzene	50	0	49	98	76-127
Toluene	50	0	47	94	76-125
Chlorobenzene	50	0	42	84	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.	#	QC LIMITS	
					% RPD #	REC.
1,1-Dichloroethene	50	46	92		9	22 61-145
Trichloroethene	50	43	86		2	24 71-120
Benzene	50	48	96		2	21 76-127
Toluene	50	48	96		2	21 76-125
Chlorobenzene	50	44	88		5	21 75-130

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

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

Report Date: 09-Nov-1998 11:07

SPL Houston Labs

RECOVERY REPORT

Client Name: Client SDG: m981102
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: LCS
Level: LOW Operator: GT
Data Type: MS DATA SampleType: METHSPIKE
SpikeList File: 8240water.spk Quant Type: ISTD
Sublist File: LCS.sub
Method File: /var/chem/m.i/m981102.b/m8260aw.m
Misc Info: M306W1//M306CW1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
7 1,1-Dichloroethene	50	54	108.00	61-145
26 Trichloroethene	50	48	96.00	71-120
22 Benzene	50	55	110.00	76-127
33 Toluene	50	55	110.00	76-125
39 Chlorobenzene	50	48	96.00	75-130

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
\$ 19 1,2-Dichloroethane	50	53	106.00	80-120
\$ 32 Toluene-d8	50	52	104.00	88-110
\$ 47 Bromofluorobenzene	50	44	88.00	86-115



SPL Blank QC Report

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901Matrix: Aqueous
Sample ID: VBLK
Batch: M981102113701Reported on: 11/12/98 16:52
Analyzed on: 11/02/98 15:02
Analyst: GT

METHOD 8260 M306B01

Compound	Result	Detection Limit	Units
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
1,2-Dichloroethene (total)	ND	5	ug/L
Vinyl Acetate	ND	10	ug/L
2-Butanone	ND	20	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
Chloroform	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,2-Dichloroethane	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
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
2-Hexanone	ND	10	ug/L
Dibromochloromethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Xylene (Total)	ND	5	ug/L

Notes

ND - Not detected.



SPL Blank QC Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 958-0900

3

Matrix: Aqueous
Sample ID: VBLK
Batch: M981102113701

Reported on: 11/12/98 16:52
Analyzed on: 11/02/98 15:02
Analyst: GT

METHOD 8260 M306B01

C o m p o u n d	Result	Detection Limit	Units
Ethylbenzene	ND	5	ug/L
Bromoform	ND	5	ug/L
Styrene	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L

S u r r o g a t e	Result	QC Criteria	Units
1,2-Dichloroethane-d4	106	80-120	% Recovery
Toluene-d8	102	88-110	% Recovery
Bromofluorobenzene	86	86-115	% Recovery

Samples in Batch 9810D65-01 9810D65-02 9810D65-03

Notes

ND - Not detected.

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No: 9811117 SAS No: SDG No:

Matrix Spike - EPA Sample No: INFLUENT Level (low/med):

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATIO (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC
Phenol	75	0	24	32	12-110
2-Chlorophenol	75	0	39	52	27-123
1,4-Dichlorobenzene	50	0	30	60	36- 97
N-Nitroso-di-n-propylamine	50	0	36	72	41-116
1,2,4-Trichlorobenzene	50	0	27	54	39- 110
4-Chloro-3-methylphenol	75	0	61	81	23-110
Acenaphthene	50	0	37	74	46-125
4-Nitrophenol	75	0	38	51	25-150
2,4-Dinitrotoluene	50	0	48	96	50-150
Pentachlorophenol	75	0	86	115	9-125
Pyrene	50	0	69	138 *	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATIO (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD REC
Phenol	75	39	52	48 *	42 12-110
2-Chlorophenol	75	54	72	32	40 27-132
1,4-Dichlorobenzene	50	42	84	33 *	28 36- 97
N-Nitroso-di-n-propylamine	50	47	94	27	38 41-116
1,2,4-Trichlorobenzene	50	41	82	41 *	28 39-110
4-Chloro-3-methylphenol	75	71	95	16	42 23-110
Acenaphthene	50	49	98	28	31 46-125
4-Nitrophenol	75	63	84	49	50 25-150
2,4-Dinitrotoluene	50	60	120	22	50 50-150
Pentachlorophenol	75	100	133 *	15	50 9-125
Pyrene	50	61	122	12	31 26-127

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

* Amount outside QC limits due to matrix interference

RPD: 3 out of 11 outside limits
Spike Recovery: 2 out of 22 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name:
 Sample Matrix: LIQUID
 Lab Smp Id: METHSPIKE-8270W
 Level: LOW
 Data Type: MS DATA
 SpikeList File: 8270w.spk
 Sublist File: 8270.sub
 Method File: /var/chem/j.i/j981111.b/j8270w.m
 Misc Info: E309F3/J309B03/J315CC3

Client SDG: j981111
 Fraction: SV
 Operator: RY
 SampleType: MS
 Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
5 Phenol	75	16	21.33	12-110
9 2-Chlorophenol	75	45	60.00	27-123
12 1,4-Dichlorobenzen	50	33	66.00	36-97
21 N-Nitroso-di-n-pro	50	35	70.00	41-116
31 1,2,4-Trichloroben	50	34	68.00	39-110
36 4-Chloro-3-methylp	75	52	69.33	23-110
49 Acenaphthene	50	41	82.00	46-125
51 4-Nitrophenol	75	25	33.33	25-150
53 2,4-Dinitrotoluene	50	45	90.00	50-150
64 Pentachlorophenol	75	82	109.33	9-125
71 Pyrene	50	48	96.00	26-127

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
\$ 23 Nitrobenzene-d5	50	34	68.00	35-114
\$ 41 2-Fluorobiphenyl	50	39	78.00	43-116
\$ 72 Terphenyl-d14	50	42	84.00	33-141
\$ 4 Phenol-d5	75	17	22.67	10-110
\$ 3 2-Fluorophenol	75	29	38.67	21-110
\$ 61 2,4,6-Tribromophen	75	74	98.67	10-123



SPL Blank QC Report

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 662-0901

Matrix: Aqueous
Sample ID: BLANK
Batch: E981105042258

Reported on: 11/12/98 16:54
Analyzed on: 11/11/98 13:17
Analyst: RY

METHOD 8270 J309B03

C o m p o u n d	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

S u r r o g a t e	Result	QC Criteria	Units
Nitrobenzene-d5	84	35-114	% Recovery
2-Fluorobiphenyl	94	43-116	% Recovery
Terphenyl-d14	82	33-141	% Recovery
Pherol-d5	28	10-110	% Recovery
2-Fluorophenol	48	21-110	% Recovery
2,4,6-Tribromophenol	103	10-123	% Recovery

Samples in Batch 9810D65-01 9810D65-02 9810D65-03

Notes

ND - Not detected.



Matrix: Dissolved

Units: mg/L

Date: 111298 Time: 1032 File Name: 1112ML3

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0901

Laboratory Control Sample

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver	ND	2.00	1.94	97	1.60	2.40
Aluminum						
Arsenic	ND	4.00	3.85	96	3.20	4.80
Barium	ND	2.00	2.03	101	1.60	2.40
Beryllium						
Calcium						
Cadmium						
Cobalt						
Chromium	ND	2.00	2.00	100	1.60	2.40
Copper						
Iron						
Potassium						
Magnesium						
Manganese						
Sodium						
Nickel						
Lead						
Antimony						
Selenium	ND	4.00	3.96	99	3.20	4.80
Thallium						
Vanadium						
Zinc						

Work Orders in Batch

Work Order Fractions

98-10-D65 01E-03E

Matrix Spike - Spike Duplicate Results

Work Order Spiked: 9810D65-01E

Element	Sample Result	Spike Added	Matrix Spike		Matrix Spike Duplicate		QC Limits		Spike		QC Limits %
			Result	Recovery	Result	Recovery	% Recovery		RPD %		
Silver	ND	1.0	0.9628	96.3	0.9521	95.2	80	120	1.1		20.0
Aluminum											
Arsenic	0.009	2.0	2.115	105.3	2.143	106.7	80	120	1.3		20.0
Barium	0.0091	1.0	1.036	102.7	1.027	101.8	80	120	0.9		20.0
Beryllium											
Calcium											
Cadmium											
Cobalt											
Chromium	ND	1.0	1.001	100.1	0.998	99.8	80	120	0.3		20.0
Copper											
Iron											
Potassium											
Magnesium											
Manganese											
Sodium											
Nickel											
Lead											
Antimony											
Selenium	0.0069	2.0	2.177	108.5	2.198	109.6	80	120	1.0		20.0
Thallium											
Vanadium											
Zinc											

Elements Post Spiked: ALL.

Checked: EG 11/16/98



Matrix: Dissolved

Units: mg/L

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0901

Date: 111298 Time: 1032 File Name: 1112ML11

Laboratory Control Sample

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver						
Aluminum						
Arsenic						
Barium						
Beryllium						
Calcium						
Cadmium	ND	2.00	2.07	103	1.60	2.40
Cobalt						
Chromium						
Copper						
Iron						
Potassium						
Magnesium						
Manganese						
Sodium						
Nickel						
Lead	ND	2.00	2.02	101	1.60	2.40
Antimony						
Selenium						
Thallium						
Vanadium						
Zinc						

Work Orders in Batch

Work Order Fractions

98-10-D65 01E-03E

Matrix Spike - Spike Duplicate Results

Work Order Spiked: 9810D65-01E

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									
Aluminum									
Arsenic									
Barium									
Beryllium									
Calcium									
Cadmium	ND	1.0	0.9725	97.3	0.988	98.8	80 120	1.6	20.0
Cobalt									
Chromium									
Copper									
Iron									
Potassium									
Magnesium									
Manganese									
Sodium									
Nickel									
Lead	ND	1.0	0.6996	70.0	* 0.7279	72.8	* 80 120	4.0	20.0
Antimony									
Selenium									
Thallium									
Vanadium									
Zinc									

Elements Post Spiked: ALL.

Checked: EG, 11/16/98

* Spike Results Outside Method Limits



Matrix: Dissolved

Units: mg/L

Date: 111698 Time: 0900 File Name: 1116JM2

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0901

Laboratory Control Sample

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver						
Aluminum						
Arsenic						
Barium						
Beryllium						
Calcium						
Cadmium						
Cobalt						
Chromium	ND	2.00	2.17	109	1.60	2.40
Copper						
Iron						
Potassium						
Magnesium						
Manganese						
Sodium						
Nickel						
Lead						
Antimony						
Selenium						
Thallium						
Vanadium						
Zinc						

Work Orders in Batch

Work Order Fractions

98-10-D65 02E,03E

Matrix Spike - Spike Duplicate Results

Work Order Spiked: 9810527-01E

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									
Aluminum									
Arsenic									
Barium									
Beryllium									
Calcium									
Cadmium									
Cobalt									
Chromium	ND	1.0	1.077	107.7	1.075	107.5	80 120	0.2	20.0
Copper									
Iron									
Potassium									
Magnesium									
Manganese									
Sodium									
Nickel									
Lead									
Antimony									
Selenium									
Thallium									
Vanadium									
Zinc									

Bench Spiked

Checked: Jm 11/18/98



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

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 11/04/98

Analyzed on: 11/04/98

Analyst: PB

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	2.03	102	80 - 120

-9811170

Samples in batch:

9810D54-09G	9810D54-10G	9810D55-11G	9810D55-12G
9810D55-13G	9810D65-01E	9810D65-02E	9810D65-03E

COMMENTS:

LCS= SPL ID# 94-452-49-12



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

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 11/04/98

Analyzed on: 11/04/98

Analyst: PB

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	
9810D54-09G	ND	ND	2.00	1.93	96.5	1.95	97.5	1.0	20	75	-125

-9811170

Samples in batch:

9810D54-09G 9810D54-10G 9810D55-11G 9810D55-12G
9810D55-13G 9810D65-01E 9810D65-02E 9810D65-03E

COMMENTS:

LCS= SPL ID# 94-452-49-12



Matrix: Water

Units: mg/L

Date: 111098 Time: 1045 File Name: 1110ML10

HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0901

Laboratory Control Sample

Element	Mth. Blank	True Value	Result	% Recovery	Lower Limit	Upper Limit
Silver	ND	2.00	1.99	99	1.60	2.40
Aluminum						
Arsenic	ND	4.00	4.01	100	3.20	4.80
Barium	ND	2.00	2.04	102	1.60	2.40
Beryllium						
Calcium						
Cadmium	ND	2.00	2.03	101	1.60	2.40
Cobalt						
Chromium	ND	2.00	2.08	104	1.60	2.40
Copper						
Iron						
Potassium						
Magnesium						
Manganese						
Sodium						
Nickel						
Lead	ND	2.00	2.00	100	1.60	2.40
Antimony						
Selenium	ND	4.00	3.98	99	3.20	4.80
Thallium						
Vanadium						
Zinc						

Work Orders in Batch

Work Order Fractions

98-10-C51 01C-11C

98-10-D65 01F-03F

Matrix Spike - Spike Duplicate Results

Work Order Spiked: 9810C51-01C

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	0.9993	99.9	1.01	101.0	80 120	1.1	20.0
Aluminum									
Arsenic	ND	2.0	2.043	102.2	2.057	102.9	80 120	0.7	20.0
Barium	0.5641	1.0	1.597	103.3	1.613	104.9	80 120	1.5	20.0
Beryllium									
Calcium									
Cadmium	ND	1.0	0.9941	99.4	1.006	100.6	80 120	1.2	20.0
Cobalt									
Chromium	ND	1.0	1.023	102.3	1.037	103.7	80 120	1.4	20.0
Copper									
Iron									
Potassium									
Magnesium									
Manganese									
Sodium									
Nickel									
Lead	ND	1.0	0.9787	97.9	0.9878	98.8	80 120	0.9	20.0
Antimony									
Selenium	ND	2.0	2.003	100.2	2.021	101.1	80 120	0.9	20.0
Thallium									
Vanadium									
Zinc									

Checked: EG 11/12/98



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

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 11/04/98

Analyzed on: 11/04/98

Analyst: PB

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, Total
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	1.99	99.5	80 - 120

-9811169

Samples in batch:

9810D65-01F	9810D65-02F	9810D65-03F	9811073-01G
9811073-03G	9811073-04G	9811073-05G	9811073-06G

COMMENTS:

LCS= SPL ID# 94-452-49-12



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

**** SPL QUALITY CONTROL REPORT ****

Matrix: Aqueous

Reported on: 11/04/98

Analyzed on: 11/04/98

Analyst: PB

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, Total
Method 7470 A***

SPL Sample ID Number	Method Blank ug/L	Sample Result ug/L	Spike Added ug/L	Matrix Spike		Matrix Spike Duplicate		RPD (%)	QC LIMITS (Advisory)		
				Result ug/L	Recovery %	Result ug/L	Recovery %		RPD Max	% REC	
9811073-01G	ND	ND	2.00	1.84	92.0	1.88	94.0	2.2	20	75	-125

-9811169

Samples in batch:

9810D65-01F 9810D65-02F 9810D65-03F 9811073-01G
9811073-03G 9811073-04G 9811073-05G 9811073-06G

COMMENTS:

LCS= SPL ID# 94-452-49-12



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

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 11/10/98

Analyzed on: 11/09/98

Analyst: CV

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	67	63.8	95.2	94 - 106

-9811315

Samples in batch:

9810D20-01C	9810D20-02C	9810D20-03C	9810D20-04C
9810D20-05C	9810D20-06C	9810D65-01B	9810D65-02B
9810D65-03B	9811073-01H	9811073-03H	9811073-04H
9811073-05H	9811073-06H	9811186-01A	

COMMENTS:

LCS-SPL#94453213-22



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

**** SPL QUALITY CONTROL REPORT ****

Matrix: Aqueous

Reported on: 11/10/98

Analyzed on: 11/09/98

Analyst: CV

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	Method	Sample	Spike	Matrix Spike		Matrix Spike Duplicate		RPD	QC LIMITS (Advisory)	
ID Number	Blank mg/L	Result mg/L	Added mg/L	Result mg/L	Recovery %	Result mg/L	Recovery %	(%)	RPD Max	% REC
9810D65-01B	ND	31.9	50	81.5	99.2	83.3	103	3.8	5	92 -109

-9811317

Samples in batch:

9810D20-04C 9810D20-05C 9810D20-06C 9810D65-01B
9810D65-02B 9810D65-03B 9811186-01A

COMMENTS:



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

**** SPL QUALITY CONTROL REPORT ****

Matrix: Aqueous

Reported on: 11/10/98

Analyzed on: 11/09/98

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:

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	26.80	25.07	93.5	82 - 111

-9811344

Samples in batch:

9810C51-05A	9810C51-06A	9810C51-07A	9810C51-08A
9810C51-09A	9810C51-10A	9810C51-11A	9810D65-01B
9810D65-02B	9810D65-03B	9811073-01H	9811073-03H
9811073-04H	9811073-06H		

COMMENTS:

SPL LCS#95535232-18



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

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 11/10/98

Analyzed on: 11/09/98

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:

Sulfate
Method 375.4 *

SPL Sample	Method	Sample	Spike	Matrix Spike		Matrix Spike Duplicate		RPD	QC LIMITS (Advisory)		
ID Number	Blank mg/L	Result mg/L	Added mg/L	Result mg/L	Recovery %	Result mg/L	Recovery %	(%)	RPD Max	% REC	
9811073-04H	ND	9.93	10.00	20.54	106	20.15	102	3.8	9.5	84	-120

-9811342

Samples in batch:

9810D65-01B 9810D65-02B 9810D65-03B 9811073-03H
9811073-04H 9811073-06H

COMMENTS:



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

**** SPL QUALITY CONTROL REPORT ****

Matrix: Aqueous

Reported on: 11/09/98

Analyzed on: 11/05/98

Analyst: DS

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:

Total Dissolved Solids
Method 160.1 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	385.6	383	99.3	93 - 107

-9811291

Samples in batch:

9810D65-01B 9810D65-02B 9810D65-03B

COMMENTS:

LCS= SPL ID#95535234-15



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

**** SPL QUALITY CONTROL REPORT ****

Matrix: Aqueous

Reported on: 11/09/98

Analyzed on: 11/05/98

Analyst: DS

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.
9810D65-01B	3510	3500	0.3	5

-9811290

Samples in batch:

9810D65-01B 9810D65-02B 9810D65-03B

COMMENTS:



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

**** SPL QUALITY CONTROL REPORT ****

Matrix: Aqueous

Reported on: 11/04/98

Analyzed on: 11/04/98

Analyst: CV

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	5.0	4.8	96.0	92 - 111

-9811190

Samples in batch:

9810D65-01C 9810D65-02C 9810D65-03C

COMMENTS:

LCS= SPL ID# 94453160-21



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

**** SPL QUALITY CONTROL REPORT ****

Matrix: Aqueous

Reported on: 11/04/98

Analyzed on: 11/04/98

Analyst: CV

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		Matrix Spike Duplicate		RPD (%)	QC LIMITS (Advisory)		
				Result mg/L	Recovery %	Result mg/L	Recovery %		RPD Max	% REC	
9811120-01C	ND	ND	5.0	5.4	108	5.3	106	1.9	12	87	-120

-9811189

Samples in batch:

9810D65-01C 9810D65-02C 9810D65-03C

COMMENTS:

WORK ORDER 9811120-01C IS USED FOR QCS PURPOSE ONLY.

CHAIN OF CUSTODY
AND
SAMPLE RECEIPT CHECKLIST

500 Ambassador Caffery Parkway, Scott, LA 70583 (318) 237-4775
1501 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 447-6868

SPL Houston Environmental Laboratory

Sample Login Checklist

Date: 10-31-98	Time: 1110
-------------------	---------------

SPL Sample ID: 9810D65

		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 #)	806949035993
		Other:	
11	Method of sample disposal:	SPL Disposal	—
		HOLD	
		Return to Client	

Name: R. J. Hall	Date: 10-31-98
---------------------	-------------------

**PHASE IV ASSESSMENT REPORT,
GROUND WATER MONITORING REPORT,
& PHASE V ASSESSMENT WORK PLAN**

**TRANSWESTERN PIPELINE COMPANY
ROSWELL COMPRESSOR STATION NO. 9**

Attachment #9

**Laboratory Reports for the December 1998
Ground Water Sampling Event**





L9444

January 14, 1999

Sandra L Sharp
Enron Gas Pipeline Group
Cypress Engineering
10235 West Little York, Suite 256
Houston, TX 77040-3229

Phone: (713) 856-7980

FAX: (713) 856-7981

Re: Laboratory Sample Analysis

Project: Roswell Qtrly Sampling

Project Manager: Ted Ryther

Dear Sandra L Sharp:

On Wednesday, December 30, 1998, OAL received fifteen (15) water samples for analysis. The samples were analyzed utilizing EPA, ASTM, or equivalent methodology.

Should you have any questions concerning the results in this report, please contact us at (503) 590-5300. Refer to OAL login number L9444.

Sincerely,

Kami Morrow
Project Manager

Suzanne LeMay
QA/QC Officer

cc: Sandra L Sharp, Ted Ryther

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



Sample Summary

<u>Sample ID</u>	<u>Lab #</u>	<u>Description</u>	<u>Sampled</u>	<u>Received</u>
MW-15	L9444-1	water	12/24/98 14:30	12/30/98
MW-17	L9444-2	water	12/24/98 12:30	12/30/98
MW-3	L9444-3	water	12/24/98 13:35	12/30/98
MW-18	L9444-4	water	12/24/98 15:05	12/30/98
MW-9	L9444-5	water	12/27/98 16:30	12/30/98
MW-13	L9444-6	water	12/27/98 15:45	12/30/98
MW-26	L9444-7	water	12/27/98 12:00	12/30/98
MW-22	L9444-8	water	12/27/98 14:30	12/30/98
MW-7	L9444-9	water	12/27/98 17:00	12/30/98
MW-8	L9444-10	water	12/27/98 13:30	12/30/98
MW-20	L9444-11	water	12/28/98 12:50	12/30/98
MW-21	L9444-12	water	12/28/98 10:55	12/30/98
TRIP BLANK	L9444-13	water	12/28/98	12/30/98
MW-12	L9444-14	water	12/28/98 09:35	12/30/98
MW-28	L9444-15	water	12/28/98 14:00	12/30/98

Definition of Terms

D	Reported value is based on a dilution.
D1	Reported value is based on a dilution due to matrix interference.
ND	Analytical result was below the reporting limit.

Analysts

<u>Initials</u>	<u>Analyst</u>	<u>Title</u>
CV	Cheryl Vezzani	Chemist
DM	Dan Miller	Organics Chemist
GCK	Bill Kernion	Chemist
JD	Jason Davendonis	Technician
KDK	Kirk Keyes	Chemist
NB	Nancy Boss	Technician
NM	Nick Miller	Technician
PB	Pat Buddrus	Organics Chemist

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Method Summary

<u>Analysis</u>	<u>Method</u>
Alkalinity, Total as CaCO ₃	EPA 310.1 / SM 2320B
Arsenic	EPA 200.9
Barium	EPA 200.7/6010
Cadmium	EPA 200.7/6010
Calcium	EPA 200.7/6010
Chloride	EPA 300.0
Chromium	EPA 200.7/6010
Copper	EPA 200.7/6010
Iron	EPA 200.7/6010
Lead	EPA 200.7/6010
Magnesium	EPA 200.7/6010
Manganese	EPA 200.7/6010
Mercury	EPA 245.1/7470A
Nitrate + Nitrite as N	EPA 353.2
Polynuclear Aromatic Hydrocarbons (PNA)	EPA 8270 SIM
Potassium	EPA 200.7/6010
Selenium	EPA 200.9
Silver	EPA 200.7/6010
Sodium	EPA 200.7/6010
Solids, Total Dissolved (TDS)	EPA 160.1 / SM 2540C
Sulfate as SO ₄	EPA 300.0
Volatile Organic Compounds (VOC)	EPA 8260
Zinc	EPA 200.7/6010

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Dissolved Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

		Sampled: 12/27/98							
		Filtration EPA 3005A: 01/06/99							
		Mercury Digestion: 01/07/99							
MW-9	Water	L9444-5							
Arsenic		ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK
Barium		0.0158	0.0010	mg/L	01/11/99	EPA 200.7/6010			CV
Cadmium		ND	0.0020	mg/L	01/11/99	EPA 200.7/6010			CV
Calcium		532.	0.25	mg/L	01/11/99	EPA 200.7/6010		D	CV
Chromium		ND	0.0050	mg/L	01/11/99	EPA 200.7/6010			CV
Copper		ND	0.0020	mg/L	01/11/99	EPA 200.7/6010			CV
Iron		ND	0.010	mg/L	01/11/99	EPA 200.7/6010			CV
Lead		ND	0.025	mg/L	01/11/99	EPA 200.7/6010			CV
Magnesium		163.	0.050	mg/L	01/11/99	EPA 200.7/6010			CV
Manganese		0.0088	0.0010	mg/L	01/11/99	EPA 200.7/6010			CV
Mercury		ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A			JD
Potassium		4.51	0.40	mg/L	01/11/99	EPA 200.7/6010			CV
Selenium		ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK
Silver		ND	0.0030	mg/L	01/11/99	EPA 200.7/6010			CV
Sodium		226.	0.25	mg/L	01/11/99	EPA 200.7/6010		D	CV
Zinc		ND	0.010	mg/L	01/11/99	EPA 200.7/6010			CV

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Inorganics

Sample ID	Matrix	Lab Number					
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst

MW-15	Water	Sampled: 12/24/98				L9444-1	
Alkalinity, Total as CaCO ₃	111.	1.	mg/L	01/05/99	EPA 310.1 / SM 2320B		NB
Chloride	440	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.48	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,630	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	2,000	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-17	Water	Sampled: 12/24/98				L9444-2	
Alkalinity, Total as CaCO ₃	93.	1.	mg/L	01/05/99	EPA 310.1 / SM 2320B		NB
Chloride	440	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.64	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,600	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	2,000	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-3	Water	Sampled: 12/24/98				L9444-3	
Alkalinity, Total as CaCO ₃	111.	1.	mg/L	01/05/99	EPA 310.1 / SM 2320B		NB
Chloride	390	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	1.1	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,390	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	1,900	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-18	Water	Sampled: 12/24/98				L9444-4	
Alkalinity, Total as CaCO ₃	80.	1.	mg/L	01/06/99	EPA 310.1 / SM 2320B		NB
Chloride	400	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.72	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,610	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	2,100	25.	mg/L	12/30/98	EPA 300.0	D	KDK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Inorganics

Sample ID	Matrix					Lab Number
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment Analyst

MW-9	Water					Sampled: 12/27/98	L9444-5
Alkalinity, Total as CaCO ₃	121.	1.	mg/L	01/06/99	EPA 310.1 / SM 2320B		NB
Chloride	470	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.93	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,800	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	2,100	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-13	Water					Sampled: 12/27/98	L9444-6
Alkalinity, Total as CaCO ₃	192.	1.	mg/L	01/06/99	EPA 310.1 / SM 2320B		NB
Chloride	470	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.03	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,160	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	1,600	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-26	Water					Sampled: 12/27/98	L9444-7
Alkalinity, Total as CaCO ₃	159.	1.	mg/L	01/06/99	EPA 310.1 / SM 2320B		NB
Chloride	300	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	4.4	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,780	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	2,200	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-22	Water					Sampled: 12/27/98	L9444-8
Alkalinity, Total as CaCO ₃	114.	1.	mg/L	01/06/99	EPA 310.1 / SM 2320B		NB
Chloride	390	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.85	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,390	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	1,900	25.	mg/L	12/30/98	EPA 300.0	D	KDK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Inorganics

Sample ID	Matrix						Lab Number
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst

MW-7	Water	Sampled: 12/27/98					L9444-9
Alkalinity, Total as CaCO ₃	120.	1.	mg/L	01/06/99	EPA 310.1 / SM 2320B		NB
Chloride	260	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.01	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,440	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	2,000	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-8	Water	Sampled: 12/27/98					L9444-10
Alkalinity, Total as CaCO ₃	137.	1.	mg/L	01/06/99	EPA 310.1 / SM 2320B		NB
Chloride	350	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.21	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,650	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	2,100	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-20	Water	Sampled: 12/28/98					L9444-11
Alkalinity, Total as CaCO ₃	209.	1.	mg/L	01/06/99	EPA 310.1 / SM 2320B		NB
Chloride	310	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	2.5	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,620	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	2,100	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-21	Water	Sampled: 12/28/98					L9444-12
Alkalinity, Total as CaCO ₃	138.	1.	mg/L	01/06/99	EPA 310.1 / SM 2320B		NB
Chloride	430	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.03	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,390	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	1,800	25.	mg/L	12/30/98	EPA 300.0	D	KDK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Inorganics

Sample ID	Matrix					Lab Number
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment Analyst

MW-12	Water					Sampled: 12/28/98	L9444-14
Alkalinity, Total as CaCO3	107.	1.	mg/L	01/06/99	EPA 310.1 / SM 2320B		NB
Chloride	420	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.28	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,210	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO4	1,700	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-28	Water					Sampled: 12/28/98	L9444-15
Alkalinity, Total as CaCO3	210.	1.	mg/L	01/06/99	EPA 310.1 / SM 2320B		NB
Chloride	310	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	2.5	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,660	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO4	2,000	25.	mg/L	12/30/98	EPA 300.0	D	KDK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	---------

		Sampled: 12/24/98						
		Hot Plate Digestion EPA 200.2/3005A: 01/06/99						
		Mercury Digestion: 01/07/99						
MW-15	Water	L9444-1						
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9	D1	GCK	
Barium	0.0133	0.0010	mg/L	01/07/99	EPA 200.7/6010		GCK	
Cadmium	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010		GCK	
Calcium	592.	0.25	mg/L	01/07/99	EPA 200.7/6010	D	GCK	
Chromium	ND	0.0050	mg/L	01/07/99	EPA 200.7/6010		GCK	
Copper	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010		GCK	
Iron	0.013	0.010	mg/L	01/07/99	EPA 200.7/6010		GCK	
Lead	ND	0.025	mg/L	01/07/99	EPA 200.7/6010		GCK	
Magnesium	150.	0.050	mg/L	01/07/99	EPA 200.7/6010		GCK	
Manganese	0.0191	0.0010	mg/L	01/07/99	EPA 200.7/6010		GCK	
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A		JD	
Potassium	4.00	0.40	mg/L	01/07/99	EPA 200.7/6010		GCK	
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9	D1	GCK	
Silver	ND	0.0030	mg/L	01/07/99	EPA 200.7/6010		GCK	
Sodium	281.	0.25	mg/L	01/07/99	EPA 200.7/6010	D	GCK	
Zinc	ND	0.010	mg/L	01/07/99	EPA 200.7/6010		GCK	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Rlyther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

		Sampled: 12/24/98							
		Hot Plate Digestion EPA 200.2/3005A: 01/06/99							
		Mercury Digestion: 01/07/99							
MW-17	Water	L9444-2							
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK	
Barium	0.0079	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK	
Cadmium	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK	
Calcium	558.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK	
Chromium	ND	0.0050	mg/L	01/07/99	EPA 200.7/6010			GCK	
Copper	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK	
Iron	ND	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK	
Lead	ND	0.025	mg/L	01/07/99	EPA 200.7/6010			GCK	
Magnesium	148.	0.050	mg/L	01/07/99	EPA 200.7/6010			GCK	
Manganese	0.0042	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK	
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A			JD	
Potassium	2.6	0.40	mg/L	01/07/99	EPA 200.7/6010			GCK	
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK	
Silver	ND	0.0030	mg/L	01/07/99	EPA 200.7/6010			GCK	
Sodium	254.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK	
Zinc	ND	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Lab Number					
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst

MW-3		Water		Sampled: 12/24/98 Hot Plate Digestion EPA 200.2/3005A: 01/06/99 Mercury Digestion: 01/07/99				L9444-3
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9	D1	GCK	
Barium	0.0133	0.0010	mg/L	01/07/99	EPA 200.7/6010		GCK	
Cadmium	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010		GCK	
Calcium	563.	0.25	mg/L	01/07/99	EPA 200.7/6010	D	GCK	
Chromium	ND	0.0050	mg/L	01/07/99	EPA 200.7/6010		GCK	
Copper	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010		GCK	
Iron	0.030	0.010	mg/L	01/07/99	EPA 200.7/6010		GCK	
Lead	ND	0.025	mg/L	01/07/99	EPA 200.7/6010		GCK	
Magnesium	121.	0.050	mg/L	01/07/99	EPA 200.7/6010		GCK	
Manganese	ND	0.0010	mg/L	01/07/99	EPA 200.7/6010		GCK	
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A		JD	
Potassium	3.4	0.40	mg/L	01/07/99	EPA 200.7/6010		GCK	
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9	D1	GCK	
Silver	ND	0.0030	mg/L	01/07/99	EPA 200.7/6010		GCK	
Sodium	220.	0.25	mg/L	01/07/99	EPA 200.7/6010	D	GCK	
Zinc	ND	0.010	mg/L	01/07/99	EPA 200.7/6010		GCK	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling****Total Metals**

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
Analyte								

		Sampled: 12/24/98						
		Hot Plate Digestion EPA 200.2/3005A: 01/06/99						
		Mercury Digestion: 01/07/99						
MW-18	Water	L9444-4						
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK
Barium	0.0184	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK
Cadmium	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK
Calcium	559.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK
Chromium	0.0052	0.0050	mg/L	01/07/99	EPA 200.7/6010			GCK
Copper	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK
Iron	ND	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK
Lead	ND	0.025	mg/L	01/07/99	EPA 200.7/6010			GCK
Magnesium	192.	0.050	mg/L	01/07/99	EPA 200.7/6010			GCK
Manganese	ND	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A			JD
Potassium	5.51	0.40	mg/L	01/07/99	EPA 200.7/6010			GCK
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK
Silver	ND	0.0030	mg/L	01/07/99	EPA 200.7/6010			GCK
Sodium	174.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK
Zinc	ND	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	---------

		Sampled: 12/27/98						
		Hot Plate Digestion EPA 200.2/3005A: 01/06/99						
		Mercury Digestion: 01/07/99						
MW-13	Water	L9444-6						
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK
Barium	0.0150	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK
Cadmium	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK
Calcium	577.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK
Chromium	ND	0.0050	mg/L	01/07/99	EPA 200.7/6010			GCK
Copper	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK
Iron	1.56	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK
Lead	ND	0.025	mg/L	01/07/99	EPA 200.7/6010			GCK
Magnesium	121.	0.050	mg/L	01/07/99	EPA 200.7/6010			GCK
Manganese	1.95	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A			JD
Potassium	3.2	0.40	mg/L	01/07/99	EPA 200.7/6010			GCK
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK
Silver	ND	0.0030	mg/L	01/07/99	EPA 200.7/6010			GCK
Sodium	185.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK
Zinc	ND	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling****Total Metals**

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	---------

		Sampled: 12/27/98						
		Hot Plate Digestion EPA 200.2/3005A: 01/06/99						
		Mercury Digestion: 01/07/99						
MW-26	Water	L9444-7						
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK
Barium	0.0213	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK
Cadmium	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK
Calcium	607.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK
Chromium	ND	0.0050	mg/L	01/07/99	EPA 200.7/6010			GCK
Copper	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK
Iron	1.13	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK
Lead	ND	0.025	mg/L	01/07/99	EPA 200.7/6010			GCK
Magnesium	128.	0.050	mg/L	01/07/99	EPA 200.7/6010			GCK
Manganese	0.0347	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A			JD
Potassium	4.06	0.40	mg/L	01/07/99	EPA 200.7/6010			GCK
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK
Silver	ND	0.0030	mg/L	01/07/99	EPA 200.7/6010			GCK
Sodium	237.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK
Zinc	ND	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967

- 11 -

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	---------

		Sampled: 12/27/98						
		Hot Plate Digestion EPA 200.2/3005A: 01/06/99						
		Mercury Digestion: 01/07/99						
MW-22	Water	L9444-8						
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK
Barium	0.0118	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK
Cadmium	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK
Calcium	577.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK
Chromium	ND	0.0050	mg/L	01/07/99	EPA 200.7/6010			GCK
Copper	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK
Iron	0.305	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK
Lead	ND	0.025	mg/L	01/07/99	EPA 200.7/6010			GCK
Magnesium	111.	0.050	mg/L	01/07/99	EPA 200.7/6010			GCK
Manganese	0.0068	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A			JD
Potassium	2.9	0.40	mg/L	01/07/99	EPA 200.7/6010			GCK
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK
Silver	ND	0.0030	mg/L	01/07/99	EPA 200.7/6010			GCK
Sodium	234.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK
Zinc	ND	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Lab Number	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	------------	---------

		Sampled: 12/27/98							
		Hot Plate Digestion EPA 200.2/3005A: 01/06/99							
		Mercury Digestion: 01/07/99							
MW-7	Water	L9444-9							
Arsenic		ND	0.0040	mg/L	01/11/99	EPA 200.9	D1	GCK	
Barium		0.0171	0.0010	mg/L	01/07/99	EPA 200.7/6010		GCK	
Cadmium		ND	0.0020	mg/L	01/07/99	EPA 200.7/6010		GCK	
Calcium		556.	0.25	mg/L	01/07/99	EPA 200.7/6010	D	GCK	
Chromium		ND	0.0050	mg/L	01/07/99	EPA 200.7/6010		GCK	
Copper		ND	0.0020	mg/L	01/07/99	EPA 200.7/6010		GCK	
Iron		0.126	0.010	mg/L	01/07/99	EPA 200.7/6010		GCK	
Lead		ND	0.025	mg/L	01/07/99	EPA 200.7/6010		GCK	
Magnesium		176.	0.050	mg/L	01/07/99	EPA 200.7/6010		GCK	
Manganese		0.362	0.0010	mg/L	01/07/99	EPA 200.7/6010		GCK	
Mercury		ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A		JD	
Potassium		6.65	0.40	mg/L	01/07/99	EPA 200.7/6010		GCK	
Selenium		ND	0.010	mg/L	01/12/99	EPA 200.9	D1	GCK	
Silver		ND	0.0030	mg/L	01/07/99	EPA 200.7/6010		GCK	
Sodium		141.	0.25	mg/L	01/07/99	EPA 200.7/6010	D	GCK	
Zinc		ND	0.010	mg/L	01/07/99	EPA 200.7/6010		GCK	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	---------

		Sampled: 12/27/98						
		Hot Plate Digestion EPA 200.2/3005A: 01/06/99						
		Mercury Digestion: 01/07/99						
MW-8	Water	L9444-10						
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK
Barium	0.0108	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK
Cadmium	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK
Calcium	554.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK
Chromium	ND	0.0050	mg/L	01/07/99	EPA 200.7/6010			GCK
Copper	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK
Iron	0.065	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK
Lead	ND	0.025	mg/L	01/07/99	EPA 200.7/6010			GCK
Magnesium	191.	0.050	mg/L	01/07/99	EPA 200.7/6010			GCK
Manganese	0.0028	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A			JD
Potassium	3.7	0.40	mg/L	01/07/99	EPA 200.7/6010			GCK
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK
Silver	ND	0.0030	mg/L	01/07/99	EPA 200.7/6010			GCK
Sodium	184.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK
Zinc	ND	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	---------

		Sampled: 12/28/98						
		Hot Plate Digestion EPA 200.2/3005A: 01/06/99						
		Mercury Digestion: 01/07/99						
MW-20	Water	L9444-11						
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9	D1	GCK	
Barium	0.0107	0.0010	mg/L	01/07/99	EPA 200.7/6010		GCK	
Cadmium	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010		GCK	
Calcium	597.	0.25	mg/L	01/07/99	EPA 200.7/6010	D	GCK	
Chromium	ND	0.0050	mg/L	01/07/99	EPA 200.7/6010		GCK	
Copper	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010		GCK	
Iron	0.238	0.010	mg/L	01/07/99	EPA 200.7/6010		GCK	
Lead	ND	0.025	mg/L	01/07/99	EPA 200.7/6010		GCK	
Magnesium	123.	0.050	mg/L	01/07/99	EPA 200.7/6010		GCK	
Manganese	0.0012	0.0010	mg/L	01/07/99	EPA 200.7/6010		GCK	
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A		JD	
Potassium	3.4	0.40	mg/L	01/07/99	EPA 200.7/6010		GCK	
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9	D1	GCK	
Silver	ND	0.0030	mg/L	01/07/99	EPA 200.7/6010		GCK	
Sodium	257.	0.25	mg/L	01/07/99	EPA 200.7/6010	D	GCK	
Zinc	ND	0.010	mg/L	01/07/99	EPA 200.7/6010		GCK	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

		Sampled: 12/28/98							
		Hot Plate Digestion EPA 200.2/3005A: 01/06/99							
		Mercury Digestion: 01/07/99							
MW-21	Water	L9444-12							
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK	
Barium	0.0245	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK	
Cadmium	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK	
Calcium	566.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK	
Chromium	ND	0.0050	mg/L	01/07/99	EPA 200.7/6010			GCK	
Copper	0.0024	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK	
Iron	0.704	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK	
Lead	ND	0.025	mg/L	01/07/99	EPA 200.7/6010			GCK	
Magnesium	134.	0.050	mg/L	01/07/99	EPA 200.7/6010			GCK	
Manganese	1.47	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK	
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A			JD	
Potassium	3.3	0.40	mg/L	01/07/99	EPA 200.7/6010			GCK	
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK	
Silver	ND	0.0030	mg/L	01/07/99	EPA 200.7/6010			GCK	
Sodium	209.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK	
Zinc	ND	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
Analyte								

		Sampled: 12/28/98						
		Hot Plate Digestion EPA 200.2/3005A: 01/06/99						
MW-12	Water	Mercury Digestion: 01/07/99						L9444-14
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK
Barium	0.0083	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK
Cadmium	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK
Calcium	551.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK
Chromium	ND	0.0050	mg/L	01/07/99	EPA 200.7/6010			GCK
Copper	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010			GCK
Iron	0.114	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK
Lead	ND	0.025	mg/L	01/07/99	EPA 200.7/6010			GCK
Magnesium	108.	0.050	mg/L	01/07/99	EPA 200.7/6010			GCK
Manganese	0.667	0.0010	mg/L	01/07/99	EPA 200.7/6010			GCK
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A			JD
Potassium	3.0	0.40	mg/L	01/07/99	EPA 200.7/6010			GCK
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK
Silver	ND	0.0030	mg/L	01/07/99	EPA 200.7/6010			GCK
Sodium	231.	0.25	mg/L	01/07/99	EPA 200.7/6010		D	GCK
Zinc	ND	0.010	mg/L	01/07/99	EPA 200.7/6010			GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Lab Number					
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst

		Sampled: 12/28/98					
		Hot Plate Digestion EPA 200.2/3005A: 01/06/99					
		Mercury Digestion: 01/07/99					
MW-28	Water						L9444-15
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9	D1	GCK
Barium	0.0107	0.0010	mg/L	01/07/99	EPA 200.7/6010		GCK
Cadmium	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010		GCK
Calcium	598.	0.25	mg/L	01/07/99	EPA 200.7/6010	D	GCK
Chromium	ND	0.0050	mg/L	01/07/99	EPA 200.7/6010		GCK
Copper	ND	0.0020	mg/L	01/07/99	EPA 200.7/6010		GCK
Iron	0.265	0.010	mg/L	01/07/99	EPA 200.7/6010		GCK
Lead	ND	0.025	mg/L	01/07/99	EPA 200.7/6010		GCK
Magnesium	119.	0.050	mg/L	01/07/99	EPA 200.7/6010		GCK
Manganese	0.0043	0.0010	mg/L	01/07/99	EPA 200.7/6010		GCK
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A		JD
Potassium	3.3	0.40	mg/L	01/07/99	EPA 200.7/6010		GCK
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9	D1	GCK
Silver	ND	0.0030	mg/L	01/07/99	EPA 200.7/6010		GCK
Sodium	258.	0.25	mg/L	01/07/99	EPA 200.7/6010	D	GCK
Zinc	ND	0.010	mg/L	01/07/99	EPA 200.7/6010		GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Volatile Organic Compounds (VOC) by EPA 8260

Sample ID	Matrix	Result	Reporting Limit	Units	Comment	Lab Number
Analyte						
MW-15	Water				Sampled: 12/24/98 Analyzed: 12/31/98 by DM	L9444-1
See Attached Data Sheet						
MW-17	Water				Sampled: 12/24/98 Analyzed: 12/31/98 by DM	L9444-2
See Attached Data Sheet						
MW-3	Water				Sampled: 12/24/98 Analyzed: 12/31/98 by DM	L9444-3
See Attached Data Sheet						
MW-18	Water				Sampled: 12/24/98 Analyzed: 12/31/98 by DM	L9444-4
See Attached Data Sheet						
MW-9	Water				Sampled: 12/27/98 Analyzed: 12/31/98 by DM	L9444-5
See Attached Data Sheet						
MW-13	Water				Sampled: 12/27/98 Analyzed: 01/04/99 by DM	L9444-6
See Attached Data Sheet						
MW-26	Water				Sampled: 12/27/98 Analyzed: 12/31/98 by DM	L9444-7
See Attached Data Sheet						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: *Enron Gas Pipeline Group*
Contact: *Ted Ryther*

Project: *Roswell Qtrly Sampling*

Volatile Organic Compounds (VOC)
by EPA 8260

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						
MW-22	Water				Sampled: 12/27/98 Analyzed: 12/31/98 by DM	L9444-8
See Attached Data Sheet						
MW-7	Water				Sampled: 12/27/98 Analyzed: 12/31/98 by DM	L9444-9
See Attached Data Sheet						
MW-8	Water				Sampled: 12/27/98 Analyzed: 12/31/98 by DM	L9444-10
See Attached Data Sheet						
MW-20	Water				Sampled: 12/28/98 Analyzed: 12/31/98 by DM	L9444-11
See Attached Data Sheet						
MW-21	Water				Sampled: 12/28/98 Analyzed: 12/31/98 by DM	L9444-12
See Attached Data Sheet						
TRIP BLANK	Water				Sampled: 12/28/98 Analyzed: 12/31/98 by DM	L9444-13
See Attached Data Sheet						
MW-12	Water				Sampled: 12/28/98 Analyzed: 01/04/99 by DM	L9444-14
See Attached Data Sheet						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

