

NM1 - 9

C-138

YEAR(S):  
1999-1998

District I - (505) 393-6161  
P. O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

RECEIVED  
DEC 20 1999

OIL CON. DIV.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/> Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	4. Generator <u>Burlington</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	5. Originating Site <u>Compressor STA.</u>
3. Address of Facility Operator <u>#345 CR3500 Aztec NM</u>	6. Transporter <u>Key</u>
7. Location of Material (Street Address or ULSTR) <u>SEE ATTACHED LIST</u>	8. State <u>NM</u>
9. <u>Circle One</u> : A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

DRAIN WATER FROM NON-EXEMPT OIL TANK

RENEWAL - NEW ANALYSIS

RECEIVED

DEC 21 1999

Environmental Bureau  
Oil Conservation Division

Estimated Volume > 1500 cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: MGR DATE: 12-20-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny R. Zent TITLE: Geologist DATE: 12/29/99  
APPROVED BY: Roger [Signature] TITLE: Env Bureau Chief DATE: 12/21/99

# CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> Burlington Resources 3535 East 30 th Street Farmington NM 87401	<b>2. Destination Name:</b> Key Energy Services
<b>3. Originating Site (name):</b> All Compressor Stations  <b>Unit:</b>	<b>Location of the Waste (Street address /or ULSTR):</b> See Attached. <b>Section:                      Township:                      Range:</b>
<b>4. Source and Description of Waste:</b> Drained water from oil tank.	

I, Ed Hasely representative for:  
Burlington Resources do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check the appropriate classification)

☐ EXEMPT oilfield waste      ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic  
analysis or by product identification.

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

---

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information      ☐ Other (description):  
☐ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

---

Name (Original Signature): Ed Hasely  
Title: Env. Representative  
Date: Thursday, December 16, 1999

# **BURLINGTON RESOURCES**

SAN JUAN DIVISION

December 16, 1999

Key Energy Services, Inc.  
Attention: Mike Talovich, Manager  
P.O. Box 900  
5651 U.S. Highway 64  
Farmington, NM 87499

**Re: Characterization of Drained Water from Used Oil Tank**

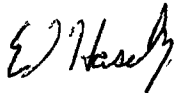
Dear Mr. Talovich:

As requested, attached is a new Certificate of Waste Status form and a wastewater analysis for water generated from draining the used oil tank at the compressor stations. The main purpose for analyzing these waste streams was to comply with 40 CFR 262.11 waste determination requirements contained in the Resource Conservation and Recovery Act (RCRA). Upon evaluating the analysis for this waste stream it appears the water does not exhibit the characteristics of a hazardous waste.

Due to the fact that this waste stream has been analyzed in two consecutive years and each time showing the waste is non-hazardous, Burlington Resources requests that the non-hazardous determination be accepted for a period of three years. If processes or products change that may impact this waste stream, a new analysis will be completed.

Should you have any questions concerning the content or need additional information, please feel free to contact me at 326-9841. Thank you for your time and consideration.

Sincerely,



Ed Hasely  
Environmental Representative

Enc. Certificate of Waste Status  
Sample Project CC-59463

CC: Bruce Gantner  
Greg Kardos  
Ken Johnson  
Correspondence  
Compressor Files



**Burlington Resources Oil & Gas Company**  
**Compressor Stations**

		<b>QTR</b>	<b>SEC</b>	<b>TWP</b>	<b>RNG</b>
1.	Frances Mesa	SW	27	30N	7W
2.	Cedar Hill	SW	29	32N	10W
3.	Gobernador	NW	31	30N	7W
4.	Manzanares	SE	4	29N	8W
5.	Pump Canyon	NE	24	30N	9W
6.	Hart Canyon	SE	20	31N	10W
7.	Buena Vista	NE	13	30N	9W
8.	Sandstone	SE	32	31N	8W
9.	Quinn	SW	16	31N	8W
10.	Arch Rock	SW	14	31N	10W
11.	Pump Mesa	SW	14	31N	8W
12.	Middle Mesa	SW	10	31N	7W
13.	Simms Mesa	NE	22	30N	7W
14.	Rudy	SE	35	29N	11W
15.	Zachry	SW	34	29N	10W
16.	Albright	NW	22	29N	10W
17.	Rattlesnake	SW	10	31N	7W
18.	Cox	SW	20	32N	10W
19.	Lateral 311	NE	17	29N	10W
20.	Lateral 355	SE	25	30N	11W
21.	Ute	SW	14	32N	11W
22.	State	NW	16	28N	9W



Inter-Mountain Laboratories, Inc.

Phone (505) 326-4737 Fax (505) 325-4182

2506 West Main Street, Farmington, NM 87401

Ed Hasely  
Burlington Resources  
P.O. Box 4289  
Farmington, NM 87499-4289

Dec. 13, 1999

Mr. Hasely:

Please find enclosed the reports for the samples submitted to our laboratory for analysis on November 23, 1999. I apologize for the delay in receiving your results.

If you should have any questions regarding the results of these analyses, please do not hesitate to call me at your convenience.

Sincerely,

A handwritten signature in cursive script, reading 'Sharon Williams', is written over the typed name.

Sharon Williams  
Organics Lab Supervisor

Enclosures

xc: file



## BURLINGTON RESOURCES

### Case Narrative

On November 23, 1999, samples were submitted to Inter-Mountain Laboratories for analysis. The samples were analyzed for the parameters listed on the accompanying chain of custody document.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies. The methods used in the analyses of the samples reported herein are found in Test Methods For Evaluation of Solid Waste, SW-846, USEPA, and Methods For Chemical Analysis of Water and Wastes, EPA-600/4-79-020, USEPA, 1994.

Quality control reports appear at the end of the analytical package and may be identified by title. If there are any questions regarding the information presented in this package, please feel free to call me at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sharon Williams', is written over the word 'Sincerely,'.

Sharon Williams  
Organic Analyst/Farmington



# Inter-Mountain Laboratories, Inc.

Phone (505) 326-4737 Fax (505) 325-4182

2506 West Main Street, Farmington, NM 87401

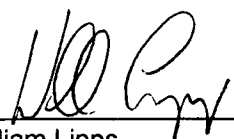
**Client:** Burlington Resources  
**Project:** Compressor Stations  
**Sample ID:** Water From Used Oil Tank  
**Lab ID:** 0399W05762  
**Matrix:** Liquid  
**Condition:** Cool/Intact

**Date Reported:** 12/13/99  
**Date Sampled:** 11/23/99  
**Date Received:** 11/23/99  
**Date Analyzed:** 12/03/99

Parameter	Analytical Result	PQL	MCL	Units
TCLP Metals - EPA Method 1311				
Arsenic	<0.1	0.1	5.0	mg/L
Barium	<0.5	0.5	100	mg/L
Cadmium	<0.01	0.01	1.0	mg/L
Chromium	0.05	0.02	5.0	mg/L
Lead	<0.1	0.1	5.0	mg/L
Mercury	<0.001	0.001	0.2	mg/L
Selenium	0.23	0.1	1.0	mg/L
Silver	<0.05	0.05	5.0	mg/L

Reference: SW-846 - "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", United States Environmental Protection Agency, Final Update 1, July 1992.

Reviewed By:

  
William Lipps

**Flash Point**

Client: **Burlington Resources**  
Project: Compressor Stations  
Sample ID: Water From Used Oil Tank  
Laboratory ID: 0399W05762  
Sample Matrix: Liquid  
Condition: Intact

Date Reported: 12/13/99  
Date Sampled: 11/23/99  
Date Received: 11/23/99  
Date Analyzed: 12/07/99

Analyte	Result	Units
Flash Point	>140	°F

**References:**

Analysis performed according to SW-846 "Test Methods for Evaluating Solid Waste: Physical / Chemical Methods" United States Environmental Protection Agency 3rd Edition, Final Update II, September, 1994.

Annual Book of ASTM Standards, Method D56.

Reported by: Reviewed by: 



**TOXICITY CHARACTERISTIC LEACHING PROCEDURE  
EPA METHOD 8260B  
VOLATILE ORGANIC COMPOUNDS BY GC/MS**

Client: **Burlington Resources**  
Project ID: Compressor Stations  
Sample ID: Water from used oil tanks  
Laboratory ID: 0399W05762  
Sample Matrix: Water

Date Reported: 12/08/99  
Date Sampled: 11/23/99  
Date Received: 11/24/99  
Date Extracted: NA  
Date Analyzed: 12/01/99

Parameter	Analytical Result	Detection Limit	Regulatory Level	Units
Benzene	ND	0.05	0.5	mg/L
Carbon Tetrachloride	ND	0.05	0.5	mg/L
Chlorobenzene	ND	0.05	100	mg/L
Chloroform	ND	0.05	6.0	mg/L
1,2-Dichloroethane	ND	0.05	0.5	mg/L
1,1-Dichloroethylene	ND	0.05	0.7	mg/L
Methyl Ethyl Ketone (2-Butanone)	ND	1.25	200	mg/L
Tetrachloroethylene	ND	0.05	0.7	mg/L
Trichloroethylene	ND	0.05	0.5	mg/L
Vinyl Chloride	ND	0.05	0.2	mg/L

ND - Compound not detected at stated Detection Limit.

Surrogate Recovery	%	Limits
Dibromofluoromethane	97	86 - 118
Dichloroethane-d4	91	80 - 120
Toluene-d8	90	88 - 110
4-Bromofluorobenzene	92	86 - 116

Reference: Test Methods for Evaluating Water, Wastewater and Solid Waste. SW-846, U.S.E.P.A., Volume IB, Revision 2, December 1996.

Analyst

Reviewed



**Inter-Mountain Laboratories, Inc.**

Phone (505) 326-4737 Fax (505) 325-4182

2506 West Main Street, Farmington, NM 87401

## **QUALITY CONTROL / QUALITY ASSURANCE**



Phone (505) 326-4737 Fax (505) 325-4182

Inter-Mountain Laboratories, Inc.

2506 West Main Street, Farmington, NM 87401

**Quality Control / Quality Assurance****Spike Analysis / Blank Analysis****TOXICITY CHARACTERISTIC LEACHING PROCEDURE**

Client: **Burlington Resources**  
Project: Compressor Stations  
Sample Matrix: Liquid

Date Reported: 12/13/99  
Date Analyzed: 12/03/99  
Date Received: 11/23/99

**Spike Analysis**

Parameter	Spike Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery
Arsenic	0.97	<0.1	1.00	97%
Barium	0.98	<0.5	1.00	98%
Cadmium	0.79	<0.01	1.00	79%*
Chromium	0.88	<0.01	1.00	88%
Lead	0.68	<0.1	1.00	68%*
Mercury	0.005	<0.001	0.005	102%
Selenium	1.20	<0.1	1.00	120%*
Silver	0.74	<0.05	1.00	74%*

**Method Blank Analysis**

Parameter	Result	Detection Limit	Units
Arsenic	ND	0.1	mg/L
Barium	ND	0.5	mg/L
Cadmium	ND	0.01	mg/L
Chromium	ND	0.02	mg/L
Lead	ND	0.1	mg/L
Mercury	ND	0.001	mg/L
Selenium	ND	0.1	mg/L
Silver	ND	0.05	mg/L

**References:**

Method 1311: Toxicity Characteristic Leaching Procedure, SW-846, Rev. 0, July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, Rev. 1, July 1992.

**Comments:**

\*Spike recovery failed to meet established QC limits due to matrix interferences.

Reported by

Reviewed by



**Quality Control / Quality Assurance****Known Analysis****TOXICITY CHARACTERISTIC LEACHING PROCEDURE**

Client: **Burlington Resources**  
Project: Compressor Stations  
Sample Matrix: Liquid

Date Reported: 12/13/99  
Date Analyzed: 12/03/99  
Date Received: 11/23/99

**Known Analysis**

Parameter	Found Result	Known Result	Percent Recovery	Units
Arsenic	1.01	1.00	101%	mg/L
Barium	0.51	0.50	102%	mg/L
Cadmium	1.03	1.00	92%	mg/L
Chromium	1.06	1.00	106%	mg/L
Lead	1.04	1.00	104%	mg/L
Mercury	0.004	0.004	100%	mg/L
Selenium	0.53	0.50	106%	mg/L
Silver	1.05	1.00	105%	mg/L

**References:** Method 1311: Toxicity Characteristic Leaching Procedure, SW-846, Rev. 0, July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, Rev. 1, July 1992.

**Comments:**

Reported by

Reviewed by



**EPA METHOD 8260B**  
**VOLATILE ORGANIC COMPOUNDS BY GC/MS**  
Method Blank Analysis

Sample ID: Method Blank  
Laboratory ID: V3MB99-335  
Sample Matrix: Water


Date Reported: 12/08/99  
Date Extracted: NA  
Date Analyzed: 12/01/99

Parameter	Analytical Result	Detection Limit	Regulatory Level	Units
Benzene	ND	0.01	0.5	mg/L
Carbon Tetrachloride	ND	0.01	0.5	mg/L
Chlorobenzene	ND	0.01	100	mg/L
Chloroform	ND	0.01	6.0	mg/L
1,2-Dichloroethane	ND	0.01	0.5	mg/L
1,1-Dichloroethylene	ND	0.01	0.7	mg/L
Methyl Ethyl Ketone (2-Butanone)	ND	0.25	200	mg/L
Tetrachloroethylene	ND	0.01	0.7	mg/L
Trichloroethylene	ND	0.01	0.5	mg/L
Vinyl Chloride	ND	0.01	0.2	mg/L

ND - Compound not detected at stated Detection Limit.

Surrogate Recovery	%	Limits
Dibromofluoromethane	94	86 - 118
Dichloroethane-d4	93	80 - 120
Toluene-d8	89	88 - 110
4-Bromofluorobenzene	92	86 - 116

Reference: Test Methods for Evaluating Water, Wastewater and Solid Waste, SW-846, U.S.E.P.A., Volume IB, Revision 2. December 1996.

  
Analyst

  
Reviewed



TOXICITY CHARACTERISTIC LEACHING PROCEDURE  
EPA METHOD 8260B  
VOLATILE ORGANIC COMPOUNDS BY GC/MS  
Matrix Spike Analysis

Sample ID: Matrix Spike  
Laboratory ID: 0199W19088MS  
Sample Matrix: Water

Date Reported: 12/08/99  
Date Extracted: NA  
Date Analyzed: 12/02/99

Parameter	Analytical Result mg/L	Spike Added mg/L	Spike Results mg/L	Spike Recovery %
Benzene	ND	0.050	0.054	108
Carbon Tetrachloride	ND	0.050	0.059	119
Chlorobenzene	ND	0.050	0.054	109
Chloroform	ND	0.050	0.061	121
1,2-Dichloroethane	ND	0.050	0.054	108
1,1-Dichloroethylene	ND	0.050	0.050	100
Methyl Ethyl Ketone (2-Butanone)	ND	0.100	0.084	84
Tetrachloroethylene	ND	0.050	0.059	118
Trichloroethylene	ND	0.050	0.057	113
Vinyl Chloride	ND	0.050	0.054	108

ND - Compound not detected at stated Detection Limit.

Surrogate Recovery	%	Limits
Dibromofluoromethane	98	86 - 118
Dichloroethane-d4	96	80 - 120
Toluene-d8	92	88 - 110
4-Bromofluorobenzene	95	86 - 116

Reference: Test Methods for Evaluating Water, Wastewater and Solid Waste, SW-846.U.S.E.P.A., Volume IB, Revision 2, December 1996.

  
Analyst

  
Reviewed



## TOXICITY CHARACTERISTIC LEACHING PROCEDURE

## EPA METHOD 8260B

## VOLATILE ORGANIC COMPOUNDS BY GC/MS

## Blank Spike/Duplicate Analysis

Sample ID: Blank Spike Duplicate  
Laboratory ID: BSD99-336  
Sample Matrix: Water

Date Reported: 12/08/99  
Date Extracted: NA  
Date Analyzed: 12/02/99

Parameter	Analytical Result mg/L	Spike Added mg/L	Spike Results mg/L	Spike Recovery %	Duplicate Results mg/L	Duplicate Recovery %	Relative Difference %RSD
Benzene	ND	0.050	0.050	99	0.053	106	7
Carbon Tetrachloride	ND	0.050	0.054	109	0.057	113	4
Chlorobenzene	ND	0.050	0.050	99	0.053	106	7
Chloroform	ND	0.050	0.056	112	0.060	121	7
1,2-Dichloroethane	ND	0.050	0.049	98	0.057	113	15
1,1-Dichloroethylene	ND	0.050	0.046	91	0.047	94	3
Methyl Ethyl Ketone (2-Butanone)	ND	0.100	0.102	102	0.115	115	12
Tetrachloroethylene	ND	0.050	0.055	110	0.058	115	4
Trichloroethylene	ND	0.050	0.052	103	0.055	111	7
Vinyl Chloride	ND	0.050	0.052	105	0.052	104	0

ND - Compound not detected at stated Detection Limit.

Surrogate Recoveries	Spike %	Duplicate %	Limits
Dibromofluoromethane	96	102	86 - 118
Dichloroethane-d4	90	101	80 - 120
Toluene-d8	92	92	88 - 110
4-Bromofluorobenzene	95	94	86 - 116

Reference: Test Methods for Evaluating Water, Wastewater and Solid Waste, SW-846, U.S.E.P.A., Volume IB, Revision 2, December 1996.

Analyst

Reviewed



Inter-Mountain Laboratories, Inc.

Phone (505) 326-4737 Fax (505) 325-4182

2506 West Main Street, Farmington, NM 87401

## Quality Control / Quality Assurance

### Known Analysis

### FLASH POINT

Client: **Burlington Resources**  
Project: Compressor Stations  
Sample Matrix: Liquid

Date Reported: 12/13/99  
Date Analyzed: 12/07/99  
Date Received: 11/23/99

Parameter	Found Result	Known Result
p-Xylene	76°F	77°F

**Reference:** Analysis performed according to SW-846 "Test Methods for Evaluating Solid Waste: Physical / Chemical Methods" United States Environmental Protection Agency 3rd Edition, Final Update II, September, 1994.

Annual Book of ASTM Standards, Method D93-80.

**Comments:**

Reported by

Reviewed by

# CHAIN OF CUSTODY RECORD

Client/Project Name		Project Location		ANALYSES / PARAMETERS					
Burlington Resources / O.I. Tank Lateral		Compressor Stations							
Sampler: (Signature)		Chain of Custody Tape No.		Remarks					
Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TCLP Metals	TCLP Benzene	Flash	Remarks
Water from Used O.I. Tank	11/23		1105762	Liquid	3	✓	✓	✓	<p>IML to make Composite in Lab</p> <p>Start-Stop</p> <p>See 1-17-02</p>
"	"			"	6				
"	"			"	3				
<p><i>Center</i> <i>Permeable</i> <i>Apex Center</i> <i>Hard Center</i></p>									
<p><i>Relinquished by: (Signature)</i> <i>11/23/99</i> <i>12:00pm</i> <i>Received by: (Signature)</i> <i>11/23/99</i> <i>14:15</i> <i>Received by laboratory: (Signature)</i> <i>11/23/99</i> <i>14:15</i></p>									
<p><i>Relinquished by: (Signature)</i> <i>11/23/99</i> <i>14:15</i> <i>Received by: (Signature)</i> <i>11/23/99</i> <i>14:15</i> <i>Received by laboratory: (Signature)</i> <i>11/23/99</i> <i>14:15</i></p>									

Inter-Mountain Laboratories, Inc.

☐ 1633 Terra Avenue  
Sheridan, Wyoming 82801  
Telephone (307) 672-8945

☐ 1701 Phillips Circle  
Gillette, Wyoming 82718  
Telephone (307) 682-8945

☒ 2506 West Main Street  
Farmington, NM 87401  
Telephone (505) 326-4737

☐ 1160 Research Drive  
Bozeman, Montana 59718  
Telephone (406) 586-8450

☐ 11183 State Hwy. 30  
College Station, TX 77845  
Telephone (409) 776-8945

**59463**

District I - (505) 393-6161  
P. O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

RECEIVED  
DEC 2 1999  
OIL CON. DIV.  
DIST. 3

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/> Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	4. Generator <u>WFS</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	5. Originating Site <u>MILAGRO PLANT</u>
3. Address of Facility Operator <u>#345 CR 3500 AZTEC NM</u>	6. Transporter <u>Key</u>
7. Location of Material (Street Address or ULSTR) <u>192 CR 4900 Bloomfield NM</u>	8. State <u>NM</u>
9. <u>Circle One</u> : A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

WASTE WATER FROM PONDS AT THE NATURAL GAS BREACHMENT  
Plant

RECEIVED  
DEC 17 1999  
OIL CON. DIV.  
DIST. 3

\*NEW ANALYSIS SAMPLED 11-13-99

Estimated Volume 5000 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael T. Kovach TITLE: MGR DATE: 12-17-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL T. KOVACH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny G. Faint TITLE: Geologist DATE: 12/20/99  
APPROVED BY: Morty G. Gish **DENIED** TITLE: Environmental Geologist DATE: 1/10/2000

# CERTIFICATE OF WASTE STATUS

1. Generator Name and Address: WILLIAMS FIELD SERVICES 192 CR 4900 Bloomfield NM 87413	2. Destination Name: KEY ENERGY DISPOSAL
3. Originating Site (name): MILABRO PLANT 192 CR 4900 Bloomfield NM 87413 <small>Attach list of originating sites as appropriate</small>	Location of the Waste (Street address &/or ULSTR):
4. Source and Description of Waste Waste Water Ponds	

I, Nelson M Sly III representative for:

WILLIAMS FIELD SERVICES do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste

☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information

☐ Other (description):

☒ RCRA Hazardous Waste Analysis

☒ Chain of Custody

Name (Original Signature):

Nelson M Sly III

Title:

Lead Mechanic

Date:

12/16/95



Roger Anderson

**WILLIAMS FIELD SERVICES**  
ONE OF THE WILLIAMS COMPANIES, INC.

P.O. Box 58900 Salt Lake City, Utah 84158-0900

November 26, 1996

Mr. Patricio Sanchez  
New Mexico Oil Conservation Division  
2040 South Pacheco  
Santa Fe, New Mexico 87505

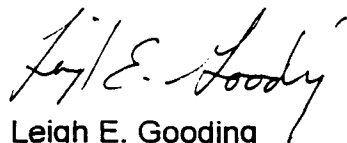
**RE: Disposal of Wastewater From Milagro Plant GW-60**

Dear Mr. Sanchez:

Enclosed, please find the representative analysis of wastewater generated at the Milagro Plant in Bloomfield, New Mexico. Based on process knowledge and the attached analysis, Williams Field Services maintains that the wastewater is non-hazardous. The chromium concentrations detected in the wastewater are a result of contact with the amine solution and stainless steel piping and vessels. The plant does not use and has never used chromium-containing chemicals in the process. The waste is generated from an industrial process which uses trivalent chromium exclusively and the process does not generate hexavalent chromium. Therefore, the waste is considered non-hazardous according to 40CFR Part 261.4 (b) (6) (I) (B).

Williams Field Services requests approval to dispose of this wastewater at Sunco's Class I Disposal Well. If you have any questions or need additional information, please do not hesitate to contact me at (801) 584-6543.

Sincerely,



Leigh E. Gooding  
Sr. Environmental Specialist

cc: Mr. Denny Foust  
Hal Stone, Sunco

verbal approval from Roger 12/28/99



GARY E. JOHNSON  
GOVERNOR

*State of New Mexico*  
**ENVIRONMENT DEPARTMENT**  
*Hazardous & Radioactive Materials Bureau*  
2044 Galisteo  
P.O. Box 26110  
Santa Fe, New Mexico 87502  
(505) 827-1557  
Fax (505) 827-1544



MARK E. WEIDLER  
SECRETARY

EDGAR T. THORNTON, III  
DEPUTY SECRETARY

November 27, 1996

Mr. Patricio Sanchez  
New Mexico Oil Conservation Division  
2040 South Pacheco  
Santa Fe, New Mexico 87505

RE: Disposal of wastewater from the Milagro Plant GW-60

Dear Mr. Sanchez:

This is to follow up on our telephone conversation re: your request for a determination of whether or not wastewaters from the above referenced facility are hazardous waste. NMED has determined that even though the wastewater does contain hazardous constituents as documented in the waste analysis report from Inter-Mountain Laboratories, Inc. dated 08-01-96, this waste is considered non-hazardous under 40 CFR §261.4(b)(6)(i).

Please feel free to contact me should need additional information.

Sincerely,

A handwritten signature in cursive script that reads "James E. Seubert".

James E. Seubert, Acting Program Manager  
Hazardous and Radioactive Materials Bureau

xc: Leigh E. Gooding, Williams Field Services

## QWAL LABORATORIES, INC.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

## LABORATORY REPORT:

REFERENCE #: 9911595

SENT WILLIAMS FIELD SERVICE  
 TO: 295 CHIPETA WAY  
 SALT LAKE CITY, UTAH 84158  
 MARK HARVEY  
 PROJECT: MILAGRO POND

DATE REPORTED: 12/08/99  
 DATE COLLECTED: 11/13/99  
 DATE RECEIVED: 11/17/99

Reference Fraction: 9911595-01A

Sample ID: MIL-POND-CO1

Sample Matrix: WATER

Sample Date Collected: 11/13/99 13:15:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
TCLP EXTRACTION	EPA 1311	DONE				JCC
SILVER, TCLP	SW 846 6010	0.27	MG/L	0.01	11/30/99	MS2
ARSENIC, TCLP	SW 846 7060	<0.001	MG/L	0.001	11/29/99	JMM
BARIUM, TCLP	SW 846 6010	0.08	MG/L	0.005	11/30/99	MS2
CADMIUM, TCLP	SW 846 6010	<0.005	MG/L	0.005	11/30/99	MS2
CHROMIUM, TCLP	SW 846 6010	19.9	MG/L	0.01	12/01/99	MS2
MERCURY, TCLP	SW 846 7470	<0.0002	MG/L	0.0002	11/20/99	JMM
LEAD, TLCP	SW 846 6010	0.05	MG/L	0.01	11/30/99	MS2
SELENIUM, TCLP	SW 846 7740	<0.002	MG/L	0.002	12/02/99	JMM
TCLP SEMI-VOLATILES	SW 846 8270					
O-CRESOL		0.123	MG/L	0.10	11/25/99	DN
P-CRESOL		0.119	MG/L	0.10	11/25/99	DN
M-CRESOL		ND	MG/L	0.10	11/25/99	DN
1,4-DICHLOROBENZENE		ND	MG/L	0.10	11/25/99	DN
2,4-DINITROTOLUENE		ND	MG/L	0.10	11/25/99	DN
HEXACHLOROBENZENE		ND	MG/L	0.10	11/25/99	DN
HEXACHLOROBUTADIENE		ND	MG/L	0.10	11/25/99	DN
HEXACHLOROETHANE		ND	MG/L	0.10	11/25/99	DN
NITROBENZENE		ND	MG/L	0.10	11/25/99	DN
PENTACHLOROPHENOL		ND	MG/L	0.50	11/25/99	DN
PYRIDINE		ND	MG/L	0.10	11/25/99	DN
2,4,5-TRICHLOROPHEN		ND	MG/L	0.10	11/25/99	DN
2,4,6-TRICHLOROPHEN		ND	MG/L	0.10	11/25/99	DN
TCLP VOLATILES	SW 846 8260					
BENZENE		ND	UG/L	5.0	11/25/99	JDH
CARBON TETRACHLORID		ND	UG/L	5.0	11/25/99	JDH
CHLOROBENZENE		ND	UG/L	5.0	11/25/99	JDH
CHLOROFORM		ND	UG/L	5.0	11/25/99	JDH
1,2-DICHLOROETHANE		ND	UG/L	5.0	11/25/99	JDH
1,1-DICHLOROETHYLEN		ND	UG/L	5.0	11/25/99	JDH
METHYL ETHYL KETONE		ND	UG/L	5.0	11/25/99	JDH
TETRACHLOROETHYLENE		ND	UG/L	5.0	11/25/99	JDH
TRICHLOROETHYLENE		ND	UG/L	5.0	11/25/99	JDH
VINYL CHLORIDE		ND	UG/L	5.0	11/25/99	JDH

## QWAL LABORATORIES, INC.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

## LABORATORY REPORT:

REFERENCE #: 9911595

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TO: 295 CHIPETA WAY  
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DATE REPORTED: 12/08/99  
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Sample ID: MIL-POND-CO1  
Sample Date Collected: 11/13/99 13:15:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED BY
------	--------	--------	-------	-----	-------------

ND=NONE DETECTED  
PQL=PRACTICAL QUANTITATION LIMIT  
SU=STANDARD UNITS  
B=DETECTED IN METHOD BLANK

APPROVED BY:

  
TERRY KOESTER  
LABORATORY DIRECTOR

## QWAL LABORATORIES, INC.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

## LABORATORY REPORT:

REFERENCE #: 9911595

SENT WILLIAMS FIELD SERVICE  
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 SALT LAKE CITY, UTAH 84158  
 MARK HARVEY  
 PROJECT: MILAGRO POND

DATE REPORTED: 12/08/99  
 DATE COLLECTED: 11/13/99  
 DATE RECEIVED: 11/17/99

Reference Fraction: 9911595-01B

Sample ID: MIL-POND-CO1 MS

Sample Matrix: WATER

Sample Date Collected: 11/13/99 13:15:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
TCLP EXTRACTION	EPA 1311	DONE				JCC
SILVER, TCLP	SW 846 6010	90.0	% REC		11/30/99	MS2
ARSENIC, TCLP	SW 846 7060	85.3	% REC		11/29/99	JMN
BARIUM, TCLP	SW 846 6010	104.9	% REC		11/30/99	MS2
CADMIUM, TCLP	SW 846 6010	89.5	% REC		11/30/99	MS2
CHROMIUM, TCLP	SW 846 6010	90.3	% REC		11/30/99	MS2
MERCURY, TCLP	SW 846 7470	100.6	% REC		11/20/99	JMN
LEAD, TCLP	SW 846 6010	89.9	% REC		11/30/99	MS2
SELENIUM, TCLP	SW 846 7740	79.8	% REC		12/02/99	JMN
TCLP SEMI-VOLATILES	SW 846 8270					
O-CRESOL		58	%RECOV	0.10	11/26/99	DN
P-CRESOL		92	%RECOV	0.10	11/26/99	DN
M-CRESOL		92	%RECOV	0.10	11/26/99	DN
1,4-DICHLOROBENZENE		57	%RECOV	0.10	11/26/99	DN
2,4-DINITROTOLUENE		79	%RECOV	0.10	11/26/99	DN
HEXACHLOROBENZENE		76	%RECOV	0.10	11/26/99	DN
HEXACHLOROBUTADIENE		56	%RECOV	0.10	11/26/99	DN
HEXACHLOROETHANE		39	%RECOV	0.10	11/26/99	DN
NITROBENZENE		61	%RECOV	0.10	11/26/99	DN
PENTACHLOROPHENOL		34	%RECOV	0.50	11/26/99	DN
PYRIDINE		20	%RECOV	0.10	11/26/99	DN
2,4,5-TRICHLOROPHEN		67	%RECOV	0.10	11/26/99	DN
2,4,6-TRICHLOROPHEN		60	%RECOV	0.10	11/26/99	DN
TCLP VOLATILES	SW 846 8260					
BENZENE		100	% REC	5.0	11/25/99	JDI
CARBON TETRACHLORID		444	% REC	5.0	11/25/99	JDI
CHLOROBENZENE		92.4	% REC	5.0	11/25/99	JDI
CHLOROFORM		60.0	% REC	5.0	11/25/99	JDI
1,2-DICHLOROETHANE		62.8	% REC	5.0	11/25/99	JDI
1,1-DICHLOROETHYLEN		105	% REC	5.0	11/25/99	JDI
METHYL ETHYL KETONE		21.5	% REC	5.0	11/25/99	JDI
TETRACHLOROETHYLENE		89.6	% REC	5.0	11/25/99	JDI
TRICHLOROETHYLENE		90.4	% REC	5.0	11/25/99	JDI
VINYL CHLORIDE		35.12	% REC	5.0	11/25/99	JDI