- 20 -



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Rytter**

Project: **Roswell Qtrly Sampling**

Volatile Organic Compounds (VOC)
by EPA 8260

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						

<i>MW-28</i>	<i>Water</i>				Sampled: 12/28/98 Analyzed: 01/04/99 by DM	<i>L9444-15</i>
See Attached Data Sheet						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Polynuclear Aromatic Hydrocarbons (PNA)
by EPA 8270 SIM

Sample ID	Matrix	Result	Reporting Limit	Units	Comment	Lab Number
Analyte						
MW-15	Water				Sampled: 12/24/98 Extracted: 12/30/98 Analyzed: 01/04/99 by PB	L9444-1
See Attached Data Sheet _____						
MW-17	Water				Sampled: 12/24/98 Extracted: 12/30/98 Analyzed: 01/04/99 by PB	L9444-2
See Attached Data Sheet _____						
MW-3	Water				Sampled: 12/24/98 Extracted: 12/30/98 Analyzed: 01/04/99 by PB	L9444-3
See Attached Data Sheet _____						
MW-18	Water				Sampled: 12/24/98 Extracted: 12/30/98 Analyzed: 01/05/99 by PB	L9444-4
See Attached Data Sheet _____						
MW-9	Water				Sampled: 12/27/98 Extracted: 12/31/98 Analyzed: 01/05/99 by PB	L9444-5
See Attached Data Sheet _____						
MW-13	Water				Sampled: 12/27/98 Extracted: 12/31/98 Analyzed: 01/05/99 by PB	L9444-6
See Attached Data Sheet _____						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

- 22 -



L9444

Client: *Enron Gas Pipeline Group*
Contact: *Ted Ryther*

Project: *Roswell Qtrly Sampling*

Polynuclear Aromatic Hydrocarbons (PNA)
by EPA 8270 SIM

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						
<i>MW-26</i>	<i>Water</i>				Sampled: 12/27/98 Extracted: 12/31/98 Analyzed: 01/05/99 by PB	<i>L9444-7</i>
See Attached Data Sheet _____						
<i>MW-22</i>	<i>Water</i>				Sampled: 12/27/98 Extracted: 12/31/98 Analyzed: 01/05/99 by PB	<i>L9444-8</i>
See Attached Data Sheet _____						
<i>MW-7</i>	<i>Water</i>				Sampled: 12/27/98 Extracted: 12/31/98 Analyzed: 01/05/99 by PB	<i>L9444-9</i>
See Attached Data Sheet _____						
<i>MW-8</i>	<i>Water</i>				Sampled: 12/27/98 Extracted: 12/31/98 Analyzed: 01/05/99 by PB	<i>L9444-10</i>
See Attached Data Sheet _____						
<i>MW-20</i>	<i>Water</i>				Sampled: 12/28/98 Extracted: 12/31/98 Analyzed: 01/05/99 by PB	<i>L9444-11</i>
See Attached Data Sheet _____						
<i>MW-21</i>	<i>Water</i>				Sampled: 12/28/98 Extracted: 12/31/98 Analyzed: 01/05/99 by PB	<i>L9444-12</i>
See Attached Data Sheet _____						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

- 23 -



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Polynuclear Aromatic Hydrocarbons (PNA)
by EPA 8270 SIM

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						

<i>MW-12</i>	<i>Water</i>				Sampled: 12/28/98 Extracted: 12/31/98 Analyzed: 01/05/99 by PB	<i>L9444-14</i>
See Attached Data Sheet _____						

<i>MW-28</i>	<i>Water</i>				Sampled: 12/28/98 Extracted: 12/31/98 Analyzed: 01/05/99 by PB	<i>L9444-15</i>
See Attached Data Sheet _____						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-15	Water	MB1231				Sampled : 12/24/98	
CAS #						Analyzed : 12/31/98	L9444-1
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
108-05-4	Vinyl Acetate	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-15	Water	MB1231				Sampled : 12/24/98	Analyzed : 12/31/98	L9444-1
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		
MW-15	Water	MB1231	Sampled : 12/24/98		Analyzed : 12/31/98	L9444-1	
CAS #							
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
					Recovery	Recovery	
Surrogates					L9444-1	MB1231	
1,2-Dichloroethane-d4					102%	101%	
Toluene-d8					102%	103%	
4-Bromofluorobenzene					100%	102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-17 Water MB1231						Sampled : 12/24/98
						Analyzed : 12/31/98 L9444-2
CAS #						
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L	
74-87-3	Chloromethane	nd	nd	2	ug/L	
75-01-4	Vinyl chloride	nd	nd	2	ug/L	
74-83-9	Bromomethane	nd	nd	2	ug/L	
75-00-3	Chloroethane	nd	nd	2	ug/L	
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L	
67-64-1	Acetone	nd	nd	20	ug/L	
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L	
75-09-2	Methylene chloride	nd	nd	2	ug/L	
75-15-0	Carbon disulfide	nd	nd	1	ug/L	
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L	
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L	
108-05-4	Vinyl Acetate	nd	nd	1	ug/L	
78-93-3	2-Butanone	nd	nd	20	ug/L	
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L	
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L	
74-97-5	Bromochloromethane	nd	nd	1	ug/L	
67-66-3	Chloroform	nd	nd	1	ug/L	
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L	
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L	
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L	
71-43-2	Benzene	nd	nd	1	ug/L	
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-17	Water	MB1231				Sampled : 12/24/98	Analyzed : 12/31/98	L9444-2
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		
MW-17	Water	MB1231			Sampled : 12/24/98	L9444-2	
CAS #					Analyzed : 12/31/98		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
					Recovery	Recovery	
Surrogates					L9444-2	MB1231	
1,2-Dichloroethane-d4					102%	101%	
Toluene-d8					103%	103%	
4-Bromofluorobenzene					101%	102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-3	Water	MB1.231				Sampled : 12/24/98	Analyzed : 12/31/98	L9444-3
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
108-05-4	Vinyl Acetate	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID				Lab Number		
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-3	Water	MB1231	Sampled : 12/24/98			L9444-3
			Analyzed : 12/31/98			
CAS #						
79-01-6	Trichloroethene	nd	nd	1	ug/L	
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L	
74-95-3	Dibromomethane	nd	nd	1	ug/L	
75-27-4	Bromodichloromethane	nd	nd	1	ug/L	
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L	
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L	
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L	
108-88-3	Toluene	nd	nd	1	ug/L	
591-78-6	2-Hexanone	nd	nd	10	ug/L	
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L	
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L	
127-18-4	Tetrachloroethene	nd	nd	1	ug/L	
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L	
124-48-1	Dibromochloromethane	nd	nd	1	ug/L	
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L	
108-90-7	Chlorobenzene	nd	nd	1	ug/L	
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L	
100-41-4	Ethylbenzene	nd	nd	1	ug/L	
100-42-5	Styrene	nd	nd	1	ug/L	
75-25-2	Bromoform	nd	nd	1	ug/L	
98-82-8	Isopropylbenzene	nd	nd	1	ug/L	
108-86-1	Bromobenzene	nd	nd	1	ug/L	
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-3	Water	MB1231				Sampled : 12/24/98	Analyzed : 12/31/98	L9444-3
CAS #								
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane . . .	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
Surrogates						L9444-3	MB1231	
1,2-Dichloroethane-d4						102%	101%	
Toluene-d8						103%	103%	
4-Bromofluorobenzene						101%	102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID	Lab Number					
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-18	Water	MB1231				Sampled : 12/24/98	Lab Number
CAS #						Analyzed : 12/31/98	L9444-4
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
108-05-4	Vinyl Acetate	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-18	Water	MB1231				Sampled : 12/24/98	Lab Number
CAS #						Analyzed : 12/31/98	L9444-4
79-01-6	Trichloroethene	nd	nd	1	ug/L		
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number	
Analyte		Result	Blank Result	Reporting Limit	Units	Comment	
MW-18	Water	MB1231				Sampled : 12/24/98 Analyzed : 12/31/98	
CAS #						L9444-4	
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane . . .	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
Surrogates						Recovery	Recovery
						L9444-4	MB1231
1,2-Dichloroethane-d4						101%	101%
Toluene-d8						101%	103%
4-Bromofluorobenzene						100%	102%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-9	Water	MB1231			Sampled : 12/27/98	Analyzed : 12/31/98	L9444-5
CAS #							
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
108-05-4	Vinyl Acetate	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-9	Water	MB1231	Sampled : 12/27/98 Analyzed : 12/31/98			
CAS #						L9444-5
79-01-6	Trichloroethene	nd	nd	1	ug/L	
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L	
74-95-3	Dibromomethane	nd	nd	1	ug/L	
75-27-4	Bromodichloromethane	nd	nd	1	ug/L	
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L	
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L	
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L	
108-88-3	Toluene	nd	nd	1	ug/L	
591-78-6	2-Hexanone	nd	nd	10	ug/L	
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L	
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L	
127-18-4	Tetrachloroethene	nd	nd	1	ug/L	
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L	
124-48-1	Dibromochloromethane	nd	nd	1	ug/L	
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L	
108-90-7	Chlorobenzene	nd	nd	1	ug/L	
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L	
100-41-4	Ethylbenzene	nd	nd	1	ug/L	
100-42-5	Styrene	nd	nd	1	ug/L	
75-25-2	Bromoform	nd	nd	1	ug/L	
98-82-8	Isopropylbenzene	nd	nd	1	ug/L	
108-86-1	Bromobenzene	nd	nd	1	ug/L	
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-9	Water	MB1231				Sampled : 12/27/98	Analyzed : 12/31/98	L9444-5
CAS #								
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
Surrogates						L9444-5	MB1231	
1,2-Dichloroethane-d4						102%	101%	
Toluene-d8						102%	103%	
4-Bromofluorobenzene						100%	102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-13	Water	MB0104				Sampled : 12/27/98	Analyzed : 01/04/99	L9444-6
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
108-05-4	Vinyl Acetate	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	58	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-13		Water		MB0104		Sampled : 12/27/98		Analyzed : 01/04/99		L9444-6	
CAS #											
79-01-6	Trichloroethene	nd	nd	1	ug/L						
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L						
74-95-3	Dibromomethane	nd	nd	1	ug/L						
75-27-4	Bromodichloromethane	nd	nd	1	ug/L						
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L						
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L						
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L						
108-88-3	Toluene	1	nd	1	ug/L						
591-78-6	2-Hexanone	nd	nd	10	ug/L						
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L						
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L						
127-18-4	Tetrachloroethene	nd	nd	1	ug/L						
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L						
124-48-1	Dibromochloromethane	nd	nd	1	ug/L						
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L						
108-90-7	Chlorobenzene	nd	nd	1	ug/L						
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L						
100-41-4	Ethylbenzene	nd	nd	1	ug/L						
100-42-5	Styrene	nd	nd	1	ug/L						
75-25-2	Bromoform	nd	nd	1	ug/L						
98-82-8	Isopropylbenzene	nd	nd	1	ug/L						
108-86-1	Bromobenzene	nd	nd	1	ug/L						
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L						

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number	
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		
MW-13 Water MB0104						Sampled : 12/27/98 Analyzed : 01/04/99 L9444-6	
CAS #							
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	4	nd	1	ug/L		
						Recovery	Recovery
Surrogates						L9444-6	MB0104
1,2-Dichloroethane-d4						100%	100%
Toluene-d8						99%	101%
4-Bromofluorobenzene						100%	100%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-26	Water	MB1231			Sampled : 12/27/98	Analyzed : 12/31/98	L9444-7
CAS #							
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
108-05-4	Vinyl Acetate	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID	Lab Number					
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-26	Water	MB1231				Sampled : 12/27/98	Lab Number
CAS #						Analyzed : 12/31/98	L9444-7
79-01-6	Trichloroethene	nd	nd	1	ug/L		
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		

MW-26	Water	MB1231				Sampled : 12/27/98	Analyzed : 12/31/98	L9444-7
CAS #								
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane . . .	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
						L9444-7	MB1231	
Surrogates								
1,2-Dichloroethane-d4						102%	101%	
Toluene-d8						102%	103%	
4-Bromofluorobenzene						100%	102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-22	Water	MB1231	Sampled : 12/27/98 Analyzed : 12/31/98			
CAS #						L9444-8
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L	
74-87-3	Chloromethane	nd	nd	2	ug/L	
75-01-4	Vinyl chloride	nd	nd	2	ug/L	
74-83-9	Bromomethane	nd	nd	2	ug/L	
75-00-3	Chloroethane	nd	nd	2	ug/L	
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L	
67-64-1	Acetone	nd	nd	20	ug/L	
75-35-4	1,1-Dichloroethene	4	nd	1	ug/L	
75-09-2	Methylene chloride	nd	nd	2	ug/L	
75-15-0	Carbon disulfide	nd	nd	1	ug/L	
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L	
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L	
108-05-4	Vinyl Acetate	nd	nd	1	ug/L	
78-93-3	2-Butanone	nd	nd	20	ug/L	
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L	
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L	
74-97-5	Bromochloromethane	nd	nd	1	ug/L	
67-66-3	Chloroform	nd	nd	1	ug/L	
71-55-6	1,1,1-Trichloroethane	1	nd	1	ug/L	
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L	
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L	
71-43-2	Benzene	nd	nd	1	ug/L	
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-22	Water	MB1.231				Sampled : 12/27/98	Analyzed : 12/31/98	L9444-8
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		
MW-22	Water	MB1231		Sampled : 12/27/98 Analyzed : 12/31/98			
CAS #							L9444-8
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
					Recovery	Recovery	
Surrogates					L9444-8	MB1231	
1,2-Dichloroethane-d4					100%	101%	
Toluene-d8					104%	103%	
4-Bromofluorobenzene					100%	102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-7	Water	MB1231			Sampled : 12/27/98		Analyzed : 12/31/98		L9444-9
CAS #									
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L				
74-87-3	Chloromethane	nd	nd	2	ug/L				
75-01-4	Vinyl chloride	nd	nd	2	ug/L				
74-83-9	Bromomethane	nd	nd	2	ug/L				
75-00-3	Chloroethane	nd	nd	2	ug/L				
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L				
67-64-1	Acetone	nd	nd	20	ug/L				
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L				
75-09-2	Methylene chloride	nd	nd	2	ug/L				
75-15-0	Carbon disulfide	nd	nd	1	ug/L				
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L				
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L				
108-05-4	Vinyl Acetate	nd	nd	1	ug/L				
78-93-3	2-Butanone	nd	nd	20	ug/L				
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L				
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L				
74-97-5	Bromochloromethane	nd	nd	1	ug/L				
67-66-3	Chloroform	nd	nd	1	ug/L				
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L				
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L				
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L				
71-43-2	Benzene	nd	nd	1	ug/L				
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L				

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID	Lab Number					
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-7	Water	MB1231				Sampled : 12/27/98	Analized : 12/31/98	L9444-9
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-7	Water	MB1231				Sampled : 12/27/98	Analyzed : 12/31/98	L9444-9
CAS #								
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
Surrogates						L9444-9	MB1231	
1,2-Dichloroethane-d4						100%	101%	
Toluene-d8						103%	103%	
4-Bromofluorobenzene						101%	102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-8	Water	MB1231				Sampled : 12/27/98	Analyzed : 12/31/98	L9444-10
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
108-05-4	Vinyl Acetate	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-8	Water	MB1231				Sampled : 12/27/98	Analized : 12/31/98	L9444-10
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number	
Analyte		Result	Blank Result	Reporting Limit	Units	Comment	
MW-8	Water	MB1231				Sampled : 12/27/98 Analyzed : 12/31/98	
CAS #							L9444-10
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
Surrogates						Recovery	Recovery
						L9444-10	MB1231
1,2-Dichloroethane-d4						100%	101%
Toluene-d8						102%	103%
4-Bromofluorobenzene						100%	102%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-20 Water MB1231						Sampled : 12/28/98 Analyzed : 12/31/98 L9444-11
CAS #						
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L	
74-87-3	Chloromethane	nd	nd	2	ug/L	
75-01-4	Vinyl chloride	nd	nd	2	ug/L	
74-83-9	Bromomethane	nd	nd	2	ug/L	
75-00-3	Chloroethane	nd	nd	2	ug/L	
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L	
67-64-1	Acetone	nd	nd	20	ug/L	
75-35-4	1,1-Dichloroethene	83	nd	1	ug/L	D
75-09-2	Methylene chloride	nd	nd	2	ug/L	
75-15-0	Carbon disulfide	nd	nd	1	ug/L	
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L	
75-34-3	1,1-Dichloroethane	15	nd	1	ug/L	
108-05-4	Vinyl Acetate	nd	nd	1	ug/L	
78-93-3	2-Butanone	nd	nd	20	ug/L	
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L	
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L	
74-97-5	Bromochloromethane	nd	nd	1	ug/L	
67-66-3	Chloroform	nd	nd	1	ug/L	
71-55-6	1,1,1-Trichloroethane	27	nd	1	ug/L	
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L	
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L	
71-43-2	Benzene	nd	nd	1	ug/L	
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L	

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID	Lab Number					
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-20	Water	MB1231				Sampled : 12/28/98	Analyzed : 12/31/98	L9444-11
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-20	Water	MB1231				Sampled : 12/28/98	L9444-11	
CAS #								
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			
95-49-8	m-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	p-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
Surrogates						L9444-11	MB1231	
1,2-Dichloroethane-d4						100%	101%	
Toluene-d8						102%	103%	
4-Bromofluorobenzene						100%	102%	

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID					Lab Number	
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-21	Water	MB1231	Sampled : 12/28/98 Analyzed : 12/31/98 L9444-12			
CAS #						
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L	
74-87-3	Chloromethane	nd	nd	2	ug/L	
75-01-4	Vinyl chloride	nd	nd	2	ug/L	
74-83-9	Bromomethane	nd	nd	2	ug/L	
75-00-3	Chloroethane	nd	nd	2	ug/L	
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L	
67-64-1	Acetone	nd	nd	20	ug/L	
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L	
75-09-2	Methylene chloride	nd	nd	2	ug/L	
75-15-0	Carbon disulfide	nd	nd	1	ug/L	
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L	
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L	
108-05-4	Vinyl Acetate	nd	nd	1	ug/L	
78-93-3	2-Butanone	nd	nd	20	ug/L	
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L	
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L	
74-97-5	Bromochloromethane	nd	nd	1	ug/L	
67-66-3	Chloroform	nd	nd	1	ug/L	
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L	
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L	
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L	
71-43-2	Benzene	1,400	nd	1	ug/L	
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L	
					D	

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-21	Water	MB1231				Sampled : 12/28/98	Analyzed : 12/31/98	L9444-12
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	1	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	4	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1434
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number	
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		
						Sampled : 12/28/98	
MW-21	Water	MB1231			Analyzed : 12/31/98		L9444-12
CAS #							
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	1	nd	1	ug/L		
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	9	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	3	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	61	nd	1	ug/L		
						Recovery	Recovery
Surrogates						L9444-12	MB1231
1,2-Dichloroethane-d4						101%	101%
Toluene-d8						98%	103%
4-Bromofluorobenzene						100%	102%

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		
TRIP BLANK Water		MB1231		Sampled : 12/28/98 Analyzed : 12/31/98		L9444-13	
CAS #							
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
108-05-4	Vinyl Acetate	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK Water		MB1231			Sampled : 12/28/98 Analyzed : 12/31/98		L9444-13
CAS #							
79-01-6	Trichloroethene	nd	nd	1	ug/L		
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK Water		MB1231				Sampled : 12/28/98 Analyzed : 12/31/98		L9444-13
CAS #								
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
						L9444-13	MB1231	
Surrogates								
1,2-Dichloroethane-d4						102%	101%	
Toluene-d8						103%	103%	
4-Bromofluorobenzene						101%	102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-12	Water	MB0104	Sampled : 12/28/98			
CAS #			Analyzed : 01/04/99			
			L9444-14			
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L	
74-87-3	Chloromethane	nd	nd	2	ug/L	
75-01-4	Vinyl chloride	nd	nd	2	ug/L	
74-83-9	Bromomethane	nd	nd	2	ug/L	
75-00-3	Chloroethane	nd	nd	2	ug/L	
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L	
67-64-1	Acetone	nd	nd	20	ug/L	
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L	
75-09-2	Methylene chloride	nd	nd	2	ug/L	
75-15-0	Carbon disulfide	nd	nd	1	ug/L	
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L	
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L	
108-05-4	Vinyl Acetate	nd	nd	1	ug/L	
78-93-3	2-Butanone	nd	nd	20	ug/L	
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L	
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L	
74-97-5	Bromochloromethane	nd	nd	1	ug/L	
67-66-3	Chloroform	nd	nd	1	ug/L	
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L	
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L	
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L	
71-43-2	Benzene	120	nd	1	ug/L	D
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L	

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-12	Water	MB0104				Sampled : 12/28/98	Analyzed : 01/04/99	L9444-14
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	2	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-12	Water	MB0104	Sampled : 12/28/98			
CAS #					Analyzed : 01/04/99	L9444-14
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L	
103-65-1	n-Propylbenzene	nd	nd	1	ug/L	
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L	
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L	
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L	
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L	
95-63-6	1,2,4-Trimethylbenzene	4	nd	1	ug/L	
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L	
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L	
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L	
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L	
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L	
104-51-8	n-Butylbenzene	nd	nd	1	ug/L	
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L	
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L	
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L	
91-20-3	Naphthalene	1	nd	1	ug/L	
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L	
	Total Xylenes	nd	nd	1	ug/L	
Surrogates						
						Recovery
						L9444-14
						Recovery
						MB0104
						100%
						100%
						101%
						100%

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-28	Water	MB0104				Sampled : 12/28/98	
CAS #						Analyzed : 01/04/99	L9444-15
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	83	nd	1	ug/L	D	
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	15	nd	1	ug/L		
108-05-4	Vinyl Acetate	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	27	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-28	Water	MB0104				Sampled : 12/28/98 Analyzed : 01/04/99 L9444-15
CAS #						
79-01-6	Trichloroethene	nd	nd	1	ug/L	
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L	
74-95-3	Dibromomethane	nd	nd	1	ug/L	
75-27-4	Bromodichloromethane	nd	nd	1	ug/L	
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L	
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L	
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L	
108-88-3	Toluene	nd	nd	1	ug/L	
591-78-6	2-Hexanone	nd	nd	10	ug/L	
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L	
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L	
127-18-4	Tetrachloroethene	nd	nd	1	ug/L	
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L	
124-48-1	Dibromochloromethane	nd	nd	1	ug/L	
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L	
108-90-7	Chlorobenzene	nd	nd	1	ug/L	
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L	
100-41-4	Ethylbenzene	nd	nd	1	ug/L	
100-42-5	Styrene	nd	nd	1	ug/L	
75-25-2	Bromoform	nd	nd	1	ug/L	
98-82-8	Isopropylbenzene	nd	nd	1	ug/L	
108-86-1	Bromobenzene	nd	nd	1	ug/L	
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L	

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-28	Water	MB0104				Sampled : 12/28/98	Analyzed : 01/04/99		L9444-15
CAS #									
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L				
103-65-1	n-Propylbenzene	nd	nd	1	ug/L				
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L				
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L				
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L				
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L				
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L				
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L				
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L				
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L				
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L				
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L				
104-51-8	n-Butylbenzene	nd	nd	1	ug/L				
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L				
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L				
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L				
91-20-3	Naphthalene	nd	nd	1	ug/L				
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L				
	Total Xylenes	nd	nd	1	ug/L				
						Recovery	Recovery		
						L9444-15	MB0104		
Surrogates									
1,2-Dichloroethane-d4						100%	100%		
Toluene-d8						101%	101%		
4-Bromofluorobenzene						100%	100%		

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID					Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-15	WATER	MB1230F	Sampled: 12/24/98 Analyzed: 01/04/99			L9444-1
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:					Recovery	Recovery
					L9444-1	MB1230F
1,2-Dichlorobenzene-d4					101%	88%
Nitrobenzene-d5					82%	69%
2-Fluorobiphenyl					104%	98%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number	
Analyte		Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-17	WATER	MB1230F		Sampled: 12/24/98		L9444-2	
CAS#				Analyzed: 01/04/99			
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
Base / Neutral Surrogates:						Recovery	Recovery
						L9444-2	MB1230F
1,2-Dichlorobenzene-d4						87%	88%
Nitrobenzene-d5						75%	69%
2-Fluorobiphenyl						98%	98%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID					Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
					Sampled: 12/24/98	
MW-3	WATER	MB1230F			Analyzed: 01/04/99	
					L9444-3	
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
					Recovery	
					L9444-3	
					Recovery	
					MB1230F	
Base / Neutral Surrogates:						
1,2-Dichlorobenzene-d4					89%	
Nitrobenzene-d5					76%	
2-Fluorobiphenyl					100%	
					98%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID				Lab Number		
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-18	WATER	MB1230F	Sampled: 12/24/98 Analyzed: 01/05/99			
				L9444-4		
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
				Recovery	Recovery	
Base / Neutral Surrogates:				L9444-4	MB1230F	
1,2-Dichlorobenzene-d4				91%	88%	
Nitrobenzene-d5				71%	69%	
2-Fluorobiphenyl				99%	98%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
MW-9		MB1231F		Sampled: 12/27/98		L9444-5	
WATER				Analyzed: 01/05/99			
CAS#							
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
Base / Neutral Surrogates:					Recovery	Recovery	
					L9444-5	MB1231F	
1,2-Dichlorobenzene-d4					91%	102%	
Nitrobenzene-d5					72%	79%	
2-Fluorobiphenyl					92%	102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID					Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
					Sampled: 12/27/98	
					Analyzed: 01/05/99	
					L9444-6	
MW-13	WATER	MB1231F				
CAS#						
91-20-3	Naphthalene	0.9	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	0.2	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	0.2	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
					Recovery	
					L9444-6	
					MB1231F	
Base / Neutral Surrogates:						
1,2-Dichlorobenzene-d4					84%	
Nitrobenzene-d5					89%	
2-Fluorobiphenyl					93%	
					102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
MW-26	WATER	MB1231F	Sampled: 12/27/98		Analyzed: 01/05/99		L9444-7
CAS#							
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
Base / Neutral Surrogates:					Recovery	Recovery	
					L9444-7	MB1231F	
					99%	102%	
					91%	79%	
					104%	102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID					Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
					Sampled: 12/27/98	
					Analyzed: 01/05/99	
					L9444-8	
MW-22	WATER	MB1231F				
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:					Recovery	
					L9444-8	
					MB1231F	
1,2-Dichlorobenzene-d4					99%	
Nitrobenzene-d5					85%	
2-Fluorobiphenyl					104%	
					102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5800 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT			
MW-7	WATER	MB1231F	Sampled: 12/27/98 Analyzed: 01/05/99					L9444-9
CAS#								
91-20-3	Naphthalene	nd	nd	0.1	ug/L			
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L			
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L			
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L			
83-32-9	Acenaphthene	nd	nd	0.1	ug/L			
86-73-7	Fluorene	nd	nd	0.1	ug/L			
85-01-8	Phenanthrene	nd	nd	0.1	ug/L			
120-12-7	Anthracene	nd	nd	0.1	ug/L			
206-44-0	Fluoranthene	nd	nd	0.1	ug/L			
129-00-0	Pyrene	nd	nd	0.1	ug/L			
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L			
218-01-9	Chrysene	nd	nd	0.1	ug/L			
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L			
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L			
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L			
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L			
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L			
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L			
Base / Neutral Surrogates:					Recovery	Recovery		
					L9444-9	MB1231F		
1,2-Dichlorobenzene-d4					95%	102%		
Nitrobenzene-d5					84%	79%		
2-Fluorobiphenyl					102%	102%		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
MW-8	WATER	MB1231F	Sampled: 12/27/98				
			Analyzed: 01/05/99			L9444-10	
CAS#							
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
Base / Neutral Surrogates:							
1,2-Dichlorobenzene-d4						Recovery L9444-10 98% MB1231F 102%	
Nitrobenzene-d5						82% 79%	
2-Fluorobiphenyl						103% 102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
						Sampled: 12/28/98	
MW-21	WATER	MB1231F	Analyzed: 01/05/99				
						L9444-12	
CAS#							
91-20-3	Naphthalene	4.1	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	2.7	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	2.0	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
						</	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
MW-12 WATER MB1231F						Sampled: 12/28/98 Analyzed: 01/05/99 L9444-14	
CAS#							
91-20-3	Naphthalene	1.1	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	0.9	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	0.8	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
Base / Neutral Surrogates:						Recovery	Recovery
						L9444-14	MB1231F
						96%	102%
						94%	79%
						99%	102%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID				Lab Number		
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-28	WATER	MB1231F	Sampled: 12/28/98 Analyzed: 01/05/99			
				L9444-15		
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:				Recovery	Recovery	
				L9444-15	MB1231F	
1,2-Dichlorobenzene-d4				98%	102%	
Nitrobenzene-d5				98%	79%	
2-Fluorobiphenyl				106%	102%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Method Blank
Metals / Dissolved (mg/L)

Analyte	Result	Reporting Limit	Q	Date Analyzed
Arsenic	ND	0.0020		01/11/99
Barium	0.0031	0.0010		01/11/99
Cadmium	ND	0.0020		01/11/99
Calcium	0.075	0.050		01/11/99
Chromium	ND	0.0050		01/11/99
Copper	ND	0.0020		01/11/99
Iron	ND	0.010		01/11/99
Lead	ND	0.025		01/11/99
Magnesium	ND	0.050		01/11/99
Manganese	ND	0.0010		01/11/99
Mercury	ND	0.00020		01/08/99
Potassium	ND	0.40		01/11/99
Selenium	ND	0.0020		01/12/99
Silver	ND	0.0030		01/11/99
Sodium	ND	0.050		01/11/99
Zinc	ND	0.010		01/11/99
Comments:				

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
LCSW
Metals / Dissolved (mg/L)

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
Arsenic	0.0400	0.0382	96	80-120	01/11/99
Barium	0.500	0.536	107	80-120	01/11/99
Cadmium	0.500	0.548	110	80-120	01/11/99
Calcium	0.500	0.523	105	80-120	01/11/99
Chromium	0.500	0.535	107	80-120	01/11/99
Copper	0.500	0.537	107	80-120	01/11/99
Iron	0.500	0.536	107	80-120	01/11/99
Lead	0.500	0.534	107	80-120	01/11/99
Magnesium	0.500	0.526	105	80-120	01/11/99
Manganese	0.500	0.550	110	80-120	01/11/99
Mercury	0.00200	0.0020	100	80-120	01/08/99
Potassium	5.00	5.09	102	80-120	01/11/99
Selenium	0.010	0.010	100	80-120	01/12/99
Silver	0.500	0.547	109	80-120	01/11/99
Sodium	0.500	0.493	99	80-120	01/11/99
Zinc	0.500	0.535	107	80-120	01/11/99
Comments LCSW = Laboratory Control Sample: Water					

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Duplicate
Metals / Dissolved (mg/L)

Analyte	Result	Duplicate Result	Reporting Limit	RPD	RPD Limit	Q	Date Analyzed
Arsenic	ND	ND	0.0040	NA	20		01/11/99
Barium	0.0172	0.0204	0.0010	17	20		01/11/99
Cadmium	ND	ND	0.0020	NA	20		01/11/99
Calcium	508	547	0.050	7	20		01/11/99
Chromium	ND	ND	0.0050	NA	20		01/11/99
Copper	0.0065	ND	0.0020	NA	20		01/11/99
Iron	ND	ND	0.010	NA	20		01/11/99
Lead	ND	ND	0.025	NA	20		01/11/99
Magnesium	82.1	85.6	0.050	4	20		01/11/99
Manganese	0.176	0.182	0.0010	3	20		01/11/99
Mercury	ND	ND	0.00020	NA	20		01/08/99
Potassium	2.5	2.7	0.40	8	20		01/11/99
Selenium	ND	ND	0.010	NA	20		01/12/99
Silver	ND	ND	0.0030	NA	20		01/11/99
Sodium	179	193	0.050	8	20		01/11/99
Zinc	ND	ND	0.010	NA	20		01/11/99
Comments:							

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Spike
Metals / Dissolved (mg/L)

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
Arsenic	0.0400	ND	0.0400	100	75-125		01/11/99
Barium	1.87	0.0172	2.00	93	75-125		01/11/99
Cadmium	0.0468	ND	0.0500	94	75-125		01/11/99
Calcium	475	508	NA	NA	75-125		01/11/99
Chromium	0.176	ND	0.200	88	75-125		01/11/99
Copper	0.241	0.0065	0.250	94	75-125		01/11/99
Iron	0.880	ND	1.00	88	75-125		01/11/99
Lead	0.454	ND	0.500	91	75-125		01/11/99
Magnesium	79.2	82.1	NA	NA	75-125		01/11/99
Manganese	0.620	0.176	0.500	89	75-125		01/11/99
Mercury	0.0017	ND	0.00200	85	75-125		01/08/99
Potassium	2.5	2.5	NA	NA	75-125		01/11/99
Selenium	0.0092	ND	0.010	92	75-125		01/12/99
Silver	0.0446	ND	0.0500	89	75-125		01/11/99
Sodium	170	179	NA	NA	75-125		01/11/99
Zinc	0.459	ND	0.500	92	75-125		01/11/99
Comments:							

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Blank
Inorganics - Waters (mg/L)

Analyte	Result	Reporting		Date
		Limit	Q	Analyzed
Alkalinity, Total as CaCO ₃	ND	1		01/05/99
Chloride	ND	0.1		12/30/98
Nitrate + Nitrite as N	ND	0.01		01/04/99
Solids, Total Dissolved (TDS)	NA	10		12/31/98
Sulfate as SO ₄	ND	0.5		12/30/98
Comments: Alkalinity Batch QC for L9444-1-3. Chloride and Sulfate Batch QC for L9444-1-6. Nitrate + Nitrite Batch QC for L9444-1-8.				

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Blank
Inorganics - Waters (mg/L)

Analyte	Result	Reporting		Date
		Limit	Q	Analyzed
Alkalinity, Total as CaCO ₃	ND	1		01/06/99
Chloride	ND	0.1		12/30/98
Nitrate + Nitrite as N	ND	0.01		01/04/99
Sulfate as SO ₄	ND	0.5		12/30/98
Comments: Alkalinity Batch QC for L9444-4-15. Chloride and Sulfate Batch QC for L9444-7-15. Nitrate + Nitrite Batch QC for L9444-9-15.				

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
LCSW
Inorganics - Waters (mg/L)

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
Alkalinity, Total as CaCO ₃	100	104	104	90-110	01/05/99
Chloride	10.00	9.32	93	90-110	12/30/98
Nitrate + Nitrite as N	0.50	0.48	96	75-125	01/04/99
Solids, Total Dissolved (TDS)	NA	NA	NA		12/31/98
Sulfate as SO ₄	30.0	28.9	96	90-110	12/30/98
Comments: Alkalinity Batch QC for L9444-1-3. Nitrate + Nitrite Batch QC for L9444-1-8.					

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: *Enron Gas Pipeline Group*
Contact: *Ted Ryther*

Project: *Roswell Qtrly Sampling***Batch Q.C.**

LCSW

Inorganics - Waters (mg/L)

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
---------	------------	--------	---------------	------------	------------------

Alkalinity, Total as CaCO ₃	100	104	104	90-110	01/06/99
Nitrate + Nitrite as N	0.50	0.46	92	75-125	01/04/99

Comments: Alkalinity Batch QC for L9444-4-15.
Nitrate + Nitrite Batch QC for L9444-9-15.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Duplicate****Inorganics - Waters (mg/L)**

Analyte	Duplicate		Reporting	RPD		Date
	Result	Result	Limit	RPD	Limit	Q Analyzed

Alkalinity, Total as CaCO ₃	109	107	1	2	2.5	01/05/99
Chloride	330	320	5	3	20	12/30/98
Nitrate + Nitrite as N	0.02	0.02	0.01	<1	20	01/04/99
Solids, Total Dissolved (TDS)	750	760	10	1	20	12/31/98
Sulfate as SO ₄	2100	2100	25	<1	20	12/30/98

Comments: Alkalinity Batch QC for L9444-1-3.
Chloride and Sulfate Batch QC for L9444-1-6.
Nitrate + Nitrite Batch QC for L9444-1-8.
Total Dissolved Solids Batch QC for L9444-1-6.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Duplicate
Inorganics - Waters (mg/L)

Analyte	Duplicate		Reporting	RPD		Date
	Result	Result	Limit	RPD	Limit	Q Analyzed

Alkalinity, Total as CaCO ₃	80	81	1	1	2.5	01/06/99
Chloride	300	290	5	3	20	12/30/98
Nitrate + Nitrite as N	0.80	0.78	0.01	3	20	01/04/99
Solids, Total Dissolved (TDS)	3650	3680	10	1	20	12/29/98
Sulfate as SO ₄	2200	2200	25	<1	20	12/30/98

Comments: Alkalinity Batch QC for L9444-4-15.
Chloride and Sulfate Batch QC for L9444-7-15.
Nitrate + Nitrite Batch QC for L9444-9-15.
Total Dissolved Solids Batch QC for L9444-7-15.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Spike****Inorganics - Waters (mg/L)**

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
---------	-----------------	------------------	----------------	---------------	------------	---	------------------

Alkalinity, Total as CaCO ₃	159	109	50	100	90-110		10/05/99
Chloride	62	33	30	97	75-125		12/30/98
Nitrate + Nitrite as N	1.50	1.00	0.50	100	75-125		01/04/99
Solids, Total Dissolved (TDS)	NA	NA	NA	NA			12/31/98
Sulfate as SO ₄	NA	470	90	NA	75-125	‡	12/30/98

Comments: ‡ QC limits do not apply when the sample result is equal to or greater than 4 times the spike amount added.
Alkalinity Batch QC for L9444-1-3.
Chloride and Sulfate Batch QC for L9444-1-6.
Nitrate + Nitrite Batch QC for L9444-1-8.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: *Enron Gas Pipeline Group*
Contact: *Ted Ryther*

Project: *Roswell Qtrly Sampling***Batch Q.C.****Spike****Inorganics - Waters (mg/L)**

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
---------	-----------------	------------------	----------------	---------------	------------	---	------------------

Alkalinity, Total as CaCO ₃	132	80	50	104	90-110		10/06/99
Chloride	590	300	300	97	75-125		12/30/98
Nitrate + Nitrite as N	1.20	0.80	0.50	80	75-125		01/04/99
Sulfate as SO ₄	3100	2200	900	100	75-125		12/30/98

Comments: Alkalinity Batch QC for L9444-4-15.
Chloride and Sulfate Batch QC for L9444-7-15.
Nitrate + Nitrite Batch QC for L9444-9-15.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Method Blank
Metals / Total by Volume (mg/L)

Analyte	Result	Reporting Limit	Q	Date Analyzed
Arsenic	ND	0.0020		01/11/99
Barium	ND	0.0010		01/07/99
Cadmium	ND	0.0020		01/07/99
Calcium	ND	0.050		01/07/99
Chromium	ND	0.0050		01/07/99
Copper	ND	0.0020		01/07/99
Iron	ND	0.010		01/07/99
Lead	ND	0.025		01/07/99
Magnesium	ND	0.050		01/07/99
Manganese	ND	0.0010		01/07/99
Mercury	ND	0.00020		01/08/99
Potassium	ND	0.40		01/07/99
Selenium	ND	0.0020		01/12/99
Silver	ND	0.0030		01/07/99
Sodium	ND	0.050		01/07/99
Zinc	ND	0.010		01/07/99
Comments:				

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
LCSW
Metals / Total by Volume (mg/L)

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
Arsenic	0.0400	0.0394	99	80-120	01/11/99
Barium	2.00	2.02	101	80-120	01/07/99
Cadmium	0.0500	0.0528	106	80-120	01/07/99
Calcium	1.00	0.955	96	80-120	01/07/99
Chromium	0.200	0.201	101	80-120	01/07/99
Copper	0.250	0.252	101	80-120	01/07/99
Iron	1.00	0.977	98	80-120	01/07/99
Lead	0.500	0.478	96	80-120	01/07/99
Magnesium	1.00	0.938	94	80-120	01/07/99
Manganese	0.500	0.505	101	80-120	01/07/99
Mercury	0.00200	0.0020	100	80-120	01/08/99
Potassium	10.0	9.31	93	80-120	01/07/99
Selenium	0.010	0.010	100	80-120	01/12/99
Silver	0.0500	0.0501	100	80-120	01/07/99
Sodium	1.00	0.933	93	80-120	01/07/99
Zinc	0.500	0.493	99	80-120	01/07/99
Comments	LCSW = Laboratory Control Sample: Water				

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Duplicate
Metals / Total by Volume (mg/L)

Analyte	Result	Duplicate Result	Reporting Limit	RPD	RPD Limit	Q	Date Analyzed
Arsenic	ND	ND	0.0040	NA	20		01/11/99
Barium	0.0133	0.013	0.0010	2	20		01/07/99
Cadmium	ND	ND	0.0020	NA	20		01/07/99
Calcium	592	582	0.25	2	20		01/07/99
Chromium	ND	ND	0.0050	NA	20		01/07/99
Copper	ND	ND	0.0020	NA	20		01/07/99
Iron	0.013	0.015	0.010	14	20		01/07/99
Lead	ND	ND	0.025	NA	20		01/07/99
Magnesium	150	148	0.050	1	20		01/07/99
Manganese	0.0191	0.0196	0.0010	3	20		01/07/99
Mercury	ND	ND	0.00020	NA	20		01/08/99
Potassium	4.0	4.0	0.40	<1	20		01/07/99
Selenium	ND	ND	0.010	NA	20		01/12/99
Silver	ND	ND	0.0030	NA	20		01/07/99
Sodium	281	275	0.25	2	20		01/07/99
Zinc	ND	ND	0.010	NA	20		01/07/99
Comments:							

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Spike****Metals / Total by Volume (mg/L)**

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
Arsenic	0.0389	ND	0.0400	97	75-125		01/11/99
Barium	1.90	0.0133	2.00	94	75-125		01/07/99
Cadmium	0.0459	ND	0.0500	92	75-125		01/07/99
Calcium	573	592	NA	NA	75-125		01/07/99
Chromium	0.182	ND	0.200	91	75-125		01/07/99
Copper	0.239	ND	0.250	96	75-125		01/07/99
Iron	0.889	0.013	1.00	88	75-125		01/07/99
Lead	0.459	ND	0.500	92	75-125		01/07/99
Magnesium	149	150	NA	NA	75-125		01/07/99
Manganese	0.470	0.0191	0.500	90	75-125		01/07/99
Mercury	0.0017	ND	0.00200	85	75-125		01/08/99
Potassium	4.05	4.0	NA	NA	75-125		01/07/99
Selenium	0.0097	ND	0.010	97	75-125		01/12/99
Silver	0.0459	ND	0.0500	92	75-125		01/07/99
Sodium	270	281	NA	NA	75-125		01/07/99
Zinc	0.446	ND	0.500	89	75-125		01/07/99
Comments:							

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles MS/MSD
by EPA Method 8260

Sample ID					Lab Number	
Analyte		Recovery MS	Recovery MSD	RPD		
MW-15	Water	%	%	%	Analyzed : 12/31/98	L9444-1
CAS #						
75-35-4	1,1-Dichloroethene	104	105	<1		
71-43-2	Benzene	108	109	<1		
79-01-6	Trichloroethene	103	104	<1		
108-88-3	Toluene	106	106	<1		
108-90-7	Chlorobenzene	106	107	<1		
Surrogates						
	1,2-Dichloroethane-d4	100	102			
	Toluene-d8	99	99			
	4-Bromofluorobenzene	100	100			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles LCS
by EPA Method 8260

						Lab Number
Analyte	Results	Amount Spiked	Units	Recovery		
Analyzed : 12/31/98						LCS1231
CAS #						
75-35-4	1,1-Dichloroethene	18.9	20.0	ug/L	95%	
71-43-2	Benzene	21.0	20.0	ug/L	105%	
79-01-6	Trichloroethene	20.4	20.0	ug/L	102%	
108-88-3	Toluene	21.2	20.0	ug/L	106%	
108-90-7	Chlorobenzene	20.9	20.0	ug/L	105%	
					Recovery	
Surrogates					LCS1231	
1,2-Dichloroethane-d4					101%	
Toluene-d8					100%	
4-Bromofluorobenzene					100%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles LCS
by EPA Method 8260

					Lab Number
Analyte	Results	Amount Spiked	Units	Recovery	
Analyzed : 01/04/99					LCS0104B
CAS #					
75-35-4	1,1-Dichloroethene	19.6	20.0	ug/L	98%
71-43-2	Benzene	21.1	20.0	ug/L	106%
79-01-6	Trichloroethene	20.4	20.0	ug/L	102%
108-88-3	Toluene	21.4	20.0	ug/L	107%
108-90-7	Chlorobenzene	21.3	20.0	ug/L	107%
				Recovery	
Surrogates				LCS0104B	
1,2-Dichloroethane-d4				99%	
Toluene-d8				101%	
4-Bromofluorobenzene				101%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9444

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

PNA LCS & LCSD
by modified EPA method 8270 (SIM)

Sample ID	Lab Number	Lab Number		
Analyte	Recovery	Recovery	RPD	COMMENT

		LCS1229M	LCSD1229M		Sampled: NA Analyzed: 01/04/99
CAS#					
91-20-3	Naphthalene	101%	104%	4%	
208-96-8	Acenaphthylene	81%	84%	4%	
83-32-9	Acenaphthene	102%	107%	4%	
86-73-7	Fluorene	101%	105%	4%	
85-01-8	Phenanthrene	110%	115%	5%	
120-12-7	Anthracene	90%	93%	3%	
206-44-0	Fluoranthene	104%	108%	4%	
129-00-0	Pyrene	102%	105%	3%	
56-55-3	Benzo[a]anthracene	99%	102%	3%	
218-01-9	Chrysene	108%	114%	5%	
205-99-2	Benzo[b]fluoranthene	99%	101%	2%	
207-08-9	Benzo[k]fluoranthene	94%	103%	9%	
50-32-8	Benzo[e]pyrene	85%	88%	3%	
193-39-5	Indeno[1,2,3-cd]pyrene	92%	98%	7%	
53-70-3	Dibenz[a,h]anthracene	91%	97%	7%	
191-24-2	Benzo[g,h,i]perylene	97%	103%	6%	
				Recovery	Recovery
				LCSD1229M	LCSD1229M
Base / Neutral Surrogates:					
1,2-Dichlorobenzene-d4				95%	101%
Nitrobenzene-d5				80%	82%
2-Fluorobiphenyl				105%	107%