## Q W A L L A B O R A T O R I E S , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

## LABORATORY REPORT:

REFERENCE #: 9911595

SENT WILLIAMS FIELD SERVICE  
TO: 295 CHIPETA WAY  
SALT LAKE CITY, UTAH 84158  
MARK HARVEY  
PROJECT: MILAGRO POND

DATE REPORTED: 12/08/99  
DATE COLLECTED: 11/13/99  
DATE RECEIVED: 11/17/99

Reference Fraction: 9911595-01B  
Sample ID: MIL-POND-CO1 MS  
Sample Date Collected: 11/13/99 13:15:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
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ND=NONE DETECTED  
PQL=PRACTICAL QUANTITATION LIMIT  
SU=STANDARD UNITS  
B=DETECTED IN METHOD BLANK

APPROVED BY:

  
TERRY KOESTER  
LABORATORY DIRECTOR

## Q W A L L A B O R A T O R I E S , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

## LABORATORY REPORT:

REFERENCE #: 9911595

SENT WILLIAMS FIELD SERVICE  
TO: 295 CHIPETA WAY  
SALT LAKE CITY, UTAH 84158  
MARK HARVEY  
PROJECT: MILAGRO POND

DATE REPORTED: 12/08/99  
DATE COLLECTED: 11/13/99  
DATE RECEIVED: 11/17/99

Reference Fraction: 9911595-02A  
Sample ID: MIL POND-CO1  
Sample Date Collected: 11/13/99 13:15:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED BY
FLASH CLOSED CUP	1010 D56	>220.0	DEG F		11/24/99 JGM
PH	EPA 150.1	9.6	SU		11/17/99 SLR
REACTIVITY	SW 846	SEE	ATTACHED		11/24/99 KW

ND=NONE DETECTED  
PQL=PRACTICAL QUANTITATION LIMIT  
SU=STANDARD UNITS  
B=DETECTED IN METHOD BLANK

APPROVED BY:

  
TERRY KOESTER  
LABORATORY DIRECTOR





District I - (505) 393-6161  
P. O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
Alamogordo, NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/> Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	4. Generator WFS 5. Originating Site EL CEDRO COMPLEX 6. Transporter Key 8. State NM
2. Management Facility Destination KEY ENERGY DISPOSAL	
3. Address of Facility Operator #345 CR 3500 AZTEC, N.M.	
7. Location of Material (Street Address or ULSTR) Hwy 64 M.M. 100.5	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

WASTE WATER MIXED WITH D.I WATER, LUBE OIL AND GLYCOL  
SEE MSDS

Recent WASH water analysis included

RECEIVED

DEC 20 1999

Environmental Bureau  
Oil Conservation Division

RECEIVED  
DEC 16 1999  
OIL CON. DIV.  
DIST. 3

Estimated Volume 2500 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: M. J. Talovich TITLE: MGR DATE: 12-16-99

Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Z. Fount TITLE: Geologist DATE: 12/16/99

APPROVED BY: Roger R. Rude TITLE: Env. Bureau Chief DATE: 12/20/99

## CERTIFICATE OF WASTE STATUS

1. Generator Name and Address: WILLIAMS EL CEDRO COMPLEX HWY 6A MILE MARKER 100.5	2. Destination Name: KEY DISPOSAL
3. Originating Site (name): EL CEDRO COMPLEX	
Location of the Waste (Street address &/or ULSTR):	
Attach list of originating sites as appropriate	
4. Source and Description of Waste CITGO PACKAGER 840 LUBE OIL ETHYLENE GLYCOL/D.I. H <sub>2</sub> O 50/50 MIX	

I, WILL SMITH representative for:  
WILLIAMS FIELD SERVICE (Print Name)  
do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic  
analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For **NON-EXEMPT** waste only the following documentation is attached (check appropriate items):

☒ MSDS Information ☐ Other (description):  
☒ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

Name (Original Signature):

WILL SMITH

Title:

PSM COORDINATOR (505) 632-4879

Date:

12-15-99

MATERIAL SAFETY DATA SHEET  
COASTALGUARD 50 ANTIFREEZE/COOLANT

1 HMIS HEALTH  
1 HMIS FLAMMABILITY  
0 HMIS REACTIVITY  
B HMIS PERSONAL PROTECTION

SECTION I - IDENTIFICATION

DISTRIBUTED BY..... COASTAL CHEMICAL CO., INC  
(318)893-3862  
EMERGENCY PHONE NUMBER... CHEMTREC (800)424-9300  
EFFECTIVE DATE..... 5/15/1993  
MANUFACTURER'S NAME..... COASTAL CHEMICAL CO., INC.  
TRADE NAME..... COASTALGUARD 50 ANTIFREEZE/COOLANT  
CHEMICAL FAMILY..... INHIBITED ETHYLENE GLYCOL SOLUTION  
CAS NUMBER..... Blended Product  
CHEMICAL FORMULA..... Blended Product

SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	%	TLV (Units)	PROD. CAS #
ETHYLENE GLYCOL	50 %	ACGIH CEILING 50ppm	107-21-1

SECTION III - PHYSICAL DATA

FREEZING POINT (F)..... APPROX. -34 DEG F  
VAPOR PRESSURE (mm Hg)... 0.12 MMHG @ 25 C  
VAPOR DENSITY (Air=1).... 2.14  
SOLUBILITY IN H2O..... COMPLETELY MISCIBLE  
APPEARANCE/ODOR..... YELLOW/GREEN LIQUID; PRACTICALLY ODORLESS  
SPECIFIC GRAVITY (H2O=1). 1.06 typical  
PH..... 10.5 - 11.0

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT..... WATER BLEND, NO FLASH AT BOILING POINT OF 212 DEG F.  
AFTER WATER EVAPORATES FLASH APPROX. 247 DEG F.  
LOWER FLAME LIMIT..... N/D  
HIGHER FLAME LIMIT..... N/D  
EXTINGUISH MEDIA..... Water fog or spray, Foam, Dry Powder, Carbon Dioxide  
(CO2).  
UNUSUAL FIRE HAZARD..... NONE KNOWN Approach fire from upwind side. Avoid  
breathing smoke, fumes, mist or vapors on the  
downwind side.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE.... 50 PPM BASED ON ETHYLENE GLYCOL

ROUTES OF ENTRY	INHALATION?	SKIN?	INGESTION?
-----------------	-------------	-------	------------

MATERIAL SAFETY DATA SHEET  
COASTALGUARD 50 ANTIFREEZE/COOLANT

IRRITANT, POSSIBLY NARCOTIC	Not expected to cause significant health hazard	Ingestion of very large amounts could cause serious injury, or even death.
--------------------------------	---	---

HEALTH HAZARDS..... ACUTE: Vapors may be irritating to eyes, or mucous membranes. Avoid inhalation or eye contact. CHRONIC: Kidney and liver damage possible. May cause reproductive disorders.

CARCINOGENICITY NO	NTP? NO	IARC MONOGRAPHS? NO	OSHA REGULATED Yes, table Z-1-A, Ceiling 50 ppm, 125 mg/m <sup>3</sup> , Final Rule Limits
-----------------------	------------	------------------------	--

OVER EXPOSURE EFFECTS.... Skin irritation develops slowly after contact. Eye irritation develops immediately upon contact. Symptoms of overexposure: headache, fatigue, nausea, irritation of respiratory tract, dizziness, staggering gait, confusion, unconsciousness.

FIRST AID PROCEDURES..... In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get medical attention. If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person.

=====

SECTION VI - REACTIVITY DATA

=====

CHEMICAL STABILITY..... Product is stable

CONDITIONS TO AVOID..... Heat may cause internal pressure which could rupture container.

INCOMPATIBLE MATERIALS... OXIDIZING MATERIALS & OXIDIZERS

DECOMPOSITION PRODUCTS... From fire; Smoke, Carbon dioxide, & Carbon Monoxide

HAZARDOUS POLYMERIZATION. Will not occur

POLYMERIZATION AVOID..... None

=====

SECTION VII - SPILL OR LEAK PROCEDURE

=====

FOR SPILL..... In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations.

WASTE DISPOSAL METHOD.... Industrial Waste. Follow Federal, State and Local laws.

=====

MATERIAL SAFETY DATA SHEET  
COASTALGUARD 50 ANTIFREEZE/COOLANT

SECTION VIII - SPECIAL PROTECTION

RESPIRATORY PROTECTION... When ventilation is not adequate, use of NIOSH approved organic vapor/acid gas cartridge respirator is recommended.

VENTILATION..... Required in closed areas

MECHANICAL EXHAUST..... Required in closed areas

LOCAL EXHAUST..... Desired

PROTECTIVE GLOVES..... Wear impervious gloves

EYE PROTECTION..... Use chemical goggles or full face shield.

OTHER PROTECTIVE EQUIPMENT..... Chemical type apron recommended

SECTION IX - SPECIAL HANDLING

HANDLING AND STORAGE..... Store away from oxidizers or materials bearing a yellow "DOT" label. Keep out of sun and away from heat. Clean up leaks immediately to prevent soil or water contamination.

PRECAUTIONARY MEASURES... Avoid contact with skin, eyes, and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown in Section V. Use with adequate ventilation.

HAZARD CLASS..... NON HAZARDOUS

DOT SHIPPING NAME..... NOT REGULATED

REPORTABLE QUANTITY (RQ). None

HASH NUMBER..... None

NA #..... None

PACKAGING SIZE..... N/A

SECTION X - REGULATORY

EPA ACUTE..... YES

EPA CHRONIC..... YES

EPA IGNITABILITY..... NO

EPA REACTIVITY..... NO

EPA SUDDEN RELEASE OF PRESSURE..... NO

CERCLA RQ VALUE..... 1 pound for ethylene glycol

SARA TPQ..... None

SARA RQ..... None

SECTION 313..... YES, ETHYLENE GLYCOL 107-21-1 50% (1/1/87)

EPA HAZARD WASTE #..... None

CLEANAIR..... Yes, Section 111 Volatile Organic Compounds & Section 112 Statutory Air Pollutants (1990 Amendments)

CLEAN WATER..... No

DOT NOTES N/A - not applicable N/D - no data available  
( < - means less than > - means greater than  
App. - approximate Est. - estimated

MATERIAL SAFETY DATA SHEET  
COASTALGUARD 50 ANTIFREEZE/COOLANT

PREPARED BY:..... David Trahan, C.F.T. - 318-898-0001

THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.



CITGO Petroleum Corporation  
P. O. Box 3758  
Tulsa, Oklahoma 74102

### Material Safety Data Sheet

Generic Name: CITGO Gas Engine Oils, SUS 450-2000

Date: May 30, 1997

Generic Code: GE-S1a

#### THIS GENERIC MSDS REPRESENTS THE FOLLOWING CITGO PRODUCTS:

<u>Trade Name</u>	<u>Commodity Code No.:</u>
CITGO Pacemaker GEO 340	32-003
CITGO Pacemaker GEO 315	32-004
CITGO Pacemaker GEO 815	32-026
CITGO Pacemaker GEO 830	32-027
CITGO Pacemaker GEO 840	32-028
CITGO Pacemaker GEO 935	32-030
CITGO Pacemaker GEO 1035	32-032
CITGO Pacemaker GEO 715	32-033
CITGO Pacemaker GEO 740	32-034
CITGO Pacemaker GEO 1230	32-035
CITGO Pacemaker GEO 1240	32-036
CITGO Pacemaker GEO 1215	32-037
CITGO Pacemaker GEO 1630	32-045
CITGO Pacemaker GEO 1640	32-046
CITGO Pacemaker GEO 1615	32-047
CITGO Pacemaker GEO Special	32-054
CITGO Pacemaker GEO 1840	32-084
CITGO Pacemaker GEO 1015	32-210
CITGO Pacemaker GEO 1020	32-212

Synonyms:	Lubricating Oil	Technical Contact:	(918) 495-5933
CAS No.:	Mixture (Refer to Section 1)	Medical Emergency:	(918) 495-4700
CITGO Index No.:	1954	CHEMTREC Emergency:	(800) 424-9300

#### MATERIAL HAZARD EVALUATION

(Per OSHA Hazard Communication Standard [29 CFR 1910.1200])

**Health Precautions:** Protect exposed skin from repeated or prolonged exposure.

**Safety Precautions:** Do not store material in open or unmarked containers.

HMIS Rating<sup>1</sup>      Health: 0      Flammability: 1      Reactivity: 0

<sup>1</sup>Hazard Rating: least-0, slight-1, moderate-2, high-3, extreme-4.

CITGO assigned these values based upon an evaluation conducted pursuant to NPCA guidelines. Use of an asterisk (\*) indicates that the material may present chronic health effects.

NA-Not Applicable

ND-No Data

NE-Not Established

## 1.0 GENERIC COMPOSITION / COMPONENTS

Components	CAS No.	%	Hazard Data
Refined Petroleum Oil(s)	Refer to Section 11	> 70	Oral LD <sub>50</sub> (rat): > 5 g/kg Dermal and Eye: Mild irritant.
Anti-oxidant, Dispersant (May include zinc dialkyldithiophosphate)	Mixture	< 20	Dermal: Mild irritant. Eye: Irritant
VI Improver	Mixture	< 15	Dermal and Eye: Mild irritant.
Pour Point Depressant	Mixture	< 1	Dermal and Eye: Mild irritant.
Antifoam	Mixture	< 0.1	Dermal and Eye: Mild irritant.

## 2.0 PHYSICAL DATA

PHYSICAL HAZARD CLASSIFICATION (Per 29 CFR 1910.1200)

Combustible	No	Flammable	No	Pyrophoric	No
Compressed Gas	No	Organic Peroxide	No	Reactivity	No
Explosive	No	Oxidizer	No	Stable	Yes

Boiling Point, 760 mm Hg, °C (°F): ~361 - 466 (~ 682 - 870)  
 Specific Gravity (60/60 °F) (H<sub>2</sub>O = 1): ~ 0.87 - 0.89  
 Vapor Density (Air = 1): > 1  
 % Volatiles by Volume: Negligible  
 Melting Point, °C (°F): NA  
 Vapor Pressure, mm Hg (25°C): < 1 x 10<sup>-5</sup> to ~ 4 x 10<sup>5</sup>  
 Solubility in Water: Negligible  
 Evaporation Rate (n-butyl acetate = 1): < 1  
 pH of Undiluted Product: NA  
 Appearance and Odor: Light to dark amber liquid, slight petroleum odor.

## 3.0 FIRE AND EXPLOSION DATA

Flash Point, OC, °C (°F): 213 - 286 (415 - 547)  
 Flash Point, CC, °C (°F): 170 - 232 (338 - 450)  
 Fire Point, OC °C (°F): 238 - 314 (460 - 597)  
 NFPA Rating<sup>2</sup>: Health: 0 Flammability: 1 Reactivity: 0  
 Flammable Limits (% by volume in air): Lower: ND Upper: ND  
 Extinguishing Media: CO<sub>2</sub>, dry chemical, foam, water fog.  
 Special Fire Fighting Procedure: None.  
 Unusual Fire or Explosion Hazard: Water may cause frothing.

<sup>2</sup>Hazard Rating: least-0; slight-1; moderate-2; high-3; extreme-4.

CITGO assigned these values based upon an evaluation conducted pursuant to NFPA guidelines.



## 4.0 REACTIVITY DATA

Stability:	Stable.
Conditions Contributing to Instability:	Excessive heat.
Incompatibility:	Strong oxidants
Hazardous Decomposition Products (thermal, unless otherwise specified):	CO <sub>2</sub> , (CO with incomplete combustion) and trace oxides of phosphorus, sulfur and zinc.
Hazardous Polymerization:	Hazardous polymerization is not expected to occur.

## 5.0 SPILL, LEAK AND DISPOSAL PROCEDURES

### Procedure if Material is Spilled:

- Remove all ignition sources.
- Isolate the area of the spill and restrict access to persons wearing protective clothing.
- Ventilate area of release, as necessary, to disperse vapors and mists.
- **Small Spills:** Absorb released material with non-combustible absorbent. Place into containers for later disposal. (See Waste Disposal section below.)
- **Large Spills:** Evacuate area in the event of significant spills. Evaluate exposure potential. Potential exposure may require the use of respiratory protection. Use protective clothing. Contain spill in temporary dikes to avoid product migration and to assist in recovery. Do not allow material to escape into sewers, ground water, drainage ditches or surface waters.
- Administer appropriate first aid.
- Report releases as required to the appropriate Federal, State and local authorities.

### Waste Disposal:

- It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal.
- Determine compliance status with all applicable requirements prior to disposal.
- Contact the RCRA/Superfund Hotline at (800) 424-9346 or your regional US EPA office for guidance concerning case specific disposal issues.

### Protective Measures During Repair and Maintenance of Contaminated Equipment:

- Refer to Section 7.0 - Special Protection Information.
- Drain and purge equipment, as necessary, to remove material residues.
- Use gloves constructed of impervious materials such as heavy nitrile rubber or neoprene and protective work clothing if direct, extended contact is anticipated.
- Eliminate heat and ignition sources.
- Wash exposed skin thoroughly with soap and water.
- Remove contaminated clothing. Launder before reuse.
- Keep unnecessary persons from hazard area.

## 6.0 HEALTH HAZARD DATA

### Health Hazard Classification (Per 29 CFR 1910.1200):

Highly Toxic	No	Sensitizer	No
Toxic	No	Reproductive Effects	No
Corrosive	No	Mutagen	No
Irritant	No	Target Organ	No

## 6.0 HEALTH HAZARD DATA (continued)

### Carcinogen:

Product/Component	CAS No.	Conc. (%)	NTP	IARC	OSHA	Other
CITGO Gas Engine Oils, SUS 450-2,000	Mixture	100	No	No	No	No

**Toxicity Summary:** Generally of a low order of toxicity.

**Major Route of Entry:** Inhalation of incidental mists or vapors and dermal contact with liquid.

### Acute Exposure Symptoms:

**Inhalation:** Over exposure to mists or fumes at elevated temperatures cause drowsiness, dizziness, headache, nausea or lung irritation. Exposures well over applicable workplace exposures levels can cause lung damage.

**Dermal:** Products represented by this MSDS can cause mild transient skin irritation in some individuals.

**Eye:** Products represented by this MSDS can cause mild to moderate eye irritation in some individuals.

**Ingestion:** If swallowed, gastrointestinal discomfort, diarrhea, and headache may occur.

**Injection:** Injection under the skin, in muscle or into the blood stream may cause irritation, inflammation, swelling or severe, permanent tissue damage.

### Chronic Exposure Symptoms:

Prolonged and/or frequent contact may cause drying, cracking (dermatitis) or folliculitis.

### Other Special Effects:

None expected.

### Medical Conditions Aggravated by Exposure:

None.

### First Aid and Emergency Procedures for Acute Effects:

**Inhalation:** Move victim to fresh air. If victim is not breathing, immediately begin cardiopulmonary resuscitation (CPR). If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately.

**Dermal:** Remove contaminated clothing. Wash exposed skin with soap and water. Launder clothing before use. Seek medical attention if tissue appears damaged or if irritation persists.

**Eyes:** Flush eyes with cool water while occasionally lifting and lowering eyelids. Remove contact lenses if worn. Seek medical attention if excessive tearing, irritation or pain persists.

**Ingestion:** Induce vomiting only upon the advice of a physician. Never give anything by mouth to a person who is not fully conscious. Seek medical attention immediately.

**Injection:** Injection under the skin, in muscle or into the blood stream is a medical emergency. Seek medical attention immediately.

## 6.0 HEALTH HAZARD DATA (continued)

### Notes to Physician:

The viscosity range of the products represented by this MSDS is 450 to 2,000 SUS at 100° F. If ingested, there is a risk of aspiration of vomitus into the lungs. Removal of material by emesis or lavage may be considered. However, protection of the airway is recommended.

Subcutaneous or intramuscular injection requires prompt surgical debridement.

## 7.0 SPECIAL PROTECTION INFORMATION

### Ventilation Requirements:

Use in well ventilated area. In confined space, mechanical ventilation may be required to keep levels of certain components below applicable workplace exposure levels as evaluated by designated and properly trained personnel.

### Applicable Workplace Exposure Levels:

Chemical Component	ACGIH TLV TWA ppm (mg/M <sup>3</sup> )	ACGIH TLV STEL/ Ceiling (C) ppm (mg/M <sup>3</sup> )	ACGIH TLV Skin notation?	OSHA PEL TWA ppm (mg/ M <sup>3</sup> )	OSHA PEL STEL/ Ceiling (C) ppm (mg/M <sup>3</sup> )	OSHA PEL Skin notation?
Oil Mist, Mineral	(5)	(10)	No	(5)	NE	No

### Specific Personal Protective Equipment:

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations.

**Respirator:** At elevated temperatures, vapor or mist concentrations above applicable workplace exposure levels may be expected. Use a NIOSH or MSHA approved organic vapor/mist chemical cartridge respirator when elevated airborne concentrations are anticipated.

**Eyes:** Safety glasses or chemical splash goggles if splashing is anticipated.

**Dermal:** Use gloves constructed of impervious materials such as heavy nitrile rubber or neoprene if frequent or prolonged contact is anticipated.

**Clothing or Equipment:** Wear body-covering work clothes to avoid prolonged or repeated exposure. Launder contaminated work clothes before reuse.

## 8.0 TRANSPORTATION AND SPECIAL PRECAUTIONS

**Storage:** Store in a cool, dry, well ventilated area. Do not apply high heat or flame to container. Keep separate from strong oxidizing agents.

**Caution:** Empty containers may contain product residue which could include flammable vapors. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

## 8.0 TRANSPORTATION AND SPECIAL PRECAUTIONS (continued)

### DOT Information:

Proper Shipping Name:	Petroleum Lubricating Oils
Hazard Class:	Non-Hazardous
Hazard Identification No.:	None assigned
Packaging Group:	None assigned
Placard:	None
Compatibility Category:	Group 33
CHRIS Code:	OLB

## 9.0 ENVIRONMENTAL DATA

### Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### Section 313 - Toxic Chemicals:

This product is not known to contain any components in concentrations above *de minimis* levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA.

#### Section 311/312 - Hazard Categories:

This product may meet one or more of the criteria for the hazard categories defined in 40 CFR Part 370 as established by Sections 311 and 312 of SARA as indicated below:

Immediate (Acute) Health Hazard:	<u>No</u>	Sudden Release of Pressure Hazard:	<u>No</u>
Delayed (Chronic) Health Hazard:	<u>No</u>	Reactive Hazard:	<u>No</u>
Fire Hazard:	<u>No</u>		

#### Section 302 - Extremely Hazardous Substances:

This product is not known to contain any components in concentrations greater than one percent that are listed as Extremely Hazardous Substances in 40 CFR Part 355 pursuant to the requirements of Section 302(a) of SARA.

#### Clean Water Act (CWA):

Under the CWA, discharges of crude oil and petroleum products to surface water without proper Federal and State permits must be reported immediately to the National Response Center at (800) 424-8802.

#### Comprehensive Environmental Response, Compensation & Liability Act (CERCLA) Section 102 Hazardous Substances:

As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance.

#### California Proposition 65 (The Safe Drinking Water and Toxics Enforcement Act):

This material contains components that are known to the State of California to be:

Carcinogenic:	<u>No</u>	Reproductive Hazard:	<u>No</u>
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#### New Jersey Worker and Community Right-to-Know Act:

Petroleum Oil

#### Toxic Substances Control Act (TSCA):

Reported in TSCA Inventory as:	Product	Components
CITGO Gas Engine Oils SUS 450 - 2,000		X

NA-Not Applicable

ND-No Data

NE-Not Established

CITGO Gas Engine Oils SUS 450-2000 (GE-S1a, May30, 1997, CIN: 1954)

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## 10.0 LABELING

### **NOTE:**

This product has been determined not to be a physical or a health hazard as defined by the OSHA Hazard Communication Standard.

Avoid prolonged skin contact with used motor oil. Continuous contact has caused skin cancer in laboratory animals. After draining oil, wash skin thoroughly with soap and water. Launder contaminated clothing before reuse.

## 11.0 REFINED PETROLEUM OILS

The products represented by this MSDS contains one or more of the following base oils:

<b><u>Chemical / Common Name</u></b>	<b><u>CAS No.</u></b>
Solvent Refined Light Paraffinic Distillate	64741-89-5
Solvent Refined Heavy Paraffinic Distillate	64741-88-4
Solvent Dewaxed Heavy Paraffinic Distillate	64742-65-0
Hydrotreated Light Paraffinic Distillate	64742-55-8
Hydrotreated Neutral Lubricating Oil	72623-87-1
Hydrotreated High Viscosity Neutral Lubricating Oil	72623-85-9

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## El Cedro Complex

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Bloomfield, NM 87413

Hwy 64 Milemarker 100.5  
Blanco, NM 87412

505-632-4870  
505-632-4875 Fax

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WILLIAMS SLL

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Telephone Number:

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X6543

FROM:

Telephone Number:

WILL S

X879

REGARDING:

ANNUAL WASTE WATER SAMPLES

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## QWAL LABORATORIES, INC.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

## LABORATORY REPORT:

REFERENCE #:

9910993

SENT WILLIAMS GAS PIPELINE

DATE REPORTED:

11/11/99

TO: PO BOX 215

DATE COLLECTED:

10/28/99

BLOOMFIELD, NM 87413

DATE RECEIVED:

10/30/99

WILL SMITH

P.O. #:

392-0795-W5

PROJECT PLANT AND RECIPIE WATER

Sample ID: PLANT TANK (EXEMPT)  
Collection Date: 10/28/99

Sample Matrix: WATER

TEST	METHOD-CAS #	RESULT	UNITS	PQL	ANALYSED	EXTRACTED
TCLP EXTRACTION	EPA 1311	DONE			DLB	11/01/99
SILVER, TCLP	SW 846 6010	<0.01	MG/L	0.01	11/04/99JMM	
ARSENIC, TCLP	SW 846 7060	0.001	MG/L	0.001	11/04/99JMM	
BARIUM, TCLP	SW 846 6010	0.020	MG/L	0.005	11/04/99JMM	
CADMIUM, TCLP	SW 846 6010	0.028	MG/L	0.005	11/04/99JMM	
CHROMIUM, TCLP	SW 846 6010	1.07	MG/L	0.01	11/04/99JMM	
MERCURY, TCLP	SW 846 7470	<0.0002	MG/L	0.0002	11/02/99JMM	
LEAD, TCLP	SW 846 6010	0.04	MG/L	0.01	11/04/99JMM	
SELENIUM, TCLP	SW 846 7740	<0.002	MG/L	0.002	11/05/99JMM	
TCLP VOLATILES	SW 846 8260					
BENZENE	71-43-2	0.112	UG/L	5.0	11/03/99TK	
CARBON TETRACHLORIDE	56-23-5	ND	UG/L	5.0	11/03/99TK	
CHLOROBENZENE	106-90-7	ND	UG/L	5.0	11/03/99TK	
CHLOROFORM	67-66-3	0.017	UG/L	5.0	11/03/99TK	
1,2-DICHLOROETHANE	107-06-2	ND	UG/L	5.0	11/03/99TK	
1,1-DICHLOROETHYLENE	75-35-4	ND	UG/L	5.0	11/03/99TK	
METHYL ETHYL KETONE	78-93-3	ND	UG/L	5.0	11/03/99TK	
TETRACHLOROETHYLENE	127-18-4	ND	UG/L	5.0	11/03/99TK	
TRICHLOROETHYLENE	79-01-6	ND	UG/L	5.0	11/03/99TK	
VINYL CHLORIDE	75-01-4	ND	UG/L	5.0	11/03/99TK	
TCLP SEMI-VOLATILES	SW 846 8270					
O-CRESOL	75-43-7	ND	MG/L	0.10	11/07/99DN	11/02/99
P-CRESOL	106-44-5	ND	MG/L	0.10	11/07/99DN	11/02/99
M-CRESOL	59-50-7	ND	MG/L	0.10	11/07/99DN	11/02/99
1,4-DICHLOROBENZENE	541-73-1	ND	MG/L	0.10	11/07/99DN	11/02/99
2,4-DINITROTOLUENE	121-14-2	ND	MG/L	0.10	11/07/99DN	11/02/99
HEXACHLOROBENZENE	118-74-1	ND	MG/L	0.10	11/07/99DN	11/02/99
HEXACHLOROCYCLODIENE	87-68-3	ND	MG/L	0.10	11/07/99DN	11/02/99
HEXACHLOROETHANE	67-72-1	ND	MG/L	0.10	11/07/99DN	11/02/99
NITROBENZENE	98-95-3	ND	MG/L	0.10	11/07/99DN	11/02/99
PENTACHLOROPHENOL	87-86-5	ND	MG/L	0.50	11/07/99DN	11/02/99
PYRIDINE	110-86-1	ND	MG/L	0.10	11/07/99DN	11/02/99
2,4,5-TRICHLOROPHENOL	95-95-4	ND	MG/L	0.10	11/07/99DN	11/02/99
2,4,6-TRICHLOROPHENOL	88-06-2	ND	MG/L	0.10	11/07/99DN	11/02/99

REFERENCE #: 9910993

PAGE: 1

Sample ID: RECIP TANK **NON-EXEMPT**  
Collection Date: 10/28/99

Sample Matrix: WATER

TEST	METHOD-CAS #	RESULT	UNITS	PQL	ANALYZED	EXTRACTED
TCLP EXTRACTION	EPA 1311	DONE			DLB	11/01/99
SILVER, TCLP	SW 846 6010	<0.01	MG/L	0.01	11/04/99JMM	
ARSENIC, TCLP	SW 846 7060	<0.001	MG/L	0.001	11/04/99JMM	
BARIUM, TCLP	SW 846 6010	0.036	MG/L	0.005	11/04/99JMM	
CADMIUM, TCLP	SW 846 6010	<0.005	MG/L	0.005	11/04/99JMM	
CHROMIUM, TCLP	SW 846 6010	<0.01	MG/L	0.01	11/04/99JMM	
MERCURY, TCLP	SW 846 7470	<0.0002	MG/L	0.0002	11/02/99JMM	
IRON, TCLP	SW 846 6010	0.01	MG/L	0.01	11/04/99JMM	
SELENIUM, TCLP	SW 846 7740	<0.003	MG/L	0.002	11/05/99JMM	
TCLP VOLATILES	SW 846 8260					
BENZENE	71-43-2	0.014	MG/L	0.050	11/03/99TK	
CARBON TETRACHLORIDE	56-23-5	ND	MG/L	0.050	11/03/99TK	
CHLOROBENZENE	108-90-7	ND	MG/L	0.050	11/03/99TK	
CHLOROPFORM	67-66-3	ND	MG/L	0.050	11/03/99TK	
1,1-DICHLOROETHANE	107-06-2	ND	MG/L	0.050	11/03/99TK	
1,1-DICHLOROETHYLENE	75-35-4	ND	MG/L	0.050	11/03/99TK	
METHYL ETHYL KETONE	78-93-3	ND	MG/L	0.050	11/03/99TK	
TETRACHLOROETHYLENE	127-18-4	ND	MG/L	0.050	11/03/99TK	
TRICHLOROETHYLENE	79-01-6	ND	MG/L	0.050	11/03/99TK	
VINYL CHLORIDE	75-01-4	ND	MG/L	0.050	11/03/99TK	
TCLP SEMI-VOLATILES	SW 846 8270					
O-CRESOL	75-48-7	ND	MG/L	0.10	11/07/99DN	11/02/99
P-CRESOL	106-44-5	ND	MG/L	0.10	11/07/99DN	11/02/99
M-CRESOL	99-50-7	ND	MG/L	0.10	11/07/99DN	11/02/99
1,4-DICHLOROBENZENE	541-73-1	ND	MG/L	0.10	11/07/99DN	11/02/99
2,4-DINITROTOLUENE	121-14-2	ND	MG/L	0.10	11/07/99DN	11/02/99
HEXACHLOROBENZENE	118-74-1	ND	MG/L	0.10	11/07/99DN	11/02/99
HEXACHLOROCYCLOHEPTADIENE	87-68-3	ND	MG/L	0.10	11/07/99DN	11/02/99
HEXACHLOROETHANE	67-72-1	ND	MG/L	0.10	11/07/99DN	11/02/99
NITROBENZENE	98-95-3	ND	MG/L	0.10	11/07/99DN	11/02/99
PENTACHLOROPHENOL	87-86-5	ND	MG/L	0.50	11/07/99DN	11/02/99
PYRIDINE	110-86-1	ND	MG/L	0.10	11/07/99DN	11/02/99
2,4,5-TRICHLOROPHENOL	95-95-4	ND	MG/L	0.10	11/07/99DN	11/02/99
2,4,6-TRICHLOROPHENOL	68-06-2	ND	MG/L	0.10	11/07/99DN	11/02/99