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

CHAIN OF CUSTODY RECORD LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp
OAL hrs. _____
ISCO _____

Page ____ of ____
Site Visit ☐

Client Information

Company CYPRESS ENGINEERING
Contact SANDY SHARP
Address 10255 WEST LITTLE YORK STE 250
HOUSTON, TX 77040
Phone # 713-46-7252 Fax # 713-46-7867

Billing Information

Company ENCLON
Contact GEORGE ROBINSON
Address _____
Phone # 713-46-7327 Fax # 713-46-7867

Project Information

Project Name TWP ROSWELL
Project # _____
P.O. # _____
Comments SEE DEMORAH
GRIFFITHS W/QUESTIONS

Sampler's Name SANDY SHARP
Signature [Signature]
Quote # 0.5193
NOTE: If quote number is not referenced,
standard pricing will be applied.
Provide Fax Results ☒ Yes ☐ No

Remarks

8260 INCLUDE DICHLOROETHENE (CIS- & TRANS-)
& DICHLOROBENZENE (O-, M- & P-)
8270 INCLUDE MONOMETHYLNAPHTHALENE
ISOMERS (1- & 2-)

Matrix

Analyses

Sample Identification		Date	Time	FOR LAB USE ONLY		# of Containers	Soil	Water	Other	Volatiles 8010 / 8000	Semi-volatiles 8010 / 8000	Organics PCBs	NW TPH Quantity	NW TPH G D	BTEX 600	TPH 418.1	Metals Total	Cadmium	Copper	Lead	Manganese	Nickel	Silver	Zinc	Total	Turnaround	Remarks	
				OAL Login #																								
1	MW-15	12/24/98	1430	L9444-1	8		X			3	1							1							1	2	N	TOTAL METALS
2	MW-17	12/24/98	1230	1-2	8		X			3	1							1							1	2	N	" "
3	MW-3	12/24/98	1335	1-3	8		X			3	1							1							1	2	N	" "
4																												
5																												
6																												
7																												
8																												
9																												

(N) Normal - 10 working days
(S) Special - 5 working days
(R) Rush - 24-72 hrs.
(O) Other - _____

Relinquished

Signature _____ Date _____
Print Name _____ Time _____
Company _____

Received

Signature [Signature] Date 12/30/98
Print Name PAULA WALKER-CLIDORE Time 0950
Company CSL

Relinquished

Signature _____ Date _____
Print Name _____ Time _____
Company _____

Received

Signature _____ Date _____
Print Name _____ Time _____
Company _____

Relinquished

Signature _____ Date _____
Print Name _____ Time _____
Company _____

Received

Signature _____ Date _____
Print Name _____ Time _____
Company _____

☐ Courier ☐ UPS ☒ FedEx ☐ Other
Received @ 08 °C
Appropriate Containers ☒ Yes ☐ No
9 4oz./8oz. Jars
12 VOA Vials
3 Plastic Bottles
Glass Bottles
Other _____

CHAIN OF CUSTODY RECORD

LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp
OAL hrs. _____
ISCO _____

Page ____ of ____
Site Visit ☐

Client Information

Company CYPRESS ENGINEERING
Contact SANDY SHARP
Address 10235 WEST LITTLE PARK, STE 250
HOUSTON, TX 77040
Phone # 713/446-7252 Fax # 713/446-7867

Billing Information

Company ENRON
Contact % GEORGE ROBINSON
Address _____
Phone # 713/446-7327 Fax # 713/446-7867

Project Information

Project Name TWP ROSWELL
Project # _____
P.O. # _____
Comments SEE DEADMAN
GRIFFITHS w/QUESTIONS

Sampler's Name SANDY SHARP
Signature [Signature]
Quote # 0.3493
NOTE: If quote number is not referenced,
standard pricing will be applied.
Provide Fax Results ☒ Yes ☐ No

Remarks

8260 INCLUDE ~~8260~~ DICHOROETHENE (CIS- & TRANS-)
& DICHOROBENZENE (O-, M- & P-)
8270 INCLUDE MONOMETHYLAAPHTHALENE
ISOMERS (1- & 2-)

Matrix

Soil _____
Water _____
Other (Note in Remarks) _____

Analyses

Volatiles 624 / 625 / 8010 / 8020
Semi-volatiles 625 / 8010 / 8020
Organochlorine 606 / 8000 / 8001
PCB Prescribed
NTPH-HCD
Quantity? ☐ Yes ☐ No
NTPH Quantification
G D 418.1M
BTX 602 / 8020 ☐ MTBE
TPH 418.1 ☐ Total ☐ NP
Metals ☐ Total ☐ TCLP ☐ Dissolved
As by EPA Method 8210, 8211, 8212, 8213, 8214, 8215, 8216, 8217, 8218, 8219, 8220, 8221, 8222, 8223, 8224, 8225, 8226, 8227, 8228, 8229, 8230, 8231, 8232, 8233, 8234, 8235, 8236, 8237, 8238, 8239, 8240, 8241, 8242, 8243, 8244, 8245, 8246, 8247, 8248, 8249, 8250, 8251, 8252, 8253, 8254, 8255, 8256, 8257, 8258, 8259, 8260, 8261, 8262, 8263, 8264, 8265, 8266, 8267, 8268, 8269, 8270, 8271, 8272, 8273, 8274, 8275, 8276, 8277, 8278, 8279, 8280, 8281, 8282, 8283, 8284, 8285, 8286, 8287, 8288, 8289, 8290, 8291, 8292, 8293, 8294, 8295, 8296, 8297, 8298, 8299, 8300, 8301, 8302, 8303, 8304, 8305, 8306, 8307, 8308, 8309, 8310, 8311, 8312, 8313, 8314, 8315, 8316, 8317, 8318, 8319, 8320, 8321, 8322, 8323, 8324, 8325, 8326, 8327, 8328, 8329, 8330, 8331, 8332, 8333, 8334, 8335, 8336, 8337, 8338, 8339, 8340, 8341, 8342, 8343, 8344, 8345, 8346, 8347, 8348, 8349, 8350, 8351, 8352, 8353, 8354, 8355, 8356, 8357, 8358, 8359, 8360, 8361, 8362, 8363, 8364, 8365, 8366, 8367, 8368, 8369, 8370, 8371, 8372, 8373, 8374, 8375, 8376, 8377, 8378, 8379, 8380, 8381, 8382, 8383, 8384, 8385, 8386, 8387, 8388, 8389, 8390, 8391, 8392, 8393, 8394, 8395, 8396, 8397, 8398, 8399, 8400, 8401, 8402, 8403, 8404, 8405, 8406, 8407, 8408, 8409, 8410, 8411, 8412, 8413, 8414, 8415, 8416, 8417, 8418, 8419, 8420, 8421, 8422, 8423, 8424, 8425, 8426, 8427, 8428, 8429, 8430, 8431, 8432, 8433, 8434, 8435, 8436, 8437, 8438, 8439, 8440, 8441, 8442, 8443, 8444, 8445, 8446, 8447, 8448, 8449, 8450, 8451, 8452, 8453, 8454, 8455, 8456, 8457, 8458, 8459, 8460, 8461, 8462, 8463, 8464, 8465, 8466, 8467, 8468, 8469, 8470, 8471, 8472, 8473, 8474, 8475, 8476, 8477, 8478, 8479, 8480, 8481, 8482, 8483, 8484, 8485, 8486, 8487, 8488, 8489, 8490, 8491, 8492, 8493, 8494, 8495, 8496, 8497, 8498, 8499, 8500, 8501, 8502, 8503, 8504, 8505, 8506, 8507, 8508, 8509, 8510, 8511, 8512, 8513, 8514, 8515, 8516, 8517, 8518, 8519, 8520, 8521, 8522, 8523, 8524, 8525, 8526, 8527, 8528, 8529, 8530, 8531, 8532, 8533, 8534, 8535, 8536, 8537, 8538, 8539, 8540, 8541, 8542, 8543, 8544, 8545, 8546, 8547, 8548, 8549, 8550, 8551, 8552, 8553, 8554, 8555, 8556, 8557, 8558, 8559, 8560, 8561, 8562, 8563, 8564, 8565, 8566, 8567, 8568, 8569, 8570, 8571, 8572, 8573, 8574, 8575, 8576, 8577, 8578, 8579, 8580, 8581, 8582, 8583, 8584, 8585, 8586, 8587, 8588, 8589, 8590, 8591, 8592, 8593, 8594, 8595, 8596, 8597, 8598, 8599, 8600, 8601, 8602, 8603, 8604, 8605, 8606, 8607, 8608, 8609, 8610, 8611, 8612, 8613, 8614, 8615, 8616, 8617, 8618, 8619, 8620, 8621, 8622, 8623, 8624, 8625, 8626, 8627, 8628, 8629, 8630, 8631, 8632, 8633, 8634, 8635, 8636, 8637, 8638, 8639, 8640, 8641, 8642, 8643, 8644, 8645, 8646, 8647, 8648, 8649, 8650, 8651, 8652, 8653, 8654, 8655, 8656, 8657, 8658, 8659, 8660, 8661, 8662, 8663, 8664, 8665, 8666, 8667, 8668, 8669, 8670, 8671, 8672, 8673, 8674, 8675, 8676, 8677, 8678, 8679, 8680, 8681, 8682, 8683, 8684, 8685, 8686, 8687, 8688, 8689, 8690, 8691, 8692, 8693, 8694, 8695, 8696, 8697, 8698, 8699, 8700, 8701, 8702, 8703, 8704, 8705, 8706, 8707, 8708, 8709, 8710, 8711, 8712, 8713, 8714, 8715, 8716, 8717, 8718, 8719, 8720, 8721, 8722, 8723, 8724, 8725, 8726, 8727, 8728, 8729, 8730, 8731, 8732, 8733, 8734, 8735, 8736, 8737, 8738, 8739, 8740, 8741, 8742, 8743, 8744, 8745, 8746, 8747, 8748, 8749, 8750, 8751, 8752, 8753, 8754, 8755, 8756, 8757, 8758, 8759, 8760, 8761, 8762, 8763, 8764, 8765, 8766, 8767, 8768, 8769, 8770, 8771, 8772, 8773, 8774, 8775, 8776, 8777, 8778, 8779, 8780, 8781, 8782, 8783, 8784, 8785, 8786, 8787, 8788, 8789, 8790, 8791, 8792, 8793, 8794, 8795, 8796, 8797, 8798, 8799, 8800, 8801, 8802, 8803, 8804, 8805, 8806, 8807, 8808, 8809, 8810, 8811, 8812, 8813, 8814, 8815, 8816, 8817, 8818, 8819, 8820, 8821, 8822, 8823, 8824, 8825, 8826, 8827, 8828, 8829, 8830, 8831, 8832, 8833, 8834, 8835, 8836, 8837, 8838, 8839, 8840, 8841, 8842, 8843, 8844, 8845, 8846, 8847, 8848, 8849, 8850, 8851, 8852, 8853, 8854, 8855, 8856, 8857, 8858, 8859, 8860, 8861, 8862, 8863, 8864, 8865, 8866, 8867, 8868, 8869, 8870, 8871, 8872, 8873, 8874, 8875, 8876, 8877, 8878, 8879, 8880, 8881, 8882, 8883, 8884, 8885, 8886, 8887, 8888, 8889, 8890, 8891, 8892, 8893, 8894, 8895, 8896, 8897, 8898, 8899, 8900, 8901, 8902, 8903, 8904, 8905, 8906, 8907, 8908, 8909, 8910, 8911, 8912, 8913, 8914, 8915, 8916, 8917, 8918, 8919, 8920, 8921, 8922, 8923, 8924, 8925, 8926, 8927, 8928, 8929, 8930, 8931, 8932, 8933, 8934, 8935, 8936, 8937, 8938, 8939, 8940, 8941, 8942, 8943, 8944, 8945, 8946, 8947, 8948, 8949, 8950, 8951, 8952, 8953, 8954, 8955, 8956, 8957, 8958, 8959, 8960, 8961, 8962, 8963, 8964, 8965, 8966, 8967, 8968, 8969, 8970, 8971, 8972, 8973, 8974, 8975, 8976, 8977, 8978, 8979, 8980, 8981, 8982, 8983, 8984, 8985, 8986, 8987, 8988, 8989, 8990, 8991, 8992, 8993, 8994, 8995, 8996, 8997, 8998, 8999, 9000, 9001, 9002, 9003, 9004, 9005, 9006, 9007, 9008, 9009, 9010, 9011, 9012, 9013, 9014, 9015, 9016, 9017, 9018, 9019, 9020, 9021, 9022, 9023, 9024, 9025, 9026, 9027, 9028, 9029, 9030, 9031, 9032, 9033, 9034, 9035, 9036, 9037, 9038, 9039, 9040, 9041, 9042, 9043, 9044, 9045, 9046, 9047, 9048, 9049, 9050, 9051, 9052, 9053, 9054, 9055, 9056, 9057, 9058, 9059, 9060, 9061, 9062, 9063, 9064, 9065, 9066, 9067, 9068, 9069, 9070, 9071, 9072, 9073, 9074, 9075, 9076, 9077, 9078, 9079, 9080, 9081, 9082, 9083, 9084, 9085, 9086, 9087, 9088, 9089, 9090, 9091, 9092, 9093, 9094, 9095, 9096, 9097, 9098, 9099, 9100, 9101, 9102, 9103, 9104, 9105, 9106, 9107, 9108, 9109, 9110, 9111, 9112, 9113, 9114, 9115, 9116, 9117, 9118, 9119, 9120, 9121, 9122, 9123, 9124, 9125, 9126, 9127, 9128, 9129, 9130, 9131, 9132, 9133, 9134, 9135, 9136, 9137, 9138, 9139, 9140, 9141, 9142, 9143, 9144, 9145, 9146, 9147, 9148, 9149, 9150, 9151, 9152, 9153, 9154, 9155, 9156, 9157, 9158, 9159, 9160, 9161, 9162, 9163, 9164, 9165, 9166, 9167, 9168, 9169, 9170, 9171, 9172, 9173, 9174, 9175, 9176, 9177, 9178, 9179, 9180, 9181, 9182, 9183, 9184, 9185, 9186, 9187, 9188, 9189, 9190, 9191, 9192, 9193, 9194, 9195, 9196, 9197, 9198, 9199, 9200, 9201, 9202, 9203, 9204, 9205, 9206, 9207, 9208, 9209, 9210, 9211, 9212, 9213, 9214, 9215, 9216, 9217, 9218, 9219, 9220, 9221, 9222, 9223, 9224, 9225, 9226, 9227, 9228, 9229, 9230, 9231, 9232, 9233, 9234, 9235, 9236, 9237, 9238, 9239, 9240, 9241, 9242, 9243, 9244, 9245, 9246, 9247, 9248, 9249, 9250, 9251, 9252, 9253, 9254, 9255, 9256, 9257, 9258, 9259, 9260, 9261, 9262, 9263, 9264, 9265, 9266, 9267, 9268, 9269, 9270, 9271, 9272, 9273, 9274, 9275, 9276, 9277, 9278, 9279, 9280, 9281, 9282, 9283, 9284, 9285, 9286, 9287, 9288, 9289, 9290, 9291, 9292, 9293, 9294, 9295, 9296, 9297, 9298, 9299, 9300, 9301, 9302, 9303, 9304, 9305, 9306, 9307, 9308, 9309, 9310, 9311, 9312, 9313, 9314, 9315, 9316, 9317, 9318, 9319, 9320, 9321, 9322, 9323, 9324, 9325, 9326, 9327, 9328, 9329, 9330, 9331, 9332, 9333, 9334, 9335, 9336, 9337, 9338, 9339, 9340, 9341, 9342, 9343, 9344, 9345, 9346, 9347, 9348, 9349, 9350, 9351, 9352, 9353, 9354, 9355, 9356, 9357, 9358, 9359, 9360, 9361, 9362, 9363, 9364, 9365, 9366, 9367, 9368, 9369, 9370, 9371, 9372, 9373, 9374, 9375, 9376, 9377, 9378, 9379, 9380, 9381, 9382, 9383, 9384, 9385, 9386, 9387, 9388, 9389, 9390, 9391, 9392, 9393, 9394, 9395, 9396, 9397, 9398, 9399, 9400, 9401, 9402, 9403, 9404, 9405, 9406, 9407, 9408, 9409, 9410, 9411, 9412, 9413, 9414, 9415, 9416, 9417, 9418, 9419, 9420, 9421, 9422, 9423, 9424, 9425, 9426, 9427, 9428, 9429, 9430, 9431, 9432, 9433, 9434, 9435, 9436, 9437, 9438, 9439, 9440, 9441, 9442, 9443, 9444, 9445, 9446, 9447, 9448, 9449, 9450, 9451, 9452, 9453, 9454, 9455, 9456, 9457, 9458, 9459, 9460, 9461, 9462, 9463, 9464, 9465, 9466, 9467, 9468, 9469, 9470, 9471, 9472, 9473, 9474, 9475, 9476, 9477, 9478, 9479, 9480, 9481, 9482, 9483, 9484, 9485, 9486, 9487, 9488, 9489, 9490, 9491, 9492, 9493, 9494, 9495, 9496, 9497, 9498, 9499, 9500, 9501, 9502, 9503, 9504, 9505, 9506, 9507, 9508, 9509, 9510, 9511, 9512, 9513, 9514, 9515, 9516, 9517, 9518, 9519, 9520, 9521, 9522, 9523, 9524, 9525, 9526, 9527, 9528, 9529, 9530, 9531, 9532, 9533, 9534, 9535, 9536, 9537, 9538, 9539, 9540, 9541, 9542, 9543, 9544, 9545, 9546, 9547, 9548, 9549, 9550, 9551, 9552, 9553, 9554, 9555, 9556, 9557, 9558, 9559, 9560, 9561, 9562, 9563, 9564, 9565, 9566, 9567, 9568, 9569, 9570, 9571, 9572, 9573, 9574, 9575, 9576, 9577, 9578, 9579, 9580, 9581, 9582, 9583, 9584, 9585, 9586, 9587, 9588, 9589, 9590, 9591, 9592, 9593, 9594, 9595, 9596, 9597, 9598, 9599, 9600, 9601, 9602, 9603, 9604, 9605, 9606, 9607, 9608, 9609, 9610, 9611, 9612, 9613, 9614, 9615, 9616, 9617, 9618, 9619, 9620, 9621, 9622, 9623, 9624, 9625, 9626, 9627, 9628, 9629, 9630, 9631, 9632, 9633, 9634, 9635, 9636, 9637, 9638, 9639, 9640, 9641, 9642, 9643, 9644, 9645, 9646, 9647, 9648, 9649, 9650, 9651, 9652, 9653, 9654, 9655, 9656, 9657, 9658, 9659, 9660, 9661, 9662, 9663, 9664, 9665, 9666, 9667, 9668, 9669, 9670, 9671, 9672, 9673, 9674, 9675, 9676, 9677, 9678, 9679, 9680, 9681, 9682, 9683, 9684, 9685, 9686, 9687, 9688, 9689, 9690, 9691, 9692, 9693, 9694, 9695, 9696, 9697, 9698, 9699, 9700, 9701, 9702, 9703, 9704, 9705, 9706, 9707, 9708, 9709, 9710, 9711, 9712, 9713, 9714, 9715, 9716, 9717, 9718, 9719, 9720, 9721, 9722, 9723, 9724, 9725, 9726, 9727, 9728, 9729, 9730, 9731, 9732, 9733, 9734, 9735, 9736, 9737, 9738, 9739, 9740, 9741, 9742, 9743, 9744, 9745, 9746, 9747, 9748, 9749, 9750, 9751, 9752, 9753, 9754, 9755, 9756, 9757, 9758, 9759, 9760, 9761, 9762, 9763, 9764, 9765, 9766, 9767, 9768, 9769, 9770, 9771, 9772, 9773, 9774, 9775, 9776, 9777, 9778, 9779, 9780, 9781, 9782, 9783, 9784, 9785, 9786, 9787, 9788, 9789, 9790, 9791, 9792, 9793, 9794, 9795, 9796, 9797, 9798, 9799, 9800, 9801, 9802, 9803, 9804, 9805, 9806, 9807, 9808, 9809, 9810, 9811, 9812, 9813, 9814, 9815, 9816, 9817, 9818, 9819, 9820, 9821, 9822, 9823, 9824, 9825, 9826, 9827, 9828, 9829, 9830, 9831, 9832, 9833, 9834, 9835, 9836, 9837, 9838, 9839, 9840, 9841, 9842, 9843, 9844, 9845, 9846, 9847, 9848, 9849, 9850, 9851, 9852, 9853, 9854, 9855, 9856, 9857, 9858, 9859, 9860, 9861, 9862, 9863, 9864, 9865, 9866, 9867, 9868, 9869, 9870, 9871, 9872, 9873, 9874, 9875, 9876, 9877, 9878, 9879, 9880, 9881, 9882, 9883, 9884, 9885, 9886, 9887, 9888, 9889, 9890, 9891, 9892, 9893, 9894, 9895, 9896, 9897, 9898, 9899, 9900, 9901, 9902, 9903, 9904, 9905, 9906, 9907, 9908, 9909, 9910, 9911, 9912, 9913, 9914, 9915, 9916, 9917, 9918, 9919, 9920, 9921, 9922, 9923, 9924, 9925, 9926, 9927, 9928, 9929, 9930, 9931, 9932, 9933, 9934, 9935, 9936, 9937, 9938, 9939, 9940, 9941, 9942, 9943, 9944, 9945, 9946, 9947, 9948, 9949, 9950, 9951, 9952, 9953, 9954, 9955, 9956, 9957, 9958, 9959, 9960, 9961, 9962, 9963, 9964, 9965, 9966, 9967, 9968, 9969, 9970, 9971, 9972, 9973, 9974, 9975, 9976, 9977, 9978, 9979, 9980, 9981, 9982, 9983, 9984, 9985, 9986, 9987, 9988, 9989, 9990, 9991, 9992, 9993, 9994, 9995, 9996, 9997, 9998, 9999, 10000

[N] Normal - 10 working days
[S] Special - 5 working days
[R] Rush - 24-72 hrs.
[O] Other - _____

Sample Identification	Date	Time	FOR LAB USE ONLY OAL Login #	# of Containers	Soil	Water	Other (Note in Remarks)	Volatiles 624 / 625 / 8010 /
-----------------------	------	------	---------------------------------	-----------------	------	-------	-------------------------	------------------------------



Oregon
Analytical
Laboratory

14885 S.W. Scholls Ferry Rd.
Beaverton, Oregon 97007
(503) 690-8300
FAX (503) 690-1404

CHAIN OF CUSTODY RECORD LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp
OAL hrs. _____
ISCO _____

Page ____ of ____
Site Visit ☐

Client Information

Company CYRESS ENGINEERING
Contact SANDY SHARP
Address 10235 WEST LITTLE YORK, STE 256
HOUSTON, TX 77040
Phone # 713/446-7252 Fax # 713/446-7867

Billing Information

Company ENRON
Contact GEORGE ROBINSON
Address _____
Phone # 713/446-7527 Fax # 713/446-7867

Project Information

Project Name TWP ROSWELL Sampler's Name SANDY SHARP
Project # _____ Signature Sandy Sharp
P.O. # _____ Quote # Q 3193
Comments SEE DEBORAH GRIFFITHS w/QUESTIONS
Provide Fax Results ☒ Yes ☐ No

NOTE: If quote number is not referenced, standard pricing will be applied.

Remarks

8260 INCLUDE 1,2 DICHLOROETHENE (CIS- & TRANS-)
& DICHLORO BENZENE (O-, M- & P-)
8270 INCLUDE MONOMETHYLNAPHTHALENE
ISOMERS (1- & 2-)

Matrix

Analytes

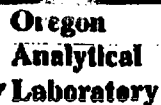
Sample Identification		Date	Time	FOR LAB USE ONLY OAL Login #		# of C	Soil	Water	Other	Volatiles 8010 / 8 8010 / 8020	Semi-volat 8051 / 8070 PAHs 8080 PAHs 8081	Organoc PCB P NHW TPH Quantity	NHW TPH G D	BTX 60	TPH 418.1	Metals ☐ Total ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
-----------------------	--	------	------	---------------------------------	--	--------	------	-------	-------	--------------------------------------	---	---	----------------	--------	--------------	---

Relinquished	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	
Received	
Signature <u>Paula Walker-Lidow</u>	Date <u>12/30/98</u>
Print Name <u>Paula Walker-Lidow</u>	Time <u>1:05</u>
Company <u>OAL</u>	

Relinquished	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	
Received	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	

Relinquished	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	
Received	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	

☐ Courier ☒ UPS ☒ FedEx ☐ Other
Received @ 01 °C
Appropriate Containers ☒ Yes ☐ No
____ 4oz./8oz. Jars
9 VOA Vials
12 Plastic Bottles
3 Glass Bottles
____ Other _____



CHAIN OF CUSTODY RECORD

LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp
OAL hrs. _____
ISCO _____

Page ____ of ____
Site Visit ☐

Client Information	Billing Information	Project Information
Company <u>UPRESS ENGINEERING</u>	Company <u>ENRON</u>	Project Name <u>TWP ROSWELL</u>
Contact <u>STEVEY SHARP</u>	Contact <u>JO GEORGE ROBINSON</u>	Sampler's Name <u>STEVEY SHARP</u>
Address <u>1235 WEST LITTLE YORK SUB 250</u>	Address _____	Signature _____
<u>HOUSTON TX 77040</u>	Phone # <u>713/446-7252</u> Fax # <u>713/446-7867</u>	Quote # <u>Q 3193</u>
	Phone # <u>713/446-7252</u> Fax # <u>713/446-7867</u>	NOTE: If quote number is not referenced, standard pricing will be applied.
		Provide Fax Results ☒ Yes ☐ No
		Comments <u>SEE DEBORAH GRIFFITHS J/QUESTIONS</u>

[illegible]

Relinquished	
Signature	Date
Print Name	Time
Company	
Received	
Signature	Date
Print Name	Time
Company	

Relinquished	
Signature	Date
Print Name	Time
Company	

Received	
Signature	Date
Print Name	Time
Company	

Relinquished	
Signature	Date
Print Name	Time
Company	

Received	
Signature	Date
Print Name	Time
Company	

☐ Courier ☐ UPS ☒ FedEx ☐ Other
 Received @ 2 ^{PM} 12 ^{PM}
 Appropriate Containers ☒ Yes ☐ No
 _____ 4oz./8oz. Jars
12 VOA Vials
12 Plastic Bottles
3 Glass Bottles
 _____ Other _____

CHAIN OF CUSTODY RECORD
LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp
OAL hrs. _____
ISCO _____

Page ____ of ____
Site Visit ☐

Client Information
Company CYPRESS ENGINEERING
Contact SANDY SHARP
Address 10235 WEST LITTLE YORK STREET
HOUSTON TX 77040
Phone (713) 646-7252 Fax (713) 646-7867

Billing Information
Company LONDON
Contact PO GEORGE ROBINSON
Address _____
Phone (713) 646-7327 Fax (713) 646-7867

Project Information
Project Name TWP RUSSELL Sampler's Name SANDY SHARP
Project # _____ Signature _____
P.O. # _____
Comments SEE DEBORAH GRIFFITHS W/ QUESTIONS
Quote # Q3193
NOTE: If quote number is not referenced, standard pricing will be applied.
Provide Fax Results ☒ Yes ☐ No

Remarks
8260 INCLUDE 1,2-DICHLOROBENZENE (CIS- & TRANS-)
8270 & DICHLOROBENZENE (O-, M- & P-)
8270 INCLUDE MONOMETHYLNAPHTHALENE
ISOMERS (1- & 2-)

Sample Identification				FOR LAB USE ONLY		# of Containers	Matrix			Analyses												Turnaround	Remarks
	Date	Time	OAL Login #				Soil	Water	Other (Note in Remarks)	Volatiles 624 (629) 8240 8010 / 8020	Semivolatiles 625 (627) 6250 / 6260 PAH 6210	Organochlorine 608 / 609 / 6091	PCB Pesticide	NW TPH-HCD	Quantity: ☐ Yes ☐ No	NW TPH Quantification	G D 415.1M	BTX 602 / 8020 ☐ MTBE	TPH 415.1	Oil & Grease ☐ Total 415.1 / 1664 ☐ NP	Metals ☐ Total ☐ TCLP ☐ Dissolved		
1	11/18/98	0935	19444-14	8			X			3	1										1	N	TOTAL METALS
2	11/18/98	1400	19444-15	8			X			3	1										1	N	TOTAL METALS ALL HNO3
3																							
4																							
5																							
6																							
7																							
8																							
9																							

Relinquished

Signature _____ Date _____
Print Name _____ Time _____
Company _____

Received

Signature PAULA WALKER-LIPPER Date 12/30/98
Print Name _____ Time _____
Company OPR

Relinquished

Signature _____ Date _____
Print Name _____ Time _____
Company _____

Received

Signature _____ Date _____
Print Name _____ Time _____
Company _____

Relinquished

Signature _____ Date _____
Print Name _____ Time _____
Company _____

Received

Signature _____ Date _____
Print Name _____ Time _____
Company _____

☐ Courier ☐ UPS ☒ FedEx ☐ Other

Received @ 8:15 °C

Appropriate Containers ☒ Yes ☐ No

____ 4oz./8oz. Jars

____ VOA Vials

____ Plastic Bottles

____ Glass Bottles

____ Other _____





L9418

January 14, 1999

Sandra L Sharp
Enron Gas Pipeline Group
Cypress Engineering
10235 West Little York, Suite 256
Houston, TX 77040-3229

Phone: (713) 856-7980
FAX: (713) 856-7981

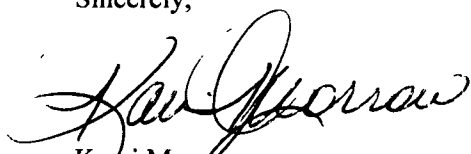
Re: Laboratory Sample Analysis
Project: Roswell Qtrly Sampling
Project Manager: Ted Ryther

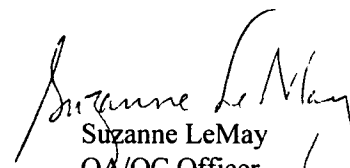
Dear Sandra L Sharp:

On Monday, December 28, 1998, OAL received eleven (11) water samples for analysis. The samples were analyzed utilizing EPA, ASTM, or equivalent methodology.

Should you have any questions concerning the results in this report, please contact us at (503) 590-5300. Refer to OAL login number L9418.

Sincerely,


Kami Morrow
Project Manager


Suzanne LeMay
QA/QC Officer

cc: Sandra L Sharp, Ted Ryther

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Sample Summary

<u>Sample ID</u>	<u>Lab #</u>	<u>Description</u>	<u>Sampled</u>	<u>Received</u>
MW-6	L9418-1	water	12/22/98 11:20	12/28/98
MW-5	L9418-2	water	12/22/98 13:30	12/28/98
MW-10	L9418-3	water	12/22/98 15:00	12/28/98
MW-11	L9418-4	water	12/22/98 16:05	12/28/98
MW-14	L9418-5	water	12/23/98 12:25	12/28/98
MW-19	L9418-6	water	12/23/98 14:10	12/28/98
TRIP BLANK	L9418-7	water	12/22/98	12/28/98
MW-25D	L9418-8	water	12/23/98 15:45	12/28/98
MW-23D	L9418-9	water	12/23/98 16:10	12/28/98
MW-24D	L9418-10	water	12/23/98 16:30	12/28/98
TRIP BLANK	L9418-11	water	12/23/98	12/28/98

Definition of Terms

- * Batch duplicate analysis exceeds laboratory control limits.
D Reported value is based on a dilution.
D1 Reported value is based on a dilution due to matrix interference.
H Sample was analyzed past its hold time.
ND Analytical result was below the reporting limit.

Analysts

<u>Initials</u>	<u>Analyst</u>	<u>Title</u>
CV	Cheryl Vezzani	Chemist
DM	Dan Miller	Organics Chemist
GCK	Bill Kernion	Chemist
JD	Jason Davendonis	Technician
KDK	Kirk Keyes	Chemist
NB	Nancy Boss	Technician
NM	Nick Miller	Technician
PB	Pat Buddrus	Organics Chemist

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Method Summary

Analysis	Method
Alkalinity, Total as CaCO ₃	EPA 310.1 / SM 2320B
Arsenic	EPA 200.9
Barium	EPA 200.7/6010
Cadmium	EPA 200.7/6010
Calcium	EPA 200.7/6010
Chloride	EPA 300.0
Chromium	EPA 200.7/6010
Copper	EPA 200.7/6010
Iron	EPA 200.7/6010
Lead	EPA 200.7/6010
Magnesium	EPA 200.7/6010
Manganese	EPA 200.7/6010
Mercury	EPA 245.1/7470A
Nitrate + Nitrite as N	EPA 353.2
Polynuclear Aromatic Hydrocarbons (PNA)	EPA 8270 SIM
Potassium	EPA 200.7/6010
Selenium	EPA 200.9
Silver	EPA 200.7/6010
Sodium	EPA 200.7/6010
Solids, Total Dissolved (TDS)	EPA 160.1 / SM 2540C
Sulfate as SO ₄	EPA 300.0
Volatile Organic Compounds (VOC)	EPA 8260
Zinc	EPA 200.7/6010

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Dissolved Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW-24D		Water		Sampled: 12/23/98 Filtration EPA 3005A: 01/06/99 Mercury Digestion: 01/07/99					L9418-10
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK	
Barium	0.0172	0.0010	mg/L	01/11/99	EPA 200.7/6010			CV	
Cadmium	ND	0.0020	mg/L	01/11/99	EPA 200.7/6010			CV	
Calcium	508.	0.25	mg/L	01/11/99	EPA 200.7/6010		D	CV	
Chromium	ND	0.0050	mg/L	01/11/99	EPA 200.7/6010			CV	
Copper	0.0065	0.0020	mg/L	01/11/99	EPA 200.7/6010			CV	
Iron	ND	0.010	mg/L	01/11/99	EPA 200.7/6010			CV	
Lead	ND	0.025	mg/L	01/11/99	EPA 200.7/6010			CV	
Magnesium	82.1	0.050	mg/L	01/11/99	EPA 200.7/6010			CV	
Manganese	0.176	0.0010	mg/L	01/11/99	EPA 200.7/6010			CV	
Mercury	ND	0.00020	mg/L	01/08/99	EPA 245.1/7470A			JD	
Potassium	2.5	0.40	mg/L	01/11/99	EPA 200.7/6010			CV	
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK	
Silver	ND	0.0030	mg/L	01/11/99	EPA 200.7/6010			CV	
Sodium	179.	0.25	mg/L	01/11/99	EPA 200.7/6010		D	CV	
Zinc	ND	0.010	mg/L	01/11/99	EPA 200.7/6010			CV	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Inorganics

Sample ID	Matrix	Lab Number					
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst

MW-6	Water	Sampled: 12/22/98				L9418-1	
Alkalinity, Total as CaCO ₃	109.	1.	mg/L	01/05/99	EPA 310.1 / SM 2320B		NB
Chloride	300	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	1.0	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	2,890	10.	mg/L	12/29/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	1,600	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-5	Water	Sampled: 12/22/98				L9418-2	
Alkalinity, Total as CaCO ₃	116.	1.	mg/L	01/05/99	EPA 310.1 / SM 2320B		NB
Chloride	620	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	3.8	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,440	10.	mg/L	12/29/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	1,700	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-10	Water	Sampled: 12/22/98				L9418-3	
Alkalinity, Total as CaCO ₃	127.	1.	mg/L	01/05/99	EPA 310.1 / SM 2320B		NB
Chloride	350	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.68	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,390	10.	mg/L	12/29/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	1,900	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-11	Water	Sampled: 12/22/98				L9418-4	
Alkalinity, Total as CaCO ₃	110.	1.	mg/L	01/05/99	EPA 310.1 / SM 2320B		NB
Chloride	300	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	1.1	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,780	10.	mg/L	12/29/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	1,500	25.	mg/L	12/30/98	EPA 300.0	D	KDK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Inorganics

Sample ID	Matrix					Lab Number
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment Analyst

MW-14	Water					Sampled: 12/23/98	L9418-5
Alkalinity, Total as CaCO ₃	114.	1.	mg/L	01/05/99	EPA 310.1 / SM 2320B		NB
Chloride	360	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.26	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,380	10.	mg/L	12/29/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	1,900	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-19	Water					Sampled: 12/23/98	L9418-6
Alkalinity, Total as CaCO ₃	104.	1.	mg/L	01/05/99	EPA 310.1 / SM 2320B		NB
Chloride	460	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.84	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,740	10.	mg/L	12/29/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	2,100	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-25D	Water					Sampled: 12/23/98	L9418-8
Alkalinity, Total as CaCO ₃	122.	1.	mg/L	01/05/99	EPA 310.1 / SM 2320B		NB
Chloride	320	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.01	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,450	10.	mg/L	12/29/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	2,000	25.	mg/L	12/30/98	EPA 300.0	D	KDK

MW-23D	Water					Sampled: 12/23/98	L9418-9
Alkalinity, Total as CaCO ₃	127.	1.	mg/L	01/05/99	EPA 310.1 / SM 2320B		NB
Chloride	330	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N	0.03	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,650	10.	mg/L	12/29/98	EPA 160.1 / SM 2540C		NB
Sulfate as SO ₄	2,100	25.	mg/L	12/30/98	EPA 300.0	D	KDK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Inorganics

<i>Sample ID</i>	<i>Matrix</i>							<i>Lab Number</i>
Analyte		Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst

<i>MW-24D</i>	<i>Water</i>	<i>Sampled: 12/23/98</i>						<i>L9418-10</i>
Alkalinity, Total as CaCO ₃		279.	1.	mg/L	01/05/99	EPA 310.1 / SM 2320B		NB
Chloride		330	5.0	mg/L	12/30/98	EPA 300.0	D	KDK
Nitrate + Nitrite as N		0.02	0.01	mg/L	01/04/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)		3,220	10.	mg/L	12/31/98	EPA 160.1 / SM 2540C	H	NB
Sulfate as SO ₄		1,800	25.	mg/L	12/30/98	EPA 300.0	D	KDK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	---------

		Sampled: 12/22/98						
		Hot Plate Digestion EPA 200.2/3005A: 01/05/99						
MW-6	Water	Mercury Digestion: 01/05/99						
		L9418-1						
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9	D1	GCK	
Barium	0.0099	0.0010	mg/L	01/05/99	EPA 200.7/6010		CV	
Cadmium	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010		CV	
Calcium	488.	0.25	mg/L	01/05/99	EPA 200.7/6010	D1	CV	
Chromium	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010		CV	
Copper	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010		CV	
Iron	0.064	0.010	mg/L	01/05/99	EPA 200.7/6010	*	CV	
Lead	ND	0.025	mg/L	01/05/99	EPA 200.7/6010		CV	
Magnesium	142.	0.25	mg/L	01/05/99	EPA 200.7/6010	D1	CV	
Manganese	0.0097	0.0050	mg/L	01/05/99	EPA 200.7/6010	D1	CV	
Mercury	ND	0.00020	mg/L	01/06/99	EPA 245.1/7470A		JD	
Potassium	3.3	0.40	mg/L	01/05/99	EPA 200.7/6010		CV	
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9	D1	GCK	
Silver	ND	0.0030	mg/L	01/05/99	EPA 200.7/6010		CV	
Sodium	144.	0.25	mg/L	01/05/99	EPA 200.7/6010	D1	CV	
Zinc	ND	0.010	mg/L	01/05/99	EPA 200.7/6010		CV	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

		Sampled: 12/22/98							
		Hot Plate Digestion EPA 200.2/3005A: 01/05/99							
		Mercury Digestion: 01/05/99							
MW-5	Water	L9418-2							
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK	
Barium	0.0148	0.0010	mg/L	01/05/99	EPA 200.7/6010			CV	
Cadmium	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010			CV	
Calcium	628.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV	
Chromium	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010			CV	
Copper	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010			CV	
Iron	0.026	0.010	mg/L	01/05/99	EPA 200.7/6010		*	CV	
Lead	ND	0.025	mg/L	01/05/99	EPA 200.7/6010			CV	
Magnesium	147.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV	
Manganese	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010		D1	CV	
Mercury	ND	0.00020	mg/L	01/06/99	EPA 245.1/7470A			JD	
Potassium	3.0	0.40	mg/L	01/05/99	EPA 200.7/6010			CV	
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK	
Silver	ND	0.0030	mg/L	01/05/99	EPA 200.7/6010			CV	
Sodium	203.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV	
Zinc	ND	0.010	mg/L	01/05/99	EPA 200.7/6010			CV	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	---------

		Sampled: 12/22/98						
		Hot Plate Digestion EPA 200.2/3005A: 01/05/99						
		Mercury Digestion: 01/05/99						
MW-10	Water	L9418-3						
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9	D1	GCK	
Barium	0.0107	0.0010	mg/L	01/05/99	EPA 200.7/6010		CV	
Cadmium	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010		CV	
Calcium	584.	0.25	mg/L	01/05/99	EPA 200.7/6010	D1	CV	
Chromium	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010		CV	
Copper	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010		CV	
Iron	0.034	0.010	mg/L	01/05/99	EPA 200.7/6010	*	CV	
Lead	ND	0.025	mg/L	01/05/99	EPA 200.7/6010		CV	
Magnesium	133.	0.25	mg/L	01/05/99	EPA 200.7/6010	D1	CV	
Manganese	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010	D1	CV	
Mercury	ND	0.00020	mg/L	01/06/99	EPA 245.1/7470A		JD	
Potassium	3.3	0.40	mg/L	01/05/99	EPA 200.7/6010		CV	
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9	D1	GCK	
Silver	ND	0.0030	mg/L	01/05/99	EPA 200.7/6010		CV	
Sodium	203.	0.25	mg/L	01/05/99	EPA 200.7/6010	D1	CV	
Zinc	ND	0.010	mg/L	01/05/99	EPA 200.7/6010		CV	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW-11		Water		Sampled: 12/22/98 Hot Plate Digestion EPA 200.2/3005A: 01/05/99 Mercury Digestion: 01/05/99					L9418-4	
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK		
Barium	0.0138	0.0010	mg/L	01/05/99	EPA 200.7/6010			CV		
Cadmium	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010			CV		
Calcium	468.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV		
Chromium	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010			CV		
Copper	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010			CV		
Iron	0.047	0.010	mg/L	01/05/99	EPA 200.7/6010		*	CV		
Lead	ND	0.025	mg/L	01/05/99	EPA 200.7/6010			CV		
Magnesium	98.3	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV		
Manganese	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010		D1	CV		
Mercury	ND	0.00020	mg/L	01/06/99	EPA 245.1/7470A			JD		
Potassium	3.0	0.40	mg/L	01/05/99	EPA 200.7/6010			CV		
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK		
Silver	ND	0.0030	mg/L	01/05/99	EPA 200.7/6010			CV		
Sodium	183.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV		
Zinc	ND	0.010	mg/L	01/05/99	EPA 200.7/6010			CV		

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Rytter**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	---------

		Sampled: 12/23/98						
		Hot Plate Digestion EPA 200.2/3005A: 01/05/99						
MW-14	Water	Mercury Digestion: 01/05/99					L9418-5	
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK
Barium	0.0125	0.0010	mg/L	01/05/99	EPA 200.7/6010			CV
Cadmium	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010			CV
Calcium	609.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV
Chromium	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010			CV
Copper	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010			CV
Iron	ND	0.010	mg/L	01/05/99	EPA 200.7/6010		*	CV
Lead	ND	0.025	mg/L	01/05/99	EPA 200.7/6010			CV
Magnesium	144.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV
Manganese	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010		D1	CV
Mercury	ND	0.00020	mg/L	01/06/99	EPA 245.1/7470A			JD
Potassium	4.00	0.40	mg/L	01/05/99	EPA 200.7/6010			CV
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK
Silver	ND	0.0030	mg/L	01/05/99	EPA 200.7/6010			CV
Sodium	165.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV
Zinc	ND	0.010	mg/L	01/05/99	EPA 200.7/6010			CV

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

		Sampled: 12/23/98							
		Hot Plate Digestion EPA 200.2/3005A: 01/05/99							
		Mercury Digestion: 01/05/99							
MW-19	Water	L9418-6							
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK	
Barium	0.0122	0.0010	mg/L	01/05/99	EPA 200.7/6010			CV	
Cadmium	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010			CV	
Calcium	582.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV	
Chromium	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010			CV	
Copper	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010			CV	
Iron	0.030	0.010	mg/L	01/05/99	EPA 200.7/6010		*	CV	
Lead	ND	0.025	mg/L	01/05/99	EPA 200.7/6010			CV	
Magnesium	169.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV	
Manganese	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010		D1	CV	
Mercury	ND	0.00020	mg/L	01/06/99	EPA 245.1/7470A			JD	
Potassium	3.3	0.40	mg/L	01/05/99	EPA 200.7/6010			CV	
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK	
Silver	ND	0.0030	mg/L	01/05/99	EPA 200.7/6010			CV	
Sodium	261.	0.050	mg/L	01/05/99	EPA 200.7/6010			CV	
Zinc	ND	0.010	mg/L	01/05/99	EPA 200.7/6010			CV	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling****Total Metals**

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	---------

MW-25D		Water		Sampled: 12/23/98 Hot Plate Digestion EPA 200.2/3005A: 01/05/99 Mercury Digestion: 01/05/99					L9418-8	
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK		
Barium	0.0133	0.0010	mg/L	01/05/99	EPA 200.7/6010			CV		
Cadmium	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010			CV		
Calcium	584.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV		
Chromium	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010			CV		
Copper	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010			CV		
Iron	0.327	0.010	mg/L	01/05/99	EPA 200.7/6010		*	CV		
Lead	ND	0.025	mg/L	01/05/99	EPA 200.7/6010			CV		
Magnesium	168.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV		
Manganese	0.108	0.0050	mg/L	01/05/99	EPA 200.7/6010		D1	CV		
Mercury	ND	0.00020	mg/L	01/06/99	EPA 245.1/7470A			JD		
Potassium	4.00	0.40	mg/L	01/05/99	EPA 200.7/6010			CV		
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK		
Silver	ND	0.0030	mg/L	01/05/99	EPA 200.7/6010			CV		
Sodium	160.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV		
Zinc	0.011	0.010	mg/L	01/05/99	EPA 200.7/6010			CV		

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
 Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW-23D		Water		Sampled: 12/23/98 Hot Plate Digestion EPA 200.2/3005A: 01/05/99 Mercury Digestion: 01/05/99					L9418-9	
Arsenic	ND	0.0040	mg/L	01/11/99	EPA 200.9		D1	GCK		
Barium	0.0144	0.0010	mg/L	01/05/99	EPA 200.7/6010			CV		
Cadmium	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010			CV		
Calcium	581.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV		
Chromium	ND	0.0050	mg/L	01/05/99	EPA 200.7/6010			CV		
Copper	ND	0.0020	mg/L	01/05/99	EPA 200.7/6010			CV		
Iron	0.216	0.010	mg/L	01/05/99	EPA 200.7/6010		*	CV		
Lead	ND	0.025	mg/L	01/05/99	EPA 200.7/6010			CV		
Magnesium	177.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV		
Manganese	0.0783	0.0050	mg/L	01/05/99	EPA 200.7/6010		D1	CV		
Mercury	ND	0.00020	mg/L	01/06/99	EPA 245.1/7470A			JD		
Potassium	3.6	0.40	mg/L	01/05/99	EPA 200.7/6010			CV		
Selenium	ND	0.010	mg/L	01/12/99	EPA 200.9		D1	GCK		
Silver	ND	0.0030	mg/L	01/05/99	EPA 200.7/6010			CV		
Sodium	240.	0.25	mg/L	01/05/99	EPA 200.7/6010		D1	CV		
Zinc	0.030	0.010	mg/L	01/05/99	EPA 200.7/6010			CV		

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Volatile Organic Compounds (VOC)
by EPA 8260

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						

<i>MW-6</i>	<i>Water</i>				Sampled: 12/22/98 Analyzed: 12/30/98 by DM	<i>L9418-1</i>
See Attached Data Sheet						

<i>MW-5</i>	<i>Water</i>				Sampled: 12/22/98 Analyzed: 12/30/98 by DM	<i>L9418-2</i>
See Attached Data Sheet						

<i>MW-10</i>	<i>Water</i>				Sampled: 12/22/98 Analyzed: 12/30/98 by DM	<i>L9418-3</i>
See Attached Data Sheet						

<i>MW-11</i>	<i>Water</i>				Sampled: 12/22/98 Analyzed: 12/30/98 by DM	<i>L9418-4</i>
See Attached Data Sheet						

<i>MW-14</i>	<i>Water</i>				Sampled: 12/23/98 Analyzed: 12/30/98 by DM	<i>L9418-5</i>
See Attached Data Sheet						

<i>MW-19</i>	<i>Water</i>				Sampled: 12/23/98 Analyzed: 12/30/98 by DM	<i>L9418-6</i>
See Attached Data Sheet						

<i>TRIP BLANK</i>	<i>Water</i>				Sampled: 12/22/98 Analyzed: 12/30/98 by DM	<i>L9418-7</i>
See Attached Data Sheet						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Volatile Organic Compounds (VOC)
by EPA 8260

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						
MW-25D	Water				Sampled: 12/23/98 Analyzed: 12/30/98 by DM	L9418-8
See Attached Data Sheet						
MW-23D	Water				Sampled: 12/23/98 Analyzed: 12/30/98 by DM	L9418-9
See Attached Data Sheet						
MW-24D	Water				Sampled: 12/23/98 Analyzed: 12/31/98 by DM	L9418-10
See Attached Data Sheet						
TRIP BLANK	Water				Sampled: 12/23/98 Analyzed: 12/31/98 by DM	L9418-11
See Attached Data Sheet						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Polynuclear Aromatic Hydrocarbons (PNA)
by EPA 8270 SIM

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						
MW-6	Water				Sampled: 12/22/98 Extracted: 12/29/98 Analyzed: 01/04/99 by PB	L9418-1
See Attached Data Sheet						
MW-5	Water				Sampled: 12/22/98 Extracted: 12/29/98 Analyzed: 01/04/99 by PB	L9418-2
See Attached Data Sheet						
MW-10	Water				Sampled: 12/22/98 Extracted: 12/29/98 Analyzed: 01/04/99 by PB	L9418-3
See Attached Data Sheet						
MW-11	Water				Sampled: 12/22/98 Extracted: 12/29/98 Analyzed: 01/04/99 by PB	L9418-4
See Attached Data Sheet						
MW-14	Water				Sampled: 12/23/98 Extracted: 12/30/98 Analyzed: 01/04/99 by PB	L9418-5
See Attached Data Sheet						
MW-19	Water				Sampled: 12/23/98 Extracted: 12/30/98 Analyzed: 01/04/99 by PB	L9418-6
See Attached Data Sheet						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Polynuclear Aromatic Hydrocarbons (PNA)
by EPA 8270 SIM

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						

<i>MW-25D</i>	<i>Water</i>				Sampled: 12/23/98 Extracted: 12/30/98 Analyzed: 01/04/99 by PB	<i>L9418-8</i>
See Attached Data Sheet						

<i>MW-23D</i>	<i>Water</i>				Sampled: 12/23/98 Extracted: 12/30/98 Analyzed: 01/04/99 by PB	<i>L9418-9</i>
See Attached Data Sheet						

<i>MW-24D</i>	<i>Water</i>				Sampled: 12/23/98 Extracted: 12/30/98 Analyzed: 01/04/99 by PB	<i>L9418-10</i>
See Attached Data Sheet						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-6	Water	MB1230	Sampled : 12/22/98			
CAS #						Analyzed : 12/30/98 L9418-1
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L	
74-87-3	Chloromethane	nd	nd	2	ug/L	
75-01-4	Vinyl chloride	nd	nd	2	ug/L	
74-83-9	Bromomethane	nd	nd	2	ug/L	
75-00-3	Chloroethane	nd	nd	2	ug/L	
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L	
67-64-1	Acetone	nd	nd	20	ug/L	
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L	
75-09-2	Methylene chloride	nd	nd	2	ug/L	
75-15-0	Carbon disulfide	nd	nd	1	ug/L	
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L	
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L	
108-05-4	Vinyl Acetate	nd	nd	1	ug/L	
78-93-3	2-Butanone	nd	nd	20	ug/L	
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L	
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L	
74-97-5	Bromochloromethane	nd	nd	1	ug/L	
67-66-3	Chloroform	nd	nd	1	ug/L	
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L	
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L	
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L	
71-43-2	Benzene	nd	nd	1	ug/L	
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-6 Water MB1230						Sampled : 12/22/98 Analyzed : 12/30/98 L9418-1
CAS #						
79-01-6	Trichloroethene	nd	nd	1	ug/L	
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L	
74-95-3	Dibromomethane	nd	nd	1	ug/L	
75-27-4	Bromodichloromethane	nd	nd	1	ug/L	
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L	
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L	
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L	
108-88-3	Toluene	nd	nd	1	ug/L	
591-78-6	2-Hexanone	nd	nd	10	ug/L	
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L	
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L	
127-18-4	Tetrachloroethene	nd	nd	1	ug/L	
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L	
124-48-1	Dibromochloromethane	nd	nd	1	ug/L	
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L	
108-90-7	Chlorobenzene	nd	nd	1	ug/L	
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L	
100-41-4	Ethylbenzene	nd	nd	1	ug/L	
100-42-5	Styrene	nd	nd	1	ug/L	
75-25-2	Bromoform	nd	nd	1	ug/L	
98-82-8	Isopropylbenzene	nd	nd	1	ug/L	
108-86-1	Bromobenzene	nd	nd	1	ug/L	
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		

MW-6	Water	MB1230				Sampled : 12/22/98		Analyzed : 12/30/98		L9418-1
CAS #										
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L					
103-65-1	n-Propylbenzene	nd	nd	1	ug/L					
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L					
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L					
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L					
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L					
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L					
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L					
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L					
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L					
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L					
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L					
104-51-8	n-Butylbenzene	nd	nd	1	ug/L					
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L					
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L					
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L					
91-20-3	Naphthalene	nd	nd	1	ug/L					
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L					
	Total Xylenes	nd	nd	1	ug/L					
						Recovery	Recovery			
						L9418-1	MB1230			
						101%	100%			
						101%	101%			
						101%	101%			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-5	Water	MB1230				Sampled : 12/22/98	
CAS #						Analyzed : 12/30/98	L9418-2
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
108-05-4	Vinyl Acetate	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-5	Water	MB1230				Sampled : 12/22/98	Analyzed : 12/30/98	L9418-2
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		
MW-5	Water	MB1230	Sampled : 12/22/98		Analyzed : 12/30/98	L9418-2	
CAS #							
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
					Recovery	Recovery	
Surrogates					L9418-2	MB1230	
1,2-Dichloroethane-d4					103%	100%	
Toluene-d8					100%	101%	
4-Bromofluorobenzene					99%	101%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		

MW-10	Water	MB1230				Sampled : 12/22/98	Analyzed : 12/30/98	L9418-3
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
108-05-4	Vinyl Acetate	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-10	Water	MB1230				Sampled : 12/22/98	
CAS #						Analyzed : 12/30/98	L9418-3
79-01-6	Trichloroethene	nd	nd	1	ug/L		
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-10	Water	MB1230				Sampled : 12/22/98	Analyzed : 12/30/98	L9418-3
CAS #								
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane . . .	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
Surrogates						L9418-3	MB1230	
1,2-Dichloroethane-d4						102%	100%	
Toluene-d8						101%	101%	
4-Bromofluorobenzene						100%	101%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-11 Water MB1230						Sampled : 12/22/98 Analyzed : 12/30/98 L9418-4
CAS #						
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L	
74-87-3	Chloromethane	nd	nd	2	ug/L	
75-01-4	Vinyl chloride	nd	nd	2	ug/L	
74-83-9	Bromomethane	nd	nd	2	ug/L	
75-00-3	Chloroethane	nd	nd	2	ug/L	
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L	
67-64-1	Acetone	nd	nd	20	ug/L	
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L	
75-09-2	Methylene chloride	nd	nd	2	ug/L	
75-15-0	Carbon disulfide	nd	nd	1	ug/L	
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L	
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L	
108-05-4	Vinyl Acetate	nd	nd	1	ug/L	
78-93-3	2-Butanone	nd	nd	20	ug/L	
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L	
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L	
74-97-5	Bromochloromethane	nd	nd	1	ug/L	
67-66-3	Chloroform	nd	nd	1	ug/L	
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L	
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L	
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L	
71-43-2	Benzene	nd	nd	1	ug/L	
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-11	Water	MB1230			Sampled : 12/22/98		Analized : 12/30/98	L9418-4
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number	
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		
						Sampled : 12/22/98	
MW-11	Water	MB1230			Analyzed : 12/30/98	L9418-4	
CAS #							
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
						Recovery	Recovery
						L9418-4	MB1230
1,2-Dichloroethane-d4						101%	100%
Toluene-d8						100%	101%
4-Bromofluorobenzene						100%	101%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-14	Water	MB1230				Sampled : 12/23/98	
CAS #						Analyzed : 12/30/98	L9418-5
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
108-05-4	Vinyl Acetate	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID	Lab Number					
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-14	Water	MB1230				Sampled : 12/23/98	Lab Number
CAS #						Analyzed : 12/30/98	L9418-5
79-01-6	Trichloroethene	nd	nd	1	ug/L		
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		
MW-14	Water	MB1230		Sampled : 12/23/98		Analyzed : 12/30/98	L9418-5
CAS #							
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
					Recovery	Recovery	
					L9418-5	MB1230	
1,2-Dichloroethane-d4					103%	100%	
Toluene-d8					100%	101%	
4-Bromofluorobenzene					100%	101%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-19	Water	MB1230				Sampled : 12/23/98 Analyzed : 12/30/98 L9418-6
CAS #						
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L	
74-87-3	Chloromethane	nd	nd	2	ug/L	
75-01-4	Vinyl chloride	nd	nd	2	ug/L	
74-83-9	Bromomethane	nd	nd	2	ug/L	
75-00-3	Chloroethane	nd	nd	2	ug/L	
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L	
67-64-1	Acetone	nd	nd	20	ug/L	
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L	
75-09-2	Methylene chloride	nd	nd	2	ug/L	
75-15-0	Carbon disulfide	nd	nd	1	ug/L	
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L	
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L	
108-05-4	Vinyl Acetate	nd	nd	1	ug/L	
78-93-3	2-Butanone	nd	nd	20	ug/L	
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L	
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L	
74-97-5	Bromochloromethane	nd	nd	1	ug/L	
67-66-3	Chloroform	nd	nd	1	ug/L	
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L	
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L	
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L	
71-43-2	Benzene	nd	nd	1	ug/L	
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-19	Water	MB1230				Sampled : 12/23/98	Analyzed : 12/30/98	L9418-6
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-19 Water MB1230						Sampled : 12/23/98 Analyzed : 12/30/98 L9418-6
CAS #						
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L	
103-65-1	n-Propylbenzene	nd	nd	1	ug/L	
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L	
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L	
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L	
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L	
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L	
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L	
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L	
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L	
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L	
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L	
104-51-8	n-Butylbenzene	nd	nd	1	ug/L	
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L	
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L	
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L	
91-20-3	Naphthalene	nd	nd	1	ug/L	
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L	
	Total Xylenes	nd	nd	1	ug/L	
Surrogates						Recovery L9418-6
	1,2-Dichloroethane-d4					102%
	Toluene-d8					101%
	4-Bromofluorobenzene					99%
						Recovery MB1230
						100%
						101%
						101%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		

TRIP BLANK Water		MB1230		Sampled : 12/22/98		Analyzed : 12/30/98		L9418-7
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
108-05-4	Vinyl Acetate	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK		Water	MB1230			Sampled : 12/22/98	Analyzed : 12/30/98	L9418-7
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK Water		MB1230				Sampled : 12/22/98	L9418-7	
CAS #						Analyzed : 12/30/98		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
						L9418-7	MB1230	
Surrogates								
1,2-Dichloroethane-d4						100%	100%	
Toluene-d8						101%	101%	
4-Bromofluorobenzene						101%	101%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-25D						Water
CAS #						MB1230
						Sampled : 12/23/98
						Analyzed : 12/30/98
						L9418-8
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L	
74-87-3	Chloromethane	nd	nd	2	ug/L	
75-01-4	Vinyl chloride	nd	nd	2	ug/L	
74-83-9	Bromomethane	nd	nd	2	ug/L	
75-00-3	Chloroethane	nd	nd	2	ug/L	
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L	
67-64-1	Acetone	nd	nd	20	ug/L	
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L	
75-09-2	Methylene chloride	nd	nd	2	ug/L	
75-15-0	Carbon disulfide	nd	nd	1	ug/L	
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L	
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L	
108-05-4	Vinyl Acetate	nd	nd	1	ug/L	
78-93-3	2-Butanone	nd	nd	20	ug/L	
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L	
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L	
74-97-5	Bromochloromethane	nd	nd	1	ug/L	
67-66-3	Chloroform	nd	nd	1	ug/L	
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L	
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L	
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L	
71-43-2	Benzene	nd	nd	1	ug/L	
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		

MW-25D	Water	MB1230				Sampled : 12/23/98	Analyzed : 12/30/98	L9418-8
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

[illegible]

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-23D	Water	MB1230				Sampled : 12/23/98	Analyzed : 12/30/98	L9418-9
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
108-05-4	Vinyl Acetate	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-23D	Water	MB1230			Sampled : 12/23/98		Analyzed : 12/30/98		L9418-9
CAS #									
79-01-6	Trichloroethene	nd	nd	1	ug/L				
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L				
74-95-3	Dibromomethane	nd	nd	1	ug/L				
75-27-4	Bromodichloromethane	nd	nd	1	ug/L				
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L				
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L				
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L				
108-88-3	Toluene	nd	nd	1	ug/L				
591-78-6	2-Hexanone	nd	nd	10	ug/L				
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L				
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L				
127-18-4	Tetrachloroethene	nd	nd	1	ug/L				
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L				
124-48-1	Dibromochloromethane	nd	nd	1	ug/L				
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L				
108-90-7	Chlorobenzene	nd	nd	1	ug/L				
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L				
100-41-4	Ethylbenzene	nd	nd	1	ug/L				
100-42-5	Styrene	nd	nd	1	ug/L				
75-25-2	Bromoform	nd	nd	1	ug/L				
98-82-8	Isopropylbenzene	nd	nd	1	ug/L				
108-86-1	Bromobenzene	nd	nd	1	ug/L				
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L				

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-23D	Water	MB1230				Sampled : 12/23/98	L9418-9	
Analyzed : 12/30/98								
CAS #								
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
Surrogates						L9418-9	MB1230	
1,2-Dichloroethane-d4						101%	100%	
Toluene-d8						100%	101%	
4-Bromofluorobenzene						97%	101%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-24D	Water	MB1231				Sampled : 12/23/98	
CAS #						Analyzed : 12/31/98	L9418-10
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
108-05-4	Vinyl Acetate	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-24D	Water	MB1231				Sampled : 12/23/98	Analyzed : 12/31/98	L9418-10
CAS #								
79-01-6	Trichloroethene	nd	nd	1	ug/L			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
110-75-8	2-Chloroethyl vinyl ether	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-24D Water MB1231						Sampled : 12/23/98 Analyzed : 12/31/98 L9418-10
CAS #						
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L	
103-65-1	n-Propylbenzene	nd	nd	1	ug/L	
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L	
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L	
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L	
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L	
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L	
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L	
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L	
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L	
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L	
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L	
104-51-8	n-Butylbenzene	nd	nd	1	ug/L	
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L	
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L	
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L	
91-20-3	Naphthalene	nd	nd	1	ug/L	
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L	
	Total Xylenes	nd	nd	1	ug/L	
Surrogates						Recovery L9418-10 Recovery MB1231
	1,2-Dichloroethane-d4					102% 101%
	Toluene-d8					102% 103%
	4-Bromofluorobenzene					100% 102%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID				Lab Number		
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-6	WATER	MB1229M	Sampled: 12/22/98		Analyzed: 01/04/99	
					L9418-1	
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:				Recovery	Recovery	
				L9418-1	MB1229M	
1,2-Dichlorobenzene-d4				84%	98%	
Nitrobenzene-d5				67%	83%	
2-Fluorobiphenyl				91%	108%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
MW-5 WATER MB1229M						Sampled: 12/22/98 Analyzed: 01/04/99 L9418-2	
CAS#							
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
Base / Neutral Surrogates:						Recovery	Recovery
						L9418-2	MB1229M
1,2-Dichlorobenzene-d4						94%	98%
Nitrobenzene-d5						77%	83%
2-Fluorobiphenyl						102%	108%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID				Lab Number		
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-10	WATER	MB1229M	Sampled: 12/22/98		Analyzed: 01/04/99	
					L9418-3	
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
				Recovery	Recovery	
Base / Neutral Surrogates:				L9418-3	MB1229M	
1,2-Dichlorobenzene-d4				98%	98%	
Nitrobenzene-d5				78%	83%	
2-Fluorobiphenyl				103%	108%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
MW-11		WATER		MB1229M		Sampled: 12/22/98 Analyzed: 01/04/99	L9418-4
CAS#							
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
Base / Neutral Surrogates:					Recovery	Recovery	
1,2-Dichlorobenzene-d4					L9418-4	MB1229M	
Nitrobenzene-d5					98%	98%	
2-Fluorobiphenyl					76%	83%	
					104%	108%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
MW-14	WATER	MB1230F			Sampled: 12/23/98 Analyzed: 01/04/99	L9418-5	
CAS#							
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
					Recovery	Recovery	
Base / Neutral Surrogates:					L9418-5	MB1230F	
1,2-Dichlorobenzene-d4					96%	88%	
Nitrobenzene-d5					75%	69%	
2-Fluorobiphenyl					104%	98%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
						Sampled: 12/23/98
						Analyzed: 01/04/99
MW-19	WATER	MB1230F				L9418-6
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:						Recovery
						L9418-6
1,2-Dichlorobenzene-d4						94%
Nitrobenzene-d5						77%
2-Fluorobiphenyl						102%
						Recovery
						MB1230F
						88%
						69%
						98%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
Analyte		Results	Blank Result	Reporting Limit	Units	COMMENT	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-23D WATER MB1230F						Sampled: 12/23/98 Analyzed: 01/04/99 L9418-9
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:						Recovery L9418-9 MB1230F
1,2-Dichlorobenzene-d4						98% 88%
Nitrobenzene-d5						81% 69%
2-Fluorobiphenyl						103% 98%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID					Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
					Sampled: 12/23/98	
					Analyzed: 01/04/99	
					L9418-10	
MW-24D	WATER	MB1230F				
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
					Recovery	
					L9418-10	
					Recovery	
					MB1230F	
Base / Neutral Surrogates:						
1,2-Dichlorobenzene-d4					88%	
Nitrobenzene-d5					72%	
2-Fluorobiphenyl					92%	
					98%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Method Blank
Metals / Dissolved (mg/L)

Analyte	Result	Reporting Limit	Q	Date Analyzed
Arsenic	ND	0.0020		01/11/99
Barium	0.0031	0.0010		01/11/99
Cadmium	ND	0.0020		01/11/99
Calcium	0.075	0.050		01/11/99
Chromium	ND	0.0050		01/11/99
Copper	ND	0.0020		01/11/99
Iron	ND	0.010		01/11/99
Lead	ND	0.025		01/11/99
Magnesium	ND	0.050		01/11/99
Manganese	ND	0.0010		01/11/99
Mercury	ND	0.00020		01/08/99
Potassium	ND	0.40		01/11/99
Selenium	ND	0.0020		01/12/99
Silver	ND	0.0030		01/11/99
Sodium	ND	0.050		01/11/99
Zinc	ND	0.010		01/11/99
Comments:				

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
LCSW
Metals / Dissolved (mg/L)

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
Arsenic	0.0400	0.0382	96	80-120	01/11/99
Barium	0.500	0.536	107	80-120	01/11/99
Cadmium	0.500	0.548	110	80-120	01/11/99
Calcium	0.500	0.523	105	80-120	01/11/99
Chromium	0.500	0.535	107	80-120	01/11/99
Copper	0.500	0.537	107	80-120	01/11/99
Iron	0.500	0.536	107	80-120	01/11/99
Lead	0.500	0.534	107	80-120	01/11/99
Magnesium	0.500	0.526	105	80-120	01/11/99
Manganese	0.500	0.550	110	80-120	01/11/99
Mercury	0.00200	0.0020	100	80-120	01/08/99
Potassium	5.00	5.09	102	80-120	01/11/99
Selenium	0.010	0.010	100	80-120	01/12/99
Silver	0.500	0.547	109	80-120	01/11/99
Sodium	0.500	0.493	99	80-120	01/11/99
Zinc	0.500	0.535	107	80-120	01/11/99
Comments	LCSW = Laboratory Control Sample: Water				

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Duplicate
Metals / Dissolved (mg/L)

Analyte	Result	Duplicate Result	Reporting Limit	RPD	RPD Limit	Q	Date Analyzed
Arsenic	ND	ND	0.0040	NA	20		01/11/99
Barium	0.0172	0.0204	0.0010	17	20		01/11/99
Cadmium	ND	ND	0.0020	NA	20		01/11/99
Calcium	508	547	0.050	7	20		01/11/99
Chromium	ND	ND	0.0050	NA	20		01/11/99
Copper	0.0065	ND	0.0020	NA	20		01/11/99
Iron	ND	ND	0.010	NA	20		01/11/99
Lead	ND	ND	0.025	NA	20		01/11/99
Magnesium	82.1	85.6	0.050	4	20		01/11/99
Manganese	0.176	0.182	0.0010	3	20		01/11/99
Mercury	ND	ND	0.00020	NA	20		01/08/99
Potassium	2.5	2.7	0.40	8	20		01/11/99
Selenium	ND	ND	0.010	NA	20		01/12/99
Silver	ND	ND	0.0030	NA	20		01/11/99
Sodium	179	193	0.050	8	20		01/11/99
Zinc	ND	ND	0.010	NA	20		01/11/99
Comments:							

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Spike
Metals / Dissolved (mg/L)

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
Arsenic	0.0400	ND	0.0400	100	75-125		01/11/99
Barium	1.87	0.0172	2.00	93	75-125		01/11/99
Cadmium	0.0468	ND	0.0500	94	75-125		01/11/99
Calcium	475	508	NA	NA	75-125		01/11/99
Chromium	0.176	ND	0.200	88	75-125		01/11/99
Copper	0.241	0.0065	0.250	94	75-125		01/11/99
Iron	0.880	ND	1.00	88	75-125		01/11/99
Lead	0.454	ND	0.500	91	75-125		01/11/99
Magnesium	79.2	82.1	NA	NA	75-125		01/11/99
Manganese	0.620	0.176	0.500	89	75-125		01/11/99
Mercury	0.0017	ND	0.00200	85	75-125		01/08/99
Potassium	2.5	2.5	NA	NA	75-125		01/11/99
Selenium	0.0092	ND	0.010	92	75-125		01/12/99
Silver	0.0446	ND	0.0500	89	75-125		01/11/99
Sodium	170	179	NA	NA	75-125		01/11/99
Zinc	0.459	ND	0.500	92	75-125		01/11/99
Comments:							

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: *Enron Gas Pipeline Group*
Contact: *Ted Ryther*

Project: *Roswell Qtrly Sampling*

Batch Q.C.
Blank
Inorganics - Waters (mg/L)

Analyte	Result	Reporting		Date
		Limit	Q	Analyzed
Alkalinity, Total as CaCO ₃	ND	1		01/05/99
Chloride	ND	0.1		12/30/98
Nitrate + Nitrite as N	ND	0.01		01/04/99
Solids, Total Dissolved (TDS)	NA	10		12/31/98
Sulfate as SO ₄	ND	0.5		12/30/98
Comments: Chloride, Total Dissolved Solids, and Sulfate Batch QC for L9418-1-6, -8.				

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: *Enron Gas Pipeline Group*
Contact: *Ted Ryther*

Project: *Roswell Qtrly Sampling*

Batch Q.C.
Blank
Inorganics - Waters (mg/L)

Analyte	Result	Reporting		Date
		Limit	Q	Analyzed
Chloride	ND	0.1		12/30/98
Solids, Total Dissolved (TDS)	NA	10		12/29/98
Sulfate as SO4	ND	0.5		12/30/98
Comments: Chloride, Total Dissolved Solids, and Sulfate Batch QC for L9418-9-10.				

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling****Batch Q.C.**

LCSW

Inorganics - Waters (mg/L)

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
Alkalinity, Total as CaCO ₃	100	104	104	90-110	01/05/99
Chloride	10.00	9.32	93	90-110	12/30/98
Nitrate + Nitrite as N	0.50	0.48	96	75-125	01/04/99
Solids, Total Dissolved (TDS)	NA	NA	NA		12/31/98
Sulfate as SO ₄	30.0	28.9	96	90-110	12/30/98
Comments:					

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Duplicate****Inorganics - Waters (mg/L)**

Analyte	Duplicate		Reporting	RPD		Date
	Result	Result	Limit	RPD	Limit	Q Analyzed

Alkalinity, Total as CaCO ₃	109	107	1	2	2.5	01/05/99
Chloride	33	32	0.5	3	20	12/30/98
Nitrate + Nitrite as N	1	0.93	0.0"	2	20	01/04/99
Solids, Total Dissolved (TDS)	750	760	10	1	20	12/31/98
Sulfate as SO ₄	470	460	2.5	2	20	12/30/98

Comments: Chloride, Total Dissolved Solids, and Sulfate Batch QC for L9418-1-6, -8.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Duplicate****Inorganics - Waters (mg/L)**

Analyte	Duplicate		Reporting	RPD		Date	
	Result	Result	Limit	RPD	Limit	Q	Analyzed

Chloride	330	320	5	3	20		12/30/98
Nitrate + Nitrite as N	0.02	0.02	0.01	<1	20		01/04/99
Solids, Total Dissolved (TDS)	3650	3680	10	1	20		12/29/98
Sulfate as SO ₄	2100	2100	25	<1	20		12/30/98

Comments: Chloride, Total Dissolved Solids, and Sulfate Batch QC for L9418-9-10.
Nitrate + Nitrite Batch QC for L9418-10.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Spike
Inorganics - Waters (mg/L)

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
---------	-----------------	------------------	----------------	---------------	------------	---	------------------

Alkalinity, Total as CaCO3	159	109	50	100	90-110		01/05/99
Chloride	62	33	30	97	75-125		12/30/98
Nitrate + Nitrite as N	1.5	1.0	0.50	100	75-125		01/04/99
Solids, Total Dissolved (TDS)	NA	NA	NA	NA			12/31/98
Sulfate as SO4	NA	470	90	NA	75-125	‡	12/30/98

Comments: ‡ QC limits do not apply when the sample result is equal to or greater than 4 times the spike amount added.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Method Blank
Metals / Total by Volume (mg/L)

Analyte	Result	Reporting Limit	Q	Date Analyzed
Arsenic	ND	0.0020		01/11/99
Barium	ND	0.0010		01/05/99
Cadmium	ND	0.0020		01/05/99
Calcium	ND	0.050		01/05/99
Chromium	ND	0.0050		01/05/99
Copper	ND	0.0020		01/05/99
Iron	ND	0.010		01/05/99
Lead	ND	0.025		01/05/99
Magnesium	ND	0.050		01/05/99
Manganese	ND	0.0010		01/05/99
Mercury	ND	0.00020		01/06/99
Potassium	ND	0.40		01/05/99
Selenium	ND	0.0020		01/12/99
Silver	ND	0.0030		01/05/99
Sodium	ND	0.050		01/05/99
Zinc	ND	0.010		01/05/99
Comments:				

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: *Enron Gas Pipeline Group*
Contact: *Ted Ryther*

Project: *Roswell Qtrly Sampling*

Batch Q.C.
LCSW
Metals / Total by Volume (mg/L)

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
Arsenic	0.0400	0.0416	104	80-120	01/11/99
Barium	2.00	1.97	99	80-120	01/05/99
Cadmium	0.0500	0.0504	101	80-120	01/05/99
Calcium	1.00	0.999	100	80-120	01/05/99
Chromium	0.200	0.200	100	80-120	01/05/99
Copper	0.250	0.246	98	80-120	01/05/99
Iron	1.00	0.972	97	80-120	01/05/99
Lead	0.500	0.493	99	80-120	01/05/99
Magnesium	1.00	0.977	98	80-120	01/05/99
Manganese	0.500	0.496	99	80-120	01/05/99
Mercury	0.00200	0.00201	101	80-120	01/06/99
Potassium	10.0	9.87	99	80-120	01/05/99
Selenium	0.010	0.011	110	80-120	01/12/99
Silver	0.0500	0.0485	97	80-120	01/05/99
Sodium	1.00	1.01	101	80-120	01/05/99
Zinc	0.500	0.483	97	80-120	01/05/99
Comments	LCSW = Laboratory Control Sample: Water				

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Duplicate
Metals / Total by Volume (mg/L)

Analyte	Result	Duplicate Result	Reporting Limit	RPD	RPD Limit	Q	Date Analyzed
Arsenic	0.017	0.016	0.0040	6	20		01/11/99
Barium	0.0099	0.0101	0.0010	2	20		01/05/99
Cadmium	ND	ND	0.0020	NA	20		01/05/99
Calcium	488	470	0.25	4	20		01/05/99
Chromium	ND	ND	0.0050	NA	20		01/05/99
Copper	ND	ND	0.0020	NA	20		01/05/99
Iron	0.064	0.132	0.010	69	20	*	01/05/99
Lead	ND	ND	0.025	NA	20		01/05/99
Magnesium	142	142	0.25	<1	20		01/05/99
Manganese	0.0097	0.010	0.0050	3	20		01/05/99
Mercury	ND	ND	0.00020	NA	20		01/06/99
Potassium	3.3	3.3	0.40	<1	20		01/05/99
Selenium	ND	ND	0.010	NA	20		01/12/99
Silver	ND	ND	0.0030	NA	20		01/05/99
Sodium	144	146	0.25	1	20		01/05/99
Zinc	ND	ND	0.010	NA	20		01/05/99
Comments:							

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: **Enron Gas Pipeline Group**
Contact: **Ted Ryther**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Spike****Metals / Total by Volume (mg/L)**

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
Arsenic	0.0576	0.017	0.0400	102	75-125		01/11/99
Barium	1.86	0.0099	2.00	93	75-125		01/05/99
Cadmium	0.0472	ND	0.0500	94	75-125		01/05/99
Calcium	470	488	NA	NA	75-125		01/05/99
Chromium	0.182	ND	0.200	91	75-125		01/05/99
Copper	0.234	ND	0.250	94	75-125		01/05/99
Iron	1.06	0.064	1.00	100	75-125		01/05/99
Lead	0.461	ND	0.500	92	75-125		01/05/99
Magnesium	140	142	NA	NA	75-125		01/05/99
Manganese	0.497	0.0097	0.500	97	75-125		01/05/99
Mercury	0.0020	ND	0.00200	100	75-125		01/06/99
Potassium	3.3	3.3	NA	NA	75-125		01/05/99
Selenium	0.0095	ND	0.010	95	75-125		01/12/99
Silver	0.0455	ND	0.0500	91	75-125		01/05/99
Sodium	144	144	NA	NA	75-125		01/05/99
Zinc	0.451	ND	0.500	90	75-125		01/05/99
Comments:							

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles MS/MSD
by EPA Method 8260

<i>Sample ID</i>				<i>Lab Number</i>
Analyte	Recovery MS	Recovery MSD	RPD	

<i>MW-6</i>	<i>Water</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>Analyzed : 12/30/98</i>	<i>L9418-1</i>
CAS #						
75-35-4	1,1-Dichloroethene	103	101	2		
71-43-2	Benzene	108	106	2		
79-01-6	Trichloroethene	100	98	2		
108-88-3	Toluene	107	106	<1		
108-90-7	Chlorobenzene	106	106	<1		
Surrogates						
	1,2-Dichloroethane-d4	100	100			
	Toluene-d8	98	100			
	4-Bromofluorobenzene	99	101			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles LCS
by EPA Method 8260

						Lab Number
Analyte	Results	Amount Spiked	Units	Recovery		
Analyzed : 12/30/98						LCS1230
CAS #						
75-35-4	1,1-Dichloroethene	19.8	20.0	ug/L	99%	
71-43-2	Benzene	21.1	20.0	ug/L	105%	
79-01-6	Trichloroethene	20.3	20.0	ug/L	102%	
108-88-3	Toluene	21.3	20.0	ug/L	106%	
108-90-7	Chlorobenzene	21.1	20.0	ug/L	106%	
					Recovery	
					LCS1230	
Surrogates						
1,2-Dichloroethane-d4					102%	
Toluene-d8					100%	
4-Bromofluorobenzene					100%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L9418

Client: Enron Gas Pipeline Group
Contact: Ted Ryther

Project: Roswell Qtrly Sampling

Volatiles LCS
by EPA Method 8260

						Lab Number
Analyte	Results	Amount Spiked	Units	Recovery		
Analyzed : 12/31/98						LCS1231
CAS #						
75-35-4	1,1-Dichloroethene	18.9	20.0	ug/L	95%	
71-43-2	Benzene	21.0	20.0	ug/L	105%	
79-01-6	Trichloroethene	20.4	20.0	ug/L	102%	
108-88-3	Toluene	21.2	20.0	ug/L	106%	
108-90-7	Chlorobenzene	20.9	20.0	ug/L	105%	
					Recovery	
					LCS1231	
Surrogates						
1,2-Dichloroethane-d4					101%	
Toluene-d8					100%	
4-Bromofluorobenzene					100%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



14855 S.W. Scholle Ferry Rd.
Beaverton, Oregon 97007
(503) 690-4300
FAX (503) 690-1404

CHAIN OF CUSTODY RECORD LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp
OAL hrs. _____
ISCO _____

Page ____ of ____
Site Visit ☐

Client Information

Company CYPRESS ENGINEERING
Contact SANDY SHARP
Address 10235 WEST LITTLE OAK, STE 250
HOUSTON, TX 77007 77040
Phone # (713) 646-7252 Fax # (713) 646-7867

Billing Information

Company ENRON
Contact GEORGE ROBINSON
Address _____
Phone # (713) 646-7327 Fax # (713) 646-7867

Project Information

Project Name TWP ROSWELL
Project # _____
PO. # _____
Comments SEE DEBORAH
GRIFFITHS WITH QUESTIONS

Sampler's Name SANDY SHARP
Signature [Signature]

Quote # SEE DEBORAH GRIFFITHS

NOTE: If quote number is not referenced,
standard pricing will be applied.

Provide Fax Results ☒ Yes ☐ No

Remarks

8260 Including 1,2-dichloroethene (cis & trans)
& dichlorobenzene (o-, m- & p-)
8270 Including monomethyl naphthalene
isomers (1- & 2-)
METALS Pb, Cd, Cr, Pb, Hg, Ag, Cu, Fe, Mn, Zn, Al, K, Na, Mg
As & Se by GRAPHITE FURNACE 760 & 740

Matrix

Analyses

Sample Identification				Date	Time	FOR LAB USE ONLY OAL Login #	# of Containers	Soil	Water	Other (Note in Remarks)	Volatiles 624 / 625 8010 / 8020	Semivolatiles 625 / 627 (PAHs) 631 / 6310	Organochlorine 608 / 808 / 8081 PCB Pesticide	NW TPH-HCD Occurrence? ☐ Yes ☐ No	NW TPH Quantification G D 418.1M	BTX 602 / 8020 ☐ MTBE ☐ Naphthalene	TPH Oil & Grease ☐ Total 418.1 / 1684 ☐ NP	Metals 7147D, 6010 ☐ Total ☐ TSP ☐ Dissolved As by graphite furnace 760 As by graphite furnace 740 As
-----------------------	--	--	--	------	------	---------------------------------	-----------------	------	-------	-------------------------	------------------------------------	--	--	--	-------------------------------------	---	---	--

[N] Normal - 10 working days
[S] Special - 5 working days
[R] Rush - 24-72 hrs.
[O] Other - _____

Relinquished	
Signature <u>[Signature]</u>	Date _____
Print Name _____	Time _____
Company _____	
Received	
Signature <u>[Signature]</u>	Date <u>12/28/98</u>
Print Name <u>PAULA WALKER-LUDDELL</u>	Time <u>1100</u>
Company <u>OAL</u>	

Relinquished	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	
Received	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	

Relinquished	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	
Received	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	

☐ Courier ☐ UPS ☒ FedEx ☐ Other
Received @ 1 °C
Appropriate Containers ☐ Yes ☐ No
9 4oz./8oz. Jars
12 VOA Vials
3 Plastic Bottles
3 Glass Bottles
Other _____

CHAIN OF CUSTODY RECORD LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp
OAL hrs. _____
ISCO _____

Page ____ of ____
Site Visit ☐

Client Information

Company CYPRESS ENGINEERING
Contact SANDY SHARP
Address 10235 WEST LITTLE YORK STE 256
HOUSTON, TX 77040
Phone # (713) 646-7252 Fax # (713) 646-7867

Billing Information

Company ENRON
Contact JO GEORGE ROBINSON
Address SAME
Phone # (713) 646-7227 Fax # _____

Project Information

Project Name TWP - ROSWELL Sampler's Name SANDY SHARP
Project # _____ Signature [Signature]
PO. # _____
Comments SEE DEADRAH
GRIFFITHS WITH QUESTIONS
Quote # _____
NOTE: If quote number is not referenced, standard pricing will be applied.
Provide Fax Results ☒ Yes ☐ No

Remarks

8260 INCLUDE 1,2-DICHLOROETHENE (CIS- & TRANS-)
* DICHLOROBENZENE (O-, M- & P-)
8270 INCLUDE MONOMETHYLNAPHTHALENE
ISOMERS (1- & 2-)

Matrix

Analyses

8260 INCLUDE 1,2-DICHLOROETHENE (CIS- & TRANS-) # DICHLOBENZENE (O-, m- & p-) 8270 INCLUDE MONOMETHYLNAPHTHALENE ISOMERS (1- & 2-)					# of Containers	Analyses																	Turnaround	Remarks
Sample Identification		Date	Time	FOR LAB USE ONLY OAL Login #		Soil	Water	Other (Note in Remarks)	Volatiles 624/650/8240 8010/8020	Semivolatiles 625/670 (PAHs) PAH 8310	Organochlorine 608/8080/8081	PCB Pesticide	NW TPH-HQD	Quantity? ☐ Yes ☐ No	NW TPH Quantification G D 418.1M	BTX 602/8020 ☐ MTBE	TPH 418.1 ☐ Grease ☐ Total 418.1/1664 ☐ NP	Metals: 7140/6010 ☐ Total ☐ TCL ☐ Dissolved ☐ As ☐ Pb ☐ Cu ☐ Fe ☐ Mn ☐ Ni ☐ Zn ☐ Cd ☐ Cr ☐ Co ☐ V ☐ Mo ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Te ☐ Se ☐ Br ☐ I ☐ Ag ☐ Ba ☐ Sr ☐ Ca ☐ Mg ☐ K ☐ Na ☐ Cl ☐ F ☐ S ☐ P ☐ N ☐ O ☐ H ☐ C ☐ Si ☐ Al ☐ Ti ☐ Zr ☐ Nb ☐ Ta ☐ W						



Oregon
Analytical
Laboratory

14855 S.W. Scholle Ferry Rd.
Beaverton, Oregon 97007
(503) 590-8300
FAX (503) 590-1404

CHAIN OF CUSTODY RECORD LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp
OAL hrs. _____
ISCO _____

Page ____ of ____
Site Visit ☐

Client Information

Company CYPRESS ENGINEERING
Contact SANDY SHARP
Address 10235 WEST LIME AVE SUITE 250
HOUSTON, TX 77040
Phone # (713) 646-7252 Fax # (713) 646-7867

Billing Information

Company ENRON
Contact GEORGE ROBINSON
Address SAME
Phone # (713) 646-7327 Fax # (713) 646-7867

Project Information

Project Name TWP - ROSWELL Sampler's Name SANDY SHARP
Project # _____ Signature [Signature]
P.O. # _____ Quote # SEE DEBORAH
Comments SEE DEBORAH
GRIFFITHS FOR QUESTIONS
Provide Fax Results ☒ Yes ☐ No

NOTE: If quote number is not referenced,
standard pricing will be applied.

Remarks

8260 INCLUDE 1,2 DICHOROETHENE (CIS- & TRANS-)
& DICHORO BENZENE (O-, M- & P-)
8270 INCLUDE MONOMETHYLNAPHTHALENE
ISOMERS (O-, M- & P-) (1- & 2-)

Matrix

Analyses

8260 INCLUDE 1,2 DICHOROETHENE (CIS-&TRANS-) # DICHORO BENZENE (O-, M- & P-)				8270 INCLUDE MONOMETHYLNAPHTHALENE ISOMERS (O-, M- & P-) (1-&2-)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
---	--	--	--	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**PHASE IV ASSESSMENT REPORT,
GROUND WATER MONITORING REPORT,
& PHASE V ASSESSMENT WORK PLAN**

**TRANSWESTERN PIPELINE COMPANY
ROSWELL COMPRESSOR STATION NO. 9**

Attachment #10

**Laboratory Reports for the March 1999
Ground Water Sampling Event**





L10617

April 8, 1999

George Robinson
Enron Gas Pipeline Group
333 Clay St., Room 3142
P.O. Box 1188
Houston, TX 77002

Phone: (713) 646-7327

FAX: (713) 646-7867

Re: Laboratory Sample Analysis

Project: Roswell Qtrly Sampling

Project Manager: George Robinson

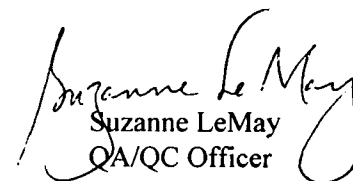
Dear George Robinson:

On March 25 through 27, 1999, OAL received twenty-seven (27) water samples for analysis. The samples were analyzed utilizing EPA, ASTM, or equivalent methodology.

Should you have any questions concerning the results in this report, please contact us at (503) 590-5300. Refer to OAL login number L10617.

Sincerely,


Kami Morrow
Project Manager


Suzanne LeMay
QA/QC Officer

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Sample Summary

Sample ID	Lab #	Description	Sampled	Received
MW-6	L10617-1	water	03/23/99 14:40	03/25/99
MW-5	L10617-2	water	03/23/99 15:55	03/25/99
MW-10	L10617-3	water	03/23/99 16:55	03/25/99
TRIP BLANK #1	L10617-4	water	03/23/99	03/25/99
MW-11	L10617-5	water	03/24/99 12:24	03/25/99
MW-3	L10617-6	water	03/24/99 13:10	03/25/99
MW-15	L10617-7	water	03/24/99 14:40	03/25/99
TRIP BLANK #2	L10617-8	water	03/24/99	03/25/99
MW-9	L10617-9	water	03/24/99 15:40	03/26/99
MW-18	L10617-10	water	03/24/99 15:05	03/26/99
MW-19	L10617-11	water	03/24/99 17:50	03/26/99
TRIP BLANK #3	L10617-12	water	03/24/99	03/26/99
MW-8	L10617-13	water	03/25/99 11:40	03/26/99
MW-14	L10617-14	water	03/25/99 12:40	03/26/99
MW-17	L10617-15	water	03/25/99 14:05	03/26/99
TRIP BLANK #4	L10617-16	water	03/25/99	03/26/99
MW-12	L10617-17	water	03/26/99 13:05	03/27/99
MW-20	L10617-18	water	03/26/99 14:15	03/27/99
TRIP BLANK #5	L10617-19	water	03/26/99	03/27/99
MW-28	L10617-20	water	03/26/99 08:30	03/27/99
MW-13	L10617-21	water	03/26/99 09:45	03/27/99
MW-21	L10617-22	water	03/26/99 11:20	03/27/99
TRIP BLANK #6	L10617-23	water	03/26/99	03/27/99
MW-22	L10617-24	water	03/25/99 17:05	03/27/99
MW-7	L10617-25	water	03/25/99 16:45	03/27/99
MW-26	L10617-26	water	03/25/99 15:20	03/27/99
TRIP BLANK #7	L10617-27	water	03/25/99	03/27/99

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Definition of Terms

- D** Reported value is based on a dilution.
D1 Reported value is based on a dilution due to matrix interference.
K1 Batch matrix spike recovery outside laboratory QC limits due to suspected matrix interference.
ND Analytical result was below the reporting limit.