Sample ID: MATRIX SPIKE  
Collection Date: 10/28/99

Sample Matrix: WATER

TEST	METHOD-CAS #	RESULT	UNITS	PQL	ANALYZED	EXTRACTED
TCLP EXTRACTION	EPA 1311	DONE			DLB	11/01/99
SILVER, TCLP	SW 846 6010	97.9	µ REC		11/04/99JMM	
ARSENIC, TCLP	SW 846 7060	90.9	µ REC		11/04/99JMM	
BARIUM, TCLP	SW 846 6010	108.6	µ REC		11/04/99JMM	
CADMIUM, TCLP	SW 846 6010	93.9	µ REC		11/04/99JMM	
CHROMIUM, TCLP	SW 846 6010	97.7	µ REC		11/04/99JMM	
MERCURY, TCLP	SW 846 7470	89.9	µ REC		11/02/99JMM	

REFERENCE #: 9910933

PAGE: 2



Sample ID: MATRIX SPIKE  
Collection Date: 10/28/99

Sample Matrix: WATER

TEST	METHOD-CAL #	RESULT	UNITS	PQL	ANALYZED	EXTRACTED
LEAD, TLCP	SW 846 6010	95.7	µ REC		11/04/99JMM	
SELENIUM, TLCP	SW 846 7740	98.5	µ REC		11/05/99JMM	
TLCP SEMI-VOLATILES	SW 846 8270					
O-CRESOL	75-48-7	18	µRECOV	0.10	11/07/99DN	11/02/99
P-CRESOL	106-44-5	60	µRECOV	0.10	11/07/99DN	11/02/99
M-CRESOL	59-50-7	60	µRECOV	0.10	11/07/99DN	11/02/99
1,4-DICHLOROBENZENE	541-73-1	46	µRECOV	0.10	11/07/99DN	11/02/99
2,4-DINITROTOLUENE	121-14-2	15	µRECOV	0.10	11/07/99DN	11/02/99
HEXACHLOROBENZENE	118-74-1	67	µRECOV	0.10	11/07/99DN	11/02/99
HEXACHLOROBUTADIENE	87-68-3	49	µRECOV	0.10	11/07/99DN	11/02/99
HEXACHLOROETHANE	67-72-1	45	µRECOV	0.10	11/07/99DN	11/02/99
NITROBENZENE	98-95-3	35	µRECOV	0.10	11/07/99DN	11/02/99
PENTACHLOROPHENOL	87-86-5	10	µRECOV	0.50	11/07/99DN	11/02/99
PYRIDINE	110-86-1	17	µRECOV	0.10	11/07/99DN	11/02/99
2,4,5-TRICHLOROPHENOL	95-95-4	38	µRECOV	0.10	11/07/99DN	11/02/99
2,4,6-TRICHLOROPHENOL	88-06-2	31	µRECOV	0.10	11/07/99DN	11/02/99
TLCP VOLATILES	SW 846 8260					
BENZENE	71-43-2	90.6	µ REC	1.0	11/03/99TK	
CARBON TETRACHLORIDE	56-23-5	87.3	µ REC	1.0	11/03/99TK	
CHLOROBENZENE	108-90-7	103	µ REC	1.0	11/03/99TK	
CHLOROFORM	67-66-3	79.0	µ REC	1.0	11/03/99TK	
1,2-DICHLOROETHANE	107-06-2	79.1	µ REC	1.0	11/03/99TK	
1,1-DICHLOROETHYLENE	75-35-4	92.8	µ REC	1.0	11/03/99TK	
METHYL ETHYL KETONE	79-93-3	79.0	µ REC	1.0	11/03/99TK	
TETRACHLOROETHYLENE	127-18-4	95.3	µ REC	1.0	11/03/99TK	
TRICHLOROETHYLENE	79-01-6	96.0	µ REC	1.0	11/03/99TK	
VINYL CHLORIDE	75-01-4	106	µ REC	1.0	11/03/99TK	

ND-NONE DETECTED

PQL=PRACTICAL QUANTITATION LIMIT

SW-STANDARD UNITS

\*BACKGROUND CONTAMINATION

SUR-SURROGATE

Q=OUTSIDE LIMITS

B=DETECTED IN METHOD BLANK

APPROVED BY: 

TERRY KOESTER  
LABORATORY DIRECTOR

REFERENCE #: 9910993

PAGE: 3



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TO ORDER: FAX 1-316-232-7730 OR PHONE 1-316-232-1970

*877-5800*

① Company Name: <u>Willis, Wm. S.</u> Attention: <u>PO Box 215</u> Address: <u>Bloomfield NM 87413</u> City, State, Zip Code:		② Phone # <u>505-632-4877</u> ③ Fax # <u>505-632-4875</u> ④ Purchase Order #		⑤ TURNAROUND TIME REQUESTED (Additional Charges May Apply) <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 24 Hour <input type="checkbox"/> Same Day * Note: Please contact lab for availability of priority service.	
⑥ Project Name or Number: <u>Plant &amp; Recip Wastewater</u> Sampling Personnel (print name): <u>Jim Coufal</u> Sampling Personnel Signature(s): <i>Jim Coufal</i>				⑦ ANALYSIS REQUEST (Write Tests Here)	
⑧ Sample ID: <u>10-20-99</u> Date: <u>10-20-99</u> Time: <u>10:30 AM</u> ⑨ of Con. <u>4</u> ⑩ Grab <input checked="" type="checkbox"/> ⑪ Comp. <input checked="" type="checkbox"/> ⑫ Date: <u>10-20-99</u> Time: <u>10:30 AM</u>				REMARKS (If special directions or tests are required please note below.) <u>Metals</u> <u>ICP</u> <u>Minerals</u> <u>Heavy Metals</u> <u>Trace Metals</u> <u>Organics</u> <u>Ammonia</u> <u>Nitrate</u> <u>Nitrite</u> <u>Phosphate</u> <u>Sulfate</u> <u>Silica</u> <u>Solids</u> <u>Temperature</u> <u>pH</u> <u>Dissolved Oxygen</u> <u>DO</u> <u>ORP</u> <u>Redox</u> <u>Chlorine</u> <u>Bromine</u> <u>Iodine</u> <u>Mercury</u> <u>Lead</u> <u>Cadmium</u> <u>Copper</u> <u>Chromium</u> <u>Iron</u> <u>Manganese</u> <u>Nickel</u> <u>Selenium</u> <u>Silver</u> <u>Zinc</u> <u>Barium</u> <u>Boron</u> <u>Calcium</u> <u>Fluoride</u> <u>Magnesium</u> <u>Strontium</u> <u>Titanium</u> <u>Vanadium</u> <u>Yttrium</u> <u>Zirconium</u>	
⑬ Relinquished By: <u>Jim Coufal</u> Date: <u>10-20-99</u> Time: <u>10:30 AM</u> ⑭ Received By: <u>Willis, Wm. S.</u> Date: <u>10-20-99</u> Time: <u>10:30 AM</u> ⑮ Relinquished By: <u>Willis, Wm. S.</u> Date: <u>10-20-99</u> Time: <u>10:30 AM</u> ⑯ Received By: <u>Willis, Wm. S.</u> Date: <u>10-20-99</u> Time: <u>10:30 AM</u>				⑰ Send Report to: <u>Willis, Wm. S.</u> Address: <u>PO Box 215</u> City/State: <u>Bloomfield NM 87413</u> Phone: <u>505-632-4877</u> Fax: <u>505-632-4875</u> ⑱ Send Invoice to: <u>Willis, Wm. S.</u> Address: <u>PO Box 215</u> City/State: <u>Bloomfield NM 87413</u> Phone: <u>505-632-4877</u> Fax: <u>505-632-4875</u> ⑲ Send Invoice to: <u>Willis, Wm. S.</u> Address: <u>PO Box 215</u> City/State: <u>Bloomfield NM 87413</u> Phone: <u>505-632-4877</u> Fax: <u>505-632-4875</u>	

\*FAILURE TO COMPLETE THIS FORM MAY DELAY LABORATORY RESULTS.

District I - (505) 393-6161  
P.O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>EL PASO NATURAL GAS</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>Bluewater Station</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	6. Transporter <u>Key</u>
3. Address of Facility Operator <u>#345 CR 3500 AZTEC N.M.</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>Interstate 40, Exit 53 1/4 mile, south</u>	<u>Thoreau, NM</u>
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

WATER MIXED WITH ANTIFREEZE FROM THE ENGINE COOLING SYSTEM.  
Some oil is also in the mixture (<1% of used engine oil)

RECEIVED

DEC 21 1999

Environmental Bureau  
Oil Conservation Division

RECEIVED  
DEC 13 1999  
OIL CON. DIV.  
DIST. 3

Estimated Volume 750 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovick TITLE: MGR DATE: 12-13-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICK TELEPHONE NO. 505 334-6186

(This space for State Use)

APPROVED BY: Denny L. Zant TITLE: Geologist DATE: 12/13/99

APPROVED BY: Gregg Chubb TITLE: Env Bureau Chief DATE: 12/20/99

# CERTIFICATE OF WASTE STATUS

1. Generator Name and Address: El Paso Natural Gas Co. Bluewater Station 3801 Artrisco Blvd NW Albuquerque, NM 87120	2. Destination Name:  KEY ENERGY DISPOSAL
3. Originating Site (name):  El Paso Natural Gas Company Bluewater Station  Attach list of originating sites as appropriate	Location of the Waste (Street address &/or ULSTR):  Interstate 40, Exit 53 1/4-mile, south Thoreau, NM
4. Source and Description of Waste  Water mixed w/ antifreeze (< 5%) from the engine cooling system. Some oil is also in the mixture. (< 1% of used engine oil)	

I, Richard Duarte representative for:

El Paso Natural Gas Company do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste

☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information

☐ Other (description):

☒ RCRA Hazardous Waste Analysis

☒ Chain of Custody

Name (Original Signature): Richard Duarte

Title: Principle Environmental Engr

Date: 12/13/99.

# NEL LABORATORIES

Reno • Las Vegas  
Phoenix • Irvine

Reno Division  
1030 Matley Lane • Reno, Nevada 89502  
(702) 348-2522 • Fax: (702) 348-2546  
1-800-368-5221

CLIENT: El Paso Natural Gas Co.  
8645 Railroad Dr.  
El Paso, TX 79904  
ATTN: Darrell Campbell

PROJECT NAME: Bluewater Station  
PROJECT #: NA

NEL ORDER ID: P9908051

Attached are the analytical results for samples in support of the above referenced project.

Samples submitted for this project were not sampled by NEL Laboratories. Samples were received by NEL in good condition, under chain of custody on 8/13/99.

Samples were analyzed as received.

Where applicable we have included the following quality control data:

Method blank - used to demonstrate absence of contamination or interferences in the analytical process.  
Laboratory Control Spike (LCS) - used to demonstrate laboratory ability to perform the method within specifications by spiking representative analytes into a clean matrix.  
Surrogates - compounds added to each sample to ensure that the method requirements are met for each individual sample.

Should you have any questions or comments, please feel free to contact our Client Services department at (602) 437-0099.

**Extract for method 8270 for TCLP was analyzed at dilution due to the presence of 2-methyl-2-butenal and 2-methyl-2-pentenal.**

Some results have been flagged as follows:

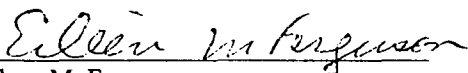
J1 - The batch MS and/or MSD were outside acceptance limits. The LCS was acceptable.

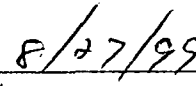
Some QA results have been flagged as follows:

J1 - The batch MS and/or MSD were outside acceptance limits. The LCS was acceptable.

Some surrogate results have been flagged as follows:

D - Sample was run at dilution. Surrogates were diluted outside calibration range.

  
Eileen M. Ferguson  
Laboratory Manager

  
Date

## CERTIFICATIONS:

	Reno	Las Vegas	S. California
Arizona	AZ0520	AZ0518	AZ0605
California	1707	2002	2264
US Army Corps of Engineers	Certified	Certified	

	Reno	Las Vegas	S. California
Idaho	Certified	Certified	
Montana	Certified	Certified	
Nevada	NV033	NV052	CA084
L.A.C.S.D.			10228

# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA

CLIENT ID: F990068  
DATE SAMPLED: 8/11/99  
NEL SAMPLE ID: P9908051-01

TEST: Inorganic Non-Metals  
MATRIX: Aqueous

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>D. F.</u>	<u>METHOD</u>	<u>UNITS</u>	<u>ANALYZED</u>
Cyanide, Reactive	ND	0.02	1	SW846 Chapter Seven	mg/L	8/19/99
Ignitability	>212	212	1	EPA 1010	Temp °F	8/19/99
pH	5.22	2.	1	EPA 9040B	pH Units	8/16/99
pH Temperature	10.5	1.	1	EPA 9040B	°C	8/16/99
Sulfide, Reactive	0.35	0.15	5	SW846 Chapter Seven	mg/L	8/19/99

D.F. - Dilution Factor

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA  
TEST: Non-Metals

CLIENT ID: Method Blank  
DATE SAMPLED: NA  
NEL SAMPLE ID: 990819CN-BLK

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>D. F.</u>	<u>METHOD</u>	<u>UNITS</u>	<u>ANALYZED</u>
Cyanide, Reactive	ND	0.02	1	SW846 Chapter Seven	mg/L	8/19/99

D.F. - Dilution Factor

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA

CLIENT ID: Method Blank  
DATE SAMPLED: NA  
NEL SAMPLE ID: 990819SULFREAC1-BLK

TEST: Non-Metals

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>D. F.</u>	<u>METHOD</u>	<u>UNITS</u>	<u>ANALYZED</u>
Sulfide, Reactive	ND	0.03	1	SW846 Chapter Seven	mg/L	8/19/99

D.F. - Dilution Factor

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA

CLIENT ID: F990068  
DATE SAMPLED: 8/11/99  
NEL SAMPLE ID: P9908051-01

TEST: TCLP-8 Metals  
MATRIX: Aqueous

PARAMETER	RESULT mg/L	REPORTING LIMIT	D. F.	METHOD	TCLP/STLC EXTRACTION		
					DATE	DIGESTED	ANALYZED
Arsenic	ND	0.1 mg/L	1	EPA 6010	NA	8/19/99	8/19/99
Barium	ND	1. mg/L	1	EPA 6010	NA	8/19/99	8/19/99
Cadmium	ND	0.01 mg/L	1	EPA 6010	NA	8/19/99	8/19/99
Chromium	ND	0.01 mg/L	1	EPA 6010	NA	8/19/99	8/19/99
Lead	ND	0.05 mg/L	1	EPA 6010	NA	8/19/99	8/19/99
Mercury	ND	0.002 mg/L	10	EPA 7470A	NA	8/19/99	8/19/99
Selenium	0.11	Jl 0.1 mg/L	1	EPA 6010	NA	8/19/99	8/19/99
Silver	ND	0.02 mg/L	1	EPA 6010	NA	8/19/99	8/19/99

D.F. - Dilution Factor

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA

CLIENT ID: Method Blank  
DATE SAMPLED: NA  
NEL SAMPLE ID: P08051-T7-BLK

TEST: TCLP Metals  
MATRIX: TCLP Extract

PARAMETER	RESULT	REPORTING LIMIT	D. F.	TCLP/STLC EXTRACTION			
				METHOD	DATE	DIGESTED	ANALYZED
Arsenic	ND	0.1 mg/L	1	EPA 6010	NA	8/19/99	8/19/99
Barium	ND	1 mg/L	1	EPA 6010	NA	8/19/99	8/19/99
Cadmium	ND	0.01 mg/L	1	EPA 6010	NA	8/19/99	8/19/99
Chromium	ND	0.01 mg/L	1	EPA 6010	NA	8/19/99	8/19/99
Lead	ND	0.05 mg/L	1	EPA 6010	NA	8/19/99	8/19/99
Selenium	ND	0.1 mg/L	1	EPA 6010	NA	8/19/99	8/19/99
Silver	ND	0.02 mg/L	1	EPA 6010	NA	8/19/99	8/19/99

D.F. - Dilution Factor

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA

CLIENT ID: Method Blank  
DATE SAMPLED: NA  
NEL SAMPLE ID: P08051-THg-BLK

TEST: TCLP Metals  
MATRIX: TCLP Extract

PARAMETER	RESULT	REPORTING LIMIT	D. F.	TCLP/STLC EXTRACTION			
				METHOD	DATE	DIGESTED	ANALYZED
Mercury	ND	0.002mg/L	10	EPA 7470A	NA	8/19/99	8/19/99

D.F. - Dilution Factor

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA

CLIENT ID: F990068  
DATE SAMPLED: 8/11/99  
NEL SAMPLE ID: P9908051-01

TEST: TCLP by EPA 1311, July 1992 & Volatile Organics by EPA 8260B, Dec. 1996  
METHOD: EPA 8260B  
MATRIX: Aqueous  
DILUTION: 1

TCLP EXTRACT DATE: NA  
EXTRACTED: 8/18/99  
ANALYZED: 8/18/99

PARAMETER	Result mg/L	Reporting Limit
Benzene	ND	0.1 mg/L
Carbon tetrachloride	ND	0.1 mg/L
Chlorobenzene	ND	0.1 mg/L
Chloroform	ND	0.1 mg/L
1,4-Dichlorobenzene (p-DCB)	ND	0.1 mg/L
1,2-Dichloroethane (1,2-DCA)	ND	0.1 mg/L
1,1-Dichloroethene (1,1-DCE)	ND	0.1 mg/L
Methyl Ethyl Ketone	ND	2. mg/L
Tetrachloroethene (PCE)	ND	0.1 mg/L
Trichloroethene	ND	0.1 mg/L
Vinyl chloride	ND	0.1 mg/L

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	106	74 - 121
Dibromofluoromethane	96	80 - 120
Toluene-d8	100	81 - 117

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA

CLIENT ID: F990068  
DATE SAMPLED: 8/11/99  
NEL SAMPLE ID: P9908051-01

TEST: TCLP by EPA 1311, July 1992 & Semivolatile Organics by EPA Method 8270C, December 1996  
METHOD: EPA 8270  
MATRIX: Aqueous  
DILUTION: 10

TCLP EXTRACT DATE: NA  
EXTRACTED: 8/17/99  
ANALYZED: 8/17/99

PARAMETER	Result mg/L	Reporting Limit
1,4-Dichlorobenzene (p-DCB)	ND	1. mg/L
2,4-Dinitrotoluene (DNT)	ND	1. mg/L
Hexachlorobenzene	ND	1. mg/L
Hexachlorobutadiene	ND	1. mg/L
Hexachloroethane	ND	1. mg/L
2-Methylphenol	ND	1. mg/L
3,4-Methylphenol (isomeric pair)	ND	1. mg/L
Nitrobenzene	ND	1. mg/L
Pentachlorophenol	ND	1. mg/L
Pyridine	ND	1. mg/L
2,4,5-Trichlorophenol	ND	1. mg/L
2,4,6-Trichlorophenol	ND	1. mg/L

See F99-0088

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2,4,6-Tribromophenol	D	10 - 123
2-Fluorobiphenyl	D D	43 - 116
2-Fluorophenol	D	21 - 100
Nitrobenzene-d5	D	35 - 114
p-Terphenyl-d14	D	33 - 141
Phenol-d5	D	10 - 94

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA

CLIENT ID: Method Blank  
DATE SAMPLED: NA  
NEL SAMPLE ID: 081799-E1\_tclp-BLK

TEST: TCLP by EPA 1311, July 1992 & Semivolatile Organics by EPA Method 8270C, December 1996  
METHOD: EPA 8270  
MATRIX: TCLP Extract

TCLP EXTRACT DATE: NA  
EXTRACTED: 8/17/99  
ANALYZED: 8/17/99

PARAMETER	Result mg/L	Reporting Limit
1,4-Dichlorobenzene (p-DCB)	ND	0.1 mg/L
2,4-Dinitrotoluene (DNT)	ND	0.1 mg/L
Hexachlorobenzene	ND	0.1 mg/L
Hexachlorobutadiene	ND	0.1 mg/L
Hexachloroethane	ND	0.1 mg/L
2-Methylphenol	ND	0.1 mg/L
3,4-Methylphenol (isomeric pair)	ND	0.1 mg/L
Nitrobenzene	ND	0.1 mg/L
Pentachlorophenol	ND	0.1 mg/L
Pyridine	ND	0.1 mg/L
2,4,5-Trichlorophenol	ND	0.1 mg/L
2,4,6-Trichlorophenol	ND	0.1 mg/L

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2,4,6-Tribromophenol	72	10 - 123
2-Fluorobiphenyl	74	43 - 116
2-Fluorophenol	47	21 - 100
Nitrobenzene-d5	77	35 - 114
p-Terphenyl-d14	93	33 - 141
Phenol-d5	30	10 - 94

ND - Not Detected

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# NEL LABORATORIES

CLIENT: . El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA

CLIENT ID: Method Blank  
DATE SAMPLED: NA  
NEL SAMPLE ID: 081899-V1-TCLPB-BLK

TEST: TCLP by EPA 1311, July 1992 & Volatile Organics by EPA 8260B, Dec. 1996  
METHOD: EPA 8260B  
MATRIX: TCLP Extract

TCLP EXTRACT DATE: NA  
EXTRACTED 8/18/99  
ANALYZED: 8/18/99

PARAMETER	Result mg/L	Reporting Limit
Benzene	ND	0.1 mg/L
Carbon tetrachloride	ND	0.1 mg/L
Chlorobenzene	ND	0.1 mg/L
Chloroform	ND	0.1 mg/L
1,4-Dichlorobenzene (p-DCB)	ND	0.1 mg/L
1,2-Dichloroethane (1,2-DCA)	ND	0.1 mg/L
1,1-Dichloroethene (1,1-DCE)	ND	0.1 mg/L
Methyl Ethyl Ketone	ND	2 mg/L
Tetrachloroethene (PCE)	ND	0.1 mg/L
Trichloroethene	ND	0.1 mg/L
Vinyl chloride	ND	0.1 mg/L

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
4-Bromofluorobenzene	106	74 - 121
Dibromofluoromethane	94	80 - 120
Toluene-d8	98	81 - 117

ND - Not Detected

*This report shall not be reproduced except in full, without the written approval of the laboratory.*



# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
 PROJECT ID: Bluewater Station  
 PROJECT #: NA  
 TEST: TCLP by EPA 1311, September 1992 & Semivolatile Organics by EPA Method 8270C, December 1996  
 MATRIX: Solid

PARAMETER	NEL Sample ID	Spike Amount	Spike Result	Percent Recovery	Acceptable Range	RPD
Pyridine	081799-E1_tclp-LCS	80	44.7	56	10 - 130	
Pyridine	P9908038-01-MS	80	46.1	58	10 - 130	
Pyridine	P9908038-01-MSD	80	43.3	54	10 - 130	6.3
1,4-Dichlorobenzene (p-DCB)	081799-E1_tclp-LCS	80	68.4	86	48 - 101	
1,4-Dichlorobenzene (p-DCB)	P9908038-01-MS	80	69.7	87	48 - 101	
1,4-Dichlorobenzene (p-DCB)	P9908038-01-MSD	80	66.6	83	48 - 101	4.6
Hexachloroethane	081799-E1_tclp-LCS	80	65.7	82	43 - 104	
Hexachloroethane	P9908038-01-MS	80	69.2	87	43 - 104	
Hexachloroethane	P9908038-01-MSD	80	64.6	81	43 - 104	6.9
Nitrobenzene	081799-E1_tclp-LCS	80	68.3	85	28 - 124	
Nitrobenzene	P9908038-01-MS	80	69	86	28 - 124	
Nitrobenzene	P9908038-01-MSD	80	70.4	88	28 - 124	2.
Hexachlorobutadiene	081799-E1_tclp-LCS	80	69.8	87	39 - 111	
Hexachlorobutadiene	P9908038-01-MS	80	74.1	93	39 - 111	
Hexachlorobutadiene	P9908038-01-MSD	80	70.7	88	39 - 111	4.7
2-Methylphenol	081799-E1_tclp-LCS	80	67.4	84	30 - 130	
2-Methylphenol	P9908038-01-MS	80	68.3	85	30 - 130	
2-Methylphenol	P9908038-01-MSD	80	69.8	87	30 - 130	2.2
3,4-Methylphenol (isomeric pair)	081799-E1_tclp-LCS	80	61	76	30 - 130	
3,4-Methylphenol (isomeric pair)	P9908038-01-MS	80	62.8	79	30 - 130	
3,4-Methylphenol (isomeric pair)	P9908038-01-MSD	80	63.6	80	30 - 130	1.3
2,4,6-Trichlorophenol	081799-E1_tclp-LCS	80	79.1	99	43 - 110	
2,4,6-Trichlorophenol	P9908038-01-MS	80	82.6	103	43 - 110	
2,4,6-Trichlorophenol	P9908038-01-MSD	80	82.3	103	43 - 110	0.4
2,4,5-Trichlorophenol	081799-E1_tclp-LCS	80	79	99	30 - 130	
2,4,5-Trichlorophenol	P9908038-01-MS	80	85.4	107	30 - 130	
2,4,5-Trichlorophenol	P9908038-01-MSD	80	86	108	30 - 130	0.7
2,4-Dinitrotoluene (DNT)	081799-E1_tclp-LCS	80	70.2	88	50 - 111	
2,4-Dinitrotoluene (DNT)	P9908038-01-MS	80	65.3	82	50 - 111	
2,4-Dinitrotoluene (DNT)	P9908038-01-MSD	80	71.2	89	50 - 111	8.7
Hexachlorobenzene	081799-E1_tclp-LCS	80	71.8	90	41 - 125	
Hexachlorobenzene	P9908038-01-MS	80	74.2	93	41 - 125	
Hexachlorobenzene	P9908038-01-MSD	80	72.2	90	41 - 125	2.7
Pentachlorophenol	081799-E1_tclp-LCS	80	78.2	98	47 - 127	
Pentachlorophenol	P9908038-01-MS	80	79.4	99	47 - 127	
Pentachlorophenol	P9908038-01-MSD	80	81.9	102	47 - 127	3.1

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
 PROJECT ID: Bluewater Station  
 PROJECT #: NA  
 TEST: TCLP by EPA 1311, July 1992 & Volatile Organics by EPA 8260B, Dec. 1996  
 MATRIX: Aqueous

<u>PARAMETER</u>	<u>NEL Sample ID</u>	<u>Spike Amount</u>	<u>Spike Result</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>RPD</u>
Benzene	081899-V1-TCLPB-LCS	20	20.4	102	66 - 142	
Chlorobenzene	081899-V1-TCLPB-LCS	20	21.6	108	60 - 133	
1,1-Dichloroethene (1,1-DCE)	081899-V1-TCLPB-LCS	20	20.9	105	59 - 172	
Toluene	081899-V1-TCLPB-LCS	20	20.6	103	59 - 139	
Trichloroethene (TCE)	081899-V1-TCLPB-LCS	20	20.5	102	62 - 137	

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA  
TEST: Inorganic Non-Metals  
MATRIX: Aqueous

<u>PARAMETER</u>	<u>NEL Sample ID</u>	<u>Spike Amount</u>	<u>Spike Result</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>RPD</u>
7.00 Buffer	990816PH-LCS	7	7.04	101	99 - 101	

ND - Not Detected

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## NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA  
TEST: Inorganic Non-Metals  
MATRIX: Aqueous

<u>PARAMETER</u>	<u>NEL Sample ID</u>	<u>Spike Amount</u>	<u>Spike Result</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>RPD</u>
Ignitability	990819FLASH1-LCS	81	81	100	102 - 98	

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Co.  
 PROJECT ID: Bluewater Station  
 PROJECT #: NA  
 TEST: TCLP/STLC Metals  
 MATRIX: Aqueous

<u>PARAMETER</u>	<u>NEL Sample ID</u>	<u>Spike Amount</u>	<u>Spike Result</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>RPD</u>
Arsenic	P08051-T7-LCS	0.5	0.526	105	85 - 115	
Arsenic	P9908051-01-MS	0.5	0.39	78	75 - 125	
Arsenic	P9908051-01-MSD	0.5	0.382	76	75 - 125	2.1
Barium	P08051-T7-LCS	1	1.02	102	85 - 115	
Barium	P9908051-01-MS	1	1.08	108	75 - 125	
Barium	P9908051-01-MSD	1	1.09	109	75 - 125	
Cadmium	P08051-T7-LCS	0.2	0.204	102	85 - 115	
Cadmium	P9908051-01-MS	0.2	0.181	90	75 - 125	
Cadmium	P9908051-01-MSD	0.2	0.178	89	75 - 125	1.7
Chromium	P08051-T7-LCS	0.5	0.505	101	85 - 115	
Chromium	P9908051-01-MS	0.5	0.493	99	75 - 125	
Chromium	P9908051-01-MSD	0.5	0.496	99	75 - 125	0.6
Lead	P08051-T7-LCS	1	1.03	103	85 - 115	
Lead	P9908051-01-MS	1	0.927	93	75 - 125	
Lead	P9908051-01-MSD	1	0.915	92	75 - 125	1.3
Selenium	P08051-T7-LCS	0.5	0.518	104	85 - 115	
Selenium	P9908051-01-MS	0.5	0.856	149 JI	75 - 125	
Selenium	P9908051-01-MSD	0.5	0.848	148 JI	75 - 125	1.1
Silver	P08051-T7-LCS	0.5	0.468	94	85 - 115	
Silver	P9908051-01-MS	0.5	0.411	82	75 - 125	
Silver	P9908051-01-MSD	0.5	0.407	81	75 - 125	1.