Analysts

<u>Initials</u>	<u>Analyst</u>	<u>Title</u>
CAC	Cindy Covey	Technician
CV	Cheryl Vezzani	Chemist
DM	Dan Miller	Organics Chemist
GC	Greg Clarke	Organics Chemist / Supervisor
GCK	Bill Kernion	Chemist
JD	Jason Davendonis	Technician
NM	Nick Miller	Technician
PB	Pat Buddrus	Organics Chemist
SHS	Sophia Hussein-Swoboda	Technician

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Method Summary

<u>Analysis</u>	<u>Method</u>
Alkalinity, Total as CaCO ₃	EPA 310.1 / SM 2320B
Arsenic	EPA 200.9
Barium	EPA 200.7/6010
Cadmium	EPA 200.7/6010
Calcium	EPA 200.7/6010
Chloride	EPA 300.0
Chromium	EPA 200.7/6010
Copper	EPA 200.7/6010
Iron	EPA 200.7/6010
Lead	EPA 200.7/6010
Magnesium	EPA 200.7/6010
Manganese	EPA 200.7/6010
Mercury	EPA 245.1/7470A
Nitrate + Nitrite as N	EPA 353.2
Polynuclear Aromatic Hydrocarbons (PNA)	EPA 8270 SIM
Potassium	EPA 200.7/6010
Selenium	EPA 200.9
Silver	EPA 200.7/6010
Sodium	EPA 200.7/6010
Solids, Total Dissolved (TDS)	EPA 160.1 / SM 2540C
Sulfate as SO ₄	EPA 300.0
Volatile Organic Compounds (VOC)	EPA 8260
Zinc	EPA 200.7/6010

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Inorganics

Sample ID	Matrix						Lab Number
Analyte		Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment Analyst

MW-6	Water					Sampled: 03/23/99	L10617-1
Alkalinity, Total as CaCO3		108.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B	CAC
Chloride		300	5.0	mg/L	03/25/99	EPA 300.0	D CAC
Nitrate + Nitrite as N		1.0	0.01	mg/L	03/29/99	EPA 353.2	NM
Solids, Total Dissolved (TDS)		2,960	10.	mg/L	03/29/99	EPA 160.1 / SM 2540C	CAC
Sulfate as SO4		1,600	25.	mg/L	03/25/99	EPA 300.0	D CAC

MW-5	Water					Sampled: 03/23/99	L10617-2
Alkalinity, Total as CaCO3		116.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B	CAC
Chloride		590	5.0	mg/L	03/25/99	EPA 300.0	D CAC
Nitrate + Nitrite as N		3.9	0.01	mg/L	03/29/99	EPA 353.2	NM
Solids, Total Dissolved (TDS)		3,490	10.	mg/L	03/29/99	EPA 160.1 / SM 2540C	CAC
Sulfate as SO4		1,600	25.	mg/L	03/25/99	EPA 300.0	D CAC

MW-10	Water					Sampled: 03/23/99	L10617-3
Alkalinity, Total as CaCO3		127.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B	CAC
Chloride		340	5.0	mg/L	03/25/99	EPA 300.0	D CAC
Nitrate + Nitrite as N		0.68	0.01	mg/L	03/29/99	EPA 353.2	NM
Solids, Total Dissolved (TDS)		3,390	10.	mg/L	03/29/99	EPA 160.1 / SM 2540C	CAC
Sulfate as SO4		1,800	25.	mg/L	03/25/99	EPA 300.0	D CAC

MW-11	Water					Sampled: 03/24/99	L10617-5
Alkalinity, Total as CaCO3		106.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B	CAC
Chloride		250	5.0	mg/L	03/25/99	EPA 300.0	D CAC
Nitrate + Nitrite as N		1.1	0.01	mg/L	03/29/99	EPA 353.2	NM
Solids, Total Dissolved (TDS)		2,480	10.	mg/L	03/29/99	EPA 160.1 / SM 2540C	CAC
Sulfate as SO4		1,200	25.	mg/L	03/25/99	EPA 300.0	D CAC

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Inorganics

Sample ID	Matrix					Lab Number
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment Analyst

MW-3	Water					Sampled: 03/24/99	L10617-6
Alkalinity, Total as CaCO ₃	113.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B		CAC
Chloride	370	5.0	mg/L	03/25/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	1.3	0.01	mg/L	03/29/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,430	10.	mg/L	03/29/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO ₄	1,800	25.	mg/L	03/25/99	EPA 300.0	D	CAC

MW-15	Water					Sampled: 03/24/99	L10617-7
Alkalinity, Total as CaCO ₃	111.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B		CAC
Chloride	440	5.0	mg/L	03/25/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	0.50	0.01	mg/L	03/29/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,720	10.	mg/L	03/29/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO ₄	1,900	25.	mg/L	03/25/99	EPA 300.0	D	CAC

MW-9	Water					Sampled: 03/24/99	L10617-9
Alkalinity, Total as CaCO ₃	119.	1.	mg/L	03/31/99	EPA 310.1 / SM 2320B		CAC
Chloride	450	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	0.79	0.01	mg/L	03/29/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,910	10.	mg/L	03/29/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO ₄	2,100	25.	mg/L	03/30/99	EPA 300.0	D	CAC

MW-18	Water					Sampled: 03/24/99	L10617-10
Alkalinity, Total as CaCO ₃	84.	1.	mg/L	03/31/99	EPA 310.1 / SM 2320B		CAC
Chloride	400	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	0.66	0.01	mg/L	03/29/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,700	10.	mg/L	03/29/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO ₄	2,000	25.	mg/L	03/30/99	EPA 300.0	D	CAC

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Inorganics

Sample ID	Matrix						Lab Number
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst

MW-19	Water	Sampled: 03/24/99					L10617-11
Alkalinity, Total as CaCO ₃	105.	1.	mg/L	03/31/99	EPA 310.1 / SM 2320B		CAC
Chloride	450	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	0.84	0.01	mg/L	03/29/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,810	10.	mg/L	03/29/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO ₄	2,000	25.	mg/L	03/30/99	EPA 300.0	D	CAC

MW-8	Water	Sampled: 03/25/99					L10617-13
Alkalinity, Total as CaCO ₃	136.	1.	mg/L	03/31/99	EPA 310.1 / SM 2320B		CAC
Chloride	350	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	0.21	0.01	mg/L	03/29/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,670	10.	mg/L	03/29/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO ₄	2,000	25.	mg/L	03/30/99	EPA 300.0	D	CAC

MW-14	Water	Sampled: 03/25/99					L10617-14
Alkalinity, Total as CaCO ₃	114.	1.	mg/L	03/31/99	EPA 310.1 / SM 2320B		CAC
Chloride	350	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	0.25	0.01	mg/L	03/29/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,480	10.	mg/L	03/29/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO ₄	1,900	25.	mg/L	03/30/99	EPA 300.0	D	CAC

MW-17	Water	Sampled: 03/25/99					L10617-15
Alkalinity, Total as CaCO ₃	91.	1.	mg/L	03/31/99	EPA 310.1 / SM 2320B		CAC
Chloride	440	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	0.66	0.01	mg/L	03/29/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,590	10.	mg/L	03/29/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO ₄	1,900	25.	mg/L	03/30/99	EPA 300.0	D	CAC

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Inorganics

Sample ID	Matrix						Lab Number
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst

MW-12	Water	Sampled: 03/26/99					L10617-17
Alkalinity, Total as CaCO ₃	104.	1.	mg/L	03/31/99	EPA 310.1 / SM 2320B		CAC
Chloride	410	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	0.37	0.01	mg/L	04/02/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,330	10.	mg/L	03/31/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO ₄	1,700	25.	mg/L	03/30/99	EPA 300.0	D	CAC

MW-20	Water	Sampled: 03/26/99					L10617-18
Alkalinity, Total as CaCO ₃	213.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B		CAC
Chloride	290	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	2.5	0.01	mg/L	04/02/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,670	10.	mg/L	03/31/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO ₄	2,000	25.	mg/L	03/30/99	EPA 300.0	D	CAC

MW-28	Water	Sampled: 03/26/99					L10617-20
Alkalinity, Total as CaCO ₃	104.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B		CAC
Chloride	400	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	0.41	0.01	mg/L	04/02/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,360	10.	mg/L	03/31/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO ₄	1,700	25.	mg/L	03/30/99	EPA 300.0	D	CAC

MW-13	Water	Sampled: 03/26/99					L10617-21
Alkalinity, Total as CaCO ₃	193.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B	K1	CAC
Chloride	430	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	ND	0.01	mg/L	04/02/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,110	10.	mg/L	03/31/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO ₄	1,500	25.	mg/L	03/30/99	EPA 300.0	D	CAC

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Inorganics

Sample ID	Matrix							Lab Number
Analyte		Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst

MW-21	Water	Sampled: 03/26/99						L10617-22
Alkalinity, Total as CaCO3		139.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B	K1	CAC
Chloride		410	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N		ND	0.01	mg/L	04/02/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)		3,360	10.	mg/L	03/31/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO4		1,800	25.	mg/L	03/30/99	EPA 300.0	D	CAC

MW-22	Water	Sampled: 03/25/99						L10617-24
Alkalinity, Total as CaCO3		113.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B	K1	CAC
Chloride		380	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N		0.82	0.01	mg/L	04/02/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)		3,380	10.	mg/L	03/31/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO4		1,800	25.	mg/L	03/30/99	EPA 300.0	D	CAC

MW-7	Water	Sampled: 03/25/99						L10617-25
Alkalinity, Total as CaCO3		116.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B	K1	CAC
Chloride		250	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N		0.02	0.01	mg/L	04/02/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)		3,470	10.	mg/L	03/31/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO4		2,000	25.	mg/L	03/30/99	EPA 300.0	D	CAC

MW-26	Water	Sampled: 03/25/99						L10617-26
Alkalinity, Total as CaCO3		130.	1.	mg/L	04/01/99	EPA 310.1 / SM 2320B	K1	CAC
Chloride		290	5.0	mg/L	03/30/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N		4.6	0.01	mg/L	04/02/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)		3,770	10.	mg/L	03/31/99	EPA 160.1 / SM 2540C		CAC
Sulfate as SO4		2,100	25.	mg/L	03/30/99	EPA 300.0	D	CAC

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix							Lab Number
Analyte		Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst

		Sampled: 03/23/99						
		Hot Plate Digestion EPA 200.2/3005A: 03/26/99						
		Mercury Digestion: 03/26/99						
MW-6	Water							L10617-1
Arsenic		ND	0.0040	mg/L	03/31/99	EPA 200.9	D1	SHS
Barium		0.0106	0.0010	mg/L	03/29/99	EPA 200.7/6010		CV
Cadmium		ND	0.0020	mg/L	03/29/99	EPA 200.7/6010		CV
Calcium		476.	0.25	mg/L	03/29/99	EPA 200.7/6010	D1	CV
Chromium		ND	0.0050	mg/L	03/29/99	EPA 200.7/6010		CV
Copper		ND	0.0020	mg/L	03/29/99	EPA 200.7/6010		CV
Iron		0.073	0.010	mg/L	03/29/99	EPA 200.7/6010		CV
Lead		ND	0.025	mg/L	03/29/99	EPA 200.7/6010		CV
Magnesium		146.	0.25	mg/L	03/29/99	EPA 200.7/6010	D1	CV
Manganese		ND	0.0010	mg/L	03/29/99	EPA 200.7/6010		CV
Mercury		ND	0.00020	mg/L	03/29/99	EPA 245.1/7470A		JD
Potassium		3.7	0.40	mg/L	03/29/99	EPA 200.7/6010		CV
Selenium		ND	0.010	mg/L	03/31/99	EPA 200.9	D1	SHS
Silver		ND	0.0030	mg/L	03/29/99	EPA 200.7/6010		CV
Sodium		153.	0.25	mg/L	03/29/99	EPA 200.7/6010	D1	CV
Zinc		ND	0.010	mg/L	03/29/99	EPA 200.7/6010		CV

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	---------

MW-5		Sampled: 03/23/99 Hot Plate Digestion EPA 200.2/3005A: 03/26/99 Mercury Digestion: 03/26/99							L10617-2
Water									
Arsenic	ND	0.0040	mg/L	03/31/99	EPA 200.9		D1	SHS	
Barium	0.0142	0.0010	mg/L	03/29/99	EPA 200.7/6010			CV	
Cadmium	ND	0.0020	mg/L	03/29/99	EPA 200.7/6010			CV	
Calcium	607.	0.25	mg/L	03/29/99	EPA 200.7/6010		D1	CV	
Chromium	ND	0.0050	mg/L	03/29/99	EPA 200.7/6010			CV	
Copper	ND	0.0020	mg/L	03/29/99	EPA 200.7/6010			CV	
Iron	0.023	0.010	mg/L	03/29/99	EPA 200.7/6010			CV	
Lead	ND	0.025	mg/L	03/29/99	EPA 200.7/6010			CV	
Magnesium	150.	0.25	mg/L	03/29/99	EPA 200.7/6010		D1	CV	
Manganese	ND	0.0010	mg/L	03/29/99	EPA 200.7/6010			CV	
Mercury	ND	0.00020	mg/L	03/29/99	EPA 245.1/7470A			JD	
Potassium	3.2	0.40	mg/L	03/29/99	EPA 200.7/6010			CV	
Selenium	0.013	0.010	mg/L	03/31/99	EPA 200.9		D1	SHS	
Silver	ND	0.0030	mg/L	03/29/99	EPA 200.7/6010			CV	
Sodium	217.	0.25	mg/L	03/29/99	EPA 200.7/6010		D1	CV	
Zinc	ND	0.010	mg/L	03/29/99	EPA 200.7/6010			CV	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix					Lab Number
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment Analyst

		Sampled: 03/23/99				
		Hot Plate Digestion: EPA 200.2/3005A: 03/26/99				
MW-10	Water	Mercury Digestion: 03/26/99				L10617-3
Arsenic	ND	0.0040	mg/L	03/31/99	EPA 200.9	D1 SHS
Barium	0.0104	0.0010	mg/L	03/29/99	EPA 200.7/6010	CV
Cadmium	ND	0.0020	mg/L	03/29/99	EPA 200.7/6010	CV
Calcium	569.	0.25	mg/L	03/29/99	EPA 200.7/6010	D1 CV
Chromium	ND	0.0050	mg/L	03/29/99	EPA 200.7/6010	CV
Copper	ND	0.0020	mg/L	03/29/99	EPA 200.7/6010	CV
Iron	0.011	0.010	mg/L	03/29/99	EPA 200.7/6010	CV
Lead	ND	0.025	mg/L	03/29/99	EPA 200.7/6010	CV
Magnesium	134.	0.25	mg/L	03/29/99	EPA 200.7/6010	D1 CV
Manganese	ND	0.0010	mg/L	03/29/99	EPA 200.7/6010	CV
Mercury	ND	0.00020	mg/L	03/29/99	EPA 245.1/7470A	JD
Potassium	3.8	0.40	mg/L	03/29/99	EPA 200.7/6010	CV
Selenium	ND	0.010	mg/L	03/31/99	EPA 200.9	D1 SHS
Silver	ND	0.0030	mg/L	03/29/99	EPA 200.7/6010	CV
Sodium	211.	0.25	mg/L	03/29/99	EPA 200.7/6010	D1 CV
Zinc	ND	0.010	mg/L	03/29/99	EPA 200.7/6010	CV

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW-11		Water		Sampled: 03/24/99 Hot Plate Digestion EPA 200.2/3005A: 03/26/99 Mercury Digestion: 03/26/99					L10617-5	
Arsenic		ND	0.0040	mg/L	03/31/99	EPA 200.9		D1	SHS	
Barium		0.0160	0.0010	mg/L	03/29/99	EPA 200.7/6010			CV	
Cadmium		ND	0.0020	mg/L	03/29/99	EPA 200.7/6010			CV	
Calcium		403.	0.25	mg/L	03/29/99	EPA 200.7/6010		D1	CV	
Chromium		ND	0.0050	mg/L	03/29/99	EPA 200.7/6010			CV	
Copper		ND	0.0020	mg/L	03/29/99	EPA 200.7/6010			CV	
Iron		0.137	0.010	mg/L	03/29/99	EPA 200.7/6010			CV	
Lead		ND	0.025	mg/L	03/29/99	EPA 200.7/6010			CV	
Magnesium		88.1	0.25	mg/L	03/29/99	EPA 200.7/6010		D1	CV	
Manganese		0.0021	0.0010	mg/L	03/29/99	EPA 200.7/6010			CV	
Mercury		ND	0.00020	mg/L	03/29/99	EPA 245.1/7470A			JD	
Potassium		3.4	0.40	mg/L	03/29/99	EPA 200.7/6010			CV	
Selenium		ND	0.010	mg/L	03/31/99	EPA 200.9		D1	SHS	
Silver		ND	0.0030	mg/L	03/29/99	EPA 200.7/6010			CV	
Sodium		172.	0.25	mg/L	03/29/99	EPA 200.7/6010		D1	CV	
Zinc		ND	0.010	mg/L	03/29/99	EPA 200.7/6010			CV	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

Sampled: 03/24/99									
Ho: Plate Digestion EPA 200.2/3005A: 03/26/99									
Mercury Digestion: 03/26/99									
MW-3	Water	L10617-6							
Arsenic		ND	0.0040	mg/L	03/31/99	EPA 200.9		D1	SHS
Barium		0.0120	0.0010	mg/L	03/29/99	EPA 200.7/6010			CV
Cadmium		ND	0.0020	mg/L	03/29/99	EPA 200.7/6010			CV
Calcium		566.	0.25	mg/L	03/29/99	EPA 200.7/6010		D1	CV
Chromium		ND	0.0050	mg/L	03/29/99	EPA 200.7/6010			CV
Copper		ND	0.0020	mg/L	03/29/99	EPA 200.7/6010			CV
Iron		0.042	0.010	mg/L	03/29/99	EPA 200.7/6010			CV
Lead		ND	0.025	mg/L	03/29/99	EPA 200.7/6010			CV
Magnesium		127.	0.25	mg/L	03/29/99	EPA 200.7/6010		D1	CV
Manganese		ND	0.0010	mg/L	03/29/99	EPA 200.7/6010			CV
Mercury		ND	0.00020	mg/L	03/29/99	EPA 245.1/7470A			JD
Potassium		3.5	0.40	mg/L	03/29/99	EPA 200.7/6010			CV
Selenium		ND	0.010	mg/L	03/31/99	EPA 200.9		D1	SHS
Silver		ND	0.0030	mg/L	03/29/99	EPA 200.7/6010			CV
Sodium		211.	0.25	mg/L	03/29/99	EPA 200.7/6010		D1	CV
Zinc		ND	0.010	mg/L	03/29/99	EPA 200.7/6010			CV

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Schoils Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW-15		Water		Sampled: 03/24/99 Hot Plate Digestion EPA 200.2/3005A: 03/26/99 Mercury Digestion: 03/26/99					L10617-7
Arsenic	ND	0.0040	mg/L	03/31/99	EPA 200.9		D1	SHS	
Barium	0.0117	0.0010	mg/L	03/29/99	EPA 200.7/6010			CV	
Cadmium	ND	0.0020	mg/L	03/29/99	EPA 200.7/6010			CV	
Calcium	578.	0.25	mg/L	03/29/99	EPA 200.7/6010		D1	CV	
Chromium	ND	0.0050	mg/L	03/29/99	EPA 200.7/6010			CV	
Copper	ND	0.0020	mg/L	03/29/99	EPA 200.7/6010			CV	
Iron	0.019	0.010	mg/L	03/29/99	EPA 200.7/6010			CV	
Lead	ND	0.025	mg/L	03/29/99	EPA 200.7/6010			CV	
Magnesium	162.	0.25	mg/L	03/29/99	EPA 200.7/6010		D1	CV	
Manganese	0.0130	0.0010	mg/L	03/29/99	EPA 200.7/6010			CV	
Mercury	ND	0.00020	mg/L	03/29/99	EPA 245.1/7470A			JD	
Potassium	4.57	0.40	mg/L	03/29/99	EPA 200.7/6010			CV	
Selenium	ND	0.010	mg/L	03/31/99	EPA 200.9		D1	SHS	
Silver	ND	0.0030	mg/L	03/29/99	EPA 200.7/6010			CV	
Sodium	262.	0.25	mg/L	03/29/99	EPA 200.7/6010		D1	CV	
Zinc	ND	0.010	mg/L	03/29/99	EPA 200.7/6010			CV	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

		Sampled: 03/24/99							
		Hot Plate Digestion EPA 200.2/3005A: 03/31/99							
MW-9		Mercury Digestion: 03/31/99							
Water		L10617-9							
Arsenic	ND	0.0040	mg/L	04/02/99	EPA 200.9		D1	SHS	
Barium	0.0164	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK	
Cadmium	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK	
Calcium	532.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK	
Chromium	ND	0.0050	mg/L	04/05/99	EPA 200.7/6010			GCK	
Copper	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK	
Iron	0.502	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK	
Lead	ND	0.025	mg/L	04/05/99	EPA 200.7/6010			GCK	
Magnesium	181.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK	
Manganese	0.0326	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK	
Mercury	ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A			JD	
Potassium	5.13	0.40	mg/L	04/05/99	EPA 200.7/6010			GCK	
Selenium	ND	0.010	mg/L	04/01/99	EPA 200.9		D1	SHS	
Silver	ND	0.0030	mg/L	04/05/99	EPA 200.7/6010			GCK	
Sodium	245.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK	
Zinc	ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW-18		Water		Sampled: 03/24/99 Hot Plate Digestion EPA 200.2/3005A: 03/31/99 Mercury Digestion: 03/31/99						L10617-10	
Arsenic	ND	0.0040	mg/L	04/02/99	EPA 200.9		D1	SHS			
Barium	0.0177	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK			
Cadmium	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK			
Calcium	544.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK			
Chromium	0.0094	0.0050	mg/L	04/05/99	EPA 200.7/6010			GCK			
Copper	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK			
Iron	ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK			
Lead	ND	0.025	mg/L	04/05/99	EPA 200.7/6010			GCK			
Magnesium	203.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK			
Manganese	ND	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK			
Mercury	ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A			JD			
Potassium	5.77	0.40	mg/L	04/05/99	EPA 200.7/6010			GCK			
Selenium	ND	0.010	mg/L	04/01/99	EPA 200.9		D1	SHS			
Silver	ND	0.0030	mg/L	04/05/99	EPA 200.7/6010			GCK			
Sodium	163.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK			
Zinc	ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK			

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment Analyst
Analyte								

Sampled: 03/24/99								
Hot Plate Digestion EPA 200.2/3005A: 03/31/99								
Mercury Digestion: 03/31/99								
MW-19	Water						L10617-11	
Arsenic		ND	0.0040	mg/L	04/02/99	EPA 200.9	D1	SHS
Barium		0.0122	0.0010	mg/L	04/05/99	EPA 200.7/6010		GCK
Cadmium		ND	0.0020	mg/L	04/05/99	EPA 200.7/6010		GCK
Calcium		540.	0.25	mg/L	04/05/99	EPA 200.7/6010	D1	GCK
Chromium		ND	0.0050	mg/L	04/05/99	EPA 200.7/6010		GCK
Copper		ND	0.0020	mg/L	04/05/99	EPA 200.7/6010		GCK
Iron		0.036	0.010	mg/L	04/05/99	EPA 200.7/6010		GCK
Lead		ND	0.025	mg/L	04/05/99	EPA 200.7/6010		GCK
Magnesium		169.	0.25	mg/L	04/05/99	EPA 200.7/6010	D1	GCK
Manganese		ND	0.0010	mg/L	04/05/99	EPA 200.7/6010		GCK
Mercury		ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A		JD
Potassium		3.7	0.40	mg/L	04/05/99	EPA 200.7/6010		GCK
Selenium		ND	0.010	mg/L	04/01/99	EPA 200.9	D1	SHS
Silver		ND	0.0030	mg/L	04/05/99	EPA 200.7/6010		GCK
Sodium		268.	0.25	mg/L	04/05/99	EPA 200.7/6010	D1	GCK
Zinc		ND	0.010	mg/L	04/05/99	EPA 200.7/6010		GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholis Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	---------	---------

MW-8		Water		Sampled: 03/25/99 Hot Plate Digestion EPA 200.2/3005A: 03/31/99 Mercury Digestion: 03/31/99					L10617-13	
Arsenic		ND	0.0040	mg/L	04/02/99	EPA 200.9		D1	SHS	
Barium	0.0103	0.0010		mg/L	04/05/99	EPA 200.7/6010			GCK	
Cadmium		ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK	
Calcium	541.	0.25		mg/L	04/05/99	EPA 200.7/6010		D1	GCK	
Chromium		ND	0.0050	mg/L	04/05/99	EPA 200.7/6010			GCK	
Copper		ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK	
Iron		ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK	
Lead		ND	0.025	mg/L	04/05/99	EPA 200.7/6010			GCK	
Magnesium	200.	0.25		mg/L	04/05/99	EPA 200.7/6010		D1	GCK	
Manganese		ND	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK	
Mercury		ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A			JD	
Potassium	3.6	0.40		mg/L	04/05/99	EPA 200.7/6010			GCK	
Selenium		ND	0.010	mg/L	04/01/99	EPA 200.9		D1	SHS	
Silver		ND	0.0030	mg/L	04/05/99	EPA 200.7/6010			GCK	
Sodium	169.	0.25		mg/L	04/05/99	EPA 200.7/6010		D1	GCK	
Zinc		ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
 Contact: **George Robinson**

Project: **Roswell Qtrly Sampling****Total Metals**

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

		Sampled: 03/25/99							
		Hot Plate Digestion EPA 200.2/3005A: 03/31/99							
MW-14	Water	Mercury Digestion: 03/31/99						L10617-14	
Arsenic	ND	0.0040	mg/L	04/02/99	EPA 200.9		D1	SHS	
Barium	0.0126	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK	
Cadmium	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK	
Calcium	567.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK	
Chromium	ND	0.0050	mg/L	04/05/99	EPA 200.7/6010			GCK	
Copper	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK	
Iron	0.011	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK	
Lead	ND	0.025	mg/L	04/05/99	EPA 200.7/6010			GCK	
Magnesium	143.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK	
Manganese	ND	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK	
Mercury	ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A			JD	
Potassium	4.04	0.40	mg/L	04/05/99	EPA 200.7/6010			GCK	
Selenium	ND	0.010	mg/L	04/06/99	EPA 200.9		D1	CV	
Silver	ND	0.0030	mg/L	04/05/99	EPA 200.7/6010			GCK	
Sodium	167.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK	
Zinc	ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK	

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0957

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW-17		Water		Sampled: 03/25/99 Hot Plate Digestion EPA 200.2/3005A: 03/31/99 Mercury Digestion: 03/31/99					L10617-15	
Arsenic	ND	0.0040	mg/L	04/02/99	EPA 200.9		D1	SHS		
Barium	0.0077	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Cadmium	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK		
Calcium	535.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Chromium	ND	0.0050	mg/L	04/05/99	EPA 200.7/6010			GCK		
Copper	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK		
Iron	ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Lead	ND	0.025	mg/L	04/05/99	EPA 200.7/6010			GCK		
Magnesium	152.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Manganese	0.0259	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Mercury	ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A			JD		
Potassium	3.0	0.40	mg/L	04/05/99	EPA 200.7/6010			GCK		
Selenium	ND	0.010	mg/L	04/06/99	EPA 200.9		D1	CV		
Silver	ND	0.0030	mg/L	04/05/99	EPA 200.7/6010			GCK		
Sodium	240.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Zinc	ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK		

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

		Sampled: 03/26/99							
		Hot Plate Digestion EPA 200.2/3005A: 03/31/99							
MW-12	Water	Mercury Digestion: 03/31/99						L10617-17	
Arsenic		ND	0.0040	mg/L	04/02/99	EPA 200.9		D1	SHS
Barium		0.0084	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK
Cadmium		ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK
Calcium		533.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK
Chromium		ND	0.0050	mg/L	04/05/99	EPA 200.7/6010			GCK
Copper		ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK
Iron		0.103	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK
Lead		ND	0.025	mg/L	04/05/99	EPA 200.7/6010			GCK
Magnesium		113.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK
Manganese		0.759	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK
Mercury		ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A			JD
Potassium		3.2	0.40	mg/L	04/05/99	EPA 200.7/6010			GCK
Selenium		ND	0.010	mg/L	04/01/99	EPA 200.9		D1	SHS
Silver		ND	0.0030	mg/L	04/05/99	EPA 200.7/6010			GCK
Sodium		210.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK
Zinc		ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW-20		Water		Sampled: 03/26/99 Hot Plate Digestion EPA 200.2/3005A: 03/31/99 Mercury Digestion: 03/31/99						L10617-18	
Arsenic		ND	0.0040	mg/L	04/02/99	EPA 200.9		D1	SHS		
Barium		0.0090	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Cadmium		ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK		
Calcium		582.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Chromium		ND	0.0050	mg/L	04/05/99	EPA 200.7/6010			GCK		
Copper		ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK		
Iron		0.044	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Lead		ND	0.025	mg/L	04/05/99	EPA 200.7/6010			GCK		
Magnesium		125.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Manganese		ND	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Mercury		ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A			JD		
Potassium		3.7	0.40	mg/L	04/05/99	EPA 200.7/6010			GCK		
Selenium		ND	0.010	mg/L	04/01/99	EPA 200.9		D1	SHS		
Silver		ND	0.0030	mg/L	04/05/99	EPA 200.7/6010			GCK		
Sodium		236.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Zinc		ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK		

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

		Sampled: 03/26/99							
		Hot Plate Digestion EPA 200.2/3005A: 03/31/99							
		Mercury Digestion: 03/31/99							
MW-28	Water	L10617-20							
Arsenic		ND	0.0040	mg/L	04/02/99	EPA 200.9		D1	SHS
Barium		0.0086	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK
Cadmium		ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK
Calcium		533.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK
Chromium		ND	0.0050	mg/L	04/05/99	EPA 200.7/6010			GCK
Copper		ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK
Iron		0.110	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK
Lead		ND	0.025	mg/L	04/05/99	EPA 200.7/6010			GCK
Magnesium		112.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK
Manganese		0.790	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK
Mercury		ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A			JD
Potassium		3.4	0.40	mg/L	04/05/99	EPA 200.7/6010			GCK
Selenium		ND	0.010	mg/L	04/06/99	EPA 200.9		D1	CV
Silver		ND	0.0030	mg/L	04/05/99	EPA 200.7/6010			GCK
Sodium		209.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK
Zinc		ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW-13		Water		Sampled: 03/26/99 Hot Plate Digestion EPA 200.2/3005A: 03/31/99 Mercury Digestion: 03/31/99						L10617-21	
Arsenic	ND	0.0040	mg/L	04/02/99	EPA 200.9			D1	SHS		
Barium	0.0140	0.0010	mg/L	04/05/99	EPA 200.7/6010				GCK		
Cadmium	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010				GCK		
Calcium	550.	0.25	mg/L	04/05/99	EPA 200.7/6010			D1	GCK		
Chromium	ND	0.0050	mg/L	04/05/99	EPA 200.7/6010				GCK		
Copper	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010				GCK		
Iron	1.46	0.010	mg/L	04/05/99	EPA 200.7/6010				GCK		
Lead	ND	0.025	mg/L	04/05/99	EPA 200.7/6010				GCK		
Magnesium	128.	0.25	mg/L	04/05/99	EPA 200.7/6010			D1	GCK		
Manganese	1.84	0.0010	mg/L	04/05/99	EPA 200.7/6010				GCK		
Mercury	ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A				JD		
Potassium	3.4	0.40	mg/L	04/05/99	EPA 200.7/6010				GCK		
Selenium	ND	0.010	mg/L	04/06/99	EPA 200.9			D1	CV		
Silver	ND	0.0030	mg/L	04/05/99	EPA 200.7/6010				GCK		
Sodium	170.	0.25	mg/L	04/05/99	EPA 200.7/6010			D1	GCK		
Zinc	ND	0.010	mg/L	04/05/99	EPA 200.7/6010				GCK		

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
 Contact: **George Robinson**

Project: **Roswell Qtrly Sampling****Total Metals**

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment Analyst
Analyte								

MW-21		Water		Sampled: 03/26/99 Hot Plate Digestion EPA 200.2/3005A: 03/31/99 Mercury Digestion: 03/31/99					L10617-22	
Arsenic	ND	0.0040	mg/L	04/02/99	EPA 200.9		D1	SHS		
Barium	0.0225	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Cadmium	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK		
Calcium	548.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Chromium	ND	0.0050	mg/L	04/05/99	EPA 200.7/6010			GCK		
Copper	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK		
Iron	0.933	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Lead	ND	0.025	mg/L	04/05/99	EPA 200.7/6010			GCK		
Magnesium	138.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Manganese	1.32	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Mercury	ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A			JD		
Potassium	3.4	0.40	mg/L	04/05/99	EPA 200.7/6010			GCK		
Selenium	ND	0.010	mg/L	04/06/99	EPA 200.9		D1	CV		
Silver	ND	0.0030	mg/L	04/05/99	EPA 200.7/6010			GCK		
Sodium	192.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Zinc	ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK		

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW-22		Water		Sampled: 03/25/99 Hot Plate Digestion EPA 200.2/3005A: 03/31/99 Mercury Digestion: 04/01/99					L10617-24	
Arsenic	ND	0.0040	mg/L	04/02/99	EPA 200.9		D1	SHS		
Barium	0.0087	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Cadmium	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK		
Calcium	556.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Chromium	ND	0.0050	mg/L	04/05/99	EPA 200.7/6010			GCK		
Copper	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK		
Iron	0.043	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Lead	ND	0.025	mg/L	04/05/99	EPA 200.7/6010			GCK		
Magnesium	120.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Manganese	ND	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Mercury	ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A			JD		
Potassium	3.2	0.40	mg/L	04/05/99	EPA 200.7/6010			GCK		
Selenium	ND	0.010	mg/L	04/01/99	EPA 200.9		D1	SHS		
Silver	ND	0.0030	mg/L	04/05/99	EPA 200.7/6010			GCK		
Sodium	220.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Zinc	ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK		

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
 Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Lab Number					
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst
MW-7 Water Sampled: 03/25/99 Hot Plate Digestion EPA 200.2/3005A: 03/31/99 Mercury Digestion: 03/31/99 L10617-25							
Arsenic	ND	0.0040	mg/l.	04/02/99	EPA 200.9	D	SHS
Barium	0.0130	0.0010	mg/l.	04/05/99	EPA 200.7/6010		GCK
Cadmium	ND	0.0020	mg/l.	04/05/99	EPA 200.7/6010		GCK
Calcium	232.	0.25	mg/l.	04/05/99	EPA 200.7/6010	D1	GCK
Chromium	ND	0.0050	mg/l.	04/05/99	EPA 200.7/6010		GCK
Copper	ND	0.0020	mg/l.	04/05/99	EPA 200.7/6010		GCK
Iron	ND	0.010	mg/l.	04/05/99	EPA 200.7/6010		GCK
Lead	ND	0.025	mg/l.	04/05/99	EPA 200.7/6010		GCK
Magnesium	158.	0.25	mg/l.	04/05/99	EPA 200.7/6010	D1	GCK
Manganese	0.0285	0.0010	mg/l.	04/05/99	EPA 200.7/6010		GCK
Mercury	ND	0.00020	mg/l.	04/01/99	EPA 245.1/7470A		JD
Potassium	5.28	0.40	mg/l.	04/05/99	EPA 200.7/6010		GCK
Selenium	ND	0.010	mg/l.	04/06/99	EPA 200.9	D1	CV
Silver	ND	0.0030	mg/l.	04/05/99	EPA 200.7/6010		GCK
Sodium	110.	0.25	mg/l.	04/05/99	EPA 200.7/6010	D1	GCK
Zinc	ND	0.010	mg/l.	04/05/99	EPA 200.7/6010		GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
 14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
 Phone 503-590-5300 • Fax 503-590-1404
 www.oalab.com/oal • Toll-Free: 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW-26		Water		Sampled: 03/25/99 Hot Plate Digestion EPA 200.2/3005A: 03/31/99 Mercury Digestion: 03/31/99					L10617-26	
Arsenic	ND	0.0040	mg/L	04/02/99	EPA 200.9		D1	SHS		
Barium	0.0137	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Cadmium	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK		
Calcium	578.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Chromium	ND	0.0050	mg/L	04/05/99	EPA 200.7/6010			GCK		
Copper	ND	0.0020	mg/L	04/05/99	EPA 200.7/6010			GCK		
Iron	0.394	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Lead	ND	0.025	mg/L	04/05/99	EPA 200.7/6010			GCK		
Magnesium	135.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Manganese	0.0165	0.0010	mg/L	04/05/99	EPA 200.7/6010			GCK		
Mercury	ND	0.00020	mg/L	04/01/99	EPA 245.1/7470A			JD		
Potassium	4.22	0.40	mg/L	04/05/99	EPA 200.7/6010			GCK		
Selenium	ND	0.010	mg/L	04/01/99	EPA 200.9		D1	SHS		
Silver	ND	0.0030	mg/L	04/05/99	EPA 200.7/6010			GCK		
Sodium	213.	0.25	mg/L	04/05/99	EPA 200.7/6010		D1	GCK		
Zinc	ND	0.010	mg/L	04/05/99	EPA 200.7/6010			GCK		

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Volatile Organic Compounds (VOC)
by EPA 8260

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						
MW-6	Water				Sampled: 03/23/99 Analyzed: 03/25/99 by DM	L10617-1
See Attached Data Sheet _____						
MW-5	Water				Sampled: 03/23/99 Analyzed: 03/25/99 by DM	L10617-2
See Attached Data Sheet _____						
MW-10	Water				Sampled: 03/23/99 Analyzed: 03/25/99 by DM	L10617-3
See Attached Data Sheet _____						
TRIP BLANK #1	Water				Sampled: 03/23/99 Analyzed: 03/25/99 by DM	L10617-4
See Attached Data Sheet _____						
MW-11	Water				Sampled: 03/24/99 Analyzed: 03/25/99 by DM	L10617-5
See Attached Data Sheet _____						
MW-3	Water				Sampled: 03/24/99 Analyzed: 03/25/99 by DM	L10617-6
See Attached Data Sheet _____						
MW-15	Water				Sampled: 03/24/99 Analyzed: 03/25/99 by DM	L10617-7
See Attached Data Sheet _____						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Volatile Organic Compounds (VOC)
by EPA 8260

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						

<i>TRIP BLANK #2</i>	<i>Water</i>				Sampled: 03/24/99 Analyzed: 03/25/99 by DM	<i>L10617-8</i>
See Attached Data Sheet _____						

<i>MW-9</i>	<i>Water</i>				Sampled: 03/24/99 Analyzed: 03/30/99 by DM	<i>L10617-9</i>
See Attached Data Sheet _____						

<i>MW-18</i>	<i>Water</i>				Sampled: 03/24/99 Analyzed: 03/30/99 by DM	<i>L10617-10</i>
See Attached Data Sheet _____						

<i>MW-19</i>	<i>Water</i>				Sampled: 03/24/99 Analyzed: 03/30/99 by DM	<i>L10617-11</i>
See Attached Data Sheet _____						

<i>TRIP BLANK #3</i>	<i>Water</i>				Sampled: 03/24/99 Analyzed: 03/30/99 by DM	<i>L10617-12</i>
See Attached Data Sheet _____						

<i>MW-8</i>	<i>Water</i>				Sampled: 03/25/99 Analyzed: 03/30/99 by DM	<i>L10617-13</i>
See Attached Data Sheet _____						

<i>MW-14</i>	<i>Water</i>				Sampled: 03/25/99 Analyzed: 03/30/99 by DM	<i>L10617-14</i>
See Attached Data Sheet _____						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Volatile Organic Compounds (VOC)
by EPA 8260

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						

<i>MW-17</i>	<i>Water</i>				Sampled: 03/25/99 Analyzed: 03/30/99 by DM	<i>L10617-15</i>
See Attached Data Sheet _____						

<i>TRIP BLANK #4</i>	<i>Water</i>				Sampled: 03/25/99 Analyzed: 03/30/99 by DM	<i>L10617-16</i>
See Attached Data Sheet _____						

<i>MW-12</i>	<i>Water</i>				Sampled: 03/26/99 Analyzed: 03/30/99 by DM	<i>L10617-17</i>
See Attached Data Sheet _____						

<i>MW-20</i>	<i>Water</i>				Sampled: 03/26/99 Analyzed: 03/30/99 by DM	<i>L10617-18</i>
See Attached Data Sheet _____						

<i>TRIP BLANK #5</i>	<i>Water</i>				Sampled: 03/26/99 Analyzed: 03/30/99 by DM	<i>L10617-19</i>
See Attached Data Sheet _____						

<i>MW-28</i>	<i>Water</i>				Sampled: 03/26/99 Analyzed: 03/30/99 by DM	<i>L10617-20</i>
See Attached Data Sheet _____						

<i>MW-13</i>	<i>Water</i>				Sampled: 03/26/99 Analyzed: 03/30/99 by DM	<i>L10617-21</i>
See Attached Data Sheet _____						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Volatile Organic Compounds (VOC)
by EPA 8260

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						
MW-21	Water				Sampled: 03/26/99 Analyzed: 03/30/99 by DM	L10617-22
See Attached Data Sheet _____						
TRIP BLANK #6	Water				Sampled: 03/26/99 Analyzed: 03/30/99 by DM	L10617-23
See Attached Data Sheet _____						
MW-22	Water				Sampled: 03/25/99 Analyzed: 04/01/99 by DM	L10617-24
See Attached Data Sheet _____						
MW-7	Water				Sampled: 03/25/99 Analyzed: 03/30/99 by DM	L10617-25
See Attached Data Sheet _____						
MW-26	Water				Sampled: 03/25/99 Analyzed: 03/30/99 by DM	L10617-26
See Attached Data Sheet _____						
TRIP BLANK #7	Water				Sampled: 03/25/99 Analyzed: 03/30/99 by DM	L10617-27
See Attached Data Sheet _____						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-6	Water	MB0325		Sampled : 03/23/99		Analyzed : 03/25/99	L10617-1
CAS #							
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		
79-01-6	Trichloroethene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-6	Water	MB0325				Sampled : 03/23/99 Analyzed : 03/25/99 L10617-1
CAS #						
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L	
74-95-3	Dibromomethane	nd	nd	1	ug/L	
75-27-4	Bromodichloromethane	nd	nd	1	ug/L	
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L	
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L	
108-88-3	Toluene	nd	nd	1	ug/L	
591-78-6	2-Hexanone	nd	nd	10	ug/L	
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L	
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L	
127-18-4	Tetrachloroethene	nd	nd	1	ug/L	
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L	
124-48-1	Dibromochloromethane	nd	nd	1	ug/L	
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L	
108-90-7	Chlorobenzene	nd	nd	1	ug/L	
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L	
100-41-4	Ethylbenzene	nd	nd	1	ug/L	
100-42-5	Styrene	nd	nd	1	ug/L	
75-25-2	Bromoform	nd	nd	1	ug/L	
98-82-8	Isopropylbenzene	nd	nd	1	ug/L	
108-86-1	Bromobenzene	nd	nd	1	ug/L	
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L	
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L	
103-65-1	n-Propylbenzene	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-6	Water	MB0325		Sampled : 03/23/99		Analyzed : 03/25/99		L10617-1
CAS #								
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane ...	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
Surrogates						Recovery	Recovery	
						L10617-1	MB0325	
1,2-Dichloroethane-d4						101%	101%	
Toluene-d8						107%	110%	
4-Bromofluorobenzene						99%	103%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-5	Water	MB0325				Sampled : 03/23/99	Lab Number
CAS #						Analyzed : 03/25/99	L10617-2
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		
79-01-6	Trichloroethene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-5	Water	MB0325				Sampled : 03/23/99	Analyzed : 03/25/99	L10617-2
CAS #								
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-5	Water	MB0325				Sampled : 03/23/99	
						Analyzed : 03/25/99	L10617-2
CAS #							
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
						Recovery	Recovery
Surrogates						L10617-2	MB0325
1,2-Dichloroethane-d4						101%	101%
Toluene-d8						108%	110%
4-Bromofluorobenzene						101%	103%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-10	Water	MB0325			Sampled : 03/23/99	
				Analyzed : 03/25/99		L10617-3
<u>CAS #</u>						
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L	
74-87-3	Chloromethane	nd	nd	2	ug/L	
75-01-4	Vinyl chloride	nd	nd	2	ug/L	
74-83-9	Bromomethane	nd	nd	2	ug/L	
75-00-3	Chloroethane	nd	nd	2	ug/L	
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L	
67-64-1	Acetone	nd	nd	20	ug/L	
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L	
75-09-2	Methylene chloride	nd	nd	2	ug/L	
75-15-0	Carbon disulfide	nd	nd	1	ug/L	
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L	
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L	
78-93-3	2-Butanone	nd	nd	20	ug/L	
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L	
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L	
74-97-5	Bromochloromethane	nd	nd	1	ug/L	
67-66-3	Chloroform	nd	nd	1	ug/L	
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L	
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L	
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L	
71-43-2	Benzene	nd	nd	1	ug/L	
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L	
79-01-6	Trichloroethene	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-10	Water	MB0325				Sampled : 03/23/99	
						Analyzed : 03/25/99	L10617-3
CAS #							
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-10	Water	MB0325				Sampled : 03/23/99	
CAS #						Analyzed : 03/25/99	L10617-3
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
						Recovery	Recovery
						L10617-3	MB0325
Surrogates							
1,2-Dichloroethane-d4						100%	101%
Toluene-d8						107%	110%
4-Bromofluorobenzene						99%	103%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholes Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #1		Water		MB0325		Sampled : 03/23/99		Analyzed : 03/25/99		L10617-4	
CAS #											
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L						
74-87-3	Chloromethane	nd	nd	2	ug/L						
75-01-4	Vinyl chloride	nd	nd	2	ug/L						
74-83-9	Bromomethane	nd	nd	2	ug/L						
75-00-3	Chloroethane	nd	nd	2	ug/L						
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L						
67-64-1	Acetone	nd	nd	20	ug/L						
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L						
75-09-2	Methylene chloride	nd	nd	2	ug/L						
75-15-0	Carbon disulfide	nd	nd	1	ug/L						
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L						
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L						
78-93-3	2-Butanone	nd	nd	20	ug/L						
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L						
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L						
74-97-5	Bromochloromethane	nd	nd	1	ug/L						
67-66-3	Chloroform	nd	nd	1	ug/L						
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L						
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L						
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L						
71-43-2	Benzene	nd	nd	1	ug/L						
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L						
79-01-6	Trichloroethene	nd	nd	1	ug/L						

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID	Lab Number					
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #1		Water		MB0325		Sampled : 03/23/99		Analyzed : 03/25/99		L10617-4	
CAS #											
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L						
74-95-3	Dibromomethane	nd	nd	1	ug/L						
75-27-4	Bromodichloromethane	nd	nd	1	ug/L						
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L						
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L						
108-88-3	Toluene	nd	nd	1	ug/L						
591-78-6	2-Hexanone	nd	nd	10	ug/L						
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L						
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L						
127-18-4	Tetrachloroethene	nd	nd	1	ug/L						
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L						
124-48-1	Dibromochloromethane	nd	nd	1	ug/L						
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L						
108-90-7	Chlorobenzene	nd	nd	1	ug/L						
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L						
100-41-4	Ethylbenzene	nd	nd	1	ug/L						
100-42-5	Styrene	nd	nd	1	ug/L						
75-25-2	Bromoform	nd	nd	1	ug/L						
98-82-8	Isopropylbenzene	nd	nd	1	ug/L						
108-86-1	Bromobenzene	nd	nd	1	ug/L						
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L						
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L						
103-65-1	n-Propylbenzene	nd	nd	1	ug/L						

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #1		Water	MB0325		Sampled : 03/23/99		Analyzed : 03/25/99		L10617-4
CAS #									
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L				
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L				
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L				
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L				
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L				
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L				
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L				
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L				
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L				
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L				
104-51-8	n-Butylbenzene	nd	nd	1	ug/L				
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L				
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L				
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L				
91-20-3	Naphthalene	nd	nd	1	ug/L				
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L				
	Total Xylenes	nd	nd	1	ug/L				
		Surrogates				Recovery	Recovery		
						L10617-4	MB0325		
		1,2-Dichloroethane-d4				100%	101%		
		Toluene-d8				107%	110%		
		4-Bromofluorobenzene				103%	103%		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-11	Water	MB0325			Sampled : 03/24/99	Analyzed : 03/25/99	L10617-5
CAS #							
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		
79-01-6	Trichloroethene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID	Lab Number					
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-11	Water	MB0325				Sampled : 03/24/99	Analyzed : 03/25/99	L10617-5
CAS #								
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-11	Water	MB0325	Sampled : 03/24/99		Analyzed : 03/25/99		L10617-5
CAS #							
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
Surrogates					Recovery	Recovery	
					L10617-5	MB0325	
					102%	101%	
					106%	110%	
					101%	103%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholis Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-3	Water	MB0325			Sampled : 03/24/99	
					Analyzed : 03/25/99	L10617-6
CAS #						
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L	
74-87-3	Chloromethane	nd	nd	2	ug/L	
75-01-4	Vinyl chloride	nd	nd	2	ug/L	
74-83-9	Bromomethane	nd	nd	2	ug/L	
75-00-3	Chloroethane	nd	nd	2	ug/L	
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L	
67-64-1	Acetone	nd	nd	20	ug/L	
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L	
75-09-2	Methylene chloride	nd	nd	2	ug/L	
75-15-0	Carbon disulfide	nd	nd	1	ug/L	
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L	
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L	
78-93-3	2-Butanone	nd	nd	20	ug/L	
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L	
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L	
74-97-5	Bromochloromethane	nd	nd	1	ug/L	
67-66-3	Chloroform	nd	nd	1	ug/L	
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L	
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L	
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L	
71-43-2	Benzene	nd	nd	1	ug/L	
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L	
79-01-6	Trichloroethene	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-3	Water	MB0325	Sampled : 03/24/99 Analyzed : 03/25/99				L10617-6
CAS #							
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		

MW-3	Water	MB0325				Sampled : 03/24/99	
						Analyzed : 03/25/99	L10617-6
CAS #							
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
						Recovery	Recovery
Surrogates						L10617-6	MB0325
1,2-Dichloroethane-d4						102%	101%
Toluene-d8						106%	110%
4-Bromofluorobenzene						99%	103%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-15	Water	MB0325		Sampled : 03/24/99		Analyzed : 03/25/99	L10617-7
CAS #							
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		
79-01-6	Trichloroethene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-15	Water	MB0325				Sampled : 03/24/99	
						Analyzed : 03/25/99	L10617-7
CAS #							
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number	
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		
MW-15	Water	MB0325	Sampled : 03/24/99 Analyzed : 03/25/99				L10617-7
CAS #							
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane ...	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0957



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #2		Water		MB0325		Sampled : 03/24/99		Analyzed : 03/25/99		L10617-8	
CAS #											
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L						
74-87-3	Chloromethane	nd	nd	2	ug/L						
75-01-4	Vinyl chloride	nd	nd	2	ug/L						
74-83-9	Bromomethane	nd	nd	2	ug/L						
75-00-3	Chloroethane	nd	nd	2	ug/L						
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L						
67-64-1	Acetone	nd	nd	20	ug/L						
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L						
75-09-2	Methylene chloride	nd	nd	2	ug/L						
75-15-0	Carbon disulfide	nd	nd	1	ug/L						
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L						
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L						
78-93-3	2-Butanone	nd	nd	20	ug/L						
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L						
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L						
74-97-5	Bromochloromethane	nd	nd	1	ug/L						
67-66-3	Chloroform	nd	nd	1	ug/L						
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L						
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L						
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L						
71-43-2	Benzene	nd	nd	1	ug/L						
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L						
79-01-6	Trichloroethene	nd	nd	1	ug/L						

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #2		Water	MB0325		Sampled : 03/24/99		Analyzed : 03/25/99		L10617-8
CAS #									
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L				
74-95-3	Dibromomethane	nd	nd	1	ug/L				
75-27-4	Bromodichloromethane	nd	nd	1	ug/L				
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L				
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L				
108-88-3	Toluene	nd	nd	1	ug/L				
591-78-6	2-Hexanone	nd	nd	10	ug/L				
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L				
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L				
127-18-4	Tetrachloroethene	nd	nd	1	ug/L				
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L				
124-48-1	Dibromochloromethane	nd	nd	1	ug/L				
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L				
108-90-7	Chlorobenzene	nd	nd	1	ug/L				
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L				
100-41-4	Ethylbenzene	nd	nd	1	ug/L				
100-42-5	Styrene	nd	nd	1	ug/L				
75-25-2	Bromoform	nd	nd	1	ug/L				
98-82-8	Isopropylbenzene	nd	nd	1	ug/L				
108-86-1	Bromobenzene	nd	nd	1	ug/L				
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L				
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L				
103-65-1	n-Propylbenzene	nd	nd	1	ug/L				

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #2		Water	MB0325		Sampled : 03/24/99		Analyzed : 03/25/99		L10617-8
CAS #									
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L				
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L				
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L				
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L				
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L				
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L				
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L				
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L				
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L				
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L				
104-51-8	n-Butylbenzene	nd	nd	1	ug/L				
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L				
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L				
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L				
91-20-3	Naphthalene	nd	nd	1	ug/L				
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L				
	Total Xylenes	nd	nd	1	ug/L				
						Recovery	Recovery		
Surrogates						L10617-8	MB0325		
1,2-Dichloroethane-d4						101%	101%		
Toluene-d8						109%	110%		
4-Bromofluorobenzene						102%	103%		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-9	Water	MB0330				Sampled : 03/24/99	Analyzed : 03/30/99	L10617-9
CAS #								
75-71-8	Dicnlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chlbromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chlbromoethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-9	Water	MB0330				Sampled : 03/24/99	
CAS #						Analyzed : 03/30/99	L10617-9
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-9	Water	MB0330				Sampled : 03/24/99	Analyzed : 03/30/99	L10617-9
CAS #								
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane . . .	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
Surrogates						L10617-9	MB0330	
1,2-Dichloroethane-d4						94%	96%	
Toluene-d8						99%	100%	
4-Bromofluorobenzene						95%	98%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-18	Water	MB0330				Sampled : 03/24/99	Analyzed : 03/30/99	L10617-10
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-18	Water	MB0330				Sampled : 03/24/99	Analyzed : 03/30/99	L10617-10
CAS #								
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-18	Water	MB0330				Sampled : 03/24/99	
						Analyzed : 03/30/99	L10617-10
CAS #							
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane ...	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
						Recovery	Recovery
Surrogates						L10617-10	MB0330
1,2-Dichloroethane-d4						96%	96%
Toluene-d8						98%	100%
4-Bromofluorobenzene						95%	98%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-19	Water	MB0330				Sampled : 03/24/99	Analyzed : 03/30/99	L10617-11
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-19	Water	MB0330				Sampled : 03/24/99	
						Analyzed : 03/30/99	L10617-11
CAS #							
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-19	Water	MB0330				Sampled : 03/24/99	
CAS #						Analyzed : 03/30/99	L10617-11
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane . . .	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
						Recovery	Recovery
						L10617-11	MB0330
Surrogates							
1,2-Dichloroethane-d4						97%	96%
Toluene-d8						97%	100%
4-Bromofluorobenzene						94%	98%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #3		Water	MB0330		Sampled : 03/24/99		Analyzed : 03/30/99	L10617-12
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
24855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #3		Water		MB0330		Sampled : 03/24/99	Lab Number
						Analyzed : 03/30/99	L10617-12
CAS #							
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #3		Water	MB0330			Sampled : 03/24/99	
						Analyzed : 03/30/99	L10617-12
CAS #							
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
		Surrogates				Recovery	Recovery
						L10617-12	MB0330
		1,2-Dichloroethane-d4				94%	96%
		Toluene-d8				100%	100%
		4-Bromofluorobenzene				98%	98%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-8	Water	MB0330				Sampled : 03/25/99	Analyzed : 03/30/99	L10617-13
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chlcroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID							Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment		

MW-8	Water	MB0330				Sampled : 03/25/99	
CAS #						Analyzed : 03/30/99	L10617-13
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
24855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-8	Water	MB0330				Sampled : 03/25/99	Analyzed : 03/30/99	L10617-13
CAS #								
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
Surrogates						L10617-13	MB0330	
1,2-Dichloroethane-d4						99%	96%	
Toluene-d8						97%	100%	
4-Bromofluorobenzene						94%	98%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-14	Water	MB0330				Sampled : 03/25/99	Analyzed : 03/30/99	L10617-14
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-14	Water	MB0330				Sampled : 03/25/99	Analyzed : 03/30/99	L10617-14
CAS #								
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-14	Water	MB0330				Sampled : 03/25/99	Analyzed : 03/30/99	L10617-14
CAS #								
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane . . .	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
						L10617-14	MB0330	
Surrogates								
1,2-Dichloroethane-d4						97%	96%	
Toluene-d8						99%	100%	
4-Bromofluorobenzene						94%	98%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-17	Water	MB0330				Sampled : 03/25/99	Analized : 03/30/99	L10617-15
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-17	Water	MB0330				Sampled : 03/25/99	Analyzed : 03/30/99	L10617-15
CAS #								
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-17	Water	MB0330				Sampled : 03/25/99	Analyzed : 03/30/99	L10617-15
CAS #								
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
						L10617-15	MB0330	
Surrogates								
1,2-Dichloroethane-d4						97%	96%	
Toluene-d8						96%	100%	
4-Bromofluorobenzene						93%	98%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #4		Water	MB0330		Sampled : 03/25/99		Analyzed : 03/30/99	L10617-16
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #4		Water		MB0330		Sampled : 03/25/99		Analyzed : 03/30/99		L10617-16	
CAS #											
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L						
74-95-3	Dibromomethane	nd	nd	1	ug/L						
75-27-4	Bromodichloromethane	nd	nd	1	ug/L						
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L						
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L						
108-88-3	Toluene	nd	nd	1	ug/L						
591-78-6	2-Hexanone	nd	nd	10	ug/L						
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L						
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L						
127-18-4	Tetrachloroethene	nd	nd	1	ug/L						
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L						
124-48-1	Dibromochloromethane	nd	nd	1	ug/L						
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L						
108-90-7	Chlorobenzene	nd	nd	1	ug/L						
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L						
100-41-4	Ethylbenzene	nd	nd	1	ug/L						
100-42-5	Styrene	nd	nd	1	ug/L						
75-25-2	Bromoform	nd	nd	1	ug/L						
98-82-8	Isopropylbenzene	nd	nd	1	ug/L						
108-86-1	Bromobenzene	nd	nd	1	ug/L						
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L						
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L						
103-65-1	n-Propylbenzene	nd	nd	1	ug/L						

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #4		Water		MB0330		Sampled : 03/25/99		Analyzed : 03/30/99		L10617-16	
CAS #											
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L						
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L						
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L						
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L						
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L						
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L						
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L						
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L						
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L						
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L						
104-51-8	n-Butylbenzene	nd	nd	1	ug/L						
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L						
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L						
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L						
91-20-3	Naphthalene	nd	nd	1	ug/L						
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L						
	Total Xylenes	nd	nd	1	ug/L						
						Recovery		Recovery			
						L10617-16		MB0330			
1,2-Dichloroethane-d4						96%		96%			
Toluene-d8						98%		100%			
4-Bromofluorobenzene						96%		98%			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-12	Water	MB0330			Sampled : 03/26/99	Analyzed : 03/30/99	L10617-17
CAS #							
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	2	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-12	Water	MB0330				Sampled : 03/26/99	
CAS #						Analyzed : 03/30/99	L10617-17
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	3	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	1	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
						Recovery	Recovery
						L10617-17	MB0330
Surrogates							
1,2-Dichloroethane-d4						98%	96%
Toluene-d8						94%	100%
4-Bromofluorobenzene						92%	98%

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-12	Water	MB0330				Sampled : 03/26/99	
CAS #						Analyzed : 03/30/99	L10617-17
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	92	nd	1	ug/L	D	
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		
79-01-6	Trichloroethene	nd	nd	1	ug/L		

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-20	Water	MB0330				Sampled : 03/26/99	
CAS #						Analyzed : 03/30/99	L10617-18
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	84	nd	1	ug/L	D	
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	15	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	27	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		
79-01-6	Trichloroethene	nd	nd	1	ug/L		

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-20	Water	MB0330				Sampled : 03/26/99	Analyzed : 03/30/99	L10617-18
CAS #								
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oai • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-20	Water	MB0330				Sampled : 03/26/99 Analyzed : 03/30/99 L10617-18
CAS #						
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L	
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L	
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L	
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L	
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L	
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L	
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L	
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L	
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L	
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L	
104-51-8	n-Butylbenzene	nd	nd	1	ug/L	
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L	
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L	
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L	
91-20-3	Naphthalene	nd	nd	1	ug/L	
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L	
	Total Xylenes	nd	nd	1	ug/L	
Surrogates						Recovery L10617-18
1,2-Dichloroethane-d4						98%
Toluene-d8						96%
4-Bromofluorobenzene						93%
						Recovery MB0330
						96%
						100%
						98%

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #5		Water		MB0330		Sampled : 03/26/99		Analyzed : 03/30/99		L10617-19	
CAS #											
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L						
74-87-3	Chloromethane	nd	nd	2	ug/L						
75-01-4	Viny chloride	nd	nd	2	ug/L						
74-83-9	Bromomethane	nd	nd	2	ug/L						
75-00-3	Chloroethane	nd	nd	2	ug/L						
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L						
67-64-1	Acetone	nd	nd	20	ug/L						
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L						
75-09-2	Methylene chloride	nd	nd	2	ug/L						
75-15-0	Carbon disulfide	nd	nd	1	ug/L						
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L						
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L						
78-93-3	2-Butanone	nd	nd	20	ug/L						
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L						
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L						
74-97-5	Bromochloromethane	nd	nd	1	ug/L						
67-66-3	Chloroform	nd	nd	1	ug/L						
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L						
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L						
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L						
71-43-2	Benzene	nd	nd	1	ug/L						
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L						
79-01-6	Trichloroethene	nd	nd	1	ug/L						

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #5		Water	MB0330		Sampled : 03/26/99		Analized : 03/30/99	L10617-19
CAS #								
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #5		Water		MB0330		Sampled : 03/26/99		Analyzed : 03/30/99		L10617-19	
CAS #											
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L						
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L						
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L						
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L						
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L						
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L						
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L						
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L						
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L						
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L						
104-51-8	n-Butylbenzene	nd	nd	1	ug/L						
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L						
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L						
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L						
91-20-3	Naphthalene	nd	nd	1	ug/L						
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L						
	Total Xylenes	nd	nd	1	ug/L						
						Recovery		Recovery			
						L10617-19		MB0330			
Surrogates											
1,2-Dichloroethane-d4						96%		96%			
Toluene-d8						99%		100%			
4-Bromofluorobenzene						95%		98%			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-13		Water		MB0330		Sampled : 03/26/99		L10617-21
						Analyzed : 03/30/99		
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	44	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-13	Water	MB0330				Sampled : 03/26/99	Analyzed : 03/30/99	L10617-21
CAS #								
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-13	Water	MB0330				Sampled : 03/26/99	
						Analyzed : 03/30/99	L10617-21
CAS #							
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	6	nd	1	ug/L		
						Recovery	Recovery
Surrogates						L10617-21	MB0330
1,2-Dichloroethane-d4						99%	96%
Toluene-d8						91%	100%
4-Bromofluorobenzene						90%	98%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-21	Water	MB0330		Sampled : 03/26/99			Analyzed : 03/30/99	L10617-22
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	1,400	nd	1	ug/L	D		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-21	Water	MB0330			Sampled : 03/26/99	
CAS #					Analyzed : 03/30/99	L10617-22
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L	
74-95-3	Dibromomethane	nd	nd	1	ug/L	
75-27-4	Bromodichloromethane	nd	nd	1	ug/L	
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L	
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L	
108-88-3	Toluene	nd	nd	1	ug/L	
591-78-6	2-Hexanone	nd	nd	10	ug/L	
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L	
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L	
127-18-4	Tetrachloroethene	nd	nd	1	ug/L	
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L	
124-48-1	Dibromochloromethane	nd	nd	1	ug/L	
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L	
108-90-7	Chlorobenzene	nd	nd	1	ug/L	
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L	
100-41-4	Ethylbenzene	nd	nd	1	ug/L	
100-42-5	Styrene	nd	nd	1	ug/L	
75-25-2	Bromoform	nd	nd	1	ug/L	
98-82-8	Isopropylbenzene	4	nd	1	ug/L	
108-86-1	Bromobenzene	nd	nd	1	ug/L	
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L	
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L	
103-65-1	n-Propylbenzene	nd	nd	1	ug/L	

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-21	Water	MB0330				Sampled : 03/26/99	Analyzed : 03/30/99	L10617-22
CAS #								
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	5	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	3	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	28	nd	1	ug/L			
						Recovery	Recovery	
Surrogates						L10617-22	MB0330	
1,2-Dichloroethane-d4						101%	96%	
Toluene-d8						91%	100%	
4-Bromofluorobenzene						93%	98%	

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free: 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #6 Water		MB0330			Sampled : 03/26/99 Analyzed : 03/30/99		L10617-23
CAS #							
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		
79-01-6	Trichloroethene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #6 Water		MB0330		Sampled : 03/26/99		Analyzed : 03/30/99	L10617-23
CAS #							
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #6		Water	MB0330		Sampled : 03/26/99		Analyzed : 03/30/99		L10617-23
CAS #									
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L				
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L				
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L				
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L				
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L				
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L				
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L				
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L				
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L				
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L				
104-51-8	n-Butylbenzene	nd	nd	1	ug/L				
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L				
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L				
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L				
91-20-3	Naphthalene	nd	nd	1	ug/L				
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L				
	Total Xylenes	nd	nd	1	ug/L				
						Recovery	Recovery		
Surrogates						L10617-23	MB0330		
1,2-Dichloroethane-d4						97%	96%		
Toluene-d8						98%	100%		
4-Bromofluorobenzene						93%	98%		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-22	Water	MB0401				Sampled : 03/25/99	
CAS #						Analyzed : 04/01/99	L10617-24
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	4	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	1	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		
79-01-6	Trichloroethene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-22	Water	MB0401				Sampled : 03/25/99	
						Analyzed : 04/01/99	L10617-24
CAS #							
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-22	Water	MB0401				Sampled : 03/25/99	
						Analyzed : 04/01/99	L10617-24
CAS #							
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane ...	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
						Recovery	Recovery
Surrogates						L10617-24	MB0401
1,2-Dichloroethane-d4						100%	95%
Toluene-d8						102%	104%
4-Bromofluorobenzene						96%	95%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-7	Water	MB0330				Sampled : 03/25/99	Analyzed : 03/30/99	L10617-25
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-7	Water	MB0330				Sampled : 03/25/99	Analyzed : 03/30/99	L10617-25
CAS #								
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-7	Water	MB0330				Sampled : 03/25/99	
						Analyzed : 03/30/99	L10617-25
CAS #							
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
						Recovery	Recovery
Surrogates						L10617-25	MB0330
1,2-Dichloroethane-d4						97%	96%
Toluene-d8						95%	100%
4-Bromofluorobenzene						93%	98%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-26	Water	MB0330				Sampled : 03/25/99	Analyzed : 03/30/99	L10617-26
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free: 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-26	Water	MB0330				Sampled : 03/25/99	
CAS #						Analyzed : 03/30/99	L10617-26
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-26	Water	MB0330				Sampled : 03/25/99	Analyzed : 03/30/99	L10617-26
CAS #								
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Napnthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
						Recovery	Recovery	
Surrogates						L10617-26	MB0330	
1,2-Dichloroethane-d4						99%	96%	
Toluene-d8						95%	100%	
4-Bromofluorobenzene						93%	98%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax: 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0957



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #7		Water	MB0330		Sampled : 03/25/99		L10617-27
					Analyzed : 03/30/99		
CAS #							
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		
79-01-6	Trichloroethene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #7		Water	MB0330		Sampled : 03/25/99	
					Analyzed : 03/30/99	
					L10617-27	
CAS #						
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L	
74-95-3	Dibromomethane	nd	nd	1	ug/L	
75-27-4	Bromodichloromethane	nd	nd	1	ug/L	
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L	
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L	
108-88-3	Toluene	nd	nd	1	ug/L	
591-78-6	2-Hexanone	nd	nd	10	ug/L	
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L	
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L	
127-18-4	Tetrachloroethene	nd	nd	1	ug/L	
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L	
124-48-1	Dibromochloromethane	nd	nd	1	ug/L	
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L	
108-90-7	Chlorobenzene	nd	nd	1	ug/L	
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L	
100-41-4	Ethylbenzene	nd	nd	1	ug/L	
100-42-5	Styrene	nd	nd	1	ug/L	
75-25-2	Bromoform	nd	nd	1	ug/L	
98-82-8	Isopropylbenzene	nd	nd	1	ug/L	
108-86-1	Bromobenzene	nd	nd	1	ug/L	
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L	
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L	
103-65-1	n-Propylbenzene	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK #7 Water		MB0330				Sampled : 03/25/99	
						Analyzed : 03/30/99	L10617-27
CAS #							
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
						Recovery	Recovery
Surrogates						L10617-27	MB0330
1,2-Dichloroethane-d4						95%	96%
Toluene-d8						98%	100%
4-Bromofluorobenzene						94%	98%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Oregon Analytical Laboratory
14855 S.W. Scholls Ferry Road
Beaverton, Oregon 97007



Facsimile Transmission Cover Sheet

Date: Friday, April 23, 1999

Fax #: (713) 646-7867

To: George Robinson

Sandy Sharp

Company: Enron Gas Pipeline Group

From: Doug McKenzie

Phone: (503) 590-5300

Total Number of Pages (including cover sheet): 4

Project: Roswell Qtrly Sampling

Re: Results for twenty-seven water samples (L10617).

Thank you for choosing OAL for your testing needs!

Sandy - Here are the VOC Results for
MW28 - Let me know if you need the
hard copy mailed, and I'll have the
analyst reprint the report for you.

Thanks,

Doug McKenzie
Technician

The information contained in this facsimile transmission is confidential and is intended only for the use of the individual or entity to whom it is addressed. If the reader of this message is not the intended receiver, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this communication is strictly prohibited. If you have received this facsimile transmission in error, please immediately notify us by a collect telephone call to (503)590-5300, and return the original facsimile to us at the address above via the U.S. Postal Service.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll Free 1-800-644-0967

Printed on recycled paper

APR 23 '99 11:55

503 590 1404

PAGE.01



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-28	Water	MB0330				Sampled : 03/26/99	Lab Number
CAS #						Analyzed : 03/30/99	L10617-20
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	95	nd	1	ug/L	D	
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		
79-01-6	Trichloroethene	nd	nd	1	ug/L		

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Printed on recycled paper

APR 23 '99 11:56

503 590 1404

PAGE.02



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW-28	Water	MB0330	Sampled: 03/26/99			
CAS #			Analyzed: 03/30/99			
			L10617-20			
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L	
74-95-3	Dibromomethane	nd	nd	1	ug/L	
75-27-4	Bromodichloromethane	nd	nd	1	ug/L	
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L	
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L	
108-88-3	Toluene	nd	nd	1	ug/L	
591-78-6	2-Hexanone	nd	nd	10	ug/L	
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L	
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L	
127-18-4	Tetrachloroethene	nd	nd	1	ug/L	
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L	
124-48-1	Dibromochloromethane	nd	nd	1	ug/L	
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L	
108-90-7	Chlorobenzene	nd	nd	1	ug/L	
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L	
100-41-4	Ethylbenzene	nd	nd	1	ug/L	
100-42-5	Styrene	nd	nd	1	ug/L	
75-25-2	Bromoform	nd	nd	1	ug/L	
98-82-8	Isopropylbenzene	2	nd	1	ug/L	
108-86-1	Bromobenzene	nd	nd	1	ug/L	
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L	
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L	
103-65-1	n-Propylbenzene	nd	nd	1	ug/L	

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	
MW-28 Water MB0330						Sampled : 03/26/99 Analyzed : 03/30/99 L10617-20
CAS #						
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L	
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L	
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L	
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L	
95-63-6	1,2,4-Trimethylbenzene	2	nd	1	ug/L	
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L	
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L	
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L	
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L	
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L	
104-51-8	n-Butylbenzene	nd	nd	1	ug/L	
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L	
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L	
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L	
91-20-3	Naphthalene	1	nd	1	ug/L	
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L	
	Total Xylenes	nd	nd	1	ug/L	
Surrogates						Recovery L10617-20 MB0330
	1,2-Dichloroethane-d4					99% 96%
	Toluene-d8					93% 100%
	4-Bromofluorobenzene					93% 98%

none detected = nd
Results based on dilution = D

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Printed on recycled paper

APR 23 '99 11:57

503 590 1404

PAGE.04



L10617

Client: *Enron Gas Pipeline Group*
Contact: *George Robinson*

Project: *Roswell Qtrly Sampling*

Polynuclear Aromatic Hydrocarbons (PNA)
by EPA 8270 SIM

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						
MW-6	Water				Sampled: 03/23/99 Extracted: 03/26/99 Analyzed: 03/29/99 by PB	L10617-1
See Attached Data Sheet						
MW-5	Water				Sampled: 03/23/99 Extracted: 03/26/99 Analyzed: 03/29/99 by PB	L10617-2
See Attached Data Sheet						
MW-10	Water				Sampled: 03/23/99 Extracted: 03/26/99 Analyzed: 03/29/99 by PB	L10617-3
See Attached Data Sheet						
MW-11	Water				Sampled: 03/24/99 Extracted: 03/26/99 Analyzed: 03/29/99 by PB	L10617-5
See Attached Data Sheet						
MW-3	Water				Sampled: 03/24/99 Extracted: 03/26/99 Analyzed: 03/29/99 by PB	L10617-6
See Attached Data Sheet						
MW-15	Water				Sampled: 03/24/99 Extracted: 03/26/99 Analyzed: 03/29/99 by PB	L10617-7
See Attached Data Sheet						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Polynuclear Aromatic Hydrocarbons (PNA) by EPA 8270 SIM

Sample ID	Matrix	Result	Reporting Limit	Units	Comment	Lab Number
Analyte						

MW-9	Water				Sampled: 03/24/99 Extracted: 03/31/99 Analyzed: 04/02/99 by GC	L10617-9
See Attached Data Sheet _____						

MW-18	Water				Sampled: 03/24/99 Extracted: 03/31/99 Analyzed: 04/02/99 by GC	L10617-10
See Attached Data Sheet _____						

MW-19	Water				Sampled: 03/24/99 Extracted: 03/31/99 Analyzed: 04/02/99 by GC	L10617-11
See Attached Data Sheet _____						

MW-8	Water				Sampled: 03/25/99 Extracted: 03/30/99 Analyzed: 04/05/99 by PB	L10617-13
See Attached Data Sheet _____						

MW-14	Water				Sampled: 03/25/99 Extracted: 04/01/99 Analyzed: 04/02/99 by GC	L10617-14
See Attached Data Sheet _____						

MW-17	Water				Sampled: 03/25/99 Extracted: 04/01/99 Analyzed: 04/02/99 by GC	L10617-15
See Attached Data Sheet _____						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: *Enron Gas Pipeline Group*
Contact: *George Robinson*

Project: *Roswell Qtrly Sampling*

Polynuclear Aromatic Hydrocarbons (PNA)
by EPA 8270 SIM

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						

<i>MW-12</i>	<i>Water</i>				Sampled: 03/26/99 Extracted: 03/30/99 Analyzed: 04/05/99 by PB	<i>L10617-17</i>
See Attached Data Sheet						

<i>MW-20</i>	<i>Water</i>				Sampled: 03/26/99 Extracted: 03/30/99 Analyzed: 04/05/99 by PB	<i>L10617-18</i>
See Attached Data Sheet						

<i>MW-28</i>	<i>Water</i>				Sampled: 03/26/99 Extracted: 03/30/99 Analyzed: 04/05/99 by PB	<i>L10617-20</i>
See Attached Data Sheet						

<i>MW-13</i>	<i>Water</i>				Sampled: 03/26/99 Extracted: 03/30/99 Analyzed: 04/05/99 by PB	<i>L10617-21</i>
See Attached Data Sheet						

<i>MW-21</i>	<i>Water</i>				Sampled: 03/26/99 Extracted: 03/30/99 Analyzed: 04/05/99 by PB	<i>L10617-22</i>
See Attached Data Sheet						

<i>MW-22</i>	<i>Water</i>				Sampled: 03/25/99 Extracted: 03/30/99 Analyzed: 04/05/99 by PB	<i>L10617-24</i>
See Attached Data Sheet						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Polynuclear Aromatic Hydrocarbons (PNA)
by EPA 8270 SIM

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						

<i>MW-7</i>	<i>Water</i>				Sampled: 03/25/99 Extracted: 04/01/99 Analyzed: 04/02/99 by GC	<i>L10617-25</i>
See Attached Data Sheet _____						

<i>MW-26</i>	<i>Water</i>				Sampled: 03/25/99 Extracted: 04/01/99 Analyzed: 04/02/99 by GC	<i>L10617-26</i>
See Attached Data Sheet _____						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID		Lab Number				
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-6		WATER		MB0326M		
CAS#				Sampled: 03/23/99		
				Analyzed: 03/29/99		L10617-1
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:				Recovery	Recovery	
				L10617-1	MB0326M	
1,2-Dichlorobenzene-d4				91%	98%	
Nitrobenzene-d5				76%	78%	
2-Fluorobiphenyl				92%	94%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number	
Analyte		Results	Blank Result	Reporting Limit	Units	COMMENT	
						Sampled: 03/23/99	
						Analyzed: 03/29/99	
MW-5	WATER	MB0326M			L10617-2		
CAS#							
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
						Recovery	Recovery
Base / Neutral Surrogates:						L10617-2	MB0326M
1,2-Dichlorobenzene-d4						100%	98%
Nitrobenzene-d5						86%	78%
2-Fluorobiphenyl						100%	94%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
	Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-10	WATER		MB0326M			Sampled: 03/23/99 Analyzed: 03/29/99	L10617-3
	CAS#						
	91-20-3	Naphtalene	nd	nd	0.1	ug/L	
	91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
	90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
	208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
	83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
	86-73-7	Fluorene	nd	nd	0.1	ug/L	
	85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
	120-12-7	Anthracene	nd	nd	0.1	ug/L	
	206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
	129-00-0	Pyrene	nd	nd	0.1	ug/L	
	56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
	218-01-9	Chrysene	nd	nd	0.1	ug/L	
	205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
	207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
	50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
	193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
	53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
	191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
							</

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
						Sampled: 03/24/99	
MW-11	WATER	MB0326M			Analyzed: 03/29/99	L10617-5	
CAS#							
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
						Recovery	Recovery
Base / Neutral Surrogates:						L10617-5	MB0326M
1,2-Dichlorobenzene-d4						99%	98%
Nitrobenzene-d5						82%	78%
2-Fluorobiphenyl						101%	94%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-3	WATER	MB0326M				Sampled: 03/24/99 Analyzed: 03/29/99 L10617-6
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:						Recovery
						L10617-6
						MB0326M
						92%
						98%
						75%
						78%
						96%
						94%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID				Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT
			Sampled: 03/24/99		
MW-15	WATER	MB0326M	Analyzed: 03/29/99		L10617-7
CAS#					
91-20-3	Naphthalene	nd	nd	0.1	ug/L
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L
83-32-9	Acenaphthene	nd	nd	0.1	ug/L
86-73-7	Fluorene	nd	nd	0.1	ug/L
85-01-8	Phenanthrene	nd	nd	0.1	ug/L
120-12-7	Anthracene	nd	nd	0.1	ug/L
206-44-0	Fluoranthene	nd	nd	0.1	ug/L
129-00-0	Pyrene	nd	nd	0.1	ug/L
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L
218-01-9	Chrysene	nd	nd	0.1	ug/L
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L
Base / Neutral Surrogates:				Recovery	Recovery
				L10617-7	MB0326M
1,2-Dichlorobenzene-d4				94%	98%
Nitrobenzene-d5				77%	78%
2-Fluorobiphenyl				97%	94%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID					Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
					Sampled: 03/24/99	
MW-9	WATER	MB0331G			Analyzed: 04/02/99	
L10617-9						
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
					Recovery	
					L10617-9	
					MB0331G	
Base / Neutral Surrogates:						
1,2-Dichlorobenzene-d4					107%	
Nitrobenzene-d5					116%	
2-Fluorobiphenyl					106%	
					99%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free: 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
MW-18	WATER	MB0331G	Sampled: 03/24/99		Analyzed: 04/02/99		
CAS#					L10617-10		
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
Base / Neutral Surrogates:					Recovery	Recovery	
1,2-Dichlorobenzene-d4					L10617-10	MB0331G	
					94%	102%	
Nitrobenzene-d5					103%	105%	
2-Fluorobiphenyl					93%	99%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID		Lab Number				
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-19		WATER		MB0331G		
CAS#				Sampled: 03/24/99		
				Analyzed: 04/02/99		L10617-11
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:				Recovery	Recovery	
1,2-Dichlorobenzene-d4				L10617-11	MB0331G	
Nitrobenzene-d5				102%	102%	
2-Fluorobiphenyl				111%	105%	
				100%	99%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
MW-8	WATER	MB0330M	Sampled: 03/25/99				
			Analyzed: 04/05/99			L10617-13	
CAS#							
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
					Sampled: 03/25/99	
MW-14	WATER	MB0401M			Analyzed: 04/02/99	
L10617-14						
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
					Recovery	
Base / Neutral Surrogates:					L10617-14	
					MB0401M	
1,2-Dichlorobenzene-d4					95%	
Nitrobenzene-d5					101%	
2-Fluorobiphenyl					97%	
					101%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number		
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT			
MW-17	WATER	MB0401M	Sampled: 03/25/99 Analyzed: 04/02/99					L10617-15
CAS#								
91-20-3	Naphthalene	nd	nd	0.1	ug/L			
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L			
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L			
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L			
83-32-9	Acenaphthene	nd	nd	0.1	ug/L			
86-73-7	Fluorene	nd	nd	0.1	ug/L			
85-01-8	Phenanthrene	nd	nd	0.1	ug/L			
120-12-7	Anthracene	nd	nd	0.1	ug/L			
206-44-0	Fluoranthene	nd	nd	0.1	ug/L			
129-00-0	Pyrene	nd	nd	0.1	ug/L			
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L			
218-01-9	Chrysene	nd	nd	0.1	ug/L			
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L			
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L			
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L			
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L			
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L			
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L			
Base / Neutral Surrogates:						Recovery	Recovery	
						L10617-15	MB0401M	
1,2-Dichlorobenzene-d4						99%	101%	
Nitrobenzene-d5						103%	107%	
2-Fluorobiphenyl						98%	101%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
24855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID		Lab Number				
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-12	WATER	MB0330M	Sampled: 03/26/99 Analyzed: 04/05/99		L10617-17	
CAS#						
91-20-3	Naphthalene	0.9	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	0.7	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	0.6	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:					Recovery	
					L10617-17	
					MB0330M	
1,2-Dichlorobenzene-d4					96% 94%	
Nitrobenzene-d5					77% 77%	
2-Fluorobiphenyl					87% 84%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID					Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-20	WATER	MB0330M	Sampled: 03/26/99 Analyzed: 04/05/99 L10617-18			
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:					Recovery	Recovery
					L10617-18	MB0330M
1,2-Dichlorobenzene-d4					96%	94%
Nitrobenzene-d5					79%	77%
2-Fluorobiphenyl					88%	84%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-28 WATER MB0330M						Sampled: 03/26/99 Analyzed: 04/05/99 L10617-20
CAS#						
91-20-3	Naphthalene	0.9	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	0.7	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	0.6	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:						Recovery L10617-20
1,2-Dichlorobenzene-d4						99%
Nitrobenzene-d5						82%
2-Fluorobiphenyl						91%
						Recovery MB0330M
						94%
						77%
						84%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-13	WATER	MB0330M		Sampled: 03/26/99 Analyzed: 04/05/99		
L10617-21						
CAS#						
91-20-3	Naphthalene	0.6	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	0.1	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	0.1	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:				Recovery	Recovery	
				L10617-21	MB0330M	
1,2-Dichlorobenzene-d4				95%	94%	
Nitrobenzene-d5				86%	77%	
2-Fluorobiphenyl				86%	84%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
	Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
						Sampled: 03/26/99	
MW-21	WATER		MB0330M			Analyzed: 04/05/99	L10617-22
	CAS#						
	91-20-3	Naphthalene	3.3	nd	0.1	ug/L	
	91-57-6	2-Methylnaphthalene	2.2	nd	0.1	ug/L	
	90-12-0	1-Methylnaphthalene	1.6	nd	0.1	ug/L	
	208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
	83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
	86-73-7	Fluorene	nd	nd	0.1	ug/L	
	85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
	120-12-7	Anthracene	nd	nd	0.1	ug/L	
	206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
	129-00-0	Pyrene	nd	nd	0.1	ug/L	
	56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
	218-01-9	Chrysene	nd	nd	0.1	ug/L	
	205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
	207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
	50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
	193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
	53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
	191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
						</	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number	
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
MW-22	WATER	MB0330M	Sampled: 03/25/99 Analyzed: 04/05/99				L10617-24
CAS#							
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
Base / Neutral Surrogates:						Recovery	Recovery
						L10617-24	MB0330M
1,2-Dichlorobenzene-d4						99%	94%
Nitrobenzene-d5						82%	77%
2-Fluorobiphenyl						87%	84%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID		Lab Number				
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW-7		WATER		MB0401M		
CAS#				Sampled: 03/25/99		
				Analyzed: 04/02/99		L10617-25
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenzo[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:				Recovery	Recovery	
				L10617-25	MB0401M	
1,2-Dichlorobenzene-d4				93%	101%	
Nitrobenzene-d5				101%	107%	
2-Fluorobiphenyl				94%	101%	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
						Sampled: 03/25/99
MW-26	WATER	MB0401M			Analyzed: 04/02/99	L10617-26
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
						Recovery
Base / Neutral Surrogates:						L10617-26
1,2-Dichlorobenzene-d4						76%
Nitrobenzene-d5						82%
2-Fluorobiphenyl						79%
						Recovery
						MB0401M
1,2-Dichlorobenzene-d4						101%
Nitrobenzene-d5						107%
2-Fluorobiphenyl						101%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Volatiles LCS
Water (ug/L)
by EPA Method 8260

					Lab ID
Analyte	Results	Amount Spiked	Recovery		
CAS #	(ug/L)	(ug/L)	(%)	Analyzed : 04/01/99	LCS0401B
75-35-4	1,1-Dichloroethene	18.0	20.0	90	
71-43-2	Benzene	19.8	20.0	99	
79-01-6	Trichloroethene	20.1	20.0	100	
108-88-3	Toluene	19.3	20.0	96	
108-90-7	Chlorobenzene	20.2	20.0	101	
		Recovery			
Surrogates		(%)			
1,2-Dichloroethane-d4		95			
Toluene-d8		94			
4-Bromofluorobenzene		92			

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles LCS

Water (ug/L)
by EPA Method 8260

					Lab ID
Analyte	Results	Amount Spiked	Recovery		
	(ug/L)	(ug/L)	(%)	Analyzed : 03/30/99	LCS0330
CAS #					
75-35-4	1,1-Dichloroethene	18.6	20.0	93	
71-43-2	Benzene	20.3	20.0	101	
79-01-6	Trichloroethene	20.2	20.0	101	
108-88-3	Toluene	19.3	20.0	97	
108-90-7	Chlorobenzene	20.1	20.0	100	
		Recovery			
	Surrogates	(%)			
	1,2-Dichloroethane-d4	95			
	Toluene-d8	92			
	4-Bromofluorobenzene	92			

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles MS/MSD

Water (ug/L)
by EPA Method 8260

Sample ID	Lab Number			
Analyte	MS Result	MSD Result	Spike Added	Sample Result

MW-9	Water	(ug/L)	(ug/L)	(ug/L)	(ug/L)	Analyzed : 03/30/99	L10617-9
CAS #							
75-35-4	1,1-Dichloroethene	20	20	20	<1		
71-43-2	Benzene	21	21	20	<1		
79-01-6	Trichloroethene	20	20	20	<1		
108-88-3	Toluene	19	20	20	<1		
108-90-7	Chlorobenzene	20	20	20	<1		

		MS Recovery (%)	MSD Recovery (%)	RPD (%)
75-35-4	1,1-Dichloroethene	101	101	<1
71-43-2	Benzene	103	103	<1
79-01-6	Trichloroethene	100	100	<1
108-88-3	Toluene	94	98	3
108-90-7	Chlorobenzene	99	101	2

	MS Recovery (%)	MSD Recovery (%)
Surrogates		
1,2-Dichloroethane-d4	97	96
Toluene-d8	92	94
4-Bromofluorobenzene	92	94

none detected = nd

Sample results <1 are used in the calculation for the MS/MSD % recoveries.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: Roswell Qtrly Sampling

Volatiles LCS
Water (ug/L)
by EPA Method 8260

					Lab ID
Analyte	Results	Amount Spiked	Recovery		
<u>CAS #</u>		(ug/L)	(ug/L)	(%)	Analyzed : 03/25/99 LCS0325
75-35-4	1,1-Dichloroethene	17.6	20.0	88	
71-43-2	Benzene	20.9	20.0	105	
79-01-6	Trichloroethene	20.7	20.0	104	
108-88-3	Toluene	21.2	20.0	106	
108-90-7	Chlorobenzene	21.6	20.0	108	
		Recovery			
<u>Surrogates</u>		(%)			
1,2-Dichloroethane-d4		101			
Toluene-d8		101			
4-Bromofluorobenzene		99			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles MS/MSD

Water (ug/L)
by EPA Method 8260

Sample ID	Analyte	MS Result	MSD Result	Spike Added	Sample Result	Lab Number
-----------	---------	--------------	---------------	----------------	------------------	------------

MW-5		(ug/L)	(ug/L)	(ug/L)	(ug/L)	Analyzed : 03/18/99	L10485-5
CAS #							
75-35-4	1,1-Dichloroethene	21	20	20	<1		
71-43-2	Benzene	22	21	20	<1		
79-01-6	Trichloroethene	20	20	20	<1		
108-88-3	Toluene	21	21	20	<1		
108-90-7	Chlorobenzene	21	21	20	<1		

		MS Recovery (%)	MSD Recovery (%)	RPD (%)
75-35-4	1,1-Dichloroethene	103	100	2
71-43-2	Benzene	108	106	1
79-01-6	Trichloroethene	101	100	<1
108-88-3	Toluene	105	104	1
108-90-7	Chlorobenzene	106	106	<1

Surrogates	MS Recovery (%)	MSD Recovery (%)
1,2-Dichloroethane-d4	105	104
Toluene-d8	101	101
4-Bromofluorobenzene	95	95

none detected = nd

Sample results <1 are used in the calculation for the MS/MSD % recoveries.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Method Blank
Metals / Total by Volume (mg/L)

Analyte	Result	Reporting Limit	Q	Date Analyzed
Arsenic	ND	0.0020		04/02/99
Barium	ND	0.0010		04/05/99
Cadmium	ND	0.0020		04/05/99
Calcium	ND	0.050		04/05/99
Chromium	ND	0.0050		04/05/99
Copper	ND	0.0020		04/05/99
Iron	ND	0.010		04/05/99
Lead	ND	0.025		04/05/99
Magnesium	ND	0.050		04/05/99
Manganese	ND	0.0010		04/05/99
Mercury	ND	0.00020		04/01/99
Potassium	ND	0.40		04/05/99
Selenium	ND	0.0020		04/01/99
Silver	ND	0.0030		04/05/99
Sodium	ND	0.050		04/05/99
Zinc	ND	0.010		04/05/99
Comments: Batch QC for samples L10617-9,-10,-11,-13,-14,-15,-17,-18,-20,-21,-22,-24,-25,-26.				