ND - Not Detected

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# NEL LABORATORIES

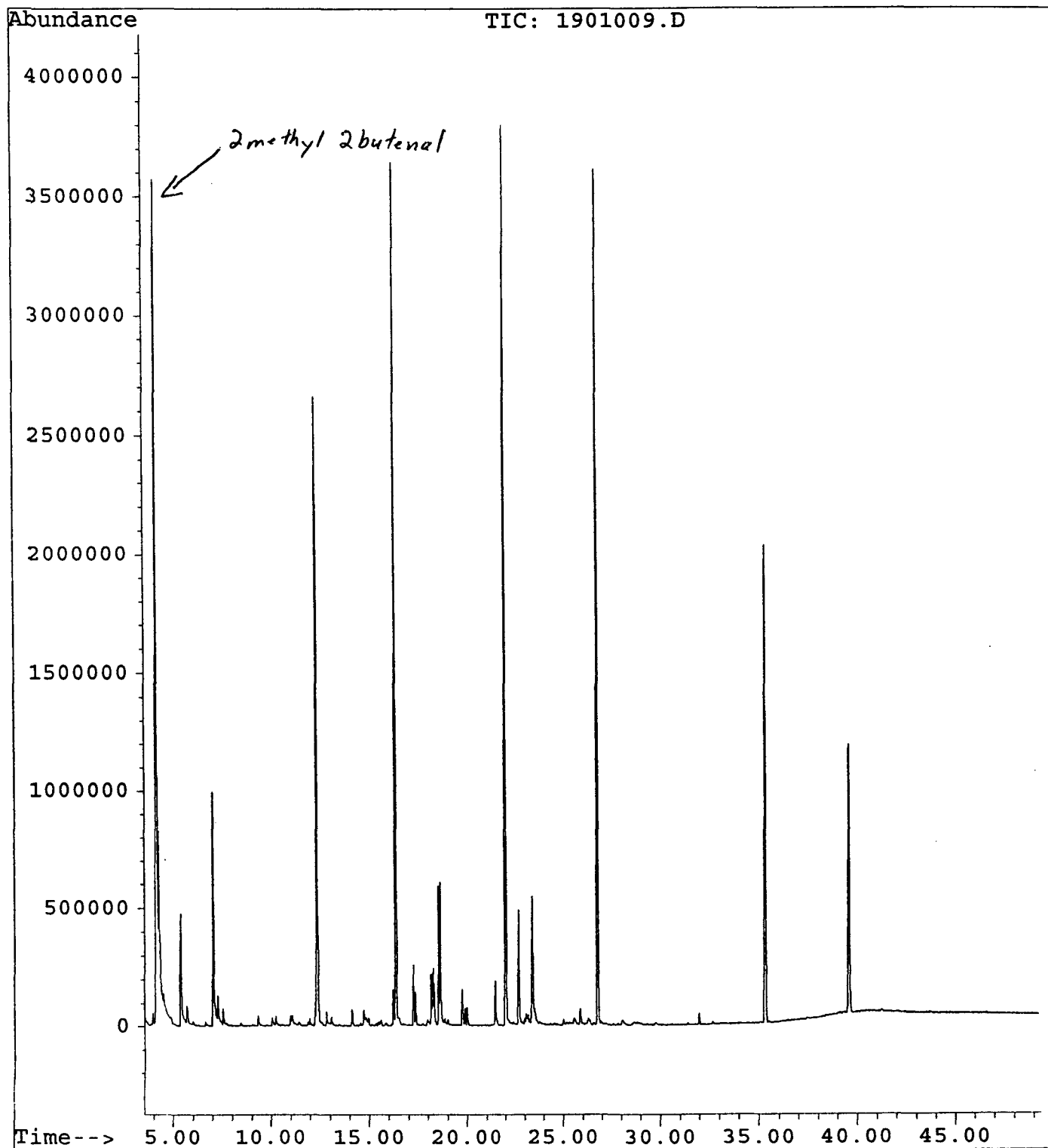
CLIENT: , El Paso Natural Gas Co.  
PROJECT ID: Bluewater Station  
PROJECT #: NA  
TEST: TCLP/STLC Metals  
MATRIX: Aqueous

<u>PARAMETER</u>	<u>NEL Sample ID</u>	<u>Spike Amount</u>	<u>Spike Result</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>RPD</u>
Mercury	P08051-THg-LCS	0.005	0.00537	107	85 - 115	
Mercury	P9908051-01-MS	0.05	0.0541	108	75 - 125	
Mercury	P9908051-01-MSD	0.05	0.053	106	75 - 125	2.1

ND - Not Detected

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File : C:\HPCHEM\1\DATA\081791\1901009.D  
Operator : Ruggieri  
Acquired : 17 Aug 99 10:20 pm using AcqMethod 8270KS  
Instrument : 5971 - In  
Sample Name: 1:100 P9908051-01 (8270) *PR*  
Misc Info :  
Vial Number: 19



## CHAIN OF CUSTODY RECORD

[illegible]



# NEL LABORATORIES

Reno • Las Vegas  
Phoenix • Irvine

**Southern California Division**  
3189 Airway Ave., Bldg. C • Costa Mesa, CA 92626  
(714) 437-5200 • Fax: (714) 556-5625  
1-800-320-6595

CLIENT: El Paso Natural Gas Company  
8645 Railroad Drive  
El Paso, TX 79904  
ATTN: Darrell Campbell

PROJECT NAME: Bluewater Station  
PROJECT #: NA

NEL ORDER ID: P9910032

Attached are the analytical results for samples in support of the above referenced project.

Samples submitted for this project were not sampled by NEL Laboratories. Samples were received by NEL in good condition, under chain of custody on 10/9/99.

Samples were analyzed as received.

Where applicable we have included the following quality control data:

Method blank - used to demonstrate absence of contamination or interferences in the analytical process.  
Laboratory Control Spike (LCS) - used to demonstrate laboratory ability to perform the method within specifications by spiking representative analytes into a clean matrix.  
Surrogates - compounds added to each sample to ensure that the method requirements are met for each individual sample.

Should you have any questions or comments, please feel free to contact our Client Services department at (602) 437-0099.

\_\_\_\_\_  
Greg Anderson  
Laboratory Manager

\_\_\_\_\_  
Date

## CERTIFICATIONS:

	<u>Reno</u>	<u>Las Vegas</u>	<u>S. California</u>
Arizona	AZ0520	AZ0518	AZ0605
California	1707	2002	2264
US Army Corps of Engineers	Certified	Certified	

	<u>Reno</u>	<u>Las Vegas</u>	<u>S. California</u>
Idaho	Certified	Certified	
Montana	Certified	Certified	
Nevada	NV033	NV052	CA084
L.A.C.S.D.			10228

# NEL LABORATORIES

CLIENT: El Paso Natural Gas Company  
PROJECT ID: Bluewater Station  
PROJECT #: NA

CLIENT ID: F990088  
DATE SAMPLED: 10/8/99  
NEL SAMPLE ID: P9910032-01

TEST: Semi-Volatile Organic Compounds by EPA 8270C, December 1996

METHOD: EPA 8270

EXTRACTED: 10/18/99

MATRIX: Aqueous

ANALYZED: 10/18/99

DILUTION: 1

ANALYST: MCR - Division

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acenaphthene	ND	10. µg/L	4,6-Dinitro-2-methyl phenol	ND	50. µg/L
Acenaphthylene	ND	10. µg/L	2,4-Dinitrotoluene (DNT)	ND	10. µg/L
Aniline	ND	10. µg/L	2,6-Dinitrotoluene (DNT)	ND	10. µg/L
Anthracene	ND	10. µg/L	2,4-Dinitrophenol	ND	50. µg/L
Azobenzene	ND	10. µg/L	Di-n-octyl phthalate	ND	10. µg/L
Benzo (a) anthracene	ND	10. µg/L	Fluoranthene	ND	10. µg/L
Benzo (b&k) fluoranthene	ND	10. µg/L	Fluorene	ND	10. µg/L
Benzoic Acid	ND	50. µg/L	Hexachlorobenzene	ND	10. µg/L
Benzo (g,h,i) perylene	ND	20. µg/L	Hexachlorobutadiene	ND	10. µg/L
Benzo (a) pyrene	ND	10. µg/L	Hexachlorocyclopentadiene	ND	10. µg/L
Benzyl alcohol	ND	20. µg/L	Hexachloroethane	ND	10. µg/L
bis (2-Chloroethyl) ether	ND	10. µg/L	Indeno (1,2,3-c,d) pyrene	ND	20. µg/L
bis (2-Chloroethoxy) methane	ND	10. µg/L	Isophorone	ND	10. µg/L
bis (2-chloroisopropyl) ether	ND	10. µg/L	2-Methylnaphthalene	ND	10. µg/L
bis (2-Ethylhexyl)phthalate	ND	10. µg/L	2-Methylphenol	ND	10. µg/L
Butylbenzylphthalate	ND	10. µg/L	4-Methylphenol	ND	10. µg/L
4-Bromophenyl phenyl ether	ND	10. µg/L	Naphthalene	ND	10. µg/L
Carbazole	ND	10. µg/L	2-Nitroaniline	ND	50. µg/L
4-Chloroaniline	ND	20. µg/L	3-Nitroaniline	ND	50. µg/L
4-Chloro-3-methyl phenol	ND	20. µg/L	4-Nitroaniline	ND	20. µg/L
2-Chloronaphthalene	ND	10. µg/L	Nitrobenzene	ND	10. µg/L
2-Chlorophenol	ND	10. µg/L	2-Nitrophenol	ND	20. µg/L
4-Chlorophenyl phenyl ether	ND	10. µg/L	4-Nitrophenol	ND	50. µg/L
Chrysene	ND	10. µg/L	N-Nitroso-Dimethylamine	ND	10. µg/L
Dibenzo (a,h) anthracene	ND	20. µg/L	N-Nitrosodi-n-propylamine	ND	10. µg/L
Dibenzofuran	ND	10. µg/L	N-Nitrosodiphenylamine	ND	10. µg/L
Di-n-butyl phthalate	ND	10. µg/L	Pentachlorophenol	ND	50. µg/L
1,2-Dichlorobenzene (o-DCB)	ND	10. µg/L	Phenol	ND	10. µg/L
1,3-Dichlorobenzene (m-DCB)	ND	10. µg/L	Phenanthrene	ND	10. µg/L
1,4-Dichlorobenzene (p-DCB)	ND	10. µg/L	Pyrene	ND	10. µg/L
2,4-Dichlorophenol	ND	20. µg/L	Pyridine	ND	10. µg/L
3,3'-Dichlorobenzidine	ND	20. µg/L	1,2,4-Trichlorobenzene	ND	10. µg/L
Diethylphthalate	ND	10. µg/L	2,4,5-Trichlorophenol	ND	20. µg/L
2,4-Dimethylphenol	ND	10. µg/L	2,4,6-Trichlorophenol	ND	20. µg/L
Dimethylphthalate	ND	10. µg/L			

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2,4,6-Tribromophenol	15	10 - 123 %
2-Fluorobiphenyl	61	43 - 116 %
2-Fluorophenol	47	21 - 100 %
Nitrobenzene-d5	66	35 - 114 %
p-Terphenyl-d14	75	33 - 141 %
Phenol-d6	38	10 - 94 %

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Company  
PROJECT ID: Bluewater Station  
PROJECT #: NA

CLIENT ID: Method Blank  
DATE SAMPLED: NA  
NEL SAMPLE ID: 101899-8270-BLK

TEST: Semi-Volatile Organic Compounds by EPA 8270C, December 1996

METHOD: EPA 8270

MATRIX: Aqueous

ANALYST: MCR - Division

EXTRACTED: 10/18/99

ANALYZED: 10/18/99

PARAMETER	Result µg/L	Reporting Limit	PARAMETER	Result µg/L	Reporting Limit
Acenaphthene	ND	10 µg/L	4,6-Dinitro-2-methyl phenol	ND	50 µg/L
Acenaphthylene	ND	10 µg/L	2,4-Dinitrotoluene (DNT)	ND	10 µg/L
Aniline	ND	10 µg/L	2,6-Dinitrotoluene (DNT)	ND	10 µg/L
Anthracene	ND	10 µg/L	2,4-Dinitrophenol	ND	50 µg/L
Azobenzene	ND	10 µg/L	Di-n-octyl phthalate	ND	10 µg/L
Benzo (a) anthracene	ND	10 µg/L	Fluoranthene	ND	10 µg/L
Benzo (b&k) fluoranthene	ND	10 µg/L	Fluorene	ND	10 µg/L
Benzoic Acid	ND	50 µg/L	Hexachlorobenzene	ND	10 µg/L
Benzo (g,h,i) perylene	ND	20 µg/L	Hexachlorobutadiene	ND	10 µg/L
Benzo (a) pyrene	ND	10 µg/L	Hexachlorocyclopentadiene	ND	10 µg/L
Benzyl alcohol	ND	20 µg/L	Hexachloroethane	ND	10 µg/L
bis (2-Chloroethyl) ether	ND	10 µg/L	Indeno (1,2,3-c,d) pyrene	ND	20 µg/L
bis (2-Chloroethoxy) methane	ND	10 µg/L	Isophorone	ND	10 µg/L
bis (2-chloroisopropyl) ether	ND	10 µg/L	2-Methylnaphthalene	ND	10 µg/L
bis (2-Ethylhexyl)phthalate	ND	10 µg/L	2-Methylphenol	ND	10 µg/L
Butylbenzylphthalate	ND	10 µg/L	4-Methylphenol	ND	10 µg/L
4-Bromophenyl phenyl ether	ND	10 µg/L	Naphthalene	ND	10 µg/L
Carbazole	ND	10 µg/L	2-Nitroaniline	ND	50 µg/L
4-Chloroaniline	ND	20 µg/L	3-Nitroaniline	ND	50 µg/L
4-Chloro-3-methyl phenol	ND	20 µg/L	4-Nitroaniline	ND	20 µg/L
2-Chloronaphthalene	ND	10 µg/L	Nitrobenzene	ND	10 µg/L
2-Chlorophenol	ND	10 µg/L	2-Nitrophenol	ND	20 µg/L
4-Chlorophenyl phenyl ether	ND	10 µg/L	N-Nitroso-Dimethylamine	ND	10 µg/L
Chrysene	ND	10 µg/L	4-Nitrophenol	ND	50 µg/L
Dibenzo (a,h) anthracene	ND	20 µg/L	N-Nitrosodi-n-propylamine	ND	10 µg/L
Dibenzofuran	ND	10 µg/L	N-Nitrosodiphenylamine	ND	10 µg/L
Di-n-butyl phthalate	ND	10 µg/L	Pentachlorophenol	ND	50 µg/L
1,2-Dichlorobenzene (o-DCB)	ND	10 µg/L	Phenol	ND	10 µg/L
1,3-Dichlorobenzene (m-DCB)	ND	10 µg/L	Phenanthrene	ND	10 µg/L
1,4-Dichlorobenzene (p-DCB)	ND	10 µg/L	Pyrene	ND	10 µg/L
2,4-Dichlorophenol	ND	20 µg/L	Pyridine	ND	10 µg/L
3,3'-Dichlorobenzidine	ND	20 µg/L	1,2,4-Trichlorobenzene	ND	10 µg/L
Diethylphthalate	ND	10 µg/L	2,4,5-Trichlorophenol	ND	20 µg/L
2,4-Dimethylphenol	ND	10 µg/L	2,4,6-Trichlorophenol	ND	20 µg/L
Dimethylphthalate	ND	10 µg/L			

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
2,4,6-Tribromophenol	106	10 - 123
2-Fluorobiphenyl	97	43 - 116
2-Fluorophenol	92	21 - 100
Nitrobenzene-d5	94	35 - 114
p-Terphenyl-d14	102	33 - 141
Phenol-d6	92	10 - 94

ND - Not Detected

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# NEL LABORATORIES

CLIENT: El Paso Natural Gas Company  
 PROJECT ID: Bluewater Station  
 PROJECT #: NA  
 TEST: Semi-Volatile Organic Compounds by EPA 8270C, December 1996  
 MATRIX: Aqueous

<u>PARAMETER</u>	<u>NEL Sample ID</u>	<u>Spike Amount</u>	<u>Spike Result</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>RPD</u>
Acenaphthene	101899-8270-LCS	50	41.62	83	46 - 118	
Acenaphthene	101899-8270-LCSD	50	41.44	83	46 - 118	0.4
4-Chloro-3-methyl phenol	101899-8270-LCS	100	72.55	73	23 - 97	
4-Chloro-3-methyl phenol	101899-8270-LCSD	100	72.04	72	23 - 97	0.7
2-Chlorophenol	101899-8270-LCS	100	77.17	77	27 - 123	
2-Chlorophenol	101899-8270-LCSD	100	71.93	72	27 - 123	7.
1,4-Dichlorobenzene (p-DCB)	101899-8270-LCS	50	39.21	78	36 - 97	
1,4-Dichlorobenzene (p-DCB)	101899-8270-LCSD	50	37.06	74	36 - 97	5.6
2,4-Dinitrotoluene (DNT)	101899-8270-LCS	50	31.9	64	24 - 96	
2,4-Dinitrotoluene (DNT)	101899-8270-LCSD	50	32.73	65	24 - 96	2.6
4-Nitrophenol	101899-8270-LCS	100	53.97	54	10 - 80	
4-Nitrophenol	101899-8270-LCSD	100	55.14	55	10 - 80	2.1
N-Nitrosodi-n-propylamine	101899-8270-LCS	50	41.22	82	41 - 116	
N-Nitrosodi-n-propylamine	101899-8270-LCSD	50	39.19	78	41 - 116	5.
Pentachlorophenol	101899-8270-LCS	100	48.48	48	9 - 103	
Pentachlorophenol	101899-8270-LCSD	100	47.94	48	9 - 103	1.1
Phenol	101899-8270-LCS	100	79.15	79	12 - 89	
Phenol	101899-8270-LCSD	100	75.24	75	12 - 89	5.1
Pyrene	101899-8270-LCS	50	51.24	102	26 - 127	
Pyrene	101899-8270-LCSD	50	56.45	113	26 - 127	9.7
1,2,4-Trichlorobenzene	101899-8270-LCS	50	38.89	78	39 - 98	
1,2,4-Trichlorobenzene	101899-8270-LCSD	50	39.02	78	39 - 98	0.3

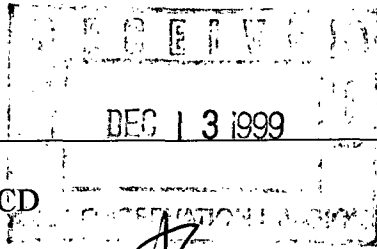
ND - Not Detected

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PROJECT NUMBER		PROJECT NAME		REQUESTED ANALYSIS		CONTRACT LABORATORY	
SAMPLERS: (Signature)		Blair State Station		DATE:		N.C.L.	
LAB ID	DATE	TIME	MATRIX	SAMPLE NUMBER	TOTAL NUMBER OF CONTAINERS	COMPOSITE OR GRAB	REMARKS
01	10-5-99	11:00	Soils	FG990088	2	G	0128
RELINQUISHED BY: (Signature)				DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
RELINQUISHED BY: (Signature)				DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
REQUESTED TURNAROUND TIME:				SAMPLE RECEIPT REMARKS			
ROUTINE <input type="checkbox"/> RUSH <input type="checkbox"/>				CHARGE CODE			
CARRIER CO.				RESULTS & INVOICES TO:			
BILL NO.:				LABORATORY SERVICES EL PASO NATURAL GAS COMPANY 8645 RAILROAD DRIVE EL PASO, TEXAS 79904 915-759-2229 FAX: 915-759-2335			



# MEMORANDUM



To: Martyne J. Kieling, NMOCD

Date: December 10, 1999

From: Richard Duarte 505/831-7763

Place: Albuquerque Division Office

## **Subject: Bluewater Station – Water/Antifreeze disposal**

Martyne,

Per my voice my, enclosed please find the analytical for the subject aqueous solution. It is being provided to you in advance to hopefully shorten the approval/processing time. I will be working with Key Energy, from Farmington, to dispose of this solution in their injection well.

The paper work will soon follow from Key Energy Services (with the same analytical).

Call me at 505/831-7763, if you have any questions.

Thank you,  
Richard 831-7763

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 South First, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
2040 South Pacheco  
Santa Fe, NM 87505

Form C-138  
Revised March 17, 1999

Submit Original  
Plus 1 Copy  
to Appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/> 12-17-99 mjk	4. Generator El Paso Natural Gas Company
Verbal Approval Received: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site Bluewater Station
2. Management Facility Destination Key Energy Services	6. Transporter Key Energy Services
3. Address of Facility Operator	8. State NM
7. Location of Material (Street Address or ULSTR) I-40, Exit 53, 1/4-mile South, Thoreau, NM	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

Water and antifreeze mixture previously used in reciprocating engines for cooling.

Estimated Volume 30,000 gallons cy Known Volume (to be entered by the operator at the end of the haul) cy

SIGNATURE \_\_\_\_\_ TITLE: \_\_\_\_\_ DATE: \_\_\_\_\_  
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: \_\_\_\_\_ TELEPHONE NO. \_\_\_\_\_

(This space for State Use)

APPROVED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_ DATE: \_\_\_\_\_

District I - (505) 393-6161  
P.O. Box 980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

RECEIVED

DEC 17 1999

Environmental Bureau  
Oil Conservation Division

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator Oil + Gas Equipment
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site YACD Sump
2. Management Facility Destination KEY DISPOSAL	6. Transporter Key
3. Address of Facility Operator 4345 AZ + CR 3500 Aztec NM	8. State NM
7. Location of Material (Street Address or ULSTR) 4910 E. MAIN FARMINGTON NM 87402	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.	
All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

CLEANING Sump FOR production equipment see MSDS  
City water mixed with cleaning agents

RECEIVED  
DEC - 8 1999  
OIL CON. DIV.  
DIST. 3

Estimated Volume 480 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: MGR DATE: 12-8-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny G. Funt TITLE: Geologist DATE: 12/9/99  
APPROVED BY: Matthew J. Kuf TITLE: Environmental Geologist DATE: 12/17/99



# CERTIFICATE OF WASTE STATUS

1. Generator Name and Address: <i>Oil + Gas Equipment</i> <i>4910 E. MAIN</i> <i>FARMINGTON, N. MEX. 87402</i>	2. Destination Name: <i>KEY ENERGY DISPOSAL</i>
3. Originating Site (name): <i>SAME</i>	Location of the Waste (Street address &/or ULSTR): <i>SAME</i>
Attach list of originating sites as appropriate	
4. Source and Description of Waste <i>Hot bath for cleaning Glycol Pumps + Valves used on oilfield production equipment.</i>	

I, *Philip Cheney* representative for:  
*Oil + Gas Equipment Corp.* do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification)

       EXEMPT oilfield waste      ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☒ MSDS Information      ☒ Other (description):  
       RCRA Hazardous Waste Analysis      *P.H. = 8*  
       Chain of Custody

Name (Original Signature): *Philip Cheney*  
Title: *Pump Shop*  
Date: *8<sup>th</sup> Dec, 1999*



CLEAN ACROSS AMERICA AND  
THROUGHOUT THE WORLD™

ZEP MANUFACTURING COMPANY  
P.O. BOX 2015  
ATLANTA, GEORGIA 30301

## MATERIAL SAFETY DATA SHEET AND SAFE HANDLING AND DISPOSAL INFORMATION

ISSUE DATE: 02/01/89

SUPERSEDES: 12/30/88

Date printed: 11/17/99

### ZEP VAT NEUTRALIZER

Product No: 1465 Vat Neutralizer

#### SECTION I - EMERGENCY CONTACTS

TELEPHONE: (404) 352-1680 BETWEEN 8:00 AM - 5:00 PM (EST)  
MEDICAL EMERGENCY: (770) 439-4200 NON OFFICE HOURS, WEEKENDS  
(770) 432-2873 AND HOLIDAYS, PLEASE CALL YOUR  
(770) 455-8160 LOCAL POISON CONTROL  
(770) 552-8836  
(770) 424-2048  
(770) 424-4789  
TRANSPORTATION EMERGENCY: (770) 922-0923  
CHEMTREC: (800) 424-9300 TOLL FREE - ALL CALLS RECORDED  
DISTRICT OF COLUMBIA: (202) 483-7616 ALL CALLS RECORDED

#### SECTION II - HAZARDOUS INGREDIENTS

DESIGNATIONS	(PPM)	EFFECTS (SEE NOTICE)	% IN PROD.
@ ** SULFURIC ACID ** oil of vitriol; CAS# 7664-93-9; RTECS# WS5600000; OSHA PEL-1 mg/m3 (for mists only). @ IDENTIFIES CHEMICALS LISTED UNDER SARA-SECTION 313 FOR RELEASE REPORTING.	0.25	TOX COR	60-70

#### SECTION III - HEALTH HAZARD DATA

SPECIAL NOTE: MSDS data pertains to the product as dispensed from the container. Adverse health effects would not be expected under recommended conditions of use (diluted) so long as prescribed safety precautions are practiced.

##### ACUTE EFFECTS OF OVEREXPOSURE:

Corrosive to skin and eyes on contact. Eye contact can produce corneal damage or blindness. Skin contact can produce inflammation, reddening, and blistering. Inhalation of spray mist or vapors may produce irritation, burning, or destruction of tissues in the respiratory tract, characterized by coughing choking, pain, or shortness of breath. Severe overexposure may lead to fatal lung damage. Ingestion can cause abdominal pain, nausea, vomiting, and collapse, along with tissue destruction in the gastrointestinal tract.

##### CHRONIC EFFECTS OF OVEREXPOSURE:

Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

None of the ingredients are listed as carcinogens by IARC, NTP, or OSHA.

EST'D PEL/TLV: Not established PRIMARY ROUTES OF ENTRY: N/A

HMIS CODES: HEALTH 3; FLAM. 0; REACT. 2; PERS. PROTECT. G ; CHRONIC HAZ. YES

#### FIRST AID PROCEDURES:

SKIN: Immediately flush contaminated skin with plenty of water for at least 15 minutes. Get medical attention immediately.

EYES: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Get medical attention at once.

INHALE: Move exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Get medical attention immediately.

INGEST: If this product is swallowed, do not induce vomiting. If victim is conscious give plenty of water to drink. Get medical attention at once.

#### SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING: Wear rubber or neoprene gloves and a face shield when using. A rubber apron and boots are strongly recommended.

EYE PROTECTION: Wear splash-proof safety goggles especially if contact lenses are worn.

RESPIRATORY PROTECTION: If ventilation is inadequate, wear a properly fitting MSHA or OSHA-approved respirator.

VENTILATION: If vapors are detected, ventilate work area by opening windows and using exhaust fans.

#### SECTION V - PHYSICAL DATA

BOILING POINT (F):	~ 220	SPECIFIC GRAVITY:	1.55
VAPOR PRESSURE(mmHg):	N/A	EVAPORATION RATE (= 1):	N/A
VAPOR DENSITY(AIR = 1):	N/A	pH(CONCENTRATE):	< 1.0
SOLUBILITY IN WATER:	COMPLETE	pH(USE DILUTION OF 1% SOLUTION):	1.0
VOC CONTENT (CONCENTRATE):	0.0%		
APPEARANCE AND ODOR: A COLORLESS LIQUID WITH NO ODOR.			

(Continued on Page: 2)

Product No: 1465 SECTION VI - FIRE AND EXPLOSION DATA (continued)

FLASH POINT(F) (METHOD USED): None (N/A )

FLAMMABLE LIMITS: LEL: N/A UEL: N/A

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, and water fog.

SPECIAL FIRE FIGHTING: Encapsulated suit with SCBA or supplied air.

UNUSUAL FIRE HAZARDS: Exploding containers may produce sulfuric acid mist.

## SECTION VII - REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY(AVOID): Strong alkalis, oxidizers, and active metals.

POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: HYDROGEN GAS FROM REACTION WITH STEEL OR ACTIVE METALS, SULFUR DIOXIDE  
SULFUR TRIOXIDE.

## SECTION VIII - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Observe safety precautions in sections 4 & 9 during clean-up. Absorb spill on an inert absorbent material (e.g. Zep-O-Zorb); pick up and place in a clean D.O. T. specification container for disposal. Wash area thoroughly with a detergent solution and then rinse well with water.

WASTE DISPOSAL METHOD:

Liquids cannot be sent to landfills unless solidified. Unusable product and some collected, spent use-dilutions may require disposal as a hazardous waste at a permitted treatment/storage/disposal facility. In most states hazardous wastes in total amounts of 220 lbs. or less per month may be disposed of in a chemical or industrial waste landfill. If company effluent is ultimately treated by a publicly owned treatment works, neutralization of spent tank-solutions with subsequent discharge to the sewer may be possible. Consult local, state and federal agencies for proper disposal method in your area.

RCRA HAZ. WASTE NOS.: D002

## SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:

Store tightly-closed container in a dry area at temps. between 4-49 degrees C.

Store away from highly alkaline products and oxidizing compounds.

Keep product away from skin and eyes.

Do not breathe spray mists or vapors.

Keep away from food and food products.

Clothing or shoes which become contaminated with substance should be removed promptly and not reworn until thoroughly cleaned.

Keep out of the reach of children.

## SECTION X - REGULATORY INFORMATION

DOT PROPER SHIPPING NAME: SULFURIC ACID

NOTE: DOT information applies to larger package sizes of affected products. For some products, DOT may require alternate names and labeling in accordance with packaging group requirements.

DOT HAZARD CLASS: 8

DOT PACKING GROUP: II

DOT I.D. NUMBER: UN1830 DOT LABEL/PLACARD: CORROSIVE

EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED

EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): SULFURIC ACID, 1000#

Date Last Reviewed by Compliance Services : 03/16/99



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P.O. BOX 2015  
ATLANTA, GEORGIA 30301

## MATERIAL SAFETY DATA SHEET AND SAFE HANDLING AND DISPOSAL INFORMATION

ISSUE DATE: 04/12/90

SUPERSEDES: 08/14/87

Date printed: 11/17/99

**ZEP FORMULA 9862**

Product No: **0627 Hot Vat Rust Stripper**

### SECTION I - EMERGENCY CONTACTS

TELEPHONE: (404) 352-1680 BETWEEN 8:00 AM - 5:00 PM (EST)  
MEDICAL EMERGENCY: (770) 439-4200 NON OFFICE HOURS, WEEKENDS  
(770) 432-2873 AND HOLIDAYS, PLEASE CALL YOUR  
(770) 455-8160 LOCAL POISON CONTROL  
(770) 552-8836  
(770) 424-2048  
(770) 424-4789  
TRANSPORTATION EMERGENCY: (770) 922-0923  
CHEMTREC: (800) 424-9300 TOLL FREE - ALL CALLS RECORDED  
DISTRICT OF COLUMBIA: (202) 483-7616 ALL CALLS RECORDED

### SECTION II - HAZARDOUS INGREDIENTS

DESIGNATIONS	(PPM)	EFFECTS (SEE NOTICE)	% IN PROD.
** SODIUM HYDROXIDE ** caustic soda; soda lye; CAS# 1310-73-2; RTECS# WB4900000; OSHA/ACGIH CEILING LIMIT-2 MG/M3	N/D	TOX COR	50-60
** SODIUM CARBONATE ** soda ash; carbonic acid, disodium salt; CAS# 497-19-8; RTECS# VZ4050000; OSHA/ ACGIH DUST LIMIT = 15mg/m3	N/D	IRR	20-30
** TRIETHANOLAMINE ** TEA; CAS# 102-71-6; RTECS# - KL9275000	N/D	EIR	< 5
** alpha-DODECYL-omega-HYDROXY-POLY(OXY-1,2-ETHANEDIYL)PHOSPHATE	N/D	COR	< 5
** CAS# 39464-66-9; RTECS# NONE			

### SECTION III - HEALTH HAZARD DATA

SPECIAL NOTE: MSDS data pertains to the product as dispensed from the container. Adverse health effects would not be expected under recommended conditions of use (diluted) so long as prescribed safety precautions are practiced.

#### ACUTE EFFECTS OF OVEREXPOSURE:

Corrosive to skin and eyes. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastrointestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe overexposure can produce lung damage, choking, unconsciousness or death. Ingredients in this product may aggravate existing skin, eye, or respiratory disorders.

#### CHRONIC EFFECTS OF OVEREXPOSURE:

Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction or dermatitis. Repeated inhalation of dust can produce varying degrees of respiratory irritation or lung damage.

None of the ingredients are listed as carcinogens by IARC, NTP, or OSHA.

EST'D PEL/TLV: Not established PRIMARY ROUTES OF ENTRY: Inh.

HMIS CODES: HEALTH 3; FLAM. 0; REACT. 0; PERS. PROTECT. D ; CHRONIC HAZ. YES

#### FIRST AID PROCEDURES:

SKIN: Immediately flush contaminated skin with plenty of water for at least 15 minutes. Get medical attention immediately.