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling****Batch Q.C.****LCSW****Metals / Total by Volume (mg/L)**

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
Arsenic	0.0400	0.0428	107	80-120	04/02/99
Barium	2.00	1.98	99	80-120	04/05/99
Cadmium	0.0500	0.0439	88	80-120	04/05/99
Calcium	1.00	0.974	97	80-120	04/05/99
Chromium	0.200	0.199	100	80-120	04/05/99
Copper	0.250	0.247	99	80-120	04/05/99
Iron	1.00	0.977	98	80-120	04/05/99
Lead	0.500	0.488	98	80-120	04/05/99
Magnesium	1.00	0.977	98	80-120	04/05/99
Manganese	0.500	0.486	97	80-120	04/05/99
Mercury	0.00200	0.00203	102	80-120	04/01/99
Potassium	10.0	9.96	100	80-120	04/05/99
Selenium	0.010	0.0087	87	80-120	04/01/99
Silver	0.0500	0.0473	95	80-120	04/05/99
Sodium	1.00	0.989	99	80-120	04/05/99
Zinc	0.500	0.475	95	80-120	04/05/99

Comments: LCSW = Laboratory Control Sample: Water
Batch QC for samples L10617-9,-10,-11,-13,-14,-15,-17,-18,-20,-21,-22,-24,-25,-26.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Duplicate
Metals / Total by Volume (mg/L)

Analyte	Result	Duplicate Result	Reporting Limit	RPD	RPD Limit	Q	Date Analyzed
Arsenic	ND	ND	0.0040	NA	20		04/02/99
Barium	0.0122	0.0123	0.0010	<1	20		04/05/99
Cadmium	ND	ND	0.0020	NA	20		04/05/99
Calcium	540	582	0.25	7	20		04/05/99
Chromium	ND	ND	0.0050	NA	20		04/05/99
Copper	ND	ND	0.0020	NA	20		04/05/99
Iron	0.036	0.022	0.010	48	20	‡	04/05/99
Lead	ND	ND	0.025	NA	20		04/05/99
Magnesium	169	166	0.25	2	20		04/05/99
Manganese	ND	ND	0.0010	NA	20		04/05/99
Mercury	ND	ND	0.00020	NA	20		04/01/99
Potassium	3.7	3.4	0.40	8	20		04/05/99
Selenium	ND	ND	0.010	NA	20		04/01/99
Silver	ND	ND	0.0030	NA	20		04/05/99
Sodium	268	255	0.25	5	20		04/05/99
Zinc	ND	ND	0.010	NA	20		04/05/99
Comments: ‡ QC limits do not apply when the sample or duplicate result is less than 5 times the reporting limit Batch QC for samples L10617-9,-10,-11,-13,-14,-15,-17,-18,-20,-21,-22,-24,-25,-26.							

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Spike****Metals / Total by Volume (mg/L)**

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
Arsenic	0.0406	ND	0.0400	102	75-125		04/02/99
Barium	1.80	0.0122	2.00	89	75-125		04/05/99
Cadmium	0.0406	ND	0.0500	81	75-125		04/05/99
Calcium	581	540	NA	NA	75-125		04/05/99
Chromium	0.175	ND	0.200	88	75-125		04/05/99
Copper	0.226	ND	0.250	90	75-125		04/05/99
Iron	0.891	0.036	1.00	86	75-125		04/05/99
Lead	0.431	ND	0.500	86	75-125		04/05/99
Magnesium	165	169	NA	NA	75-125		04/05/99
Manganese	0.429	ND	0.500	86	75-125		04/05/99
Mercury	0.0020	ND	0.00200	100	75-125		04/01/99
Potassium	3.4	3.7	NA	NA	75-125		04/05/99
Selenium	0.0078	ND	0.010	78	75-125		04/01/99
Silver	0.0431	ND	0.0500	86	75-125		04/05/99
Sodium	253	268	NA	NA	75-125		04/05/99
Zinc	0.418	ND	0.500	84	75-125		04/05/99

Comments: Batch QC for samples L10617-9,-10,-11,-13,-14,-15,-17,-18,-20,-21,-22,-24,-25,-26.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Method Blank
Metals / Total by Volume (mg/L)

Analyte	Result	Reporting Limit	Q	Date Analyzed
---------	--------	-----------------	---	---------------

Arsenic	ND	0.0020		03/31/99
Barium	ND	0.0010		03/29/99
Cadmium	ND	0.0020		03/29/99
Calcium	ND	0.050		03/29/99
Chromium	ND	0.0050		03/29/99
Copper	ND	0.0020		03/29/99
Iron	ND	0.010		03/29/99
Lead	ND	0.025		03/29/99
Magnesium	ND	0.050		03/29/99
Manganese	ND	0.0010		03/29/99
Mercury	ND	0.00020		03/29/99
Potassium	ND	0.40		03/29/99
Selenium	ND	0.0020		03/31/99
Silver	ND	0.0030		03/29/99
Sodium	ND	0.050		03/29/99
Zinc	ND	0.010		03/29/99

Comments: Batch QC for samples L10617-1 thru -4 and -5 thru -7

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
LCSW
Metals / Total by Volume (mg/L)

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
Arsenic	0.0400	0.0417	104	80-120	03/31/99
Barium	2.00	1.94	97	80-120	03/29/99
Cadmium	0.0500	0.0449	90	80-120	03/29/99
Calcium	1.00	0.949	95	80-120	03/29/99
Chromium	0.200	0.197	99	80-120	03/29/99
Copper	0.250	0.244	98	80-120	03/29/99
Iron	1.00	0.968	97	80-120	03/29/99
Lead	0.500	0.483	97	80-120	03/29/99
Magnesium	1.00	0.975	98	80-120	03/29/99
Manganese	0.500	0.481	96	80-120	03/29/99
Mercury	0.00200	0.0019	95	80-120	03/29/99
Potassium	10.0	10.1	101	80-120	03/29/99
Selenium	0.010	0.010	100	80-120	03/31/99
Silver	0.0500	0.0485	97	80-120	03/29/99
Sodium	1.00	0.965	97	80-120	03/29/99
Zinc	0.500	0.475	95	80-120	03/29/99

Comments: LCSW = Laboratory Control Sample: Water
Batch QC for samples L10617-1 thru -4 and -5 thru -7

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Duplicate****Metals / Total by Volume (mg/L)**

Analyte	Result	Duplicate Result	Reporting Limit	RPD	RPD Limit	Q	Date Analyzed
---------	--------	---------------------	--------------------	-----	--------------	---	------------------

Arsenic	0.0031	0.0030	0.0020	3	20		03/31/99
Barium	0.0841	0.0850	0.0010	1	20		03/29/99
Cadmium	ND	ND	0.0020	NA	20		03/29/99
Calcium	26.7	26.9	0.050	<1	20		03/29/99
Chromium	ND	ND	0.0050	NA	20		03/29/99
Copper	0.0027	0.0024	0.0020	12	20		03/29/99
Iron	0.036	0.046	0.010	24	20	‡	03/29/99
Lead	ND	ND	0.025	NA	20		03/29/99
Magnesium	19.4	19.6	0.050	1	20		03/29/99
Manganese	0.0031	0.0032	0.0010	3	20		03/29/99
Mercury	ND	ND	0.00020	NA	20		03/29/99
Potassium	5.37	5.31	0.40	1	20		03/29/99
Selenium	ND	ND	0.10	NA	20		03/31/99
Silver	ND	ND	0.0030	NA	20		03/29/99
Sodium	35.6	36	0.050	1	20		03/29/99
Zinc	ND	ND	0.010	NA	20		03/29/99

Comments: ‡ QC limits do not apply when the sample or duplicate result is less than 5 times the reporting limit
Batch QC for samples L10617-1 thru -4 and -5 thru -7

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Spike****Metals / Total by Volume (mg/L)**

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
Arsenic	0.0473	0.0031	0.0400	111	75-125		03/31/99
Barium	2.02	0.0841	2.00	97	75-125		03/29/99
Cadmium	0.0437	ND	0.0500	87	75-125		03/29/99
Calcium	26.8	26.7	NA	NA	75-125		03/29/99
Chromium	0.194	ND	0.200	97	75-125		03/29/99
Copper	0.245	0.0027	0.250	97	75-125		03/29/99
Iron	0.996	0.036	1.00	96	75-125		03/29/99
Lead	0.481	ND	0.500	96	75-125		03/29/99
Magnesium	19.5	19.4	NA	NA	75-125		03/29/99
Manganese	0.478	0.0031	0.500	95	75-125		03/29/99
Mercury	0.0019	ND	0.00200	95	75-125		03/29/99
Potassium	5.40	5.37	NA	NA	75-125		03/29/99
Selenium	0.011	ND	0.010	110	75-125		03/31/99
Silver	0.0465	ND	0.0500	93	75-125		03/29/99
Sodium	36.0	35.6	NA	NA	75-125		03/29/99
Zinc	0.466	ND	0.500	93	75-125		03/29/99

Comments: Batch QC for samples L10617-1 thru -4 and -5 thru -7

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Blank
Inorganics - Waters (mg/L)

Analyte	Result	Reporting		Date
		Limit	Q	Analyzed

Alkalinity, Total as CaCO ₃	3	1	*	04/01/99
Chloride	ND	0.1		03/25/99
Nitrate + Nitrite as N	ND	0.01		03/29/99
Solids, Total Dissolved (TDS)	NA	10		03/29/99
Sulfate as SO ₄	ND	0.5		03/25/99

Comments: Alkalinity batch QC for L10617-1 through -3, -5 through -7, -18, -20 through -22, and -24 through -26.
* All sample results greater than 10 times the blank result. No flag required.
Chloride and sulfate batch QC for L10617-1 through -3 and -5 through -7.
Nitrate + Nitrite batch QC for L10617-1 through -3, -5 through -7, -9 through -11, and -13 through -15.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Blank
Inorganics - Waters (mg/L)

Analyte	Result	Reporting		Date
		Limit	Q	Analyzed
Alkalinity, Total as CaCO3	3	1	*	03/31/99
Chloride	ND	0.1		03/30/99
Nitrate + Nitrite as N	ND	0.01		04/02/99
Sulfate as SO4	ND	0.5		03/30/99
Comments:	Alkalinity batch QC for L10617-9 through -11, -13 through -15, and -17.			
	* All sample results greater than 10 times the blank result. No flag required.			
	Chloride and sulfate batch QC for L10617-9 through -11, -13 through -15, -17, -18, -20 through -22, and -24 through -26.			
	Nitrate + Nitrite batch QC for L10617-17, -18, -20 through -22, and -24 through -26.			

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.

LCSW

Inorganics - Waters (mg/L)

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
Alkalinity, Total as CaCO ₃	100	105	105	90-110	04/01/99
Chloride	10.00	9.68	97	90-110	03/25/99
Nitrate + Nitrite as N	0.50	0.46	92	75-125	03/29/99
Solids, Total Dissolved (TDS)	NA	NA	NA		03/29/99
Sulfate as SO ₄	30.0	30.0	100	90-110	03/25/99
Comments: Alkalinity batch QC for L10617-1 through -3, -5 through -7, -18, -20 through -22, and -24 through -26. Chloride and sulfate batch QC for L10617-1 through -3 and -5 through -7. Nitrate + Nitrite batch QC for L10617-1 through -3, -5 through -7, -9 through -11, and -13 through -15.					

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: *Enron Gas Pipeline Group*
Contact: *George Robinson*

Project: *Roswell Qtrly Sampling*

Batch Q.C.
LCSW
Inorganics - Waters (mg/L)

Analyte	True Value	Result	%	%	Date
			Recovery	Limit	Analyzed
Alkalinity, Total as CaCO ₃	100	105	105	90-110	03/31/99
Chloride	10.00	9.58	96	90-110	03/30/99
Nitrate + Nitrite as N	0.50	0.50	100	75-125	04/02/99
Sulfate as SO ₄	30.0	29.2	97	90-110	03/30/99

Comments: Alkalinity batch QC for L10617-9 through -11, -13 through -15, and -17.
Chloride and sulfate batch QC for L10617-9 through -11, -13 through -15, -17, -18, -20 through -22, and -24 through -26.
Nitrate + Nitrite batch QC for L10617-17, -18, -20 through -22, and -24 through -26.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Duplicate
Inorganics - Waters (mg/L)

Analyte	Result	Duplicate Result	Reporting Limit	RPD	RPD Limit	Q	Date Analyzed
Alkalinity, Total as CaCO ₃	108	108	1	<1	2.5		04/01/99
Chloride	300	290	5	3	20		03/25/99
Nitrate + Nitrite as N	1.0	1.0	0.01	<1	20		03/29/99
Solids, Total Dissolved (TDS)	1600	1600	10	<1	20		03/29/99
Sulfate as SO ₄	1600	1500	25	6	20		03/25/99
 Comments: Alkalinity batch QC for L10617-1 through -3, -5 through -7, -18, and -20. Chloride and sulfate batch QC for L10617-1 through -3 and -5 through -7. Nitrate + Nitrite batch QC for L10617-1 through -3 and -5 through -7. TDS batch QC for L10617-1 through -3, -5 through -7, -9 through -11, -13 through -15, -17, -18, and -20 through -22.							

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: *Enron Gas Pipeline Group*
Contact: *George Robinson*

Project: *Roswell Qtrly Sampling*

Batch Q.C.
Duplicate
Inorganics - Waters (mg/L)

Analyte	Duplicate		Reporting	RPD		Date	
	Result	Result	Limit	RPD	Limit	Q	Analyzed

Alkalinity, Total as CaCO ₃	144	145	1	<1	2.5		03/31/99
Chloride	450	450	5	<1	20		03/30/99
Nitrate + Nitrite as N	0.37	0.41	0.01	10	20		04/02/99
Solids, Total Dissolved (TDS)	3380	3430	10	1	20		03/31/99
Sulfate as SO ₄	2100	2100	25	<1	20		03/30/99

Comments: Alkalinity batch QC for L10617-9 through -11, -13 through -15, and -17.
Chloride and sulfate batch QC for L10617-9 through -11, -13 through -15, -17.
Nitrate + Nitrite batch QC for L10617-17, -18, -20 through -22, and -24 through -26.
TDS batch QC for L10617-24 through -26.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Duplicate
Inorganics - Waters (mg/L)

Analyte	Result	Duplicate	Reporting	RPD	RPD	Q	Date Analyzed
		Result	Limit		Limit		

Alkalinity, Total as CaCO ₃	193	194	1	<1	2.5		04/01/99
Chloride	290	290	5	<1	20		03/30/99
Nitrate + Nitrite as N	0.79	0.82	0.01	4	20		03/29/99
Sulfate as SO ₄	2000	2000	25	<1	20		03/30/99
Comments: Alkalinity batch QC for L10617-21, -22, and -24 through -26. Chloride and sulfate batch QC for L10617-18, -20 through -22, and -24 through -26. Nitrate + Nitrite batch QC for L10617-9 through -11 and -13 through -15.							

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Spike
Inorganics - Waters (mg/L)

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
---------	-----------------	------------------	----------------	---------------	------------	---	------------------

Alkalinity, Total as CaCO ₃	160	108	50	104	90-110		04/01/99
Chloride	65	9	60	93	75-125		03/25/99
Nitrate + Nitrite as N	1.5	1.0	0.50	100	75-125		03/29/99
Solids, Total Dissolved (TDS)	NA	NA	NA	NA			03/29/99
Sulfate as SO ₄	300	120	180	100	75-125		03/25/99

Comments: Alkalinity batch QC for L10617-1 through -3, -5 through -7, -18, and -20.
Chloride and sulfate batch QC for L10617-1 through -3 and -5 through -7.
Nitrate + Nitrite batch QC for L10617-1 through -3, -5 through -7, -9 through -11, and -13 through -15.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Spike****Inorganics - Waters (mg/L)**

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
---------	-----------------	------------------	----------------	---------------	------------	---	------------------

Alkalinity, Total as CaCO3	196	144	50	104	90-110		03/31/99
Chloride	750	450	300	100	75-125		03/30/99
Nitrate + Nitrite as N	0.91	0.37	0.50	108	75-125		04/02/99
Sulfate as SO4	3000	2100	900	100	75-125		03/30/99

Comments: Alkalinity batch QC for L10617-9 through -11, -13 through -15, and -17.
Chloride and sulfate batch QC for L10617-9 through -11, -13 through -15, -17, -18, -20 through -22, and -24 through -26.
Nitrate + Nitrite batch QC for L10617-17, -18, -20 through -22, and -24 through -26.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: *Enron Gas Pipeline Group*
Contact: *George Robinson*

Project: *Roswell Qtrly Sampling***Batch Q.C.****Spike****Inorganics - Waters (mg/L)**

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
---------	-----------------	------------------	----------------	---------------	------------	---	------------------

Alkalinity, Total as CaCO ₃	235	193	50	84	90-110	K1	04/01/99
--	-----	-----	----	----	--------	----	----------

Comments: Alkalinity batch QC for L10617-21, -22, and -24 through -26.
K1 = Batch matrix spike recovery outside laboratory QC limits due to suspected matrix interference.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10617

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

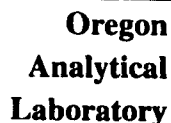
**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID					Lab Number
Analyte	Recovery (%)	Recovery (%)	RSD (%)	COMMENT	
		LCS0326M	LCSD0326M	Sampled: NA Analyzed: 03/29/99	
CAS#					LCS0326M
91-20-3	Naphthalene	94	96	2	
91-57-6	2-Methylnaphthalene	93	95	3	
90-12-0	1-Methylnaphthalene	93	96	3	
208-96-8	Acenaphthylene	89	91	2	
83-32-9	Acenaphthene	92	95	4	
86-73-7	Fluorene	110	99	10	
85-01-8	Phenanthrene	99	99	<1	
120-12-7	Anthracene	89	91	2	
206-44-0	Fluoranthene	102	102	<1	
129-00-0	Pyrene	92	94	2	
56-55-3	Benzo[a]anthracene	100	100	<1	
218-01-9	Chrysene	98	99	<1	
205-99-2	Benzo[b]fluoranthene	87	87	<1	
207-08-9	Benzo[k]fluoranthene	87	85	2	
50-32-8	Benzo[a]pyrene	87	86	<1	
193-39-5	Indeno[1,2,3-cd]pyrene	102	103	1	
53-70-3	Dibenz[a,h]anthracene	101	101	<1	
191-24-2	Benzo[g,h,i]perylene	104	104	<1	
Base / Neutral Surrogates:				Recovery	Recovery
				LCS0326M	LCSD0326M
1,2-Dichlorobenzene-d4				93%	95%
Nitrobenzene-d5				83%	81%
2-Fluorobiphenyl				95%	96%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



**14855 SW Scholls Ferry Rd
Beaverton OR 97007
(503) 590-5300
FAX (503) 590-1404
1-800-844-0967**

CHAIN OF CUSTODY RECORD LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp Page 1 of 1
OAL Hours _____ Site Visit ☐
ISCO _____
www.oalab.com/oal

Client Information	Billing Information	Project Information	Sampler's Name <u>SANDY SHARP</u> Signature <u>[Signature]</u> Quote # <u>SEE DENISE</u> NOTE: If quote number is not referenced, standard pricing will be applied. Provide Fax Results ☒ Yes ☐ No
Company <u>CYPRESS ENGINEERING</u>	Company <u>TRANSWESTERN PIPELINE</u>	Project Name <u>TRANSWESTERN PIPELINE</u>	
Contact <u>SANDY SHARP</u>	Contact <u>JO GEORGE ROBINSON</u>	Project # <u>ROS WELL</u>	
Address <u>10235 WEST LITTLE LARKS E 256</u>	Address <u>SAME</u>	P.O. # _____	
<u>HOUSTON TX 77040</u>		Comments _____	
Phone # <u>713 646-7252</u> Fax # <u>(713) 646-7867</u>	Phone # <u>713 646-7327</u> Fax # <u>(713) 646-7867</u>		

Remarks 8260 INCLOSURE:
1/2 DICHLOROETHENE (CIS- & TRANS-) AND
DICHLOROBENZENE (O-, M- & P-)
8270 PAH'S INCLOSURE
MONOMETHYLNAPHTHALENE ISOMERS (1- & 2-)

[illegible]

Relinquished	
Signature <i>Sandy Sharp</i>	Date 3/24/99
Print Name SANDY SHARP	Time 1700HRS
Company CYPRESS ENGINEERING	
Received	
Signature <i>Paula Nauker-Lidell</i>	Date 3/25/99
Print Name PAULA NAUKER-LIDELL	Time 1340
Company OAR	

Relinquished	
Signature	Date
Print Name	Time
Company	

Received	
Signature	Date
Print Name	Time
Company	

Relinquished	
Signature	Date
Print Name	Time
Company	

Received	
Signature	Date
Print Name	Time
Company	

☐ Courier ☐ UPS ☒ FedEx ☐ Other
 Received @ °C
 Appropriate Containers ☒ Yes ☐ No
 4oz./8oz. Jars
12 VOA Vials
12 Plastic Bottles
3 Glass Bottles
 Other

CHAIN OF CUSTODY RECORD LABORATORY ANALYSIS REQUEST

Client Information Company <u>CYPRESS ENGINEERING</u> Contact <u>SANDY SHARP</u> Address <u>10735 WEST LITTLE YORK, STE 250</u> <u>HOUSTON TX 77040</u> Phone # <u>713/446-7232</u> Fax # <u>713/446-7167</u>	Billing Information Company <u>TRANSWESTERN PIPELINE</u> Contact <u>JO GEORGE ROBINSON</u> Address <u>SAME</u> Phone # <u>713/446-7327</u> Fax # <u>713/446-7867</u>	Project Information Project Name <u>TWP</u> Project # <u>ROBUELL</u> P.O. # _____ Comments _____	Sampler's Name <u>SANDY SHARP</u> Signature <u>Sandy Sharp</u> Quote # <u>SEE DENISE</u> NOTE: If quote number is not referenced, standard pricing will be applied. Provide Fax Results ☒ Yes ☐ No
---	---	---	--

Remarks VOC'S 8260 INCLUDE 1,2 DICHLOROETHENE (CIS- & TRANS-) AND DICHLOROBENZENE (O-, M-, & P-) PAH'S 8270 INCLUDE MONOMETHYLNAPHTHALENE ISOMERS (1- & 2-)				# of Containers	<table border="1" style="width:100%"> <tr> <th colspan="3">Matrix</th> <th colspan="12">Analyses</th> </tr> <tr> <th>Soil</th> <th>Water</th> <th>Other (Note in Remarks)</th> <th>Volatiles 625 (6260) / 8240 8010 / 8020</th> <th>Semivolatiles 625 (8270) PAH(SIM) PAH 8310</th> <th>Organochlorine 608 / 8080 / 8081 PCB Pesticide</th> <th>NW TPH-HCD</th> <th>Quantity? ☐ Yes ☐ No</th> <th>NW TPH Quantification G X DVOIL</th> <th>BTEX 602 / 8021 ☐ MTBE</th> <th>Metals Total ☐ TCLP ☐ Dissolved As ☐ Cd ☐ Cr ☐ Pb ☐ Se ☐ So ☐ Zn</th> <th>By Fe, Mn, Zn, Cu, K, Mg, Ni, V As, GEOPHYTE FURNACE TOX</th> <th>SE 11 7740</th> <th>TOS, CHLORINE, SULFIDE & TOTAL ALKALINITY</th> <th>353.2 NITRATE & NITRATE AS NITROGEN</th> <th>Turnaround</th> <th>Remarks</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>															Matrix			Analyses												Soil	Water	Other (Note in Remarks)	Volatiles 625 (6260) / 8240 8010 / 8020	Semivolatiles 625 (8270) PAH(SIM) PAH 8310	Organochlorine 608 / 8080 / 8081 PCB Pesticide	NW TPH-HCD	Quantity? ☐ Yes ☐ No	NW TPH Quantification G X DVOIL	BTEX 602 / 8021 ☐ MTBE	Metals Total ☐ TCLP ☐ Dissolved As ☐ Cd ☐ Cr ☐ Pb ☐ Se ☐ So ☐ Zn	By Fe, Mn, Zn, Cu, K, Mg, Ni, V As, GEOPHYTE FURNACE TOX	SE 11 7740	TOS, CHLORINE, SULFIDE & TOTAL ALKALINITY	353.2 NITRATE & NITRATE AS NITROGEN	Turnaround	Remarks																	
Matrix			Analyses																																																																	
Soil	Water	Other (Note in Remarks)	Volatiles 625 (6260) / 8240 8010 / 8020	Semivolatiles 625 (8270) PAH(SIM) PAH 8310	Organochlorine 608 / 8080 / 8081 PCB Pesticide	NW TPH-HCD	Quantity? ☐ Yes ☐ No	NW TPH Quantification G X DVOIL	BTEX 602 / 8021 ☐ MTBE	Metals Total ☐ TCLP ☐ Dissolved As ☐ Cd ☐ Cr ☐ Pb ☐ Se ☐ So ☐ Zn	By Fe, Mn, Zn, Cu, K, Mg, Ni, V As, GEOPHYTE FURNACE TOX	SE 11 7740	TOS, CHLORINE, SULFIDE & TOTAL ALKALINITY	353.2 NITRATE & NITRATE AS NITROGEN	Turnaround	Remarks																																																				
Sample Identification	Date	Time	FOR LAB USE ONLY OAL Login #																																																																	
1 MW-11	3/24/99	1224	U0617-5	8	X		3/4	1/4					1/P		2/P	1/P	N	SEE REMARKS ABOVE																																																		
2 MW-3	3/24/99	1310	-6	8	X		3/4	1/4					1/P		2/P	1/P	N	"																																																		
3 MW-15	3/24/99	1440	-7	8	X		3/4	1/4					1/P		2/P	1/P	N	"																																																		
4 TRIP BLANK #2			-8	3	X		3/4																																																													
5																																																																				
6																																																																				
7																																																																				
8																																																																				
9																																																																				

Relinquished	
Signature <u>Sandy Sharp</u>	Date <u>3/24/99</u>
Print Name <u>SANDY SHARP</u>	Time <u>1900</u>
Company <u>CYPRESS ENGINEERING</u>	
Received	
Signature <u>PAULA WALKER-LINDSEY</u>	Date <u>3/25/99</u>
Print Name <u>PAULA WALKER-LINDSEY</u>	Time <u>1355</u>
Company <u>OAL</u>	

Relinquished	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	
Received	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	

Relinquished	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	
Received	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	

☐ Courier ☐ UPS ☒ FedEx ☐ Other
 Received @ 0 °C
 Appropriate Containers ☒ Yes ☐ No
12 4oz./8oz. Jars
12 VOA Vials
3 Plastic Bottles
3 Glass Bottles
 Other _____



Oregon
Analytical
Laboratory

14855 SW Scholls Ferry Rd
Beaverton OR 97007
(503) 590-5300
FAX (503) 590-1404
1-800-844-0967

CHAIN OF CUSTODY RECORD LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp Page 1 of 1
OAL Hours _____ Site Visit ☐
ISCO _____
www.oalab.com/oal

Client Information

Company CYPRESS ENGINEERING
Contact SANDY SHARP
Address 10235 WEST LITTLE LANE, STE 250
HOUSTON TX 77040
Phone 713/46-7252 Fax 713/46-7867

Billing Information

Company TRANSWESTERN PIPELINE
Contact JO GEORGE ROBINSEN
Address SPINE
Phone 713/46-7252 Fax 713/46-7867

Project Information

Project Name TWP
Project # ROSWELL
P.O. # _____
Comments _____

Sampler's Name SANDY SHARP
Signature [Signature]

Quote # SEE DENISE

NOTE: If quote number is not referenced,
standard pricing will be applied.

Provide Fax Results ☒ Yes ☐ No

Remarks

VOC'S 8260 INCLUDE
1/2 DICHLOROETHANE (CIS- & TRANS) AND
1/2 CHLOROBENZENE (O-, M- & P)
DATA'S 8200 INCLUDE
MONOMETHYLNAPHTHALENE ISOMERS (1- & 2-)

Matrix

Analyses

Sample Identification				FOR LAB USE ONLY		# of Containers	Matrix			Analyses														Turnaround	Remarks
	Date	Time	OAL Login #				Soil	Water	Other (Note in Remarks)	Volatiles 8251/8260/8240/8010/8020	Semi-volatiles 8251/8260/8010/8020	Organochlorine 808/8080/8081	PCB Pesticide	NW TPH-HCD	Quantity? ☐ Yes ☐ No	NW TPH Quantification	G X DXOIL	BTEX 802/8021 ☐ MTBE	Naphthalene	Metals	As ☐ Pb ☐ Cu ☐ Fe ☐ Ni ☐ Zn ☐ Cd ☐ Cr ☐ Mn ☐ Se ☐ Co ☐ V ☐ Mo ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Ag ☐ Au ☐ Pt ☐ Tl ☐ Hg ☐ As ☐ Pb ☐ Cu ☐ Fe ☐ Ni ☐ Zn ☐ Cd ☐ Cr ☐ Mn ☐ Se ☐ Co ☐ V ☐ Mo ☐ W ☐ Bi ☐ Sb ☐ Sn ☐ Ag ☐ Au ☐ Pt ☐ Tl ☐ Hg	TDS, CHLORIDE, SULFATE & TOTAL ALKALINITY	353.2 NITRATE & NITROGEN AS NITROGEN		
1	MW-9	3/26/99	10617-1	8	X			X		3/9	1/9									1P		3P	1P		SEE REMARKS
2	MW-18	3/26/99	1-10-2	8	X			X		3/9	1/9									1P		2P	1P		11
3	MW-19	3/26/99	1-11-3	8	X			X		3/9	1/9									1P		2P	1P		11
4	TRIP BLANK		1-12-4	3	X			X		3/9															
5																									
6																									
7																									
8																									
9																									

Relinquished

Signature [Signature] Date _____
Print Name SANDY SHARP Time _____
Company CYPRESS ENGINEERING

Received

Signature [Signature] Date 3/26
Print Name AMY M. BURKS Time 12:50
Company OAL

Relinquished

Signature _____ Date _____
Print Name _____ Time _____
Company _____

Received

Signature _____ Date _____
Print Name _____ Time _____
Company _____

Relinquished

Signature _____ Date _____
Print Name _____ Time _____
Company _____

Received

Signature _____ Date _____
Print Name _____ Time _____
Company _____

☐ Courier ☒ UPS ☒ FedEx ☐ Other

Received @ 5 °C

Appropriate Containers ☒ Yes ☐ No

4oz./8oz. Jars

12 VOA Vials

16 Plastic Bottles

3 Glass Bottles

Other _____

Seals on T. Blanks

Client Information Company <u>CYPRESS ENGINEERING</u> Contact <u>SANDY SHARP</u> Address <u>10235 WEST LITTLE YORK, STE 250</u> <u>HOUSTON, TX 77040</u> Phone # <u>(713) 416-285</u> Fax # <u>(713) 416-7807</u> <u>7052</u>		Billing Information Company <u>TRANSWESTERN PIPELINE</u> Contact <u>JO GEORGE FARNSEN</u> Address <u>SAVE</u> Phone # <u>(713) 416-7827</u> Fax # <u>(713) 416-7867</u>		Project Information Project Name <u>TWP</u> Project # <u>ROSWELL</u> P.O. # _____ Comments _____		Sampler's Name <u>SANDY SHARP</u> Signature <u>Sandy Sharp</u> Quote # <u>SEE DENISE</u> NOTE: If quote number is not referenced, standard pricing will be applied. Provide Fax Results ☒ Yes ☐ No	
--	--	--	--	---	--	--	--

[illegible]

Rellingulshad			
Signature	<i>[Signature]</i>	Date	3/25/99
Print Name	SPRAY SHARP	Time	1700
Company	CYPRUS ENGINEERING		
Received			
Signature	<i>[Signature]</i>	Date	3/26/99
Print Name	ARMY M BURNS	Time	12:30
Company	OAL		

Relinquished	
Signature	Date
Print Name	Time
Company	

Received	
Signature	Date
Print Name	Time
Company	

Relinquished	
Signature	Date
Print Name	Time
Company	

Received	
Signature	Date
Print Name	Time
Company	

☐ Courier ☐ UPS ☒ FedEx ☐ Other
 Received @ -7 °C
 Appropriate Containers ☒ Yes ☐ No
12 4oz./8oz. Jars
16 VOA Vials
100 Plastic Bottles
3 Glass Bottles
 Other _____
 Seals on T. Blanks intact



Oregon
Analytical
Laboratory

14855 SW Scholls Ferry Rd
Beaverton OR 97007
(503) 590-5300
FAX (503) 590-1404
1-800-844-0967

CHAIN OF CUSTODY RECORD LABORATORY ANALYSIS REQUEST

Sampling: ☐ Grab ☐ Comp Page 1 of 1
OAL Hours Site Visit ☐
ISCO
www.oalab.com/oal

Client Information

Company CYPRESS ENGINEERING
Contact SANDY SHARP
Address 10235 WEST LITTLE YORK ST 250
HOUSTON, TX 77040
Phone 713/644-7252 Fax 713/644-7867

Billing Information

Company TRANSWESTERN PIPELINE
Contact % GEORGE ROBINSON
Address SAME
Phone 713/467-7307 Fax 713/467-7867

Project Information

Project Name TWP
Project # POSWELL
P.O. #
Comments

Sampler's Name SANDY SHARP

Signature [Signature]

Quote # SEE BACKSIDE

NOTE: If quote number is not referenced,
standard pricing will be applied.

Provide Fax Results ☒ Yes ☐ No

Remarks

VOC'S 8260 ENVELOPE
1/2 DICHLOETHANES (IS- & TRANS-) &
DICHLOROBENZENE (o, m-, & p-)
PAH'S 8270 ENVELOPE
MONOMETHYLNAPHTHALENE ISOMERS (1- & 2-)

Matrix

Analyses

Sample Identification				FOR LAB USE ONLY		# of Containers	Soil	Water	Other	Volatiles 3010 / 8 3010 / 8 3010 / 8	Semivolatiles 8210 / 8 8210 / 8 8210 / 8	Organics PCB P PCB P PCB P	NW TPH Quantify Quantify	NW TPH GX GX	BTEX 6 BTEX 6 BTEX 6	Metals As Cd Pb As Cd Pb As Cd Pb	TDs TDs TDs	323 323 323	Turnaround Turnaround Turnaround	Remarks	
	Date	Time	OAL Login #																		
1	MW-12	3/6/99 1305	L10617-17	8		X				3/6	1/6						VP	9P	1P	N	SEE REMARKS ABOVE
2	MW-20	3/6/99 1415	1-18	8		X				3/6	1/6						VP	9P	1P	N	
3	TRIP BLANK		-19	38		X				3/6											
4																					
5																					
6																					
7																					
8																					
9																					

Relinquished

Signature Sandy Sharp Date 3/6/99
Print Name SANDY SHARP Time 1:00
Company CYPRESS

Received

Signature Paul Clark Date 3.27.99
Print Name PAUL CLARK Time 0950
Company OAL

Relinquished

Signature Date
Print Name Time
Company

Received

Signature Date
Print Name Time
Company

Relinquished

Signature Date
Print Name Time
Company

Received

Signature Date
Print Name Time
Company

☐ Courier ☐ UPS ☒ FedEx ☐ Other

Received -2- °C

Appropriate Containers ☒ Yes ☐ No

4oz./8oz. Jars

VOA Vials

Plastic Bottles

Glass Bottles

Other

CHAIN OF CUSTODY RECORD LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp Page 1 of 1
OAL Hours _____ Site Visit ☐
ISCO _____
www.oalab.com/oal

Client Information		Billing Information		Project Information		Sampler's Name <u>SANDY SHARP</u>	
Company <u>CYPRESS ENGINEERING</u>		Company <u>TRANSWESTERN PIPELINE</u>		Project Name <u>TWP</u>		Signature <u>[Signature]</u>	
Contact <u>SANDY SHARP</u>		Contact <u>C/O GEDDGE ROBINSON</u>		Project # <u>RESUELL</u>		Quote # <u>SEE DENISE</u>	
Address <u>10355 WEST LITTLE YORK, STE 250</u>		Address <u>SAME</u>		P.O. # _____		NOTE: If quote number is not referenced, standard pricing will be applied.	
<u>HOUSTON, TX 77040</u>				Comments _____		Provide Fax Results ☒ Yes ☐ No	
Phone # <u>713/646-7252</u> Fax # <u>713/646-7867</u>		Phone # <u>713/646-7327</u> Fax # <u>713/646-7867</u>					

Remarks				Matrix			Analyses										Turnaround		Remarks
VOC'S 8260 INCLUDE 1,2 DICHLOROETHENE (CIS-&TRANS-) AND DICHLOROBENZENE (O-,M-,&P-) PAH'S 8270 INCLUDE MONOMETHYLNAPHTHALENE ISOMERS (1-&2-)				# of Containers	Soil	Water	Other (Note in Remarks)	Volatiles 625 (8060/8240 8010 / 8020	Semivolatiles 625 / 8270 (PAHISIM) PAH 8310	Organochlorine 608 / 8080 / 8081 PCB Pesticide	NW TPH-HCID Quantity? ☐ Yes ☐ No	NW TPH Quantification GX DXOIL	BTEX 602 / 8021 ☐ MTBE ☐ Naphthalene	Metals 7470 / 6010 Total ☐ TCLP ☐ Dissolved As Pb Cu Zn Cd Ni Mn Other Cyf, Mn, Zn, Pb, Cu, Ni, Mg As GRAPHITE FOAMING TAP Se U N TPO	CDS, CHLORINE, SULFATE TOTAL ALKALINITY	CEC, 2.2 NITRATE & NITROGEN AS NITROGEN	Turnaround		
Sample Identification	Date	Time	FOR LAB USE ONLY OAL Login #																
1 MW-28	3/26/99	0930	L10617-20	8	X			3/4	1/4					1/P		2/P	1/P	N SEE REMARKS ABOVE	
2 MW-13	3/26/99	0945	-21	8	X			3/4	1/4					1/P		2/P	1/P	N	
3 MW-21	3/26/99	1120	-22	8	X			3/4	1/4					1/P		2/P	1/P	N	
4 TRIP BLANK			-23	3	X			3/4											
5																			
6																			
7																			
8																			
9																			

Relinquished Signature <u>[Signature]</u> Date <u>3/26/99</u> Print Name <u>SANDY SHARP</u> Time <u>1700</u> Company <u>CYPRESS ENGINEERING</u>		Relinquished Signature _____ Date _____ Print Name _____ Time _____ Company _____		Relinquished Signature _____ Date _____ Print Name _____ Time _____ Company _____		☐ Courier ☐ UPS ☒ FedEx ☐ Other Received @ <u>-22</u> °C Appropriate Containers ☒ Yes ☐ No <u>40Z/50Z</u> Jars <u>12</u> VOA Vials <u>12</u> Plastic Bottles <u>3</u> Glass Bottles Other _____
Received Signature <u>[Signature]</u> Date <u>3/27/99</u> Print Name <u>PAUL CLARK</u> Time <u>0950</u> Company <u>OAL</u>		Received Signature _____ Date _____ Print Name _____ Time _____ Company _____		Received Signature _____ Date _____ Print Name _____ Time _____ Company _____		



**Oregon
Analytical
Laboratory**

14855 SW Scholls Ferry Rd
Beaverton OR 97007
(503) 590-5300
FAX (503) 590-1404
1-800-844-0967

CHAIN OF CUSTODY RECORD LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp Page 1 of 1
OAL Hours _____ Site Visit ☐
ISCO _____
www.oalab.com/oal

Client Information		Billing Information		Project Information		Sampler's Name <u>SANDY SHARP</u>	
Company <u>CYPRESS ENGINEERING</u>		Company <u>TRANSWESTERN PIPELINE</u>		Project Name <u>TWP</u>		Signature <u>Sandy Sharp</u>	
Contact <u>SANDY SHARP</u>		Contact <u>% GEORGE ROBINSON</u>		Project # <u>ROSWELL</u>		Quote # <u>SEE DENISE</u>	
Address <u>10235 WEST LITTLE YORK STREET</u>		Address <u>SAVE</u>		P.O. # _____		NOTE: If quote number is not referenced, standard pricing will be applied.	
<u>HOUSTON TX 77040</u>				Comments _____		Provide Fax Results ☒ Yes ☐ No	
Phone # <u>713/416-7822</u> Fax # <u>713/416-7867</u>		Phone # <u>713/416-7327</u> Fax # <u>713/416-7867</u>					

Remarks <u>VOC'S 8260 INCLUDE:</u> <u>1,2 DICHLOROETHENE (CIS- & TRANS-) AND</u> <u>DICHLOROBENZENE (O-, M-, & P-)</u> <u>PAH'S 8270 INCLUDE:</u> <u>MONOMETHYLNAPHTHALENE ISOMERS (1- & 2)</u>				Analyses															Turnaround		Remarks	
Sample Identification	Date	Time	FOR LAB USE ONLY OAL Login #	# of Containers	Matrix	Soil	Water	Other (Note in Remarks)	Volatiles 8251, 8260, 8240 8010 / 8020	Semivolatiles 8251, 8270 PAH(S) 8310	Organochlorine 808 / 8080 / 8081 PCB Pesticide	NW TPH-HCD Quantity? ☐ Yes ☐ No	NW TPH Quantification GX DXOIL	BTEX 602 / 8021 ☐ MTBE ☐ Naphthalene	Metals 3440 / 4010 As Total ☐ ICP ☐ Dissolved As ☐ Other ☐ Se ☐	Cy Es, My, Z, B, G, K, Hg, Ni, Pb As ☐ 8270 include 8080 Se ☐ 11 7740	713, 8260, 8270, 8280 12 & TOTAL ALKYLITY 11	C8S, 3, 7, 11, 12, 15, 16, 17, 18 11	Turnaround	Remarks		
1 MW-22	3/26/99	1500	L10617-24	8		X			3/6	1/6					1/6		3/6	1/6	N	SEE OTHER REMARKS		
2 MW-7	3/26/99	1645	-25	8	X				3/6	1/6					1/6		3/6	1/6	N	L1		
3 MW-26	3/26/99	1520	-26	8	X				3/6	1/6					1/6		3/6	1/6	N	L1		
4 TRF BUNK			-27	3	X				3/6													
5																						
6																						
7																						
8																						
9																						

Relinquished	
Signature <u>Sandy Sharp</u>	Date <u>3/26/99</u>
Print Name <u>Sandy Sharp</u>	Time <u>1700</u>
Company <u>CYPRESS ENG.</u>	
Received	
Signature <u>Paul Clark</u>	Date <u>3/27/99</u>
Print Name <u>PAUL CLARK</u>	Time <u>0950</u>
Company <u>OAL</u>	

Relinquished	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	
Received	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	

Relinquished	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	
Received	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	

☐ Courier	☐ UPS	☒ FedEx	☐ Other
Received @ <u>-4</u> °C			
Appropriate Containers ☒ Yes ☐ No			
4oz./8oz. Jars			
<u>12</u> VOA Vials			
<u>12</u> Plastic Bottles			
<u>3</u> Glass Bottles			
Other _____			



L10732

April 16, 1999

George Robinson
Enron Gas Pipeline Group
333 Clay St., Room 3142
P.O. Box 1188
Houston, TX 77002

Phone: (713) 646-7327

FAX: (713) 646-7867

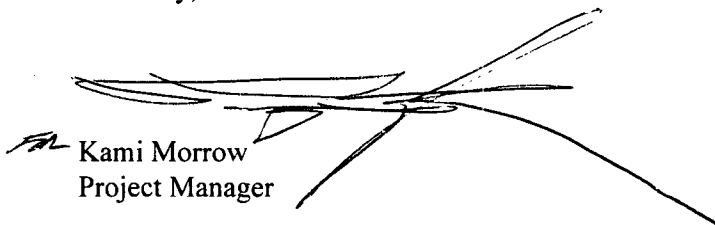
Re: Laboratory Sample Analysis
Project: Roswell Qtrly Sampling
Project Manager: George Robinson

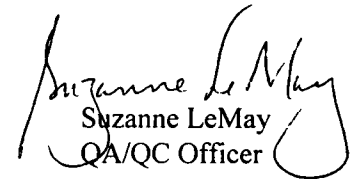
Dear George Robinson:

On April 2 through 7, 1999, OAL received four (4) water samples for analysis. The samples were analyzed utilizing EPA, ASTM, or equivalent methodology.

Should you have any questions concerning the results in this report, please contact us at (503) 590-5300. Refer to OAL login number L10732.

Sincerely,


Kami Morrow
Project Manager


Suzanne LeMay
QA/QC Officer

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Sample Summary

<u>Sample ID</u>	<u>Lab #</u>	<u>Description</u>	<u>Sampled</u>	<u>Received</u>
MW 25D	L10732-1	water	03/30/99 16:45	04/02/99
MW 24D	L10732-2	water	03/30/99 17:45	04/02/99
MW 23D	L10732-3	water	04/05/99 17:15	04/07/99
TRIP BLANK	L10732-4	water	04/05/99	04/07/99

Definition of Terms

- D** Reported value is based on a dilution.
D1 Reported value is based on a dilution due to matrix interference.
ND Analytical result was below the reporting limit.