EYES: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Get medical attention at once.

INHALE: Move victim to fresh air. Flush mouth and nasal passages with water repeatedly. Get medical attention if irritation persists.

INGEST: If this product is swallowed, do not induce vomiting. If victim is conscious give plenty of water to drink. Get medical attention at once.

### SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING: Wear rubber, neoprene, or nitrile gloves, alkali resistant footwear, face shield, apron, and arm coverings.

EYE PROTECTION: Wear splash-proof safety goggles especially if contact lenses are worn.

RESPIRATORY PROTECTION: Use NIOSH-approved dust mask if dust is present.

VENTILATION: If dust is detected, ventilate work area by opening windows and using exhaust fans.

Product No: 0627 SECTION V - PHYSICAL DATA

BOILING POINT (F):	N/A	SPECIFIC GRAVITY:	
VAPOR PRESSURE(mmHg):	N/A	EVAPORATION RATE (N/A = 1):	N/A
VAPOR DENSITY(AIR = 1):	N/A	pH(CONCENTRATE):	N/A
SOLUBILITY IN WATER:	1.5 lb./gal.	pH(USE DILUTION OF 1% SOLUTION):	13.0-13.3
VOC CONTENT (CONCENTRATE):	N/A		

APPEARANCE AND ODOR: WHITE, FREE-FLOWING GRANULATED POWDER WITH STRONG ODOR.

## SECTION VI - FIRE AND EXPLOSION DATA

FLASH POINT(F) (METHOD USED): N/A ( )  
FLAMMABLE LIMITS: LEL: N/A UEL: N/A  
EXTINGUISHING MEDIA: Noncombustible.  
SPECIAL FIRE FIGHTING: Wear self-contained positive pres. breathing apparatus.  
UNUSUAL FIRE HAZARDS: None

## SECTION VII - REACTIVITY DATA

STABILITY: Stable  
INCOMPATIBILITY(AVOID): Strong oxidizers, acids, and active metals.  
POLYMERIZATION: Will not occur.  
HAZARDOUS DECOMPOSITION: Carbon dioxide, carbon monoxide and toxic/corrosive fumes as oxides of phosphorous.

## SECTION VIII - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:  
Observe safety precautions in sections 4 & 9 during clean-up. Sweep powder or absorb spilled tank-solution on inert absorbent material (e.g. Zep-O-Zorb) and place in a clean D.O.T. specification container for disposal.  
Wash area thoroughly with a detergent solution and rinse well with water.  
WASTE DISPOSAL METHOD:  
Liquids cannot be sent to landfills unless solidified. Never dispose of this product with general waste.  
Unusable product and spent tank-solutions may require disposal as a hazardous waste at a permitted treatment/storage/disposal facility. In most states hazardous wastes in total amounts of 220 lbs. or less per month may be disposed of in a chemical or industrial waste landfill. If company effluent is ultimately treated by a publicly owned treatment works, neutralization of spent tank-solutions with subsequent discharge to sewer may be possible. Consult local, state, and federal agencies for proper disposal method in your area.  
RCRA HAZ. WASTE NOS.: D002 (SEE ABOVE)

## SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:  
Store tightly closed container in a dry area at temps. between 40-120 degrees F.  
Store away from strong acids and oxidizing compounds.  
Keep product away from skin and eyes.  
Do not breathe dust.  
Clothing or shoes which become contaminated with substance should be removed promptly and not reworn until thoroughly cleaned.  
Add chemical to solution slowly.  
Keep out of the reach of children.

## SECTION X - REGULATORY INFORMATION

DOT PROPER SHIPPING NAME: CORROSIVE SOLIDS, BASIC, INORGANIC, N.O.S (SODIUM HYDROXIDE)

NOTE: DOT information applies to larger package sizes of affected products. For some products, DOT may require alternate names and labeling in accordance with packaging group requirements.

DOT HAZARD CLASS: 8 DOT PACKING GROUP: II

DOT I.D. NUMBER: UN3262 DOT LABEL/PLACARD: CORROSIVE

EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED

EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): SODIUM HYDROXIDE-1000#

**\*\* NOTICE \*\***

Thank you for your interest in, and use of, Zep products. Zep Manufacturing Co. is pleased to be of service to you by supplying this Material Safety Data Sheet for your files. Zep Manufacturing is concerned for your health and safety. Zep products can be used safely with proper protective equipment and proper handling practices consistent with label instructions and the MSDS. Before using any Zep product, be sure to read the complete label and the Material Safety Data Sheet.

As a further word of caution, Zep wishes to advise that serious accidents have resulted from the misuse of "emptied" containers. "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, or other sources of ignition; they may explode or develop harmful vapors and possibly cause injury or death. Clean empty containers by triple rinsing with water or an appropriate solvent. Empty containers must be sent to a drum reconditioner before reuse.

### TERMS AND ABBREVIATIONS LISTED ALPHABETICALLY BY SECTION

**SECTION II: HAZARDOUS INGREDIENTS**

CAR; Carcinogen - A chemical listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or OSHA as a definite or possible human cancer causing agent.

CAS #; Chemical Abstract Services Registry Number - A universally accepted numbering system for chemical substances.

CBL; Combustible - At temperatures between 100F and 200F chemical gives off enough vapor to ignite if a source of ignition is present as tested with a closed cup tester.

CNS; Central Nervous System depressant reduces the activity of the brain and spinal cord.

COR; Corrosive - Causes irreversible injury to living tissue (e.g. burns).

DESIGNATIONS; Chemical and common names of hazardous ingredients.

EUR; Eye Irritant Only - Causes reversible reddening and/or inflammation of eye tissues.

EXPOSURE LIMITS; The time weighted average (TWA) airborne concentration at which most workers can be exposed without any expected adverse effects. Primary sources include ACGIH TLVs, and OSHA PELs (TWA, STEL and ceiling limits).

ACGIH; American Conference of Governmental Industrial Hygienists.

CEILING; The concentration that should not be exceeded in the workplace during any part of the working exposure.

OSHA; Occupational Safety and Health Administration

PEL; Permissible Exposure Limit - A set of time weighted average exposure values, established by OSHA, for a normal 8-hour day and a 40-hour work week.

PPM; Parts per million - unit of measure for exposure limits.

(S) SKIN; Skin contact with substance can contribute to overall exposure.

STEL; Short Term Exposure Limit - Maximum concentration for a continuous 15-minute exposure period.

TLV; Threshold Limit Value - A set of time weighted average exposure limits, established by the ACGIH, for a normal 8-hour day and a 40-hour work week.

FBL; Flammable - At temperatures under 100F, chemical gives off enough vapor to ignite if a source of ignition is present as tested with a closed cup tester.

HAZARDOUS INGREDIENTS; Chemical substances determined to be potential health or physical hazards by the criteria established in the OSHA Hazard Communication Standard - 29 CFR 1910.1200

HTX; Highly toxic - the probable lethal dose for a 70kg (150 lb.) man and may be approximated as less than 6 teaspoons (2 tablespoons).

IRR; Irritant - Causes reversible effects in living tissues (e.g. inflammation) - primarily skin and eyes.

N/A; Not Applicable - Category is not appropriate for this product.

N/D; Not Determined - Insufficient information for a determination for this item.

RTECS#; Registry of Toxic Effects of Chemical Substances - an unreviewed listing of published toxicology data on chemical substances.

SARA; Superfund Amendments and Reauthorization Act - Section 313 designates chemicals for possible reporting for the Toxics Release Inventory.

SEN; Sensitizer - Causes allergic reaction after repeated exposure.

TOX; Toxic - The probable lethal dose for a 70 kg (150 lb.) man is one ounce (2 tablespoons) or more.

**SECTION III: HEALTH HAZARD DATA**

ACUTE EFFECT; An adverse effect on the human body from a single exposure with symptoms developing almost immediately after exposure or within a relatively short time.

CHRONIC EFFECT; Adverse effects that are most likely to occur from repeated exposure over a long period of time.

ESTD PEL/TLV; This estimated, time-weighted average, exposure limit, developed by using a formula provided by the ACGIH, pertains to airborne concentrations from the product as a whole. This value should serve as guide for providing safe workplace conditions to nearly all workers.

HMIS CODES; Hazardous Material Identification System - a rating system developed by the National Paint and Coating Association for estimating the hazard potential of a chemical under normal workplace conditions. These risk estimates are indicated by a numerical rating given in each of three hazard areas (Health/Flammability/reactivity) ranging from a low of zero to a high of 4. A chronic hazard is indicated with a yes.

Consult HMIS training guides for Personal Protection letter codes which indicate necessary protective equipment.

PRIMARY ROUTE OF ENTRY; The way one or more hazardous ingredients may enter the body and cause a generalized-systemic or specific-organ toxic effect.

ING; Ingestion - A primary route of exposure through swallowing of material

INH; Inhalation - A primary route of exposure through breathing of vapors.

SKIN; A primary route of exposure through contact with the skin.

**SECTION IV: SPECIAL PROTECTION INFORMATION**

Where respiratory protection is recommended, use only MSHA and NIOSH approved respirators and dust masks.

MSHA; Mine Safety and Health Administration

NIOSH; National Institute for Occupational Safety and Health

**SECTION V: PHYSICAL DATA**

EVAPORATION RATE; it refers to the rate of change from the liquid state to the vapor state at ambient temperature and pressure in comparison to a given substance (e.g. water).

pH; A value representing the acidity or alkalinity of an aqueous solution (Acidic pH = 1; Neutral pH = 7; Alkaline pH = 14)

VOC CONTENT; The percentage of or amount in pounds per gallon of the product that is regulated as a Volatile Organic Compound under the Clean Air Act of 1990 and various state jurisdictions.

SOLUBILITY IN WATER; A description of the ability of the product to dissolve in water.

**SECTION VII: REACTIVITY DATA**

HAZARDOUS DECOMPOSITION; Breakdown products expected to be produced upon product decomposition or fire.

INCOMPATIBILITY; Material contact and the conditions to avoid to prevent hazardous reactions.

POLYMERIZATION; Indicates the tendency of the product's molecules to combine with themselves in a chemical reaction, releasing excess pressure and heat.

STABILITY; Indicates the susceptibility of the product to spontaneously and dangerously decompose.

**SECTION VIII: SPILL AND DISPOSAL PROCEDURES**

RCRA WASTE NOS; RCRA (Resource Conservation and Recovery Act) waste codes (40 CFR 261) applicable to the disposal of spilled or unusable product from the original container.

**SECTION X: TRANSPORTATION DATA**

CWA; Clean Water Act- Federal Law which regulates chemical releases to bodies of water.

RQ; Reportable Quantity - The amount of the specific ingredient that, when spilled to the ground and can enter a storm sewer or natural watershed, must be reported to the National Response Center, and other regulatory agencies.

TSCA; Toxic Substances Control Act - a federal law requiring all commercial chemical substances to appear on an inventory maintained by the EPA.

**DISCLAIMER**

All statements, technical information and recommendations contained herein are based on available scientific tests or data which we believe to be reliable. The accuracy and completeness of such data are not warranted or guaranteed. We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. Zep assumes no liability or responsibility for loss or damage resulting from the improper use or handling of our products, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the product's label and Material Safety Data Sheet.

- SECTION 1 -  
PRODUCT IDENTIFICATIONKRYLON INDUSTRIAL  
21500 SOLOON ROAD  
SOLOON, OH 44139EMERGENCY TELEPHONE NO.  
(216) 292-7400  
INFORMATION TELEPHONE NO.  
(800) 247-3266DATE OF PREPARATION  
20 - JUL - 84  
©1984, The Sherwin-Williams Co.**MATERIAL SAFETY DATA SHEET****Primers****PRIMER/KRI**

SECTION II - HAZARDOUS INGREDIENT (Percent by weight)		ACGIH TLV <STEL>		OSHA PEL <STEL>		Units Pressure (mm Hg)		Vapor Pressure (mm Hg)		1340 Zinc Flesh		1365 White		1367 Ruddy Brown		1368 Gray		1345 Yellow		1346 Green		1373 Sandlike Filler Surface Primer	
CAS No.		ACGIH TLV <STEL>		OSHA PEL <STEL>		Units Pressure (mm Hg)		Vapor Pressure (mm Hg)		1340 Zinc Flesh		1365 White		1367 Ruddy Brown		1368 Gray		1345 Yellow		1346 Green		1373 Sandlike Filler Surface Primer	
74-88-6	Propylene (Prepolymer)	1000	PPM	760.0	15																		
742-89-8	V. M. & P. Naphthalene	300	PPM	12.0	1																		
106-88-3	Toluene	50	PPM (Skin)	22.0	23																		
330-20-7	Xylene	100	PPM	5.9	10																		
78-83-1	2-Methyl-1-Propanol	50	PPM	8.7																			
78-83-3	Methyl Ethyl Ketone	300	PPM	70.0	34																		
67-64-1	Acetone	750	PPM	760.0	34																		
140-66-8	Zinc	Not Established			38																		
1807-88-8	Talc	2	as Resp. Dust																				
1483-87-7	Therminum Dioxide	10	as Resp. Dust		6																		
471-34-1	Zinc Molybdate	Not Established																					
VOC as a percent by weight per BAAQMD Rule 49					59																		
HMPA Code 303 Level					3																		
HMPA Ratings (Flammability - Reactivity)					2-4-0																		

§ Ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.65 C

## Section III — PHYSICAL DATA

PRODUCT WEIGHT - 11.5 A. BURNING RATE - Faster than Riser  
SPECIFIC GRAVITY - 1.1 A. VAPOR DENSITY - Heavier than Air  
BOILING RANGE - 40-289 °F NEUTRAL POINT - N.A.  
SOLUBILITY IN WATER - N.A.

## Section IV — FIRE AND EXPLOSION HAZARD DATA

**FLAMMABILITY CLASSIFICATION** FLASH POINT < 0 °F PHCC LEL 1.0 UEL 12.8  
Extremely flammable, flash below 31 °F  
**FLAMMABLE LIMITS** 1.0% to 12.8%  
**CARBON DIOXIDE** Dry chemical, foam  
**USING FIRE AND EXPLOSION HAZARDS**  
Isolate from heat, electrical equipment, sparks, and open flame. Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Precautions may not be immediately apparent. Obtain medical attention.  
**USE OF FIRE FIGHTING PROCEDURES**  
Self-protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible auto-ignition or explosion when exposed to extreme heat.

## Section V — HEALTH HAZARD DATA

**WIRTS OF EXPOSURE**  
Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. Inhalation exposure, follow recommendations for proper use, ventilation, and personal protective equipment.  
**SKIN HEALTH HAZARDS**  
Effects of OVEREXPOSURE  
Irritation of eyes, skin and respiratory system. May cause nervous system depression. Chronic overexposure may result in unconsciousness and possibly death.  
**HEALTH AND SYMPTOMS OF OVEREXPOSURE**  
Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.  
**REDRESS AND TREATING OF BURNING SENSATION MAY INDICATE EYE OR EXCESSIVE SKIN EXPOSURE.**  
**USING CONDITIONS RECOMMENDED BY EXPOSURE**  
None generally recognized.  
**SYMPTOMS AND FIRST AID PROCEDURES**  
If INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet. If ON SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use. If IN EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.  
**HEALTH HAZARD DATA**  
No ingredient in these products is an IARC, NTP or OSHA listed carcinogen. Methyl Ethyl Ketone may increase the nervous system effects of other solvents. Prolonged overexposure to solvent ingredients in Section II may cause adverse effects to the liver, urinary, blood-forming, cardiovascular, and reproductive systems. Rats exposed to titanium dioxide dust at 250 mg./m<sup>3</sup> developed lung cancer, however, such exposure levels are not attainable in the workplace. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

## Section VI — REACTIVITY DATA

**STABILITY - Stable**  
**COMBUSTIBILITY**  
None known.  
**HAZARDOUS DECOMPOSITION PRODUCTS**  
By fire: Carbon Monoxide, Carbon Monoxide, Oxides of Ketone in Section II  
**HAZARDOUS POLYMERIZATION** - Will not occur

## Section VII — SPILL OR LEAK PROCEDURES

SPILLS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED  
Remove all sources of ignition. Ventilate and remove with inert absorbent.  
**WASTE DISPOSAL METHOD**  
Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 161. Waste must be tested for ignitability to determine the applicable EPA hazardous waste number. Waste from products containing Methyl Ethyl Ketone and/or Ethyl Acetate may also require testing for extractability. Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State, and local regulations regarding pollution.

## Section VIII — PROTECTION INFORMATION

**PRECAUTIONS TO BE TAKEN BY USER**  
Use only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.  
These coatings may contain materials classified as nuisance particulates (listed "as dust" in Section III) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section II, the applicable limits for nuisance dusts are NIOSH PEL 10 mg./m<sup>3</sup> (total dust), OSHA PEL 15 mg./m<sup>3</sup> (total dust), 5 mg./m<sup>3</sup> (respirable fraction).  
**VENTILATION**  
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section II is maintained below applicable exposure limits. Refer to OSHA standards 1910.94, 1910.107, 1910.108.  
**RESPIRATORY PROTECTION**  
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section II.  
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for protection against non-volatile materials in Section II.  
**PROTECTIVE GLOVES**  
None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.  
**EYE PROTECTION**  
Wear safety spectacles with unperforated side shields.

## Section IX — PRECAUTIONS

**DUST STORAGE CATEGORY - 1A**  
**PRECAUTIONS TO BE TAKEN BY HANDLING AND STORAGE**  
Contents are EXTREMELY FLAMMABLE. Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.  
During use and until all vapors are gone, keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.  
Consult EPA Code. Use approved bonding and grounding procedures.  
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120 °F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.  
**OTHER PRECAUTIONS**  
Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

## Section X — OTHER REGULATORY INFORMATION

**CALIFORNIA PROPOSITION 65**  
Several products (see table) contain a chemical known to the state of California to cause cancer, birth defects or other reproductive harm.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.



# Material Safety Data Sheet

## Section 1. Chemical Product and Company Identification

Common Name	Triethylene Glycol Reprocessed	Code	93101
Supplier	COASTAL CHEMICAL CO., L.L.C. 3520 Veterans Memorial Drive ABBEVILLE, LA 70510 318-893-3862	MSDS#	Not available.
Synonym	Not available.	Validation Date	8/8/96
Trade name	Not available.	Print Date	5/12/99
Material Uses	Not available.	In case of Emergency	Transportation Emergency Call CHEMTREC 800-424-9300 Other Information Call Joe Hudman 713-477-6675
Manufacturer	Various		

## Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	TLV/PEL	LC50/LD50
Diethylene glycol	111-48-6	0-5	Not available.	ORAL (LD50) mg/kg: Acute: 12565 (Hamster). 14800 (Rat). DERMAL (LD50) mg/kg: Acute: 11890 (Hamster). 11900 (Rabbit).
Triethylene Glycol	112-27-6	95-100		

## Section 3. Hazards Identification

Emergency Overview	CAUTION MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION.
Routes of Entry	Eye contact. Ingestion. Skin contact. Inhalation.
Potential Acute Health Effects	Slightly dangerous to dangerous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion. of Inhalation. This product may irritate eyes and skin upon contact.
Potential Chronic Health Effects	CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. The substance is toxic to blood, kidneys, liver. Toxicity of the product to the reproductive system: Not available. Repeated or prolonged exposure to the substance can produce target organs damage.

## Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Seek medical attention.
Skin Contact	If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
Hazardous Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
Hazardous Inhalation	No additional information.
Ingestion	DO NOT induce vomiting. Have conscious person drink several glasses of water or milk. Seek immediate medical attention.

Continued on Next Page

**Triethylene Glycol Reprocessed**

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<b>Hazardous Ingestion</b>	DO NOT induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.
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**Section 5. Fire and Explosion Data**

<b>Flammability of the Product</b>	Combustible.
<b>Auto-Ignition Temperature</b>	The lowest known value is 227.78°C (442°F) (Diethylene glycol).
<b>Flash Points</b>	The lowest known value is CLOSED CUP: 138°C (280.4°F) OPEN CUP: 143°C (280.4°F) (Cleveland) (Diethylene glycol)
<b>Flammable Limits</b>	The greatest known range is LOWER: 2% UPPER: 12.3% (Diethylene glycol)
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ).
<b>Fire Hazards in Presence of Various Substances</b>	Very slightly to slightly flammable in presence of open flames and sparks, of heat.
<b>Explosion Hazards in Presence of Various Substances</b>	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. No specific information is available in our database regarding the product's risks of explosion in the presence of various materials.
<b>Fire Fighting Media and Instructions</b>	SMALL FIRE: Use DRY chemicals, CO <sub>2</sub> , water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.
<b>Special Remarks on Fire Hazards</b>	When heated to decomposition, it emits acrid smoke and irritating fumes. (Diethylene glycol)
<b>Special Remarks on Explosion Hazards</b>	No additional remark.

**Section 6. Accidental Release Measures**

<b>Small Spill</b>	Dilute with water and mop up, or absorb with an inert DRY material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
<b>Large Spill</b>	Combustible material. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

**Section 7. Handling and Storage**

<b>Handling</b>	Not available.
<b>Storage</b>	Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

**Section 8. Exposure Controls/Personal Protection**

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.	
Personal Protection	Safety glasses. Lab coat. Gloves (impervious).	
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.	
Chemical Name or Product Name	CAS #	Exposure Limits
2,2'-Oxydiethanol	111-46-8	No; available.
Triethylene Glycol	112-27-6	

Continued on Next Page

**Triethylene Glycol Reprocessed**

Page Number: 3

**Section 9. Physical and Chemical Properties**

Physical state and appearance	Liquid.	Odor	Not available.
Molecular Weight	Not applicable.	Taste	Not available.
pH (1% soln/water)	Neutral.	Color	Not available.
Boiling Point	The lowest known value is 245.8°C (474.4°F) (Diethylene glycol). Weighted average: 284.02°C (543.2°F)		
Melting Point/Pour Point	May start to solidify at -5°C (23°F) based on data for: Triethylene Glycol. Weighted average: -5.09°C (22.8°F)		
Critical Temperature	Not available.		
Specific Gravity	Weighted average: 1.12 (Water = 1)		
Vapor Pressure	The highest known value is 0.01 mm of Hg (@ 20°C) (Diethylene glycol).		
Vapor Density	The highest known value is 6.7 (Air = 1) (Tetraethylene glycol). Weighted average: 6.7 (Air = 1)		
Volatility	Not available.		
Odor Threshold	Not available.		
Evaporation rate	Not available.		
Viscosity	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water, methanol, diethyl ether.		
Solubility	Easily soluble in cold water, hot water, methanol, diethyl ether.		
Physical Chemical Comments	Not available.		

**Section 10. Stability and Reactivity Data**

Chemical Stability	The product is stable.
Conditions of Instability	No additional remark.
Incompatibility with various substances	Very slightly to slightly reactive with oxidizing agents.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Not available.

**Section 11. Toxicological Information**

Toxicity to Animals	Acute oral toxicity (LD50): > 5000 mg/kg. (Hamster.) (Calculated value for the mixture). Acute dermal toxicity (LD50): > 5000 mg/kg. (Hamster.) (Calculated value for the mixture).
Chronic Effects on Humans	The substance is toxic to blood, kidneys, liver. Toxicity of the product to the reproductive system; Not available.
Other Toxic Effects on Humans	Slightly dangerous to dangerous in case of skin contact (irritant, permacolor), of eye contact (irritant), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals	No additional remark.
Special Remarks on Chronic Effects on Humans	No additional remark.
Special Remarks on other Toxic Effects on Humans	Experimentally tumorigen by inhalation. Exposure can cause nausea, headache and vomiting. (Diethylene glycol)

Continued on Next Page

**Triethylene Glycol Reprocessed**

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**Section 12. Ecological Information**

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	No additional remark.

**Section 13. Disposal Considerations**

Waste Disposal

**Section 14. Transport Information**

Proper Shipping Name	NONE
DOT Classification	Not a DOT-controlled material (United States).
DOT Identification Number	Not applicable (PIN and PG).
Packing Group	NONE
Hazardous Substances Reportable Quantity (kg)	Not available.
Special Provisions for Transport	Not applicable.

**Section 15. Regulatory Information**

Federal and State Regulations The following product(s) is (are) listed by the State of Minnesota: Diethylene glycol

Other Classifications WHMIS (Canada) Not controlled under WHMIS (Canada).  
DSCI (EEC) Not controlled under DSCI (Europe).

**Section 16. Other Information**

HMIS (U.S.A.)	2 1 0 B	National Fire Protection Association (U.S.A.)	Health	Fire Hazard Reactivity Specific hazard
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References Not available.

Other Special Considerations No additional remark.

Validated by Joe Hudman on 8/8/96.

Verified by Joe Hudman.

Printed 5/12/99.

Transportation Emergency Call  
CHEMTREC 800-424-9300  
Other Information Call  
Joe Hudman  
713-477-6675

Continued on Next Page

### Triethylene Glycol Reprocessed

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## Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

NTV-27-1999 09:39

2. DEFENSE COUNCIL

20

195 27 532 7.25

10. 3 5/16 11.5 1063.05

1163-0227

[illegible]

1.  $\text{rank}(A) = n$  and  $\text{rank}(B) = n$  are necessary conditions for the existence of a solution.

[illegible]
$$\frac{d}{dt} \left( \frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$$
$$f(x) = \frac{1}{2} \left( \frac{1}{x} + \frac{1}{x^2} \right) \quad \text{for } x \geq 1$$

Figure 1

... ..

[illegible]

2152

District I - (505) 393-6161  
P.O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
Artesia, NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/> Verbal Approval Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>verbal by D. Faust 11-23-99 (phone)</i>	4. Generator <i>Burlington</i>
2. Management Facility Destination <i>KEY ENERGY DISPOSAL</i>	5. Originating Site <i>SEYMOUR #6 B</i>
3. Address of Facility Operator <i>#345 CR 3500 AZTEC NM</i>	6. Transporter <i>key</i>
7. Location of Material (Street Address or ULSTR) <i>SW/14/31N/9W</i>	8. State <i>NM</i>
9. <u>Circle One</u> : A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

*Reserve Pit Fluid mixed with Diesel fuel*

RECEIVED  
NOV 29 1999

*Verbal notification Martyne Kieling 11/23/99*

Estimated Volume 80 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: *Michael Talovich* TITLE: *mgr* DATE: *11-24-99*  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: *MICHAEL TALOVICH* TELEPHONE NO. *505-334-6186*

(This space for State Use)

APPROVED BY: *Denny B. Feunt* TITLE: *Geologist* DATE: *11/30/99*  
APPROVED BY: *Martyn Kieling* TITLE: *Environmental Geologist* DATE: *12-3-99*

# CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> Burlington Resources 3535 East 30 th Street Farmington NM 87401	<b>2. Destination Name:</b>  Sunco
<b>3. Originating Site (name):</b>  Seymour #6B  Unit: SW	<b>Location of the Waste (Street address /or ULSTR):</b> Seymour #6B Section: 14      Township: 31N      Range: 9W
<b>4. Source and Description of Waste:</b> From spill cleanup of diesel fuel in reserve pit.	

I, Ed Hasely representative for:  
Burlington Resources do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check the appropriate classification)

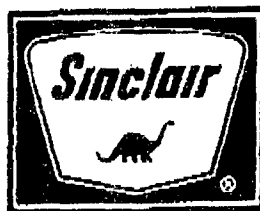
☐ EXEMPT oilfield waste      ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic  
analysis or by product identification.

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☒ MSDS Information      ☐ Other (description):  
☐ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

Name (Original Signature): Ed Hasely  
Title: Environmental Rep.  
Date: Tuesday, November 23, 1999



## MATERIAL SAFETY DATA SHEET

DIESEL

November, 1996

MSDS No. 58

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name (Used on Label): Diesel  
Description: Diesel  
Synonyms: Diesel, Distillate, Cycle Oil, Fuel Oil, Diesels Cycle Oil, Furnace Oil  
CAS Registry Number: #1 Diesel 8008-20-6;  
#2 Diesel 68476-34-6  
Chemical Family: Liquid Hydrocarbons

## MANUFACTURER:

Sinclair Oil Corporation  
P. O. Box 30825  
Salt Lake City, UT 84130-0825  
(801) 524-2700

## EMERGENCY TELEPHONE NUMBERS:

Medical/Spill/Transportation  
CHEMTREC #:1(800)424-9300

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

	<u>Typical wt. %</u>	<u>CAS Registry #</u>
<u>#1 Diesel</u>		
Toluene	1.1	108-88-3
Naphthalene	2.0	91-20-3
Petroleum Distillate-Gas Oil	97%	64741-44-2
<u>#2 Diesel</u>		
Toluene	1.1	108-88-3
Naphthalene	16.3	91-20-3
Petroleum Distillate-Gas Oil	86%	64741-44-2



MSDS - Diesel  
Sinclair Oil Corporation - November, 1996

**EXPOSURE GUIDELINES:**

<u>COMPONENTS</u>	<u>OSHA</u>		<u>ACGIH</u>		<u>UNIT</u>
	<u>TWA</u>	<u>STEL</u>	<u>CEILING</u>	<u>TWA</u>	<u>STEL</u>
Toluene	200		300		ppm
Naphthalene	10			10	15 ppm
Petroleum Distillates (Naphtha)	2				mg/m <sup>3</sup>

**3. HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW:**

Colorless, red, blue, or amber liquid with kerosene odor. May cause eye, skin and respiratory tract irritation.

**POTENTIAL HEALTH EFFECTS:**

Trauma and burns secondary to explosions and fires can result. In enclosed spaces, oxygen may be displaced by vapors or consumed by combustion. Incomplete combustion will produce carbon monoxide and other toxic gases.

**INHALATION:**

Overexposure may cause weakness, headache, nausea, confusion, blurred vision, drowsiness and other central nervous system effects.

**EYE CONTACT:**

Contact may cause eye irritation. Naphthalene vapor causes eye irritation.

**SKIN CONTACT:**

Contact may irritate or burn skin. Absorption through the skin may cause symptoms of intoxication, followed by kidney damage.

**INGESTION:**

If aspirated (liquid enters lung) following ingestion, severe lung irritation and pulmonary edema (swelling of lung tissue) may occur. Aspiration may also result in central nervous system depression or excitement. Serious permanent lung damage may result. Nausea, vomiting, diarrhea, and abdominal pain may occur following ingestion.

**4. FIRST AID MEASURES**

Remove all clothing impregnated with material immediately. Consult a physician for major exposures of inhalation or skin contact.

MSDS - Diesel  
Sinclair Oil Corporation - November, 1996

**INHALATION:**

Remove from further exposure. If unconsciousness occurs, seek immediate medical assistance. If breathing stops, use mouth-to-mouth resuscitation.

**EYE CONTACT:**

Flush immediately with water for at least 15 minutes minimum. Seek medical attention promptly.

**SKIN CONTACT:**

Discard contaminated leather articles. Wash contact areas with soap and water. Launder contaminated clothing before reuse.

**INGESTION:**

DO NOT INDUCE VOMITING. Get medical assistance promptly. (Note to physician: Material if aspirated into the lungs may cause chemical pneumonitis. Treat appropriately.)

**5. FIRE FIGHTING MEASURES**

Flashpoint and Method:	100°F Minimum
Flammable Limits:	LEL - 1.3 UEL - 6
Autoignition Temperature:	490° - 545°F

**GENERAL HAZARD:**

Incomplete burning can produce carbon monoxide. Vapors will be released above flash point and when mixed with air, can burn or explode in confined space if exposed to sources of ignition.

**FIRE FIGHTING INSTRUCTIONS:**

Use foam, dry chemical, CO<sub>2</sub>, water fog or vaporizing liquid (Halon). Keep personnel removed from and up-wind of fire. Cool adjacent structures and storage drums with water spray. Evacuate area. Prevent runoff from fire control dilution from entering streams or drinking water supply.

**FIRE FIGHTING EQUIPMENT:**

Use of SCBA in enclosed or confined spaces, or as otherwise needed. Bunker gear.

**HAZARDOUS COMBUSTION PRODUCTS:**

May produce carbon monoxide

MSDS - Diesel  
Sinclair Oil Corporation - November, 1996

## 6. ACCIDENTAL RELEASE MEASURES

### LAND SPILL:

Shut off and eliminate all ignition sources. Keep people away. Remove leaking containers to a safe area. Contain and remove by mechanical means. Add sand, earth or other suitable absorbent to spill area than scrape off the ground. Guard against contamination of water supplies. Report spills to appropriate authorities. Dispose of in accordance with Federal, State and Local regulations.

### WATER SPILL:

Spill may be removed from water with mechanical dredges or lifts. Report spills to appropriate authorities. Dispose of in accordance with Federal, State and Local regulations.

## 7. HANDLING AND STORAGE

### GENERAL:

Ground and bond all transfer and storage equipment. Drums must be grounded/ bonded/ equipped with self- closing valves, pressure vacuum bungs and flame arrestors. Store away from ignition sources in a cool area. Outside or detached storage is preferred.

When handling use non-sparking tools and equipment. Do not use as a cleaner or solvent, use only as fuel. Do not siphon by mouth.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### ENGINEERING CONTROLS:

Provide ventilation sufficient to prevent exceeding recommended exposure limit or build-up of explosive concentrations of vapor in air. Use explosion-proof equipment.

### PERSONAL PROTECTION:

#### RESPIRATOR:

Approved respiratory protection must be used when vapors or mist concentrations are unknown or exceed the TLV. Avoid prolonged or repeated breathing of vapor or mists.

#### PROTECTIVE CLOTHING:

Use full face shield, chemical goggles, impervious gloves, boots and whole body protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure: < 1 PSIA  
Specific Gravity: 0.75 - 0.90

Vapor Density: >1  
(Air = 1)

MSDS - Diesel  
Sinclair Oil Corporation - November, 1996

Solubility in Water: No  
pH: N/A  
Boiling Point: 550° F

Freezing Point: 0° F  
Appearance: colorless, red, blue or amber  
Physical State: Liquid

## 10. STABILITY AND REACTIVITY

### GENERAL:

This product is stable.

### INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong acids, alkalies and oxidizers. Avoid heat, sparks, flame and static electricity.

### HAZARDOUS DECOMPOSITION:

Incomplete burning can produce carbon monoxide.

## 11. TOXICOLOGICAL INFORMATION

### SYSTEMIC:

Petroleum-derived fuels and fuel oils are complex and variable mixtures of hydrocarbons. In general, the more viscous the mixture, the less toxic it will be. At high level exposures, humans experience multiple organ failures, some of which may be due to hypoxia and secondary to the failure of other organ systems. In humans kidney failure has been noted only at high, acute levels of exposures, and appears reversible. Liver enzymes may be transiently elevated. At lower level exposures, most acute health effects are reversible. People can be exposed by inhalation, ingestion and dermal contact. Frequently, people are exposed by combined dermal and inhalation exposure.

### ACUTE:

Inhalation: Headaches, confusion, disorientation, blurred vision occur with inhalation. Higher exposures may cause hallucinations, CNS excitation, drowsiness, CNS depression. Seizure and coma occur from very high exposures and death may result from respiratory depression. ECG changes, cardiac arrhythmias, tachycardia, shock and cardiovascular collapse can occur. Pneumonia, pulmonary edema and hemorrhages can occur.

Inhalation of 8000-16000 mg/m<sup>3</sup> for 2 to 4 hours was lethal to rats.

Ingestion: Central nervous system, cardiovascular, and respiratory effects have been reported with acute exposures to various hydrocarbon fuels and oils similar to those reported with inhalation. Nausea, vomiting, cramping and diarrhea may occur.

MSDS - Diesel  
Sinclair Oil Corporation - November, 1996

Eye: Conjunctivitis and burning, watery eyes have been reported in acute exposures to various hydrocarbon fuels and oils.

Skin: Mild erythema to full thickness chemical burns have occurred after prolonged exposure to various hydrocarbon fuels and oils.

Chronic:

Chronic dermatitis with acanthosis, inflammation, parakeratosis and hyperkeratosis have occurred with chronic exposures to various hydrocarbon fuels and oils.

Occupational exposures in petroleum refining are considered Group 2A (probably carcinogenic) by IARC.

## 12. DISPOSAL CONSIDERATIONS

RCRA: Disposal of this product or material contaminated with this product may be regulated by RCRA due to the characteristic of ignitability.

EPA Hazard Class: Acute Hazard/Chronic Hazard/Fire Hazard

Dispose of in accordance with Federal, State, and Local regulations.

## 13. TRANSPORT INFORMATION

DOT (Department of Transportation):

PROPER SHIPPING NAME: Combustible Liquid nos (Diesel #1, Diesel #2)

HAZARD CLASS: Combustible Liquid

IDENTIFICATION NUMBER: UN 1993 PG III

NAERG96 NUMBER 128

## 14. REGULATORY INFORMATION

CERCLA (Comprehensive Environmental Response Compensation, and Liability Act): Naphthalene and Toluene are hazardous substances under CERCLA and therefore are subject to emergency notification requirements.

SARA TITLE III (Superfund Amendments and Reauthorization Act): Naphthalene and Toluene are subject to SARA Title III, Sections 311 and 312, which require MSDS reporting and hazardous chemical inventory reporting.

MSDS - Diesel  
Sinclair Oil Corporation - November, 1996

Naphthalene and Toluene are also subject to SARA Title III, Section 313, which requires chemical release reporting.

## 15. OTHER INFORMATION

### NFPA 704/HMIS

Health - 0                      Flammability - 2                      Reactivity - 0  
(0=insignificant, 1=slight, 2=moderate, 3=high, 4=extreme)

### REVISION SUMMARY:

Complete review of MSDS, November, 1996.

THIS PRODUCT MATERIAL SAFETY DATA SHEET PROVIDES HEALTH AND SAFETY INFORMATION. THE PRODUCT SHOULD BE USED IN APPLICATIONS CONSISTENT WITH THIS PRODUCT LITERATURE. FOR ANY OTHER USES, EXPOSURES SHOULD BE EVALUATED SO THAT APPROPRIATE HANDLING PRACTICES AND TRAINING PROGRAMS CAN BE ESTABLISHED TO ENSURE SAFE WORKPLACE OPERATIONS.

THIS MATERIAL SAFETY DATA SHEET IS PROVIDED IN GOOD FAITH AND MEETS THE REQUIREMENTS OF THE HAZARDOUS COMMUNICATION PROVISIONS OF SARA TITLE III AND 29CFR1910.1200(g) OF THE OSHA REGULATIONS. THE ABOVE INFORMATION IS BASED ON REVIEW OF AVAILABLE INFORMATION SINCLAIR BELIEVES IS RELIABLE AND IS SUPPLIED FOR INFORMATIONAL PURPOSES ONLY. SINCLAIR DOES NOT GUARANTEE ITS COMPLETENESS OR ACCURACY, SINCE CONDITIONS OF USE ARE OUTSIDE THE CONTROL OF SINCLAIR, SINCLAIR DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, AND ANY LIABILITY FOR DAMAGE OR INJURY WHICH RESULTS FROM THE USE OF THE ABOVE DATA. NOTHING HEREIN IS INTENDED TO PERMIT INFRINGEMENT OF VALID PATENTS AND LICENSES.

District I - (505) 393-6161  
P. O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

RECEIVED

OCT 18 1999

Environmental Bureau  
Oil Conservation Division

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>VAN WATERS + ROGERS</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>YARD</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	6. Transporter <u>Key</u>
3. Address of Facility Operator <u>CR3500 #345 Aztec NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>#15 CR 5860 Farmington NM</u>	
9. <u>Circle One</u> : A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

PAID WATER MIXED WITH TRACE AMOUNTS OF GLYCOL AND METHANOL

RECEIVED  
OCT 15 1999  
OIL CON. DIV.  
DIST. 8

Estimated Volume 2.20 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: Mgr DATE: 10-15-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6181

(This space for State Use)

APPROVED BY: Denny G. Fent TITLE: Geologist DATE: 10/15/99  
APPROVED BY: Monty J. Kelly TITLE: Environmental Geologist DATE: 10/18/99

## CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> VAN WATERS & ROGERS INC <del>#15500</del> COUNTY ROAD 5860 FARMINGTON, NM 87401	<b>2. Destination Name:</b> KEY ENERGY DISPOSAL
<b>3. Originating Site (name):</b> SAME AS ABOVE TANK FARM CONTAINMENT AREA	<b>Location of the Waste (Street address &amp;/or ULSTR):</b> SAME AS ABOVE
Attach list of originating sites as appropriate	
<b>4. Source and Description of Waste</b> RAINWATER w/TRACE CONTAMINATION INCLUDING GLYCOLS AND METHANOL	

I, BRIAN HANEY representative for:  
VAN WATERS & ROGERS INC (Print Name)  
do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic  
analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☒ MSDS Information  
☐ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

☐ Other (description):

Name (Original Signature): BH

Title: AREA REGULATORY MGR

Date: 10/11/99



REPORT NUMBER: 971

VAN WATERS & ROGERS INC.

PAGE: 001

MSDS NO: DW24758

MATERIAL SAFETY DATA SHEET

MAINFRAME UPLOAD DATE: 04/14/98

VERSION: 002

PRODUCT: TRIETHYLENE GLYCOL TECHNICAL - E

ORDER NO:

PROD NO :

VAN WATERS & ROGERS INC. , A ROYAL PAKHOED COMPANY (425)889-3400  
6100 CARILLON POINT , KIRKLAND , WA 98033

----- EMERGENCY ASSISTANCE -----

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL - CHEMTREC  
(800)424-9300

PRODUCT NAME:  
TRIETHYLENE GLYCOL TECHNICAL - E

MSDS #: DW24758

2. COMPOSITION/INFORMATION ON INGREDIENTS

TRIETHYLENE GLYCOL	CAS# 000112-27-6	98% (MIN)
DIETHYLENE GLYCOL	CAS# 000111-46-6	1% (MAX)

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

\*\*\*\*\*  
\* COLORLESS LIQUID. SLIGHT ODOR. NO SIGNIFICANT IMMEDIATE HAZARDS FOR \*  
\* EMERGENCY RESPONSE ARE KNOWN. \*  
\* \*  
\*\*\*\*\*

POTENTIAL HEALTH EFFECTS (SEE SECTION 11 FOR TOXICOLOGICAL DATA.)

EYE: MAY CAUSE SLIGHT TRANSIENT (TEMPORARY) EYE IRRITATION.  
MISTS MAY CAUSE EYE IRRITATION.

SKIN CONTACT: PROLONGED OR REPEATED EXPOSURE MAY CAUSE SKIN  
IRRITATION. MAY CAUSE MORE SEVERE RESPONSE IF SKIN IS ABRADED

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(SCRATCHED OR CUT).

SKIN ABSORPTION: A SINGLE PROLONGED EXPOSURE IS NOT LIKELY TO RESULT IN THE MATERIAL BEING ABSORBED THROUGH SKIN IN HARMFUL AMOUNTS. MASSIVE CONTACT WITH DAMAGED SKIN OR OF MATERIAL SUFFICIENTLY HOT TO BURN SKIN MAY RESULT IN ABSORPTION OF POTENTIALLY LETHAL AMOUNTS.

INGESTION: SINGLE DOSE ORAL TOXICITY IS LOW. INGESTION OF LARGE AMOUNTS MAY CAUSE INJURY. THE ORAL LD50 FOR RATS IS 16,800 - 22,060 MG/KG.

INHALATION: AT ROOM TEMPERATURE, VAPORS ARE MINIMAL DUE TO PHYSICAL PROPERTIES. MISTS MAY CAUSE IRRITATION OF UPPER RESPIRATORY TRACT. THE LC50 FOR RATS IS GREATER THAN 4.5 MG/LITER AS AN AEROSOL.

SYSTEMIC & OTHER EFFECTS: BASED ON AVAILABLE DATA, REPEATED EXPOSURES ARE NOT EXPECTED TO CAUSE SIGNIFICANT ADVERSE EFFECTS EXCEPT AT VERY HIGH AEROSOL CONCENTRATIONS. REPEATED EXCESSIVE EXPOSURES MAY CAUSE RESPIRATORY TRACT IRRITATION AND EVEN DEATH.

CANCER INFORMATION: DID NOT CAUSE CANCER IN LONG-TERM ANIMAL STUDIES.

TERATOLOGY (BIRTH DEFECTS): BIRTH DEFECTS ARE UNLIKELY. IN LABORATORY ANIMALS HOWEVER, EXPOSURES HAVING NO ADVERSE EFFECTS ON THE MOTHER HAD OTHER HARMFUL EFFECTS ON THE FETUS. HAS BEEN TOXIC TO THE FETUS IN LABORATORY ANIMALS AT DOSES NONTXIC TO THE MOTHER. (ORAL GAVAGE ROUTE IN MICE). HAS BEEN TOXIC TO THE FETUS IN LABORATORY ANIMALS AT DOSES TOXIC TO THE MOTHER. (ORAL GAVAGE ROUTE IN RATS). DOSE LEVELS PRODUCING THESE EFFECTS WERE MANY TIMES HIGHER THAN ANY DOSE LEVELS EXPECTED FROM EXPOSURE DUE TO USE.

REPRODUCTIVE EFFECTS: IN ANIMAL STUDIES, HAS BEEN SHOWN NOT TO INTERFERE WITH REPRODUCTION.

#### 4. FIRST AID

EYES: FLUSH EYES WITH PLENTY OF WATER.

SKIN: WASH OFF IN FLOWING WATER OR SHOWER.

INGESTION: INDUCE VOMITING IF LARGE AMOUNTS ARE INGESTED.  
CONSULT MEDICAL PERSONNEL.

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PRODUCT: TRIETHYLENE GLYCOL TECHNICAL - E

ORDER NO:

PROD NO :

INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CONSULT A  
PHYSICIAN.

NOTE TO PHYSICIAN: NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE.  
TREATMENT BASED ON JUDGMENT OF THE PHYSICIAN IN RESPONSE TO  
THE PATIENT.

#### 5. FIRE FIGHTING MEASURES

##### FLAMMABLE PROPERTIES

FLASH POINT: 350F; 177C

METHOD USED: PMCC

AUTOIGNITION TEMPERATURE: NOT AVAILABLE

##### FLAMMABILITY LIMITS

LFL: 0.9%

UFL: 9.2%

##### HAZARDOUS COMBUSTION PRODUCT:

EXTINGUISHING MEDIA: WATER FOG, ALCOHOL RESISTANT FOAM, CO2, DRY  
CHEMICAL.

FIRE FIGHTING INSTRUCTIONS: NO FIRE AND EXPLOSION HAZARDS  
EXPECTED UNDER NORMAL STORAGE AND HANDING CONDITIONS (I.E.  
AMBIENT TEMPERATURES). HOWEVER, TRIETHYLENE GLYCOL OR SOLUTIONS  
OF TRIETHYLENE GLYCOL AND WATER CAN FORM FLAMMABLE VAPORS WITH  
AIR IF HEATED SUFFICIENTLY.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: WEAR POSITIVE PRESSURE  
SELF-CONTAINED BREATHING APPARATUS.

#### 6. ACCIDENTAL RELEASE MEASURES (SEE SECTION 15 FOR REGULATORY INFORMATION)

PROTECT PEOPLE: CLEAR NON-EMERGENCY PERSONNEL FROM AREA.

PROTECT THE ENVIRONMENT: DO NOT DISCHARGE INTO SEWERS AND/OR  
NATURAL WATER.

CLEANUP: SMALL SPILLS: SOAK UP WITH ABSORBENT MATERIAL AND  
COLLECT FOR DISPOSAL. LARGE SPILLS: DIKE TO PREVENT  
CONTAMINATION OF WATERWAYS, THEN PUMP INTO SUITABLE CONTAINERS  
FOR DISPOSAL.

#### 7. HANDLING AND STORAGE

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PRODUCT: TRIETHYLENE GLYCOL TECHNICAL - E

ORDER NO:

PROD NO :

HANDLING: PRACTICE REASONABLE CARE TO AVOID EXPOSURE.

STORAGE: THIS PRODUCT HAS A SHELF LIFE OF APPROXIMATELY 6 MONTHS IN AN UNLINED BULK STEEL TANK AT AMBIENT CONDITIONS. THE SHELF LIFE CAN BE UP TO 12 MONTHS IF THE BULK TANK OR DRUM IS LINED. HIGH COLOR AND A DROP IN PH ARE SIGNS THAT THE PRODUCT IS STARTING TO DETERIORATE. IF SIGNS OF DETERIORATION ARE STARTING TO OCCUR, THE CUSTOMER NEEDS TO VERIFY THAT THE MATERIAL STILL MEETS SPECIFICATIONS PRIOR TO USE. SEE DOW'S "A GUIDE TO GLYCOLS" FOR FURTHER INFORMATION ON STORAGE OF GLYCOLS.

#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: GOOD GENERAL VENTILATION SHOULD BE SUFFICIENT FOR MOST CONDITIONS. LOCAL EXHAUST VENTILATION MAY BE NECESSARY FOR SOME OPERATIONS.

##### PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: USE SIDE SHIELD SAFETY GLASSES OR MONOGOGGLES AS MINIMUM EYE PROTECTION.

SKIN PROTECTION: WHEN PROLONGED OR FREQUENTLY REPEATED CONTACT COULD OCCUR, USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS GLOVES, BOOTS, APRON OR FULL-BODY SUIT WILL DEPEND ON OPERATION. IF HANDS ARE CUT OR SCRATCHED, USE GLOVES IMPERVIOUS TO THIS MATERIAL EVEN FOR BRIEF EXPOSURES. WHEN HANDLING HOT MATERIAL, PROTECT SKIN FROM THERMAL BURNS AS WELL AS FROM SKIN ABSORPTION. SAFETY SHOWER SHOULD BE LOCATED IN IMMEDIATE WORK AREA. REMOVE CONTAMINATED CLOTHING IMMEDIATELY, WASH SKIN AREA WITH SOAP AND WATER, AND LAUNDER CLOTHING BEFORE REUSE.

RESPIRATORY PROTECTION: IN MISTY ATMOSPHERES, USE AN APPROVED MIST RESPIRATOR.

EXPOSURE GUIDELINE: NONE ESTABLISHED.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: COLORLESS LIQUID.

ODOR: SLIGHT

VAPOR PRESSURE: < 1.0 MMHG @ 20C

VAPOR DENSITY: 5.18

BOILING POINT: 545.9F; 286C

SOLUBILITY IN WATER: COMPLETELY MISCIBLE

SPECIFIC GRAVITY: 1.1225 @ 25/25C

FREEZE POINT: -7.2C (19F)

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---

#### 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: WILL IGNITE IN AIR AT 700F.

CONDITIONS TO AVOID: NONE KNOWN.

INCOMPATIBILITY WITH OTHER MATERIALS: OXIDIZING MATERIAL. AVOID CONTAMINATION WITH STRONG OXIDIZERS AND MATERIALS THAT WILL REACT WITH HYDROXYL COMPOUNDS. AVOID STRONG ACIDS AND BASES AT ELEVATED TEMPERATURES SINCE THIS MAY RESULT IN EXPLOSIVE DECOMPOSITION.

HAZARDOUS DECOMPOSITION PRODUCTS: BURNING PRODUCES NORMAL PRODUCTS OF COMBUSTION, INCLUDING CARBON MONOXIDE, CARBON DIOXIDE, AND WATER.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

#### 11. TOXICOLOGICAL INFORMATION (SEE SECTION 3 FOR POTENTIAL HEALTH

EFFECTS. FOR DETAILED TOXICOLOGICAL DATA, WRITE OR CALL THE ADDRESS OR NON-EMERGENCY NUMBER SHOWN IN SECTION 1)

SKIN: THE LD50 FOR SKIN ABSORPTION IN RABBITS IS GREATER THAN 5000 MG/KG.

INGESTION: THE ORAL LD50 FOR RATS IS 16,800-22,060 MG/KG.

INHALATION: THE LC50 FOR RATS IS GREATER THAN 4.5 MG/LITER AS AN AEROSOL.

MUTAGENICITY: IN VITRO MUTAGENICITY STUDIES WERE NEGATIVE.

#### 12. ECOLOGICAL INFORMATION (FOR DETAILED ECOLOGICAL DATA, WRITE OR CALL

THE ADDRESS OR NON-EMERGENCY NUMBER SHOWN IN SECTION 1)

#### 13. DISPOSAL CONSIDERATIONS (SEE SECTION 15 FOR REGULATORY INFORMATION)

DISPOSAL METHOD: BURN IN AN APPROVED INCINERATOR IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS.

#### 14. TRANSPORT INFORMATION

FOR TDG REGULATORY INFORMATION, IF REQUIRED, CONSULT TRANSPORTATION REGULATIONS, PRODUCT SHIPPING PAPERS, OR YOUR DOW REPRESENTATIVE.

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ORDER NO:

PROD NO :

FOR DOT REGULATORY INFORMATION, IF REQUIRED, CONSULT TRANSPORTATION REGULATIONS, PRODUCT SHIPPING PAPERS, OR YOUR DOW REPRESENTATIVE.

15. REGULATORY INFORMATION (NOT MEANT TO BE ALL-INCLUSIVE--SELECTED REGULATIONS REPRESENTED)

NOTICE: THE INFORMATION HEREIN IS PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE AS OF THE EFFECTIVE DATE SHOWN ABOVE. HOWEVER, NO WARRANTY, EXPRESS OR IMPLIED IS GIVEN. REGULATORY REQUIREMENTS ARE SUBJECT TO CHANGE AND MAY DIFFER FROM ONE LOCATION TO ANOTHER; IT IS THE BUYER'S RESPONSIBILITY TO ENSURE THAT ITS ACTIVITIES COMPLY WITH FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS. THE FOLLOWING SPECIFIC INFORMATION IS MADE FOR THE PURPOSE OF COMPLYING WITH NUMEROUS FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS AND REGULATIONS. SEE OTHER SECTIONS FOR HEALTH AND SAFETY INFORMATION.

SARA HAZARD CATEGORY: THIS PRODUCT HAS BEEN REVIEWED ACCORDING TO THE EPA "HAZARD CATEGORIES" PROMULGATED UNDER SECTIONS 311 AND 312 OF THE SUPERFUND AMENDMENT AND REAUTHORIZATION ACT OF 1986 (SARA TITLE III) AND IS CONSIDERED, UNDER APPLICABLE DEFINITIONS, TO MEET THE FOLLOWING CATEGORIES:

NOT TO HAVE MET ANY HAZARD CATEGORY

TOXIC SUBSTANCES CONTROL ACT (TSCA):

ALL INGREDIENTS ARE ON THE TSCA INVENTORY OR ARE NOT REQUIRED TO BE LISTED ON THE TSCA INVENTORY.

STATE RIGHT-TO-KNOW: THE FOLLOWING PRODUCT COMPONENTS ARE CITED ON CERTAIN STATE LISTS AS MENTIONED. NON-LISTED COMPONENTS MAY BE SHOWN IN THE COMPOSITION SECTION OF THE MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
DIETHYLENE GLYCOL	000111-46-6	PA1
TRIETHYLENE GLYCOL	000112-27-6	PA1

PA1=PENNSYLVANIA HAZARDOUS SUBSTANCE (PRESENT AT GREATER THAN OR EQUAL TO 1.0%).

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PRODUCT: TRIETHYLENE GLYCOL TECHNICAL - E

ORDER NO:

PROD NO :

-----  
OSHA HAZARD COMMUNICATION STANDARD:

THIS PRODUCT IS NOT A "HAZARDOUS CHEMICAL" AS DEFINED BY THE OSHA  
HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200.  
-----

CANADIAN REGULATIONS  
=====

WHMIS INFORMATION: THE CANADIAN WORKPLACE HAZARDOUS MATERIALS  
INFORMATION SYSTEM (WHMIS) CLASSIFICATION FOR THIS PRODUCT IS:

D2A - MATERIAL IS TERATOGENIC, EMBRYOTOXIC, OR FETOTOXIC  
REFER ELSEWHERE IN THE MSDS FOR SPECIFIC WARNINGS AND  
SAFE HANDLING INFORMATION. REFER TO THE EMPLOYER'S  
WORKPLACE EDUCATION PROGRAM.  
- - - - -

CPR STATEMENT: THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE  
HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS (CPR)  
AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.  
- - - - -

HAZARDOUS PRODUCTS ACT INFORMATION: THIS PRODUCT CONTAINS THE FOLLOWING  
INGREDIENTS WHICH ARE CONTROLLED PRODUCTS AND/OR ON THE INGREDIENT  
DISCLOSURE LIST (CANADIAN HPA SECTION 13 AND 14):

COMPONENTS:	CAS #	AMOUNT(%W/W)
TRIETHYLENE GLYCOL	CAS# 112-27-4	98%

-----

16. OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

CATEGORY	RATING
HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

MSDS STATUS: REVISED SECTIONS 3, 7,, 11

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PRODUCT: TRIETHYLENE GLYCOL TECHNICAL - E

ORDER NO:

PROD NO :

----- FOR ADDITIONAL INFORMATION -----

CONTACT: MSDS COORDINATOR

VAN WATERS & ROGERS INC.

DURING BUSINESS HOURS, PACIFIC TIME

(425)889-3400

10/15/99 08:27

PRODUCT:

CUST NO:

ORDER NO:

----- NOTICE -----

\*\* VAN WATERS & ROGERS INC. ("VW&R"), A ROYAL PAKHOED COMPANY, EXPRESSLY

DISCLAIMS ALL EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR

A PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED

HEREIN, AND SHALL UNDER NO CIRCUMSTANCES BE LIABLE FOR INCIDENTAL OR

CONSEQUENTIAL DAMAGES. \*\*

ALL INFORMATION APPEARING HEREIN IS BASED UPON DATA OBTAINED FROM THE MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMATION IS BELIEVED TO BE ACCURATE, VW&R MAKES NO REPRESENTATIONS AS TO ITS ACCURACY OR SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VW&RS CONTROL AND THEREFORE USERS ARE RESPONSIBLE TO VERIFY THIS DATA UNDER THEIR OWN OPERATING CONDITIONS TO DETERMINE WHETHER THE PRODUCT IS SUITABLE FOR THEIR PARTICULAR PURPOSES AND THEY ASSUME ALL RISKS OF THEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM THE PUBLICATION OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN. THIS INFORMATION RELATES ONLY TO THE PRODUCT DESIGNATED HEREIN, AND DOES NOT RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER PROCESS.

\*\*\* END OF MSDS \*\*\*



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PAGE: 001

MSDS NO: HZ216830

MATERIAL SAFETY DATA SHEET

MAINFRAME UPLOAD DATE: 01/08/99

VERSION: 001

PRODUCT: METHANOL

ORDER NO:

PROD NO :

VAN WATERS & ROGERS INC. , A ROYAL DAKHOED COMPANY (425)889-3400  
6100 CARILLON POINT , KIRKLAND , WA 98033

----- EMERGENCY ASSISTANCE -----

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL - CHEMTREC  
(800)424-9300

PRODUCT NAME:  
METHANOL

MSDS #: HZ216830

1. CHEMICAL PRODUCT IDENTIFICATION

PRODUCT NAME: METHANOL

SYNONYMS: CARBINOL

METHYL ALCOHOL

METHYL HYDROXIDE

MONOHYDROXYMETHANE

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT

METHANOL \*

CAS NUMBER

67-56-1

99.5 -99.85%

\*OSHA HAZARDOUS ACCORDING TO 29 CFR 1910.1200

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

METHANOL IS A CLEAR, COLORLESS, MOBILE LIQUID WITH A MILD  
ALCOHOL ODOR.

DANGER!

FLAMMABLE (FLASH POINT: TOC, 60 F; TCC, 54 F)

VAPOR IS HEAVIER THAN AIR AND CAN TRAVEL CONSIDERABLE

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MSDS NO: HZ216830

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MAINFRAME UPLOAD DATE: 01/08/99

VERSION: 001

PRODUCT: METHANOL

ORDER NO:

PROD NO :

---

DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK.  
MATERIAL CAN BURN WITH LITTLE OR NO VISIBLE FLAME.  
POTENTIAL HEALTH EFFECTS

ROUTES OF EXPOSURE:  
SKIN, EYES, INHALATION, INGESTION.  
IMMEDIATE EFFECTS

SKIN:  
REPEATED OR PROLONGED CONTACT CAUSES DRYING, BRITTLENESS,  
CRACKING AND IRRITATION. PROLONGED AND REPEATED SKIN CON-  
TACT WITH METHANOL-SOAKED MATERIAL HAS PRODUCED TOXIC  
EFFECTS INCLUDING VISION EFFECTS AND DEATH.

EYES:  
MAY CAUSE EYE INJURY WHICH MAY PERSIST FOR SEVERAL DAYS.  
LIQUID (AND VAPOR IN HIGH CONCENTRATIONS) CAUSES IRRITATION,  
TEARING AND A BURNING SENSATION.

INHALATION:  
EXTREMELY HIGH LEVELS CAUSE STUPOR, HEADACHE, NAUSEA, DIZZI-  
NESS, UNCONSCIOUSNESS AND MAY PRODUCE ADVERSE EFFECTS ON  
VISION.

INGESTION:  
POISONOUS OR FATAL IF SWALLOWED. A SMALL AMOUNT (USUALLY  
TWO OR MORE OUNCES) CAN CAUSE MENTAL SLUGGISHNESS, NAUSEA  
AND VOMITING LEADING TO SEVERE ILLNESS, AND MAY PRODUCE  
ADVERSE EFFECTS ON VISION WITH POSSIBLE BLINDNESS OR DEATH  
IF TREATMENT IS NOT RECEIVED.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:  
SIGNIFICANT EXPOSURE TO THIS CHEMICAL MAY ADVERSELY AFFECT  
PEOPLE WITH CHRONIC DISEASE OF THE CENTRAL NERVOUS SYSTEM,  
SKIN, GASTROINTESTINAL TRACT AND/OR EYES.

FOR FURTHER INFORMATION, SEE:  
SECTION 4 - FIRST AID MEASURES  
SECTION 5 - FIRE FIGHTING MEASURES  
SECTION 6 - ACCIDENTAL RELEASE MEASURES  
SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION  
SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES  
SECTION 10 - STABILITY AND REACTIVITY  
4. FIRST AID MEASURES

SKIN:  
REMOVE CONTAMINATED CLOTHING AND WASH CONTAMINATED SKIN WITH  
LARGE AMOUNTS OF SOAP AND WATER. IF IRRITATION PERSISTS,  
CONTACT A PHYSICIAN.

EYES:  
FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES. CONTACT A

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PHYSICIAN IMMEDIATELY.

INHALATION:

REMOVE PATIENT FROM CONTAMINATED AREA. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION, THEN OXYGEN IF NEEDED.

CONTACT A PHYSICIAN IMMEDIATELY.

INGESTION:

INDUCE VOMITING OF CONSCIOUS PATIENT IMMEDIATELY BY GIVING TWO GLASSES OF WATER AND PRESSING FINGER DOWN THROAT.

CONTACT A PHYSICIAN IMMEDIATELY.

NOTE TO PHYSICIANS:

WHEN PLASMA METHANOL CONCENTRATIONS ARE HIGHER THAN 20 MG/DECILITER, WHEN INGESTED DOSES ARE GREATER THAN 30 MILLILITERS, AND WHEN THERE IS EVIDENCE OF ACIDOSIS OR VISUAL ABNORMALITIES, A 10% SOLUTION OF ETHANOL IN 5% AQUEOUS DEXTROSE, ADMINISTERED INTRAVENOUSLY, IS A SAFE EFFECTIVE ANTIDOTE (WESTERN JOURNAL OF MEDICINE, MARCH 1985, P. 337).