Analysts

<u>Initials</u>	<u>Analyst</u>	<u>Title</u>
CAC	Cindy Covey	Technician
CV	Cheryl Vezzani	Chemist
DM	Dan Miller	Organics Chemist
GCK	Bill Kernion	Chemist
JD	Jason Davendonis	Technician
KDK	Kirk Keyes	Chemist
NM	Nick Miller	Technician
PB	Pat Buddrus	Organics Chemist
SHS	Sophia Hussein-Swoboda	Technician

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Method Summary

<u>Analysis</u>	<u>Method</u>
Alkalinity, Total as CaCO ₃	EPA 310.1 / SM 2320B
Arsenic	EPA 200.9
Barium	EPA 200.7/6010
Cadmium	EPA 200.7/6010
Calcium	EPA 200.7/6010
Chloride	EPA 300.0
Chromium	EPA 200.7/6010
Copper	EPA 200.7/6010
Iron	EPA 200.7/6010
Lead	EPA 200.7/6010
Magnesium	EPA 200.7/6010
Manganese	EPA 200.7/6010
Mercury	EPA 245.1/7470A
Nitrate + Nitrite as N	EPA 353.2
Polynuclear Aromatic Hydrocarbons (PNA)	EPA 8270 SIM
Potassium	EPA 200.7/6010
Selenium	EPA 200.9
Silver	EPA 200.7/6010
Sodium	EPA 200.7/6010
Solids, Total Dissolved (TDS)	EPA 160.1 / SM 2540C
Sulfate as SO ₄	EPA 300.0
Volatile Organic Compounds (VOC)	EPA 8260
Zinc	EPA 200.7/6010

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Inorganics

Sample ID	Matrix	Lab Number					
Analyte	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Comment	Analyst

MW 25D	Water	Sampled: 03/30/99				L10732-1	
Alkalinity, Total as CaCO ₃	121.	1.	mg/L	04/05/99	EPA 310.1 / SM 2320B	CAC	
Chloride	310	5.0	mg/L	04/02/99	EPA 300.0	D	KDK
Nitrate + Nitrite as N	ND	0.01	mg/L	04/14/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,510	10.	mg/L	04/02/99	EPA 160.1 / SM 2540C	CAC	
Sulfate as SO ₄	2,000	25.	mg/L	04/02/99	EPA 300.0	D	KDK

MW 24D	Water	Sampled: 03/30/99				L10732-2	
Alkalinity, Total as CaCO ₃	155.	1.	mg/L	04/05/99	EPA 310.1 / SM 2320B	CAC	
Chloride	330	5.0	mg/L	04/02/99	EPA 300.0	D	KDK
Nitrate + Nitrite as N	ND	0.01	mg/L	04/14/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,360	10.	mg/L	04/02/99	EPA 160.1 / SM 2540C	CAC	
Sulfate as SO ₄	1,800	25.	mg/L	04/02/99	EPA 300.0	D	KDK

MW 23D	Water	Sampled: 04/05/99				L10732-3	
Alkalinity, Total as CaCO ₃	128.	1.	mg/L	04/15/99	EPA 310.1 / SM 2320B	KDK	
Chloride	300	5.0	mg/L	04/07/99	EPA 300.0	D	CAC
Nitrate + Nitrite as N	0.04	0.01	mg/L	04/14/99	EPA 353.2		NM
Solids, Total Dissolved (TDS)	3,700	10.	mg/L	04/08/99	EPA 160.1 / SM 2540C	CAC	
Sulfate as SO ₄	2,000	25.	mg/L	04/07/99	EPA 300.0	D	CAC

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW 25D		Water		Sampled: 03/30/99 Mercury Digestion: 04/05/99 Hot Plate Digestion EPA 200.2/3005A: 04/06/99						L10732-1
Arsenic		ND	0.0020	mg/L	04/06/99	EPA 200.9				CV
Barium		0.0131	0.0010	mg/L	04/06/99	EPA 200.7/6010				GCK
Cadmium		ND	0.0020	mg/L	04/06/99	EPA 200.7/6010				GCK
Calcium		589.	0.25	mg/L	04/06/99	EPA 200.7/6010		D1		GCK
Chromium		ND	0.0050	mg/L	04/06/99	EPA 200.7/6010				GCK
Copper		ND	0.0020	mg/L	04/06/99	EPA 200.7/6010				GCK
Iron		0.510	0.050	mg/L	04/06/99	EPA 200.7/6010		D1		GCK
Lead		ND	0.025	mg/L	04/06/99	EPA 200.7/6010				GCK
Magnesium		167.	0.25	mg/L	04/06/99	EPA 200.7/6010		D1		GCK
Manganese		0.104	0.0050	mg/L	04/06/99	EPA 200.7/6010		D1		GCK
Mercury		ND	0.00020	mg/L	04/06/99	EPA 245.1/7470A				GCK
Potassium		4.38	0.40	mg/L	04/06/99	EPA 200.7/6010				GCK
Selenium		ND	0.010	mg/L	04/06/99	EPA 200.9		D1		CV
Silver		ND	0.0030	mg/L	04/06/99	EPA 200.7/6010				GCK
Sodium		158.	0.25	mg/L	04/06/99	EPA 200.7/6010		D1		GCK
Zinc		ND	0.010	mg/L	04/06/99	EPA 200.7/6010				GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

Sampled: 03/30/99									
Mercury Digestion: 04/05/99									
MW 24D	Water	Hot: Plate Digestion EPA 200.2/3005A: 04/06/99						L10732-2	
Arsenic		ND	0.0020	mg/L	04/06/99	EPA 200.9			CV
Barium		0.0183	0.0010	mg/L	04/06/99	EPA 200.7/6010			GCK
Cadmium		ND	0.0020	mg/L	04/06/99	EPA 200.7/6010			GCK
Calcium		630.	0.25	mg/L	04/06/99	EPA 200.7/6010	D1		GCK
Chromium		ND	0.0050	mg/L	04/06/99	EPA 200.7/6010			GCK
Copper		ND	0.0020	mg/L	04/06/99	EPA 200.7/6010			GCK
Iron		0.698	0.050	mg/L	04/06/99	EPA 200.7/6010	D1		GCK
Lead		ND	0.025	mg/L	04/06/99	EPA 200.7/6010			GCK
Magnesium		110.	0.25	mg/L	04/06/99	EPA 200.7/6010	D1		GCK
Manganese		0.261	0.0050	mg/L	04/06/99	EPA 200.7/6010	D1		GCK
Mercury		ND	0.00020	mg/L	04/06/99	EPA 245.1/7470A			GCK
Potassium		3.3	0.40	mg/L	04/06/99	EPA 200.7/6010			GCK
Selenium		ND	0.010	mg/L	04/06/99	EPA 200.9	D1		CV
Silver		ND	0.0030	mg/L	04/06/99	EPA 200.7/6010			GCK
Sodium		213.	0.25	mg/L	04/06/99	EPA 200.7/6010	D1		GCK
Zinc		ND	0.010	mg/L	04/06/99	EPA 200.7/6010			GCK

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
-----------	--------	--------	-----------------	-------------	---------------	--------	------------	---------	---------

MW 23D		Water		Sampled: 04/05/99 Hot Plate Digestion EPA 200.2/3005A: 04/14/99 Mercury Digestion: 04/14/99					L10732-3
Arsenic	0.0049	0.0020	mg/L	04/15/99	EPA 200.9				SHS
Barium	0.0162	0.0010	mg/L	04/14/99	EPA 200.7/6010				CV
Cadmium	ND	0.0020	mg/L	04/14/99	EPA 200.7/6010				CV
Calcium	551.	0.25	mg/L	04/14/99	EPA 200.7/6010		D1		CV
Chromium	ND	0.0050	mg/L	04/14/99	EPA 200.7/6010				CV
Copper	ND	0.0020	mg/L	04/14/99	EPA 200.7/6010				CV
Iron	0.29	0.050	mg/L	04/14/99	EPA 200.7/6010		D1		CV
Lead	ND	0.025	mg/L	04/14/99	EPA 200.7/6010				CV
Magnesium	162.	0.25	mg/L	04/14/99	EPA 200.7/6010		D1		CV
Manganese	0.0641	0.0050	mg/L	04/14/99	EPA 200.7/6010		D1		CV
Mercury	ND	0.00020	mg/L	04/15/99	EPA 245.1/7470A				JD
Potassium	3.8	0.40	mg/L	04/14/99	EPA 200.7/6010				CV
Selenium	ND	0.020	mg/L	04/15/99	EPA 200.9		D1		SHS
Silver	ND	0.0030	mg/L	04/14/99	EPA 200.7/6010				CV
Sodium	208.	0.25	mg/L	04/14/99	EPA 200.7/6010		D1		CV
Zinc	ND	0.010	mg/L	04/14/99	EPA 200.7/6010				CV

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Volatile Organic Compounds (VOC)
by EPA 8260

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						
<i>MW 25D</i>	<i>Water</i>				Sampled: 03/30/99 Analyzed: 04/06/99 by DM	<i>L10732-1</i>
See Attached Data Sheet _____						
<i>MW 24D</i>	<i>Water</i>				Sampled: 03/30/99 Analyzed: 04/06/99 by DM	<i>L10732-2</i>
See Attached Data Sheet _____						
<i>MW 23D</i>	<i>Water</i>				Sampled: 04/05/99 Analyzed: 04/07/99 by DM	<i>L10732-3</i>
See Attached Data Sheet _____						
<i>TRIP BLANK</i>	<i>Water</i>				Sampled: 04/05/99 Analyzed: 04/07/99 by DM	<i>L10732-4</i>
See Attached Data Sheet _____						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW 25D	Water	MB0406				Sampled : 03/30/99	Analyzed : 04/06/99	L10732-1
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW 25D	Water	MB0406				Sampled : 03/30/99	
CAS #						Analyzed : 04/06/99	L10732-1
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L		
74-95-3	Dibromomethane	nd	nd	1	ug/L		
75-27-4	Bromodichloromethane	nd	nd	1	ug/L		
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L		
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L		
108-88-3	Toluene	nd	nd	1	ug/L		
591-78-6	2-Hexanone	nd	nd	10	ug/L		
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L		
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L		
127-18-4	Tetrachloroethene	nd	nd	1	ug/L		
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L		
124-48-1	Dibromochloromethane	nd	nd	1	ug/L		
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L		
108-90-7	Chlorobenzene	nd	nd	1	ug/L		
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L		
100-41-4	Ethylbenzene	nd	nd	1	ug/L		
100-42-5	Styrene	nd	nd	1	ug/L		
75-25-2	Bromoform	nd	nd	1	ug/L		
98-82-8	Isopropylbenzene	nd	nd	1	ug/L		
108-86-1	Bromobenzene	nd	nd	1	ug/L		
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L		
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L		
103-65-1	n-Propylbenzene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW 25D	Water	MB0406				Sampled : 03/30/99	
						Analyzed : 04/06/99	L10732-1
CAS #							
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
		Recovery	Recovery				
Surrogates		L10732-1	MB0406				
	1,2-Dichloroethane-d4	89%	96%				
	Toluene-d8	105%	96%				
	4-Bromofluorobenzene	98%	93%				

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW 24D	Water	MB0406				Sampled : 03/30/99	
CAS #						Analyzed : 04/06/99	L10732-2
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L		
74-87-3	Chloromethane	nd	nd	2	ug/L		
75-01-4	Vinyl chloride	nd	nd	2	ug/L		
74-83-9	Bromomethane	nd	nd	2	ug/L		
75-00-3	Chloroethane	nd	nd	2	ug/L		
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L		
67-64-1	Acetone	nd	nd	20	ug/L		
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L		
75-09-2	Methylene chloride	nd	nd	2	ug/L		
75-15-0	Carbon disulfide	nd	nd	1	ug/L		
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L		
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L		
78-93-3	2-Butanone	nd	nd	20	ug/L		
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L		
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L		
74-97-5	Bromochloromethane	nd	nd	1	ug/L		
67-66-3	Chloroform	nd	nd	1	ug/L		
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L		
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L		
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L		
71-43-2	Benzene	nd	nd	1	ug/L		
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L		
79-01-6	Trichloroethene	nd	nd	1	ug/L		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW 24D	Water	MB0406				Sampled : 03/30/99	Analyzed : 04/06/99	L10732-2
CAS #								
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank-Result	Reporting Limit	Units	Comment	

MW 24D	Water	MB0406				Sampled : 03/30/99	
CAS #						Analyzed : 04/06/99	L10732-2
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L		
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L		
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L		
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L		
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L		
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L		
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L		
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L		
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L		
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L		
104-51-8	n-Butylbenzene	nd	nd	1	ug/L		
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L		
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L		
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L		
91-20-3	Naphthalene	nd	nd	1	ug/L		
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L		
	Total Xylenes	nd	nd	1	ug/L		
		Recovery	Recovery				
Surrogates		L10732-2	MB0406				
1,2-Dichloroethane-d4		88%	96%				
Toluene-d8		105%	96%				
4-Bromofluorobenzene		100%	93%				

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW 23D	Water	MB0407				Sampled : 04/05/99	Analyzed : 04/07/99	L10732-3
CAS #								
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L			
74-87-3	Chloromethane	nd	nd	2	ug/L			
75-01-4	Vinyl chloride	nd	nd	2	ug/L			
74-83-9	Bromomethane	nd	nd	2	ug/L			
75-00-3	Chloroethane	nd	nd	2	ug/L			
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L			
67-64-1	Acetone	nd	nd	20	ug/L			
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L			
75-09-2	Methylene chloride	nd	nd	2	ug/L			
75-15-0	Carbon disulfide	nd	nd	1	ug/L			
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L			
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L			
78-93-3	2-Butanone	nd	nd	20	ug/L			
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L			
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L			
74-97-5	Bromochloromethane	nd	nd	1	ug/L			
67-66-3	Chloroform	nd	nd	1	ug/L			
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L			
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L			
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L			
71-43-2	Benzene	nd	nd	1	ug/L			
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L			
79-01-6	Trichloroethene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW 23D	Water	MB0407				Sampled : 04/05/99	Analyzed : 04/07/99	L10732-3
CAS #								
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L			
74-95-3	Dibromomethane	nd	nd	1	ug/L			
75-27-4	Bromodichloromethane	nd	nd	1	ug/L			
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L			
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L			
108-88-3	Toluene	nd	nd	1	ug/L			
591-78-6	2-Hexanone	nd	nd	10	ug/L			
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L			
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L			
127-18-4	Tetrachloroethene	nd	nd	1	ug/L			
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L			
124-48-1	Dibromochloromethane	nd	nd	1	ug/L			
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L			
108-90-7	Chlorobenzene	nd	nd	1	ug/L			
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L			
100-41-4	Ethylbenzene	nd	nd	1	ug/L			
100-42-5	Styrene	nd	nd	1	ug/L			
75-25-2	Bromoform	nd	nd	1	ug/L			
98-82-8	Isopropylbenzene	nd	nd	1	ug/L			
108-86-1	Bromobenzene	nd	nd	1	ug/L			
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L			
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L			
103-65-1	n-Propylbenzene	nd	nd	1	ug/L			

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles
by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

MW 23D	Water	MB0407				Sampled : 04/05/99	Analyzed : 04/07/99	L10732-3
CAS #								
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L			
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L			
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L			
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L			
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L			
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L			
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L			
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L			
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L			
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L			
104-51-8	n-Butylbenzene	nd	nd	1	ug/L			
96-12-8	1,2-Dibromo-3-chloropropane	nd	nd	1	ug/L			
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L			
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L			
91-20-3	Naphthalene	nd	nd	1	ug/L			
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L			
	Total Xylenes	nd	nd	1	ug/L			
		Recovery	Recovery					
Surrogates		L10732-3	MB0407					
1,2-Dichloroethane-d4		99%	88%					
Toluene-d8		99%	104%					
4-Bromofluorobenzene		93%	98%					

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK		Water		MB0407		Sampled : 04/05/99		Analyzed : 04/07/99		L10732-4	
CAS #											
75-71-8	Dichlorodifluoromethane	nd	nd	2	ug/L						
74-87-3	Chloromethane	nd	nd	2	ug/L						
75-01-4	Vinyl chloride	nd	nd	2	ug/L						
74-83-9	Bromomethane	nd	nd	2	ug/L						
75-00-3	Chloroethane	nd	nd	2	ug/L						
75-69-4	Trichlorofluoromethane	nd	nd	1	ug/L						
67-64-1	Acetone	nd	nd	20	ug/L						
75-35-4	1,1-Dichloroethene	nd	nd	1	ug/L						
75-09-2	Methylene chloride	nd	nd	2	ug/L						
75-15-0	Carbon disulfide	nd	nd	1	ug/L						
156-60-5	trans-1,2-Dichloroethene	nd	nd	1	ug/L						
75-34-3	1,1-Dichloroethane	nd	nd	1	ug/L						
78-93-3	2-Butanone	nd	nd	20	ug/L						
590-20-7	2,2-Dichloropropane	nd	nd	1	ug/L						
156-59-4	cis-1,2-Dichloroethene	nd	nd	1	ug/L						
74-97-5	Bromochloromethane	nd	nd	1	ug/L						
67-66-3	Chloroform	nd	nd	1	ug/L						
71-55-6	1,1,1-Trichloroethane	nd	nd	1	ug/L						
56-23-5	Carbon tetrachloride	nd	nd	1	ug/L						
563-58-6	1,1-Dichloropropene	nd	nd	1	ug/L						
71-43-2	Benzene	nd	nd	1	ug/L						
107-06-2	1,2-Dichloroethane	nd	nd	1	ug/L						
79-01-6	Trichloroethene	nd	nd	1	ug/L						

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK		Water	MB0407		Sampled : 04/05/99	
					Analyzed : 04/07/99	
					L10732-4	
CAS #						
78-87-5	1,2-Dichloropropane	nd	nd	1	ug/L	
74-95-3	Dibromomethane	nd	nd	1	ug/L	
75-27-4	Bromodichloromethane	nd	nd	1	ug/L	
10061-01-5	cis-1,3-Dichloropropene	nd	nd	1	ug/L	
108-10-1	4-Methyl-2-pentanone	nd	nd	10	ug/L	
108-88-3	Toluene	nd	nd	1	ug/L	
591-78-6	2-Hexanone	nd	nd	10	ug/L	
10061-02-6	trans-1,3-Dichloropropene	nd	nd	1	ug/L	
79-00-5	1,1,2-Trichloroethane	nd	nd	1	ug/L	
127-18-4	Tetrachloroethene	nd	nd	1	ug/L	
542-75-6	1,3-Dichloropropane	nd	nd	1	ug/L	
124-48-1	Dibromochloromethane	nd	nd	1	ug/L	
106-93-4	1,2-Dibromoethane	nd	nd	1	ug/L	
108-90-7	Chlorobenzene	nd	nd	1	ug/L	
630-20-6	1,1,1,2-Tetrachloroethane	nd	nd	1	ug/L	
100-41-4	Ethylbenzene	nd	nd	1	ug/L	
100-42-5	Styrene	nd	nd	1	ug/L	
75-25-2	Bromoform	nd	nd	1	ug/L	
98-82-8	Isopropylbenzene	nd	nd	1	ug/L	
108-86-1	Bromobenzene	nd	nd	1	ug/L	
79-34-5	1,1,2,2-Tetrachloroethane	nd	nd	1	ug/L	
96-18-4	1,2,3-Trichloropropane	nd	nd	1	ug/L	
103-65-1	n-Propylbenzene	nd	nd	1	ug/L	

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles

by EPA Method 8260

Sample ID						Lab Number
Analyte	Result	Blank Result	Reporting Limit	Units	Comment	

TRIP BLANK		Water	MB0407		Sampled : 04/05/99	
					Analyzed : 04/07/99	
					L10732-4	
CAS #						
95-49-8	2-Chlorotoluene	nd	nd	1	ug/L	
106-43-4	4-Chlorotoluene	nd	nd	1	ug/L	
108-67-8	1,3,5-Trimethylbenzene	nd	nd	1	ug/L	
98-06-6	tert-Butylbenzene	nd	nd	1	ug/L	
95-63-6	1,2,4-Trimethylbenzene	nd	nd	1	ug/L	
135-98-8	sec-Butylbenzene	nd	nd	1	ug/L	
541-73-1	1,3-Dichlorobenzene	nd	nd	1	ug/L	
99-87-6	4-Isopropyltoluene	nd	nd	1	ug/L	
106-46-7	1,4-Dichlorobenzene	nd	nd	1	ug/L	
95-50-1	1,2-Dichlorobenzene	nd	nd	1	ug/L	
104-51-8	n-Butylbenzene	nd	nd	1	ug/L	
96-12-8	1,2-Dibromo-3-chloropropane . . .	nd	nd	1	ug/L	
120-82-1	1,2,4-Trichlorobenzene	nd	nd	1	ug/L	
87-68-3	Hexachlorobutadiene	nd	nd	1	ug/L	
91-20-3	Naphthalene	nd	nd	1	ug/L	
87-61-6	1,2,3-Trichlorobenzene	nd	nd	1	ug/L	
	Total Xylenes	nd	nd	1	ug/L	
		Recovery		Recovery		
		L10732-4		MB0407		
Surrogates						
1,2-Dichloroethane-d4		96%		88%		
Toluene-d8		100%		104%		
4-Bromofluorobenzene		96%		98%		

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Polynuclear Aromatic Hydrocarbons (PNA)
by EPA 8270 SIM

<i>Sample ID</i>	<i>Matrix</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Comment</i>	<i>Lab Number</i>
Analyte						

<i>MW 25D</i>	<i>Water</i>				Sampled: 03/30/99 Extracted: 04/05/99 Analyzed: 04/14/99 by PB	<i>L10732-1</i>
See Attached Data Sheet _____						

<i>MW 24D</i>	<i>Water</i>				Sampled: 03/30/99 Extracted: 04/05/99 Analyzed: 04/14/99 by PB	<i>L10732-2</i>
See Attached Data Sheet _____						

<i>MW 23D</i>	<i>Water</i>				Sampled: 04/05/99 Extracted: 04/08/99 Analyzed: 04/14/99 by PB	<i>L10732-3</i>
See Attached Data Sheet _____						

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

PJ341

Printed on recycled paper

- 6 -



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID						Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT	
MW 25D WATER MB0405M						Sampled: 03/30/99 Analyzed: 04/14/99 L10732-1
CAS#						
91-20-3	Naphthalene	nd	nd	0.1	ug/L	
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L	
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L	
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L	
83-32-9	Acenaphthene	nd	nd	0.1	ug/L	
86-73-7	Fluorene	nd	nd	0.1	ug/L	
85-01-8	Phenanthrene	nd	nd	0.1	ug/L	
120-12-7	Anthracene	nd	nd	0.1	ug/L	
206-44-0	Fluoranthene	nd	nd	0.1	ug/L	
129-00-0	Pyrene	nd	nd	0.1	ug/L	
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L	
218-01-9	Chrysene	nd	nd	0.1	ug/L	
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L	
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L	
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L	
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L	
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L	
Base / Neutral Surrogates:						Recovery
1,2-Dichlorobenzene-d4						L10732-1
Nitrobenzene-d5						96%
2-Fluorobiphenyl						90%
						107%
						Recovery
						MB0405M
						95%
						79%
						102%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID							Lab Number
Analyte	Results	Blank Result	Reporting Limit	Units	COMMENT		
MW 24D		WATER		MB0405M		Sampled: 03/30/99 Analyzed: 04/14/99	L10732-2
CAS#							
91-20-3	Naphthalene	nd	nd	0.1	ug/L		
91-57-6	2-Methylnaphthalene	nd	nd	0.1	ug/L		
90-12-0	1-Methylnaphthalene	nd	nd	0.1	ug/L		
208-96-8	Acenaphthylene	nd	nd	0.1	ug/L		
83-32-9	Acenaphthene	nd	nd	0.1	ug/L		
86-73-7	Fluorene	nd	nd	0.1	ug/L		
85-01-8	Phenanthrene	nd	nd	0.1	ug/L		
120-12-7	Anthracene	nd	nd	0.1	ug/L		
206-44-0	Fluoranthene	nd	nd	0.1	ug/L		
129-00-0	Pyrene	nd	nd	0.1	ug/L		
56-55-3	Benzo[a]anthracene	nd	nd	0.1	ug/L		
218-01-9	Chrysene	nd	nd	0.1	ug/L		
205-99-2	Benzo[b]fluoranthene	nd	nd	0.1	ug/L		
207-08-9	Benzo[k]fluoranthene	nd	nd	0.1	ug/L		
50-32-8	Benzo[a]pyrene	nd	nd	0.1	ug/L		
193-39-5	Indeno[1,2,3-cd]pyrene	nd	nd	0.1	ug/L		
53-70-3	Dibenz[a,h]anthracene	nd	nd	0.1	ug/L		
191-24-2	Benzo[g,h,i]perylene	nd	nd	0.1	ug/L		
Base / Neutral Surrogates:						Recovery	Recovery
						L10732-2	MB0405M
1,2-Dichlorobenzene-d4						92%	95%
Nitrobenzene-d5						88%	79%
2-Fluorobiphenyl						101%	102%

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

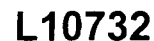
**EPA Method 8310 Polynuclear Aromatic Hydrocarbons
by modified EPA method 8270 (SIM)**

Sample ID					Lab Number	
Analyte		Results	Blank Result	Reporting Limit	Units	COMMENT
		</				

none detected = nd

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967

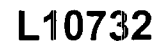


Project: Roswell Qtrly Sampling

Volatiles LCS

Water (ug/L)
by EPA Method 8260

OREGON ANALYTICAL LABORATORYPrinted on recycled paper



Project: Roswell Qtrly Sampling

Volatiles LCS

Water (ug/L)
by EPA Method 8260

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

Volatiles MS/MSD

Water (ug/L)
by EPA Method 8260

Sample ID	Analyte	MS Result	MSD Result	Spike Added	Sample Result	Lab Number
-----------	---------	--------------	---------------	----------------	------------------	------------

XXXXX		(ug/L)	(ug/L)	(ug/L)	(ug/L)	Analyzed : 04/02/99	L10715-1
CAS #							
75-35-4	1,1-Dichloroethene	19	19	20	<1		
71-43-2	Benzene	20	20	20	<1		
79-01-6	Trichloroethene	19	19	20	<1		
108-88-3	Toluene	19	19	20	<1		
108-90-7	Chlorobenzene	20	20	20	<1		
		MS Recovery (%)	MSD Recovery (%)	RPD (%)			
75-35-4	1,1-Dichloroethene	94	95	<1			
71-43-2	Benzene	98	100	2			
79-01-6	Trichloroethene	95	95	<1			
108-88-3	Toluene	94	95	1			
108-90-7	Chlorobenzene	99	100	2			
		MS Recovery (%)	MSD Recovery (%)				
Surrogates							
1,2-Dichloroethane-d4		95	93				
Toluene-d8		92	95				
4-Bromofluorobenzene		91	91				

none detected = nd

Sample results <1 are used in the calculation for the MS/MSD % recoveries.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Method Blank
Metals / Total by Volume (mg/L)

Analyte	Result	Reporting	Q	Date
		Limit		Analyzed
Arsenic	ND	0.0020		04/06/99
Barium	ND	0.0010		04/06/99
Cadmium	ND	0.0020		04/06/99
Calcium	ND	0.050		04/06/99
Chromium	ND	0.0050		04/06/99
Copper	ND	0.0020		04/06/99
Iron	ND	0.010		04/06/99
Lead	ND	0.025		04/06/99
Magnesium	ND	0.050		04/06/99
Manganese	ND	0.0010		04/06/99
Mercury	ND	0.00020		04/06/99
Potassium	ND	0.40		04/06/99
Selenium	ND	0.0020		04/06/99
Silver	ND	0.0030		04/06/99
Sodium	0.063	0.050		04/06/99
Zinc	ND	0.010		04/06/99

Comments: Batch QC for L10732-1 and L10732-2.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Schoils Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
LCSW
Metals / Total by Volume (mg/L)

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
Arsenic	0.0500	0.0421	84	80-120	04/06/99
Barium	2.00	1.83	92	80-120	04/06/99
Cadmium	0.0500	0.0476	95	80-120	04/06/99
Calcium	1.00	0.963	96	80-120	04/06/99
Chromium	0.200	0.196	98	80-120	04/06/99
Copper	0.250	0.230	92	80-120	04/06/99
Iron	1.00	0.936	94	80-120	04/06/99
Lead	0.500	0.481	96	80-120	04/06/99
Magnesium	1.00	0.938	94	80-120	04/06/99
Manganese	0.500	0.472	94	80-120	04/06/99
Mercury	0.0020	0.0020	100	80-120	04/06/99
Potassium	10.0	9.14	91	80-120	04/06/99
Selenium	0.0100	0.0096	96	80-120	04/06/99
Silver	0.0500	0.0476	95	80-120	04/06/99
Sodium	1.00	0.985	99	80-120	04/06/99
Zinc	0.500	0.489	98	80-120	04/06/99

Comments: Batch QC for L10732-1 and L10732-2
LCSW = Laboratory Control Sample: Water

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Duplicate****Metals / Total by Volume (mg/L)**

Analyte	Duplicate		Reporting	RPD		Date	
	Result	Result	Limit	RPD	Limit	Q	Analyzed
Arsenic	0.0041	0.0038	0.0020	8	20		04/06/99
Barium	0.0801	0.0800	0.0010	<1	20		04/06/99
Cadmium	ND	ND	0.0020	NA	20		04/06/99
Calcium	88.3	87.5	0.050	<1	20		04/06/99
Chromium	ND	ND	0.0050	NA	20		04/06/99
Copper	ND	ND	0.0020	NA	20		04/06/99
Iron	0.115	0.141	0.010	20	20		04/06/99
Lead	ND	ND	0.025	NA	20		04/06/99
Magnesium	26.0	26.0	0.050	<1	20		04/06/99
Manganese	0.0074	0.0077	0.0010	4	20		04/06/99
Mercury	ND	ND	0.00020	NA	20		04/06/99
Potassium	8.44	8.35	0.40	1	20		04/06/99
Selenium	ND	ND	0.0020	NA	20		04/06/99
Silver	ND	ND	0.0030	NA	20		04/06/99
Sodium	45.2	45.2	0.050	<1	20		04/06/99
Zinc	ND	ND	0.010	NA	20		04/06/99

Comments: Batch QC for L10732-1 and L10732-2.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Spike****Metals / Total by Volume (mg/L)**

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
Arsenic	0.0455	0.0041	0.0400	104	75-125		04/06/99
Barium	1.88	0.0801	2.00	90	75-125		04/06/99
Cadmium	0.0462	ND	0.0500	92	75-125		04/06/99
Calcium	86.1	88.3	NA	NA	75-125		04/06/99
Chromium	0.189	ND	0.200	95	75-125		04/06/99
Copper	0.225	ND	0.250	90	75-125		04/06/99
Iron	1.04	0.115	1.00	93	75-125		04/06/99
Lead	0.468	ND	0.500	94	75-125		04/06/99
Magnesium	25.4	26	NA	NA	75-125		04/06/99
Manganese	0.460	0.0074	0.500	91	75-125		04/06/99
Mercury	0.0020	ND	0.00200	100	75-125		04/06/99
Potassium	8.19	8.44	NA	NA	75-125		04/06/99
Selenium	0.0089	NA	0.010	89	75-125		04/06/99
Silver	0.0446	ND	0.0500	89	75-125		04/06/99
Sodium	43.9	45.2	NA	NA	75-125		04/06/99
Zinc	0.460	ND	0.500	92	75-125		04/06/99

Comments: Batch QC for L10732-1 and L10732-2.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Method Blank
Metals / Total by Volume (mg/L)

Analyte	Result	Reporting	Q	Date
		Limit		Analyzed
Arsenic	ND	0.0020		04/15/99
Barium	ND	0.0010		04/14/99
Cadmium	ND	0.0020		04/14/99
Calcium	ND	0.250		04/14/99
Chromium	ND	0.0050		04/14/99
Copper	ND	0.0020		04/14/99
Iron	ND	0.050		04/14/99
Lead	ND	0.025		04/14/99
Magnesium	ND	0.250		04/14/99
Manganese	ND	0.5000		04/14/99
Mercury	ND	0.00020		04/15/99
Potassium	ND	0.40		04/14/99
Selenium	ND	0.0020		04/15/99
Silver	ND	0.0030		04/14/99
Sodium	ND	0.250		04/14/99
Zinc	ND	0.010		04/14/99

Comments: Batch QC for L10732-3

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
LCSW
Metals / Total by Volume (mg/L)

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
Arsenic	0.0400	0.0436	109	80-120	04/15/99
Barium	2.00	2.01	101	80-120	04/14/99
Cadmium	0.0500	0.0504	101	80-120	04/14/99
Calcium	1.00	1.00	0	80-120	04/14/99
Chromium	0.200	0.201	101	80-120	04/14/99
Copper	0.250	0.251	100	80-120	04/14/99
Iron	1.00	0.980	0	80-120	04/14/99
Lead	0.500	0.491	98	80-120	04/14/99
Magnesium	1.00	0.981	0	80-120	04/14/99
Manganese	0.500	0.505	1	80-120	04/14/99
Mercury	0.0020	0.00200	100	80-120	04/15/99
Potassium	10.0	9.68	97	80-120	04/14/99
Selenium	0.010	0.010	100	80-120	04/15/99
Silver	0.0500	0.0501	100	80-120	04/14/99
Sodium	1.00	0.952	0	80-120	04/14/99
Zinc	0.500	0.497	99	80-120	04/14/99

Comments: Batch QC for L10732-3
LCSW = Laboratory Control Sample: Water

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Duplicate
Metals / Total by Volume (mg/L)

Analyte	Result	Duplicate Result	Reporting Limit	RPD	RPD Limit	Q	Date Analyzed
Arsenic	0.0049	0.0047	0.0020	4	20		04/15/99
Barium	0.0162	0.0158	0.0010	2	20		04/14/99
Cadmium	ND	ND	0.0020	NA	20		04/14/99
Calcium	551	548	0.250	<1	20		04/14/99
Chromium	ND	ND	0.0050	NA	20		04/14/99
Copper	ND	ND	0.0020	NA	20		04/14/99
Iron	0.29	0.28	0.050	4	20		04/14/99
Lead	ND	ND	0.025	NA	20		04/14/99
Magnesium	162	161	0.250	<1	20		04/14/99
Manganese	0.0641	0.0630	0.5000	2	20		04/14/99
Mercury	ND	ND	0.00020	NA	20		04/15/99
Potassium	3.8	3.7	0.40	3	20		04/14/99
Selenium	ND	ND	0.020	NA	20		04/15/99
Silver	ND	ND	0.0030	NA	20		04/14/99
Sodium	208	207	0.250	<1	20		04/14/99
Zinc	ND	ND	0.010	NA	20		04/14/99

Comments: Batch QC for L10732-3

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967





L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Spike****Metals / Total by Volume (mg/L)**

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Date Q Analyzed
Arsenic	0.0448	0.0049	0.0400	100	75-125	04/15/99
Barium	1.85	0.0162	2.00	92	75-125	04/14/99
Cadmium	0.0427	ND	0.0500	85	75-125	04/14/99
Calcium	556	551	0.25	NA	75-125	04/14/99
Chromium	0.169	ND	0.200	85	75-125	04/14/99
Copper	0.228	ND	0.250	91	75-125	04/14/99
Iron	1.24	0.29	0.05	1900	75-125	04/14/99
Lead	0.431	ND	0.500	86	75-125	04/14/99
Magnesium	164	162	0.25	NA	75-125	04/14/99
Manganese	0.533	0.0641	0.500	94	75-125	04/14/99
Mercury	0.00206	ND	0.00200	103	75-125	04/15/99
Potassium	3.9	3.8	NA	NA	75-125	04/14/99
Selenium	0.0079	ND	0.010	79	75-125	04/15/99
Silver	0.0437	ND	0.0500	87	75-125	04/14/99
Sodium	210	208	0.25	NA	75-125	04/14/99
Zinc	0.421	ND	0.500	84	75-125	04/14/99

Comments: Batch QC for L10732-3

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: *Enron Gas Pipeline Group*
Contact: *George Robinson*

Project: *Roswell Qtrly Sampling*

Batch Q.C.
Blank
Inorganics - Waters (mg/L)

Analyte	Result	Reporting		Date
		Limit	Q	Analyzed
Alkalinity, Total as CaCO3	3	1	*	04/05/99
Chloride	ND	0.1		04/02/99
Nitrate + Nitrite as N	ND	0.01		04/14/99
Solids, Total Dissolved (TDS)	NA	10		04/02/99
Sulfate as SO4	ND	0.5		04/02/99
Comments:	Alkalinity, chloride and sulfate results for L10732-1 and 2.			
	* All sample results greater than 10 times the blank result. No flag required.			

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Blank
Inorganics - Waters (mg/L)

Analyte	Result	Reporting	Q	Date
		Limit		Analyzed

Alkalinity, Total as CaCO ₃	ND	1		04/15/99
Chloride	ND	0.1		04/07/99
Sulfate as SO ₄	ND	0.5		04/07/99

Comments: Alkalinity, chloride and sulfate results for L10732-3.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: *Enron Gas Pipeline Group*
Contact: *George Robinson*

Project: *Roswell Qtrly Sampling*

Batch Q.C.
LCSW
Inorganics - Waters (mg/L)

Analyte	True Value	Result	% Recovery	% Limit	Date Analyzed
---------	------------	--------	------------	---------	---------------

Alkalinity, Total as CaCO ₃	100	106	106	90-110	04/05/99
Chloride	10.0	10.0	100	90-110	04/02/99
Nitrate + Nitrite as N	0.50	0.46	92	75-125	04/14/99
Solids, Total Dissolved (TDS)	NA	NA	NA		04/02/99
Sulfate as SO ₄	30.0	30.3	101	90-110	04/02/99

Comments: Alkalinity, chloride and sulfate results for L10732-1 and 2.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling****Batch Q.C.****LCSW****Inorganics - Waters (mg/L)**

Analyte	True Value	Result	%	%	Date
			Recovery	Limit	Analyzed

Alkalinity, Total as CaCO ₃	100	104	104	90-110	04/15/99
Chloride	10.0	10.1	101	90-110	04/07/99
Sulfate as SO ₄	30.0	30.8	103	90-110	04/07/99

Comments: Alkalinity, chloride and sulfate results for L10732-3.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Duplicate
Inorganics - Waters (mg/L)

Analyte	Result	Duplicate	Reporting	RPD	RPD	Q	Date
		Result	Limit		Limit		Analyzed
Alkalinity, Total as CaCO ₃	121	120	1	1	2.5		04/05/99
Chloride	310	310	5	<1	20		04/02/99
Nitrate + Nitrite as N	ND	ND	0.01	<1	20		04/14/99
Solids, Total Dissolved (TDS)	3380	3430	10	1	20		03/31/99
Sulfate as SO ₄	2000	2000	25	<1	20		04/02/99
Comments: Alkalinity, chloride, TDS, and sulfate results for L10732-1 and 2.							

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling**

Batch Q.C.
Duplicate
Inorganics - Waters (mg/L)

Analyte	Result	Duplicate Result	Reporting Limit	RPD	RPD Limit	Q	Date Analyzed
---------	--------	---------------------	--------------------	-----	--------------	---	------------------

Alkalinity, Total as CaCO ₃	115	115	1	<1	2.5		04/15/99
Chloride	300	300	5	<1	20		04/07/99
Solids, Total Dissolved (TDS)	590	600	10	2	20		04/02/99
Sulfate as SO ₄	2000	2000	25	<1	20		04/07/99

Comments: Alkalinity, chloride, TDS, and sulfate results for L10732-3.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: *Enron Gas Pipeline Group*
Contact: *George Robinson*

Project: *Roswell Qtrly Sampling*

Batch Q.C.
Spike
Inorganics - Waters (mg/L)

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
---------	-----------------	------------------	----------------	---------------	------------	---	------------------

Alkalinity, Total as CaCO ₃	223	121	100	102	90-110		04/05/99
Chloride	630	310	300	107	75-125		04/02/99
Nitrate + Nitrite as N	0.51	ND	0.50	102	75-125		04/14/99
Solids, Total Dissolved (TDS)	NA	NA	NA	NA			04/02/99
Sulfate as SO ₄	2900	2000	900	100	75-125		04/02/99

Comments: Alkalinity, chloride and sulfate results for L10732-1 and 2.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: **Enron Gas Pipeline Group**
Contact: **George Robinson**

Project: **Roswell Qtrly Sampling****Batch Q.C.****Spike****Inorganics - Waters (mg/L)**

Analyte	Spike Result	Sample Result	Spike Added	% Recovery	% Limit	Q	Date Analyzed
---------	-----------------	------------------	----------------	---------------	------------	---	------------------

Alkalinity, Total as CaCO ₃	192	115	75	103	90-110		04/15/99
Chloride	620	300	300	107	75-125		04/07/99
Sulfate as SO ₄	3000	2000	900	111	75-125		04/07/99

Comments: Alkalinity, chloride and sulfate results for L10732-3.

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



L10732

Client: Enron Gas Pipeline Group
Contact: George Robinson

Project: Roswell Qtrly Sampling

PNA LCS & LCSD
Water
by modified EPA method 8270 (SIM)

Sample ID		Lab Number	Lab Number		
Analyte		Recovery	Recovery	RPD	COMMENT
		LCS0405M	LCSD0405	Sampled: NA Analyzed: 04/14/99	
CAS#					
91-20-3	Naphthalene	92%	98%	6%	
91-57-6	2-Methylnaphthalene	89%	94%	5%	
90-12-0	1-Methylnaphthalene	91%	96%	5%	
208-96-8	Acenaphthylene	80%	86%	8%	
83-32-9	Acenaphthene	96%	102%	6%	
86-73-7	Fluorene	94%	113%	19%	
85-01-8	Phenanthrene	102%	110%	7%	
120-12-7	Anthracene	81%	88%	9%	
206-44-0	Fluoranthene	93%	103%	10%	
129-00-0	Pyrene	96%	101%	5%	
56-55-3	Benzo[a]anthracene	91%	98%	8%	
218-01-9	Chrysene	98%	104%	6%	
205-99-2	Benzo[b]fluoranthene	91%	100%	9%	
207-08-9	Benzo[k]fluoranthene	91%	96%	6%	
50-32-8	Benzo[a]pyrene	81%	88%	8%	
193-39-5	Indeno[1,2,3-cd]pyrene	87%	90%	4%	
53-70-3	Dibenz[a,h]anthracene	89%	91%	3%	
191-24-2	Benzo[g,h,i]perylene	88%	89%	1%	
Base / Neutral Surrogates:		Recovery LCS0405M	Recovery LCSD0405		
1,2-Dichlorobenzene-d4		92%	94%		
Nitrobenzene-d5		81%	83%		
2-Fluorobiphenyl		99%	100%		

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007
Phone 503-590-5300 • Fax 503-590-1404
www.oalab.com/oal • Toll-Free 1-800-644-0967



Oregon
Analytical
Laboratory

14855 SW Scholls Ferry Rd
Beaverton OR 97007
(503) 590-5300
FAX (503) 590-1404
1-800-844-0967

CHAIN OF CUSTODY RECORD LABORATORY ANALYSIS REQUEST

Sampling: ☒ Grab ☐ Comp Page 1 of 1
OAL Hours _____ Site Visit ☐
ISCO _____
www.oalab.com/oal

Client Information

Company CYPRESS ENGINEERING
Contact SANDY SHARP
Address 10735 West Little York
Suite 256, Houston, TX 77040
Phone # 646-7252 Fax # 646-7867
(713) (713)

Billing Information

Company Transwestern Pipeline
Contact % George Robinson
Address SAME
Phone # 646-7327 Fax # 646-7867
(713) (713)

Project Information

Project Name TWP
Project # Roswell
P.O. # _____
Comments _____

Sampler's Name GM Barnhill
Signature [Signature]

Quote # SET DENISE

NOTE: If quote number is not referenced,
standard pricing will be applied.

Provide Fax Results ☒ Yes ☐ No

Remarks VOC'S 8260 INCLUDE:
1,2. DICHLOROETHENE (CIS, TRANS)
DICHLOROBENZENE (O, M, P)
PAH'S 8270 INCLUDE:
MONOMETHYLNAPHTHALENE ISOMERS
(1-12)

Sample Identification		Date	Time	FOR LAB USE ONLY OAL Login #	# of Containers	Soil	Water	Other (Note in Remarks)	Volatiles 2010 / 8010 / 8020	Semivolatiles 2010 / 8010 / 8020	Organochlorine PCB PAH	NW TPH Quantity	NW TPH GX	BTX 606	ANALYSIS As Cd Cr Cu Pb Se Other	As Cd Se	TOS Toxic	353 GS	Turnaround	Remarks
1	MW 250	3/30/99	16:45	10732-1	8		X		3/6	1/6					1/p*		1/p	1/p	N	See Remarks Above
2																				
3	MW 240	3/30/99	17:45	↓ -28	8		X		3/6	1/6					1/p*		1/p	1/p	N	See Remarks Above
4																				
5																				* Any Question with Analysis Please Call Ms. Sandy Sharp @ 713-646-7352 * Need Call per Sandy Sharp 4/8/99 - DGM
6																				
7																				
8																				
9																				

[N] Normal - 10 working days
[S] Special - 5 working days
[R] Rush - 24-72 hrs
[O] Other -

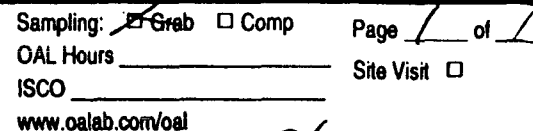
* Any Question with
Analysis Please
Call Ms. Sandy Sharp
@ 713-646-7252
* Need Co. per Sandy Sharp
4/8/99 - DGM

Relinquished	
Signature <u>[Signature]</u>	Date <u>3/3/99</u>
Print Name <u>Clayton M Barnhill</u>	Time <u>16:45</u>
Company <u>EMB Environmental & Safety</u>	
Received	
Signature <u>[Signature]</u>	Date <u>4/2/99</u>
Print Name <u>Anna Maria Linder</u>	Time <u>1325</u>
Company <u>UAT</u>	

Relinquished	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	
Received	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	

Relinquished	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	
Received	
Signature _____	Date _____
Print Name _____	Time _____
Company _____	

☐ Courier ☐ UPS ☒ FedEx ☐ Other
Received @ <u>5</u> °C
Appropriate Containers ☒ Yes ☐ No
<u>6</u> 4oz/8oz. Jars
<u>6</u> VOA Vials
<u>2</u> Plastic Bottles 1L
<u>2</u> Glass Bottles 1L
Other _____



Relinquished		Relinquished		Relinquished		☐ Courier ☐ UPS ☒ FedEx ☐ Other Received @ <u> </u> °C Appropriate Containers ☒ Yes ☐ No <u> </u> 4oz./8oz. Jars <u> </u> VOA Vials <u> </u> Plastic Bottles <u> </u> Glass Bottles <u> </u> Other _____
Signature <u>[Signature]</u>	Date <u>4/6/99</u>	Signature <u>[Signature]</u>	Date <u> </u>	Signature <u>[Signature]</u>	Date <u> </u>	
Print Name <u>Clayton M Barab</u>	Time <u>21:30</u>	Print Name <u> </u>	Time <u> </u>	Print Name <u> </u>	Time <u> </u>	
Company <u>Cypress Engineering</u>		Company <u> </u>		Company <u> </u>		
Received		Received		Received		
Signature <u>[Signature]</u>	Date <u>4/7/99</u>	Signature <u>[Signature]</u>	Date <u> </u>	Signature <u>[Signature]</u>	Date <u> </u>	
Print Name <u>YANUANA LINDO</u>	Time <u>1005</u>	Print Name <u> </u>	Time <u> </u>	Print Name <u> </u>	Time <u> </u>	
Company <u> </u>		Company <u> </u>		Company <u> </u>		