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASHPOINT CLOSED CU: 60.0 F (15.6 C)

FLASHPOINT OPEN CUP : 54.0 F (12.2 C)

UPPER EXPLOSIVE LMT : 36.5 %

IN AIR BY VOLUME.

LOWER EXPLOSIVE LMT : 5.5 %

IN AIR BY VOLUME.

HAZARDOUS PRODUCTS OF COMBUSTION:

CARBON MONOXIDE.

EXTINGUISHING MEDIA:

USE CARBON DIOXIDE OR DRY CHEMICAL FOR SMALL FIRES; ALCOHOL-TYPE AQUEOUS FILM-FORMING FOAM OR WATER SPRAY FOR LARGE FIRES. WATER MAY BE INEFFECTIVE BUT SHOULD BE USED TO COOL FIRE-EXPOSED STRUCTURES AND VESSELS.

FIRE FIGHTING INSTRUCTIONS:

IF POTENTIAL FOR EXPOSURE TO VAPORS OR PRODUCTS OF COMBUSTION EXISTS, WEAR COMPLETE PERSONAL PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS WITH FULL FACE-PIECE OPERATED IN PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE. WATER SPRAY CAN BE USED TO REDUCE INTENSITY OF FLAMES AND TO DILUTE SPILLS TO NONFLAMMABLE MIXTURE. VAPOR IS HEAVIER THAN AIR AND CAN TRAVEL CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. MATERIAL CAN BURN WITH LITTLE OR NO VISIBLE FLAME.

6. ACCIDENTAL RELEASE MEASURES

ELIMINATE IGNITION SOURCES. AVOID EYE OR SKIN CONTACT; SEE "SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION" FOR RESPIRATOR INFORMATION. PLACE LEAKING CONTAINERS IN WELL-

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VENTILATED AREA WITH SPILL CONTAINMENT. IF FIRE POTENTIAL EXISTS, BLANKET SPILL WITH ALCOHOL-TYPE AQUEOUS FILM-FORMING FOAM OR USE WATER SPRAY TO DISPERSE VAPORS. CONTAIN SPILL TO FACILITATE CLEAN-UP. CLEAN-UP METHODS MAY INCLUDE ABSORBENT MATERIALS, VACUUM TRUCK, ETC. AVOID RUNOFF INTO STORM SEWERS AND DITCHES WHICH LEAD TO NATURAL WATERWAYS.

CALL THE NATIONAL RESPONSE CENTER (800 424 8802) IF THE QUANTITY (OF ANY COMPONENT) SPILLED IS EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY (RQ) UNDER CERCLA "SUPERFUND": 5000 LB/DAY.

FOR MORE INFORMATION, SEE "SECTION 15 - REGULATORY INFORMATION".

#### 7. HANDLING AND STORAGE

##### HANDLING:

USE WITH ADEQUATE VENTILATION. KEEP CONTAINERS CLOSED WHEN NOT IN USE. ALWAYS OPEN CONTAINERS SLOWLY TO ALLOW ANY EXCESS PRESSURE TO VENT. AVOID BREATHING VAPOR. AVOID CONTACT WITH EYES, SKIN OR CLOTHING. WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING. DECONTAMINATE SOILED CLOTHING THOROUGHLY BEFORE RE-USE. DESTROY CONTAMINATED LEATHER CLOTHING.

DO NOT EXPOSE TO TEMPERATURES ABOVE 49 C (120 F). USE SPARK-RESISTANT TOOLS. DO NOT LOAD INTO COMPARTMENTS ADJACENT TO HEATED CARGO. PROVIDE EMERGENCY EXHAUST.

##### CLOTHING.

##### STORAGE:

KEEP ALL CONTAINERS TIGHTLY CLOSED WHEN NOT IN USE. STORE OUT OF DIRECT SUNLIGHT AND ON AN IMPERMEABLE FLOOR.

DO NOT STORE WITH INCOMPATIBLE MATERIALS; SEE "SECTION 10 - STABILITY AND REACTIVITY".

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

##### ENGINEERING CONTROLS:

GENERAL OR DILUTION VENTILATION IS FREQUENTLY INSUFFICIENT AS THE SOLE MEANS OF CONTROLLING EMPLOYEE EXPOSURE. LOCAL VENTILATION IS USUALLY PREFERRED.

EXPLOSION-PROOF EQUIPMENT (FOR EXAMPLE, FANS, SWITCHES, GROUNDED DUCTS) SHOULD BE USED IN MECHANICAL VENTILATION SYSTEMS.

##### PROTECTIVE EQUIPMENT

A SAFETY SHOWER AND EYE BATH SHOULD BE READILY AVAILABLE.

##### SKIN:

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WEAR IMPERVIOUS CLOTHING AND GLOVES TO PREVENT REPEATED OR  
PROLONGED CONTACT. THE RECOMMENDED MATERIAL OF CONSTRUCTION  
IS:

BUTYL RUBBER.

EYES:

WEAR CHEMICAL GOGGLES WHEN THERE IS A REASONABLE CHANCE OF  
EYE CONTACT.

INHALATION:

BASED ON WORKPLACE CONTAMINATE LEVEL AND WORKING LIMITS OF  
THE RESPIRATOR, USE A RESPIRATOR APPROVED BY NIOSH/MSHA.  
THE FOLLOWING IS THE MINIMUM RECOMMENDED EQUIPMENT FOR AN  
ACCEPTABLE LEVEL OF EXPOSURE. TO ESTIMATE AN ACCEPTABLE  
LEVEL OF EXPOSURE, SEE "SECTION 3 - HAZARDS IDENTIFICATION",  
"SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION" AND  
"SECTION 11 - TOXICOLOGICAL INFORMATION".

FOR CONCENTRATIONS  $\geq 1$  AND  $\leq 100$  TIMES THE ACCEPTABLE  
LEVEL: USE TYPE C FULL FACEPIECE SUPPLIED-AIR RESPIRATOR  
OPERATED IN PRESSURE-DEMAND OR CONTINUOUS-FLOW MODE.  
POSITIVE-PRESSURE SELF-CONTAINED BREATHING APPARATUS ESCAPE  
SYSTEM.

FOR CONCENTRATIONS  $\geq 100$  TIMES THE ACCEPTABLE LEVEL OR IDLH  
LEVEL OR UNKNOWN CONCENTRATION (SUCH AS IN EMERGENCIES):  
USE SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE  
IN PRESSURE-DEMAND MODE. TYPE C POSITIVE-PRESSURE FULL  
FACEPIECE SUPPLIED-AIR RESPIRATOR WITH AN AUXILIARY  
POSITIVE-PRESSURE SELF-CONTAINED BREATHING APPARATUS ESCAPE  
SYSTEM.

FOR ESCAPE: USE SELF-CONTAINED BREATHING APPARATUS WITH  
FULL FACEPIECE OR ANY RESPIRATOR SPECIFICALLY APPROVED FOR  
ESCAPE.

EXPOSURE GUIDELINES:

METHANOL (67-56-1)

OSHA PEL

ACGIH TLV

200 PPM (TWA)

250 PPM (STEL)

200 PPM (TWA)

ACGIH HAS GIVEN THIS SUBSTANCE A SKIN DESIGNATION.

CELANESE HAS ADOPTED THE ACGIH TLV.

1990 NIOSH IDLH\*: 25,000 PPM

1994 NIOSH IDLH: 6000 PPM

\*RECOGNIZED BY OSHA.

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---

9. PHYSICAL AND CHEMICAL PROPERTIES.

APPEARANCE : CLEAR, COLORLESS, MOBILE LIQUID.

ODOR : MILD ALCOHOL ODOR.

PHYSICAL STATE : LIQUID

VAPOR PRESSURE : 96.0 HG  
(20 C)

VAPOR DENSITY : 1.11

AIR = 1 AT 20 C

BOILING POINT : 64.6 C (148.3 F)  
(760 MM HG)

FREEZING POINT : -97.8 C (-144.0 F)

SOLUBILITY : COMPLETE IN WATER.

SPECIFIC GRAVITY : 0.792

H2O = 1 @ 20/20 C

EVAPORATION RATE : 2.0

BUAC = 1

% VOLATILES : 100.0

MOLECULAR WEIGHT : 32.0

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:

STABLE.

CONDITIONS TO AVOID:

HEAT, SPARKS, FLAME.

INCOMPATIBILITY:

SULFURIC ACID; OXIDIZING AGENTS SUCH AS HYDROGEN PEROXIDE,  
NITRIC ACID, PERCHLORIC ACID AND CHROMIUM TRIOXIDE.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION

ORAL LD50 : 7.5 G/KG (RATS); PRACTICALLY NON-TOXIC TO  
RATS.

DERMAL : MINIMUM LETHAL DOSE, 1.6 G/KG (MONKEYS);  
LOW TOXICITY TO ANIMALS BY SKIN CONTACT.

INHALATION LC50 : 64,000 PPM (RATS, 4 HRS) PRACTICALLY NON-  
TOXIC IN RATS. REPEATED EXPOSURE OF MONKEYS TO 5000 PPM,  
6 HRS/DAY, 5 DAYS/WK FOR 4 WEEKS CAUSED NO TOXIC RESPONSE OR  
EFFECTS ON VISION.

MUTAGENICITY : IN VITRO, LIMITED EVIDENCE OF MUTAGENI-  
CITY (MOUSE LYMPHOMA FORWARD MUTATION ASSAY). IN VIVO, NO  
INFORMATION.

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CARCINOGENICITY : NO EVIDENCE OF CARCINOGENIC POTENTIAL IN  
LIMITED ANIMAL STUDIES IN WHICH METHANOL WAS GIVEN ORALLY OR  
APPLIED TO THE SKIN.

REPRODUCTION : REPORTED TO CAUSE BIRTH DEFECTS IN RATS  
EXPOSED TO VERY HIGH LEVELS OF VAPORS (20,000 PPM).

12. ECOLOGICAL INFORMATION  
THIS INFORMATION IS BEING RESEARCHED.

13. DISPOSAL CONSIDERATIONS  
ALL NOTIFICATION, CLEAN-UP AND DISPOSAL SHOULD BE CARRIED  
OUT IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.  
PREFERRED METHODS OF WASTE DISPOSAL ARE INCINERATION OR BIO-  
LOGICAL TREATMENT IN FEDERAL/STATE APPROVED FACILITY.

HAZARDOUS WASTE (40 CFR 261): YES; U154, D001.

14. TRANSPORT INFORMATION

SHIPPING NAME : METHANOL  
HAZARD CLASS : 3, FLAMMABLE LIQUID  
SUBSIDIARY HAZARD : 6, POISONOUS MATERIALS  
UNITED NATIONS NO. : UN1230  
PACKING GROUP : II  
NORTH AMERICAN ER GUIDE : 131  
DOT REPORTABLE QUANTITY (RQ): 5000 LB/2270 KG

CANADIAN TRANSPORTATION OF DANGEROUS GOODS

CLASSIFICATION : FLAMMABLE LIQUID 3 (6.1)

15. REGULATORY INFORMATION

RECIPIENT MUST COMMUNICATE ALL PERTINENT INFORMATION HEREIN  
TO EMPLOYEES AND CUSTOMERS.

STATE REGULATIONS

THE FOLLOWING CHEMICALS ASSOCIATED WITH THE PRODUCT ARE  
SUBJECT TO THE RIGHT-TO-KNOW REGULATIONS IN THESE STATES:

METHANOL (67-56-1): CT, FL, IL, LA, MA, NJ, NY, PA, RI

U.S. FEDERAL REGULATIONS

WE CERTIFY THAT ALL COMPONENTS ARE EITHER ON THE TSCA  
INVENTORY OR QUALIFY FOR AN EXEMPTION.

SARA 313 : METHANOL 99.85% (67-56-1)

ENVIRONMENTAL:

CERCLA : METHANOL 99.85% (67-56-1)

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SARA 304 : METHANOL 99.85% (67-56-1)

SARA 311 :

ACUTE HEALTH----- YES

CHRONIC HEALTH----- YES

FIRE----- YES

SUDDEN RELEASE OF PRESSURE-- NO

REACTIVE----- NO

INTERNATIONAL REGULATIONS

LISTED ON THE CHEMICAL INVENTORIES OF THE FOLLOWING

COUNTRIES: AUSTRALIA, CANADA, EUROPE (EINECS), JAPAN AND KOREA.

WHMIS INGREDIENT DISCLOSURE LISTED COMPONENTS:

WHMIS CLASSIFICATION: CLASS B, DIVISION 2; CLASS D, DIVISION 1, SUBDIVISION A.

THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

16. OTHER INFORMATION



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----- FOR ADDITIONAL INFORMATION -----

CONTACT: MSDS COORDINATOR VAN WATERS & ROGERS INC.  
DURING BUSINESS HOURS, PACIFIC TIME (425)889-3400

10/15/99 08:26 PRODUCT: CUST NO: ORDER NO:

----- NOTICE -----

\*\* VAN WATERS & ROGERS INC. ("VW&R"), A ROYAL PAKHOED COMPANY, EXPRESSLY

DISCLAIMS ALL EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR

A PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED

HEREIN, AND SHALL UNDER NO CIRCUMSTANCES BE LIABLE FOR INCIDENTAL OR

CONSEQUENTIAL DAMAGES. \*\*

ALL INFORMATION APPEARING HEREIN IS BASED UPON DATA OBTAINED FROM THE  
MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMATION IS  
BELIEVED TO BE ACCURATE, VW&R MAKES NO REPRESENTATIONS AS TO ITS ACCURACY OR  
SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VW&RS CONTROL AND THEREFORE USERS  
ARE RESPONSIBLE TO VERIFY THIS DATA UNDER THEIR OWN OPERATING CONDITIONS TO  
DETERMINE WHETHER THE PRODUCT IS SUITABLE FOR THEIR PARTICULAR PURPOSES AND THEY  
ASSUME ALL RISKS OF THEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM  
THE PUBLICATION OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN.  
THIS INFORMATION RELATES ONLY TO THE PRODUCT DESIGNATED HEREIN, AND DOES NOT  
RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER  
PROCESS.

\*\*\* END OF MSDS \*\*\*

District I - (505) 393-6161  
P. O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

RECEIVED  
SEP 17 1999  
Environmental Bureau  
Oil Conservation Division

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>El Paso Field Serv.</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>Chaco Plant</u>
2. Management Facility Destination <u>KEY EXCESS DISPOSAL</u>	6. Transporter <u>Key and/or others</u>
3. Address of Facility Operator <u>CR3500 #345 AZtec, NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>SEC 16, T26N, R12W S.J. CO NM</u>	
9. <u>Circle One</u> : A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <u>(B)</u> All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

Contract waste water from lined evaporation ponds

RECEIVED  
SEP 14 1999  
OIL CON. DIV.  
DIST. 3

Estimated Volume 43,000 BBLs cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: MGR DATE: 9-13-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny G. Zent TITLE: Geologist DATE: 9/14/99  
APPROVED BY: Martyn G. High TITLE: Environmental Geologist DATE: 9/17/99

## CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:  El Paso Field Services Co. 614 Reilly Avenue Farmington, NM 87401	2. Destination Name:  Key Energy Services – Attn. Mike Tolvich P. O. Box 900 Farmington, New Mexico 87499
3. Originating Site (name):  Chaco Plant	Location of Waste(Street address &/or ULSTR):  Sec. 16, T26N, R12W, San Juan Co., NM
Attach list of originating sites as appropriate	
4. Source and Description of Waste  Contact wastewater from the lined evaporation ponds	

I, David Bays representative for:  
(Print Name)

El Paso Field Services Co. do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988 regulatory determination, the above described waste is: (Check appropriate classification)

       EXEMPT Oilfield waste        X   NON-EXEMPT oilfield waste which is non-hazardous by  
characteristic analysis or by product identification

and that nothing has been added to the exempt or non-hazardous waste defined above.

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

       MSDS Information             Other (description)  
  X   RCRA Hazardous Waste Analysis  
       Chain of Custody

Name (Original Signature): David Bays

Title: Principal Environmental Scientist

Date: September 9, 1999

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW



September 2, 1999

Mr. John Lambdin  
El Paso Field Services  
P.O. Box 4990  
Farmington, New Mexico 87499

Project No.: 99039  
Job No.: 903901

Dear Mr. Lambdin,

Enclosed are the analytical results for the samples collected from the location designated as "Chaco Plant". One solid sample and two water samples were collected by EPFS personnel on 08/26/99, and received by the Envirotech laboratory on 08/27/99 for Hazardous Waste Characterization analysis (Volatiles, Semi-volatiles, Metals, Ignitability, Reactivity and Corrosivity).

The samples were documented on Envirotech Chain of Custody No. 6082 and assigned Laboratory Nos. G010 (EPFS No. 990377), G011 (EPFS No. 990378), and G012 (EPFS No. 990379) for tracking purposes.

The samples were analyzed 08/27/99 through 08/31/99 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615. It is always a pleasure doing business with you.

Respectfully submitted,  
Envirotech, Inc.

Stacy W. Sender  
Environmental Scientist/Laboratory Manager

*Reviewed + Approved  
J. Lander  
9/3/99*

enc.

SWS\sws

990391b1.wpd

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990377	Date Reported:	08-31-99
Lab ID#:	G010	Date Sampled:	08-26-99
Sample Matrix:	Solid	Date Received:	08-27-99
Preservative:	Cool	Date Analyzed:	08-27-99
Condition:	Cool and Intact	Chain of Custody:	6082

Parameter	Result
-----------	--------

IGNITABILITY: Negative

CORROSIVITY: Negative pH = 6.90

REACTIVITY: Negative

### RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
-----------	---------------------------

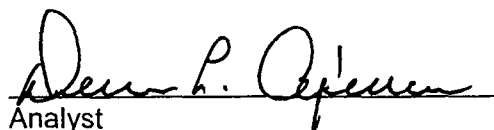
IGNITABILITY: Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21.  
(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)

CORROSIVITY: Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22.  
(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)

REACTIVITY: Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23.  
(i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: Chaco Plant. N. Contact Pond.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990378	Date Reported:	08-31-99
Lab ID#:	G011	Date Sampled:	08-26-99
Sample Matrix:	Water	Date Received:	08-27-99
Preservative:	Cool	Date Analyzed:	08-27-99
Condition:	Cool and Intact	Chain of Custody:	6082

Parameter	Result
-----------	--------

IGNITABILITY: Negative

CORROSIVITY: Negative pH = 5.85

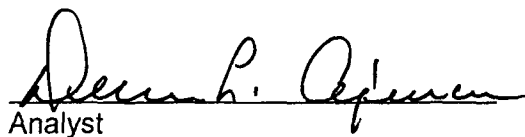
REACTIVITY: Negative

### RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
IGNITABILITY:	Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21. (i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)
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Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: Chaco Plant. N. Contact Pond.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990379	Date Reported:	08-31-99
Lab ID#:	G012	Date Sampled:	08-26-99
Sample Matrix:	Water	Date Received:	08-27-99
Preservative:	Cool	Date Analyzed:	08-27-99
Condition:	Cool and Intact	Chain of Custody:	6082

Parameter	Result
-----------	--------

**IGNITABILITY:** Negative

**CORROSIVITY:** Negative pH = 6.57

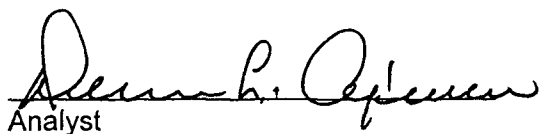
**REACTIVITY:** Negative

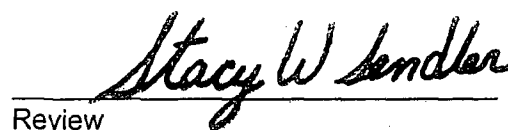
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Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: Chaco Plant. S. Contact Pond.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990377	Date Reported:	08-31-99
Laboratory Number:	G010	Date Sampled:	08-26-99
Chain of Custody:	6082	Date Received:	08-27-99
Sample Matrix:	TCLP Extract	Date Extracted:	08-27-99
Preservative:	Cool	Date Analyzed:	08-30-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	0.0225	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.0275	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

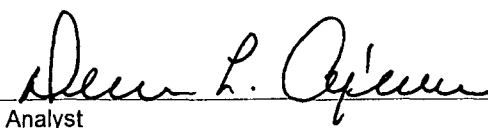
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QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Chaco Plant. N. Contact Pond.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990378	Date Reported:	08-31-99
Laboratory Number:	G011	Date Sampled:	08-26-99
Chain of Custody:	6082	Date Received:	08-27-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-30-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	0.0257	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.0393	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

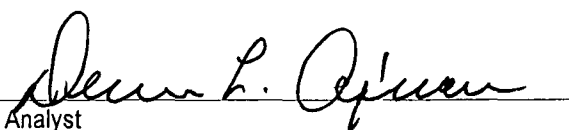
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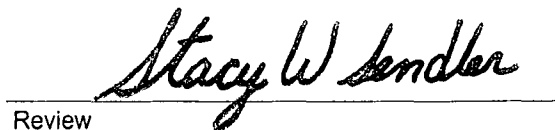
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Chaco Plant. N. Contact Pond.

  
Analyst

  
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# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990379	Date Reported:	08-31-99
Laboratory Number:	G012	Date Sampled:	08-26-99
Chain of Custody:	6082	Date Received:	08-27-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-30-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.0113	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

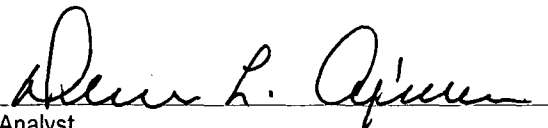
ND - Parameter not detected at the stated detection limit.


QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Chaco Plant. S. Contact Pond.

  
Analyst

  
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# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990377	Date Reported:	08-31-99
Laboratory Number:	G010	Date Sampled:	08-26-99
Chain of Custody:	6082	Date Received:	08-27-99
Sample Matrix:	TCLP Extract	Date Extracted:	08-27-99
Preservative:	Cool	Date Analyzed:	08-31-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

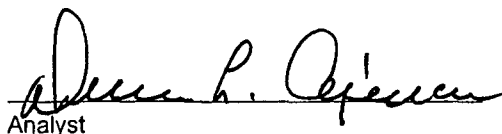
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: Chaco Plant. N. Contact Pond.

  
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# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990378	Date Reported:	08-31-99
Laboratory Number:	G011	Date Sampled:	08-26-99
Chain of Custody:	6082	Date Received:	08-27-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-31-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

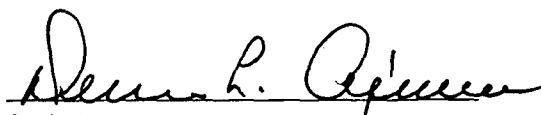
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: Chaco Plant. N. Contact Pond.

  
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# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990379	Date Reported:	08-31-99
Laboratory Number:	G012	Date Sampled:	08-26-99
Chain of Custody:	6082	Date Received:	08-27-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-31-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	0.064	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

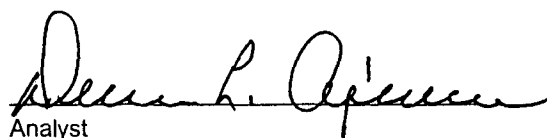
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

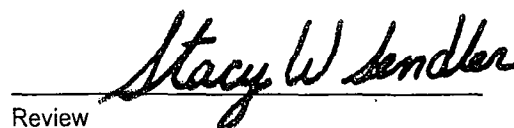
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: Chaco Plant. S. Contact Pond.

  
Analyst

  
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# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990377	Date Reported:	08-31-99
Laboratory Number:	G010	Date Sampled:	08-26-99
Chain of Custody:	6082	Date Received:	08-27-99
Sample Matrix:	TCLP Extract	Date Extracted:	08-27-99
Preservative:	Cool	Date Analyzed:	08-30-99
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	0.039	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

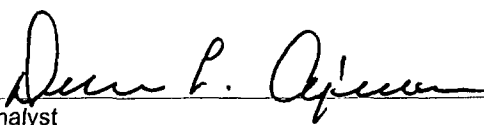
ND - Parameter not detected at the stated detection limit.


QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Chaco Plant. N. Contact Pond.

  
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# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990378	Date Reported:	08-31-99
Laboratory Number:	G011	Date Sampled:	08-26-99
Chain of Custody:	6082	Date Received:	08-27-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-30-99
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	0.026	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

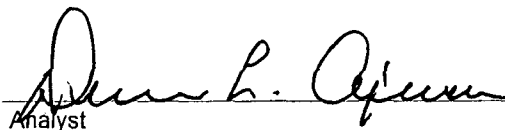
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QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	96%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Chaco Plant. N. Contact Pond.

  
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# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990379	Date Reported:	08-31-99
Laboratory Number:	G012	Date Sampled:	08-26-99
Chain of Custody:	6082	Date Received:	08-27-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-30-99
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	0.056	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

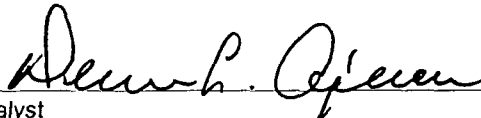
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QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Chaco Plant. S. Contact Pond.

  
Analyst

  
Review



# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**EPA METHOD 1311  
TOXICITY CHARACTERISTIC  
LEACHING PROCEDURE  
TRACE METAL ANALYSIS**

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990377	Date Reported:	08-31-99
Laboratory Number:	G010	Date Sampled:	08-26-99
Chain of Custody:	6082	Date Received:	08-27-99
Sample Matrix:	TCLP Extract	Date Analyzed:	08-30-99
Preservative:	Cool	Date Extracted:	08-27-99
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	ND	0.001	5.0
Barium	1.86	0.01	21
Cadmium	0.021	0.001	0.11
Chromium	0.01	0.01	0.60
Lead	ND	0.05	0.75
Mercury	ND	0.0001	0.025
Selenium	ND	0.001	5.7
Silver	ND	0.01	0.14

ND - Parameter not detected at the stated detection limit.

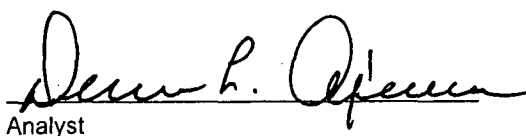
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060, 7080, 7131, 7191, 7470, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA. December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments: Chaco Plant. N. Contact Pond.

  
Analyst

  
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# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990378	Date Reported:	08-31-99
Laboratory Number:	G011	Date Sampled:	08-26-99
Chain of Custody:	6082	Date Received:	08-27-99
Sample Matrix:	Water	Date Analyzed:	08-30-99
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	0.002	0.001	5.0
Barium	2.22	0.01	21
Cadmium	ND	0.001	0.11
Chromium	ND	0.01	0.60
Lead	ND	0.05	0.75
Mercury	ND	0.0001	0.025
Selenium	0.001	0.001	5.7
Silver	ND	0.01	0.14

ND - Parameter not detected at the stated detection limit.

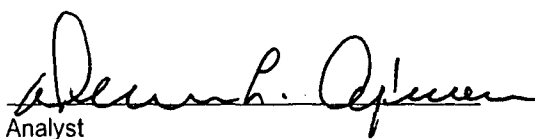
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060, 7080, 7131, 7191, 7470, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA. December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments: Chaco Plant. N. Contact Pond.

  
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# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**EPA METHOD 1311  
TOXICITY CHARACTERISTIC  
LEACHING PROCEDURE  
TRACE METAL ANALYSIS**

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990379	Date Reported:	08-31-99
Laboratory Number:	G012	Date Sampled:	08-26-99
Chain of Custody:	6082	Date Received:	08-27-99
Sample Matrix:	Water	Date Analyzed:	08-30-99
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	0.001	0.001	5.0
Barium	1.37	0.01	21
Cadmium	0.018	0.001	0.11
Chromium	0.01	0.01	0.60
Lead	ND	0.05	0.75
Mercury	ND	0.0001	0.025
Selenium	0.001	0.001	5.7
Silver	ND	0.01	0.14

ND - Parameter not detected at the stated detection limit.

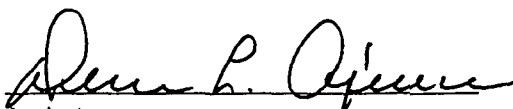
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060, 7080, 7131, 7191, 7470, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments: **Chaco Plant. S. Contact Pond.**

  
Analyst

  
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# **ENVIROTECH LABS**

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**QUALITY ASSURANCE / QUALITY CONTROL**

**DOCUMENTATION**

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	08-31-99
Laboratory Number:	08-30-TCV	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-30-99
Condition:	N/A	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

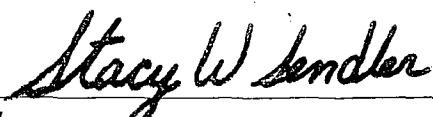
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples G010 - G012.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	08-31-99
Laboratory Number:	08-27-TCV	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-30-99
Condition:	N/A	Date Extracted:	08-27-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

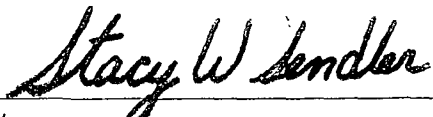
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	99%
	Bromofluorobenzene	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples G010 - G012.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

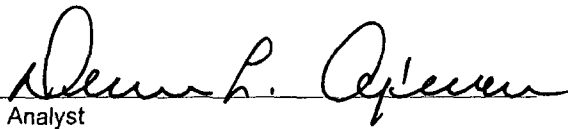
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Sample ID:	Matrix Duplicate	Date Reported:	08-31-99
Laboratory Number:	G010	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	08-30-99
Condition:	N/A	Date Extracted:	08-27-99


Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethene	ND	ND	0.0001	0.0%
2-Butanone (MEK)	0.0225	0.0230	0.0001	2.1%
Chloroform	ND	ND	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	0.0275	0.0273	0.0001	0.7%
1,2-Dichloroethane	ND	ND	0.0001	0.0%
Trichloroethene	ND	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	ND	ND	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples G010 - G012.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

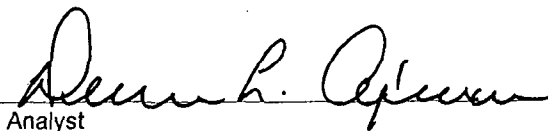
Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spike	Date Reported:	08-31-99
Laboratory Number:	G010	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	08-30-99
Condition:	N/A	Date Extracted:	N/A

Parameter	Sample Result (mg/L)	Spike Added (mg/L)	Spiked Sample Result (mg/L)	Det. Limit (mg/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
2-Butanone (MEK)	0.0225	0.050	0.0720	0.0001	99%	47-132
Chloroform	ND	0.050	0.0498	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0491	0.0001	98%	43-143
Benzene	0.0275	0.050	0.0773	0.0001	100%	39-150
1,2-Dichloroethane	ND	0.050	0.0494	0.0001	99%	51-147
Trichloroethene	ND	0.050	0.0494	0.0003	99%	35-146
Tetrachloroethene	ND	0.050	0.0494	0.0005	99%	26-162
Chlorobenzene	ND	0.050	0.0494	0.0003	99%	38-150
1,4-Dichlorobenzene	ND	0.050	0.0494	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples G010 - G012.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040

PHENOLS

Quality Assurance Report

Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	08-31-99
Laboratory Number:	08-31-TCA	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-31-99
Condition:	N/A	Analysis Requested:	TCLP

Analytical Results		Detection	Regulatory
Parameter	Concentration (mg/L)	Limit (mg/L)	Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-fluorophenol	98 %
	2,4,6-tribromophenol	99 %

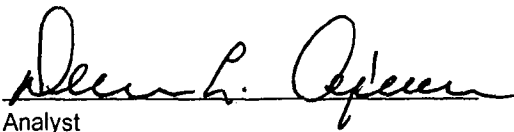
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples G010 - G012.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	08-31-99
Laboratory Number:	08-27-TCA	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	Cool	Date Extracted:	08-27-99
Condition:	Cool & Intact	Date Analyzed:	08-31-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

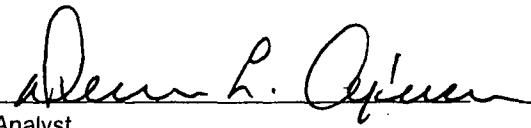
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples G010 - G012.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040  
PHENOLS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	08-31-99
Laboratory Number:	G012	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Date Analyzed:	08-31-99
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	ND	ND	0.020	0.0%
p,m-Cresol	0.064	0.062	0.040	2.0%
2,4,6-Trichlorophenol	ND	ND	0.020	0.0%
2,4,5-Trichlorophenol	ND	ND	0.020	0.0%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

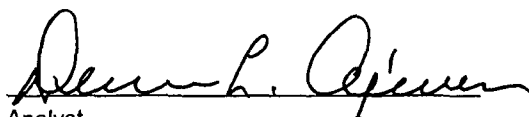
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.


Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples G010 - G012.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	08-31-99
Laboratory Number:	08-30-TBN	Date Sampled:	N/A
Sample Matrix:	Hexane	Date Received:	N/A
Preservative:	N/A	Date Extracted:	N/A
Condition:	N/A	Date Analyzed:	08-30-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

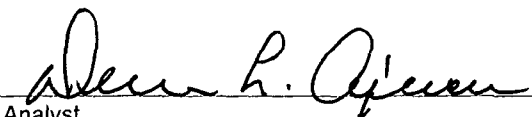
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples G010 - G012.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	08-31-99
Laboratory Number:	08-27-TBN	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	Cool	Date Extracted:	08-27-99
Condition:	Cool and Intact	Date Analyzed:	08-30-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

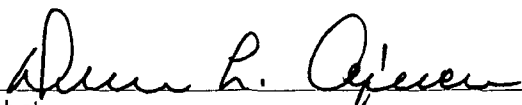
ND - Parameter not detected at the stated detection limit.


QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	97%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel-Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples G010 - G012.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QA/QC Matrix Duplicate Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	08-31-99
Laboratory Number:	G012	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Extracted:	N/A
Condition:	N/A	Date Analyzed:	08-30-99
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	ND	ND	0.0%	0.020
Hexachloroethane	ND	ND	0.0%	0.020
Nitrobenzene	ND	ND	0.0%	0.020
Hexachlorobutadiene	ND	ND	0.0%	0.020
2,4-Dinitrotoluene	0.056	0.054	3.0%	0.020
HexachloroBenzene	ND	ND	0.0%	0.020

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Maximum Difference
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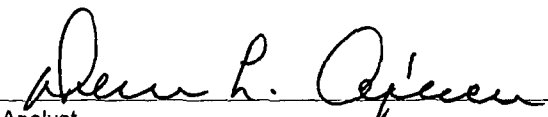
8090 Compounds

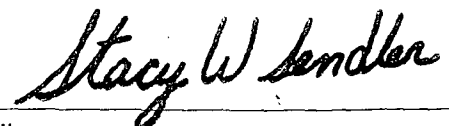
30%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples G010 - G012.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-30-TCM QA/QC	Date Reported:	08-31-99
Laboratory Number:	G010	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	08-30-99
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Barium	ND	ND	0.01	1.86	1.85	0.5%	0% - 30%
Cadmium	ND	ND	0.001	0.021	0.021	0.0%	0% - 30%
Chromium	ND	ND	0.01	0.01	0.01	0.0%	0% - 30%
Lead	ND	ND	0.05	ND	ND	0.0%	0% - 30%
Mercury	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.01	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.100	ND	0.099	99.0%	80% - 120%
Barium	1.00	1.86	2.85	99.7%	80% - 120%
Cadmium	0.500	0.021	0.520	99.8%	80% - 120%
Chromium	0.50	0.01	0.51	100.0%	80% - 120%
Lead	2.00	ND	2.01	100.5%	80% - 120%
Mercury	0.0250	ND	0.0248	99.2%	80% - 120%
Selenium	0.100	ND	0.099	99.0%	80% - 120%
Silver	0.50	ND	0.49	98.0%	80% - 120%

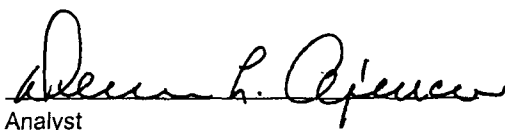
ND - Parameter not detected at the stated detection limit.

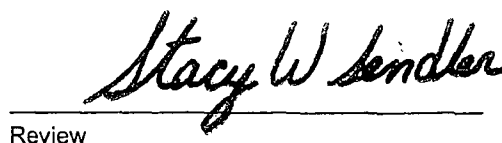
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for samples G010 - G012.

  
Analyst

  
Review

6082

**ENVIROTECH INC.**

5796 U.S. Highway 64  
Farmington, New Mexico 87401  
(505) 632-0615



District I - (505) 393-6161  
P.O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

RECEIVED

SEP 07 1999

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>WFS</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>MILAGEO PLANT</u>
2. Management Facility Destination <u>KEY DISPOSAL</u>	6. Transporter <u>Key</u>
3. Address of Facility Operator <u>CR 3500 #345 AZtec NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>192 CR 4900 Bloomfield NM</u>	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

WASTE WATER FROM EVAPORATION POND AT the  
NATURAL GAS Breechment Plant

RECEIVED  
SEP 1 - 1999

OIL CON. DIV.  
DIST. 3

CONTINUANCE

Estimated Volume 2500 + 6615 cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: Mgr DATE: 9-1-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny G. Feunt TITLE: Geologist DATE: 9/3/99  
APPROVED BY: Martyn J. Kuhl TITLE: Environmental Geologist DATE: 9/7/99

## CERTIFICATE OF WASTE STATUS

1. Generator Name and Address: Williams Field SERVICES 192 CR 4900 Bloomfield NM. 87413	2. Destination Name: Key Energy DISPOSAL
3. Originating Site (name): MILAGRO PLANT 192 CR 4900 Bloomfield NM 87413 <small>Attach list of originating sites as appropriate</small>	Location of the Waste (Street address &/or ULSTR):
4. Source and Description of Waste Waste water PONOS	

I, NELSON M SLY III representative for:  
(Print Name)  
Williams Field SERVICES do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☐ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information ☐ Other (description):  
☐ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

Name (Original Signature):

Nelson M. Sly III

Title:

Lead MECHANIC

Date:

8/19/99

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

November 17, 1998

Mr. Mike Talovich  
Sunco, Inc.  
P.O. Box 900  
Farmington, New Mexico 87499

(505) 327-0416

Project No.: 98065-02

Dear Mr. Talovich,

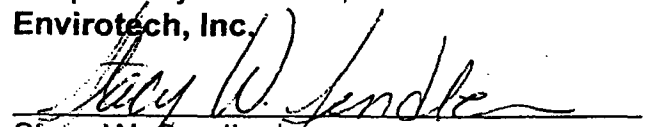
Enclosed are the analytical results for the sample collected from the location designated as "WFS Milagro Plant". One water sample identified as "Plant" was collected from the designated location by Sunco personnel on 10/29/98, and received by the Envirotech laboratory on 10/29/98 for Hazardous Waste Characterization analysis (Volatile and Semi-volatile Organics, Trace Metals, Reactivity, Corrosivity, and Ignitability).

The sample was documented on Envirotech Chain of Custody No. 6371 and assigned Laboratory No. E120 for tracking purposes.

The sample was analyzed on 10/29/98 through 11/16/98 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,  
Envirotech, Inc.

  
Stacy W. Sandler  
Environmental Scientist/Laboratory Manager

enclosure

SWS/sws

98065-02.lb1/wpd

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	10-30-98
Lab ID#:	E120	Date Sampled:	10-29-98
Sample Matrix:	Soil	Date Received:	10-29-98
Preservative:	Cool	Date Analyzed:	10-29-98
Condition:	Cool and Intact	Chain of Custody:	6371

Parameter	Result
-----------	--------

IGNITABILITY: Negative

CORROSIVITY: Negative pH = 9.64

REACTIVITY: Negative

### RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
-----------	---------------------------

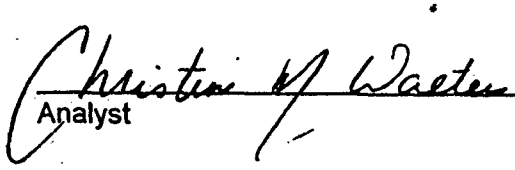
IGNITABILITY: Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21.  
(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)

CORROSIVITY: Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22.  
(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)

REACTIVITY: Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23.  
(i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: WFS Milagro Plant.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	10-29-98
Chain of Custody:	6371	Date Received:	10-29-98
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-11-98
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	0.059	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.0006	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	0.003	0.0002	7.5

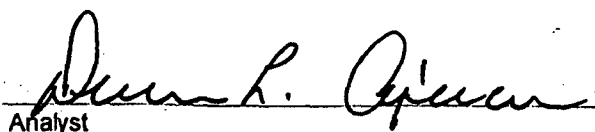
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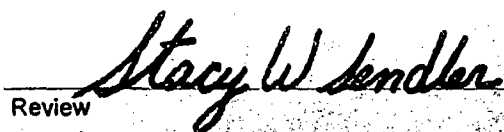
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: WFS Milagro Plant.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	10-29-98
Chain of Custody:	6371	Date Received:	10-29-98
Sample Matrix:	Water	Date Extracted:	11-09-98
Preservative:	Cool	Date Analyzed:	11-12-98
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	100%
	2,4,6-Tribromophenol	100%

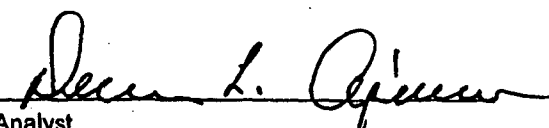
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

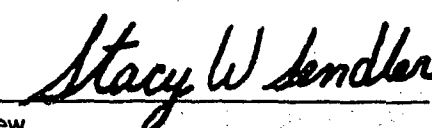
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: WFS Milagro Plant.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	10-29-98
Chain of Custody:	6371	Date Received:	10-29-98
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-12-98
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	0.081	0.020	5.0
Hexachloroethane	0.190	0.020	3.0
Nitrobenzene	0.766	0.020	2.0
Hexachlorobutadiene	0.033	0.020	0.5
2,4-Dinitrotoluene	0.088	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

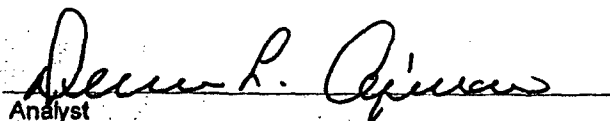
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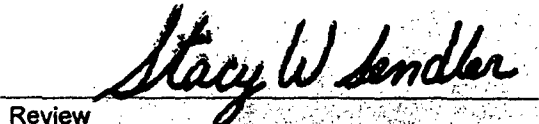
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: WFS Milagro Plant.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	11-13-98
Laboratory Number:	E120	Date Sampled:	10-29-98
Chain of Custody:	6371	Date Received:	10-29-98
Sample Matrix:	Water	Date Analyzed:	11-12-98
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	ND	0.0001	5.0
Barium	0.546	0.001	21
Cadmium	0.0017	0.0001	0.11
Chromium	ND	0.0001	0.60
Lead	0.0086	0.0001	0.75
Mercury	ND	0.0001	0.025
Selenium	ND	0.0001	5.7
Silver	ND	0.0001	0.14

ND - Parameter not detected at the stated detection limit.


References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

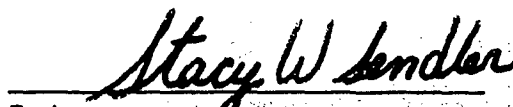
Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060, 7080, 7131, 7191, 7470, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA. December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C, section 261.24, August 24, 1998.

Comments: WFS Milagro Plant.

  
Analyst

  
Review



# **ENVIROTECH LABS**

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**QUALITY ASSURANCE / QUALITY CONTROL**

**DOCUMENTATION**

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	11-12-98
Laboratory Number:	11-11-TCV-BLANK	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-11-98
Condition:	N/A	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

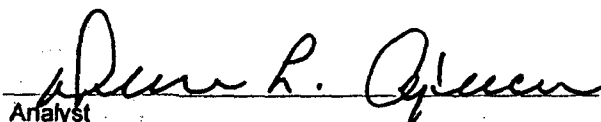
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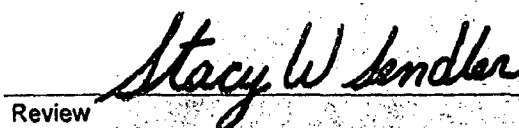
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	11-11-98
Laboratory Number:	11-04-TV-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-11-98
Condition:	N/A	Date Extracted:	11-04-98
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

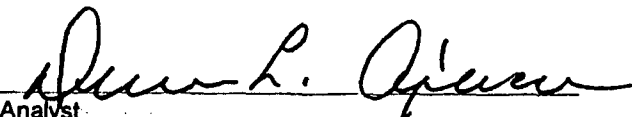
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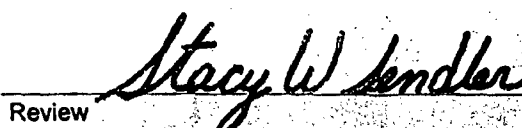
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	99%
	Bromofluorobenzene	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Duplicate  
Laboratory Number: E120  
Sample Matrix: TCLP Extract  
Analysis Requested: TCLP  
Condition: N/A

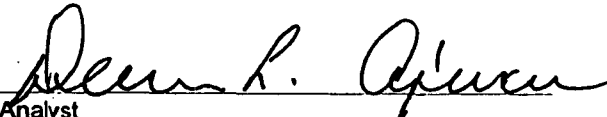
Project #: N/A  
Date Reported: 11-12-98  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 11-11-98  
Date Extracted: N/A


Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethene	ND	ND	0.0001	0.0%
2-Butanone (MEK)	0.059	0.059	0.0001	0.0%
Chloroform	ND	ND	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	0.0006	0.0006	0.0001	0.0%
1,2-Dichloroethane	ND	ND	0.0001	0.0%
Trichloroethene	ND	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	0.003	0.003	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Spike  
Laboratory Number: E120  
Sample Matrix: TCLP Extract  
Analysis Requested: TCLP  
Condition: N/A

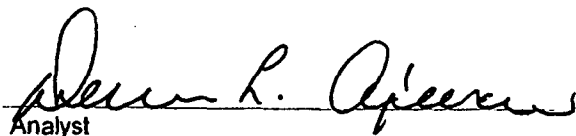
Project #: N/A  
Date Reported: 11-12-98  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 11-11-98  
Date Extracted: N/A

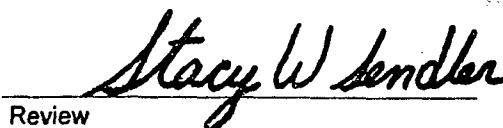
Parameter	Sample Result (mg/L)	Spike Added (mg/L)	Spiked Sample Result (mg/L)	Det. Limit (mg/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
2-Butanone (MEK)	0.059	0.050	0.1084	0.0001	100%	47-132
Chloroform	ND	0.050	0.0498	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0491	0.0001	98%	43-143
Benzene	0.0006	0.050	0.0504	0.0001	100%	39-150
1,2-Dichloroethane	ND	0.050	0.0494	0.0001	99%	51-147
Trichloroethene	ND	0.050	0.0494	0.0003	99%	35-146
Tetrachloroethene	ND	0.050	0.0498	0.0005	99%	26-162
Chlorobenzene	ND	0.050	0.0494	0.0003	99%	38-150
1,4-Dichlorobenzene	0.003	0.050	0.0524	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040

PHENOLS

Quality Assurance Report

Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	11-12-98
Laboratory Number:	11-12-TCA-BLANK	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-12-98
Condition:	N/A	Analysis Requested:	TCLP

Analytical Results	Concentration	Detection	Regulatory
Parameter	(mg/L)	Limit	Limit
		(mg/L)	(mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-fluorophenol	99 %
	2,4,6-tribromophenol	97 %

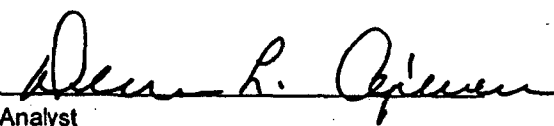
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

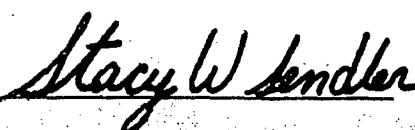
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147 - E148.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	11-12-98
Laboratory Number:	11-04-TCA-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extraction	Date Received:	N/A
Preservative:	Cool	Date Extracted:	11-04-98
Condition:	Cool & Intact	Date Analyzed:	11-12-98
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	101%
	2,4,6-Tribromophenol	100%

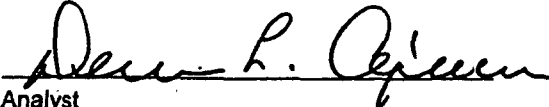
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

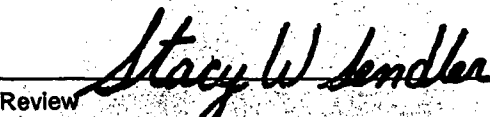
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147 - E148.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	N/A
Sample Matrix:	TCLP Extraction	Date Received:	N/A
Preservative:	Cool	Date Extracted:	11-04-98
Condition:	Cool & Intact	Date Analyzed:	11-12-98
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	ND	ND	0.020	0.0%
p,m-Cresol	ND	ND	0.040	0.0%
2,4,6-Trichlorophenol	ND	ND	0.020	0.0%
2,4,5-Trichlorophenol	ND	ND	0.020	0.0%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

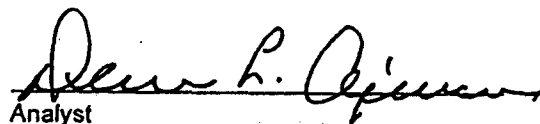
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

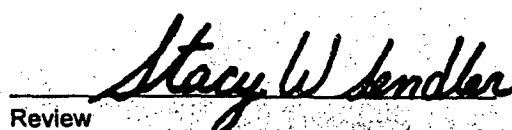
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147 - E148.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
Quality Assurance Report

Client: QA/QC  
Sample ID: Laboratory Blank  
Laboratory Number: 11-12-TBN-Blank  
Sample Matrix: Hexane  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 11-12-98  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 11-12-98  
Analysis Requested: TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

Analyst

Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	11-12-98
Laboratory Number:	11-04-BN-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	Cool	Date Extracted:	11-04-98
Condition:	Cool and Intact	Date Analyzed:	11-12-98
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13


ND - Parameter not detected at the stated detection limit.


QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QA/QC Matrix Duplicate Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Extracted:	N/A
Condition:	N/A	Date Analyzed:	11-12-98
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	0.081	0.081	0.0%	0.020
Hexachloroethane	0.190	0.188	1.0%	0.020
Nitrobenzene	0.766	0.759	0.9%	0.020
Hexachlorobutadiene	0.033	0.032	1.1%	0.020
2,4-Dinitrotoluene	0.088	0.085	3.0%	0.020
HexachloroBenzene	ND	ND	0.0%	0.020

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Maximum Difference
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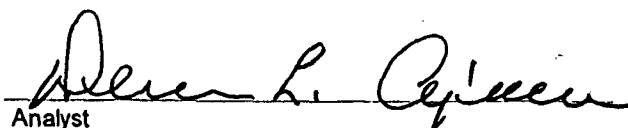
8090 Compounds

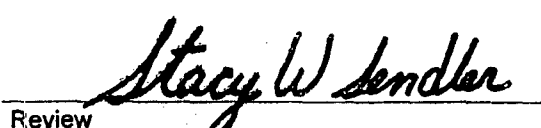
30%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311  
TOXICITY CHARACTERISTIC  
LEACHING PROCEDURE  
TRACE METAL ANALYSIS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	11-12-TCM QA/QC	Date Reported:	11-13-98
Laboratory Number:	E120	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	11-12-98
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Diff	Acceptance Range
Arsenic	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Barium	ND	ND	0.001	0.546	0.544	0.4%	0% - 30%
Cadmium	ND	ND	0.0001	0.0017	0.0016	5.9%	0% - 30%
Chromium	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Lead	ND	ND	0.0001	0.0086	0.0087	1.2%	0% - 30%
Mercury	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.0001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.1000	ND	0.0998	99.8%	80% - 120%
Barium	1.000	0.546	1.55	100.3%	80% - 120%
Cadmium	0.0500	0.0017	0.0515	99.6%	80% - 120%
Chromium	0.0500	ND	0.0499	99.8%	80% - 120%
Lead	0.1000	0.0086	0.109	99.9%	80% - 120%
Mercury	0.0250	ND	0.0248	99.2%	80% - 120%
Selenium	0.1000	ND	0.0997	99.7%	80% - 120%
Silver	0.0500	ND	0.0498	99.6%	80% - 120%

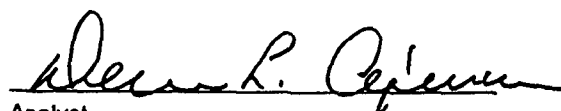
ND - Parameter not detected at the stated detection limit.

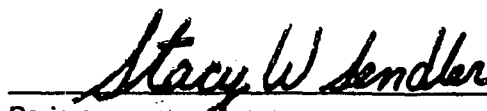
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

6371

# ENVIROTECH INC.

5796 U.S. Highway 64  
Farmington, New Mexico 87401  
(505) 632-0615

Office I - (505) 393-6161  
D. Box 1980  
Bldg. NM 88241-1980  
Office II - (505) 748-1283  
1 S. First  
Alamogordo, NM 88210  
Office III - (505) 334-6178  
7 Rio Brazos Road  
Santa Fe, NM 87410  
Office IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

RECEIVED

SEP 07 1999

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

ENVIRONMENTAL BUREAU

OIL CONSERVATION DIVISION

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>Chemical Dist. INC. AS</u> <u>FARMINGTON Chemical Dist.</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>FCD Plant</u> <u>FARMINGTON NM</u>
2. Management Facility Destination <u>KEY ENERGY SERVICES/ DISPOSAL</u>	6. Transporter <u>Key OR FCD</u>
3. Address of Facility Operator <u>#345 CR 3500 AZTEC, NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>391 MONROE Rd</u> <u>FARMINGTON, NM</u>	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. (B) All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

Small amounts of Bisulfite, Thio-sulfate and CAUSTIC mixed  
with city water

RECEIVED  
AUG 31 1999  
OIL CON. DIV.  
DIST. 3

Estimated Volume 120 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: mgr DATE: 8/31/99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Dennis G. Fawcett TITLE: Geologist DATE: 9/1/99

APPROVED BY: Monty J. Kelly TITLE: Environmental Geologist DATE: 9/1/99

RECEIVED  
AUG 31 1999  
OIL CON. DIV.  
DIST. 3

## CERTIFICATE OF WASTE STATUS

1. Generator Name and Address: <u>Chem. Dist Inc / Farmington Chem Dist</u>	2. Destination Name: <u>KEY ENERGY SERVICES / DISPOSAL</u>
3. Originating Site (name): <u>F.C.D. - Plant</u> <u>Farmington N.M.</u> <small>Attach list of originating sites as appropriate</small>	Location of the Waste (Street address &/or ULSTR): <u>3911. Monroe Rd</u> <u>Farmington N.M 87401</u>
4. Source and Description of Waste <u>Bisulfite - Rain water</u> <u>Thio-sulfate.</u> <u>SMALL AMOUNT OF CAUSTIC</u> <u>MIX WITH CITY WATER</u>	

1. JERRY HUGHES representative for:  
(Print Name)

do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic  
analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information ☐ Other (description):  
☒ RCRA Hazardous Waste Analysis  
☒ Chain of Custody

Name (Original Signature): Jerry Hughes  
Title: Operations Manager  
Date: 8-31-99

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

August 16, 1999

Mr. Jerry Hughes  
Farmington Chemical Distributors  
3911 Monroe Rd.  
Farmington, New Mexico 87401

(505) 327-0274

Project No.: 98081

Job No.: 808101

Dear Mr. Hughes,

Enclosed are the analytical results for the sample collected from the location designated as "3911 Monroe Rd - FCD". One water sample was collected from the designated location by Farmington Chemical designated personnel on 08/04/99, and received by the Envirotech laboratory on 08/04/99 for Hazardous Waste Characterization analysis (Volatile and Semi-volatile Organics, Trace Metals, Reactivity, Corrosivity, and Ignitability).

The sample was documented on Envirotech Chain of Custody No. 7259 and assigned Laboratory No. F814 for tracking purposes.

The sample was analyzed 08/06/99 through 08/10/99 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,  
Envirotech, Inc.



Stacy W. Sandler  
Environmental Scientist/Laboratory Manager

enclosure

SWS/sws

98081b2.wpd



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Farmington Chemical	Project #:	808101
Sample ID:	FCD	Date Reported:	08-06-99
Lab ID#:	F814	Date Sampled:	08-04-99
Sample Matrix:	Water	Date Received:	08-04-99
Preservative:	Cool	Date Analyzed:	08-06-99
Condition:	Cool and Intact	Chain of Custody:	7259

Parameter	Result
-----------	--------

**IGNITABILITY:** Negative

**CORROSIVITY:** Negative pH = 3.37

**REACTIVITY:** Negative

### RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
-----------	---------------------------

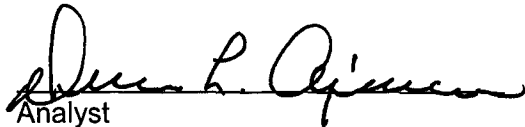
**IGNITABILITY:** Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21.  
(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)

**CORROSIVITY:** Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22.  
(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)

**REACTIVITY:** Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23.  
(i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)

**Reference:** 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

**Comments:** 3911 Monroe Rd.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

Client:	Farmington Chemical	Project #:	808101
Sample ID:	FCD	Date Reported:	08-10-99
Laboratory Number:	F814	Date Sampled:	08-04-99
Chain of Custody:	7259	Date Received:	08-04-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-10-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	0.0060	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	0.0002	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.0042	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

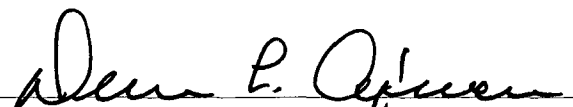
ND - Parameter not detected at the stated detection limit.

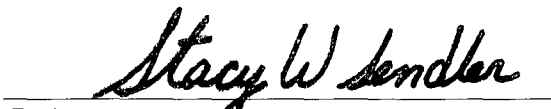
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: 3911 Monroe Rd.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS

Client:	Farmington Chemical	Project #:	808101
Sample ID:	FCD	Date Reported:	08-10-99
Laboratory Number:	F814	Date Sampled:	08-04-99
Chain of Custody:	7259	Date Received:	08-04-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-10-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: 3911 Monroe Rd.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics

Client:	Farmington Chemical	Project #:	808101
Sample ID:	FCD	Date Reported:	08-10-99
Laboratory Number:	F814	Date Sampled:	08-04-99
Chain of Custody:	7259	Date Received:	08-04-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-10-99
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

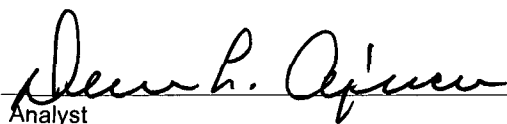
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	101%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: 3911 Monroe Rd.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

Client:	Farmington Chemical	Project #:	808101
Sample ID:	FCD	Date Reported:	08-10-99
Laboratory Number:	F814	Date Sampled:	08-04-99
Chain of Custody:	7259	Date Received:	08-04-99
Sample Matrix:	Water	Date Analyzed:	08-10-99
Preservative:	Cool	Date Extracted:	NA
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	ND	0.001	5.0
Barium	0.22	0.01	21
Cadmium	0.024	0.001	0.11
Chromium	0.23	0.01	0.60
Lead	ND	0.05	0.75
Mercury	ND	0.0001	0.025
Selenium	ND	0.001	5.7
Silver	ND	0.01	0.14

ND - Parameter not detected at the stated detection limit.

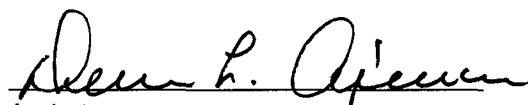
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.


Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060, 7080, 7131, 7191, 7470, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA. December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments: 3911 Monroe Rd.

  
Analyst

  
Review

# **ENVIROTECH LABS**

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**QUALITY ASSURANCE / QUALITY CONTROL**

**DOCUMENTATION**

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	08-10-99
Laboratory Number:	08-10-TCLP Vol	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-10-99
Condition:	N/A	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F814 - F815.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	08-10-99
Laboratory Number:	08-06-TCLP Vol	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-10-99
Condition:	N/A	Date Extracted:	08-06-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	99%
	Bromofluorobenzene	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F814 - F815.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Duplicate  
Laboratory Number: F814  
Sample Matrix: Water  
Analysis Requested: TCLP  
Condition: N/A

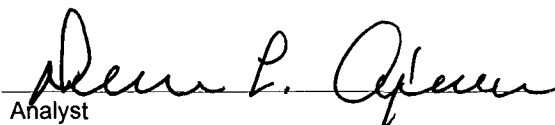
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Date Reported: 08-10-99  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 08-10-99  
Date Extracted: N/A

Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethene	0.0060	0.0060	0.0001	0.0%
2-Butanone (MEK)	ND	ND	0.0001	0.0%
Chloroform	0.0002	0.0002	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	0.0042	0.0042	0.0001	0.0%
1,2-Dichloroethane	ND	ND	0.0001	0.0%
Trichloroethene	ND	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	ND	ND	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples F814 - F815.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Spike  
Laboratory Number: F814  
Sample Matrix: Water  
Analysis Requested: TCLP  
Condition: N/A

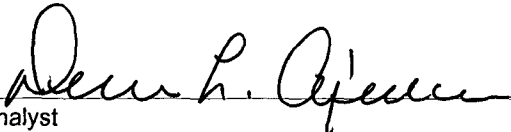
Project #: N/A  
Date Reported: 08-10-99  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 08-10-99  
Date Extracted: N/A


Parameter	Sample Result (mg/L)	Spike Added (mg/L)	Spiked Sample Result (mg/L)	Det. Limit (mg/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	0.0060	0.050	0.0554	0.0001	99%	43-143
2-Butanone (MEK)	ND	0.050	0.0495	0.0001	99%	47-132
Chloroform	0.0002	0.050	0.0499	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0491	0.0001	98%	43-143
Benzene	0.0042	0.050	0.0540	0.0001	100%	39-150
1,2-Dichloroethane	ND	0.050	0.0494	0.0001	99%	51-147
Trichloroethene	ND	0.050	0.0494	0.0003	99%	35-146
Tetrachloroethene	ND	0.050	0.0494	0.0005	99%	26-162
Chlorobenzene	ND	0.050	0.0494	0.0003	99%	38-150
1,4-Dichlorobenzene	ND	0.050	0.0494	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples F814 - F815.

  
Analyst

  
Review

EPA METHOD 8040  
PHENOLS  
Quality Assurance Report  
Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	08-10-99
Laboratory Number:	08-10-TCA	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-10-99
Condition:	N/A	Analysis Requested:	TCLP

Analytical Results	Concentration	Detection	Regulatory
Parameter	(mg/L)	Limit	Limit
		(mg/L)	(mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-fluorophenol	98 %
	2,4,6-tribromophenol	99 %

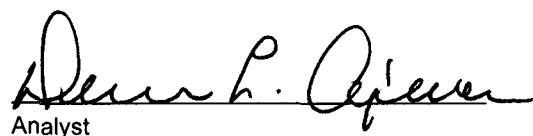
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

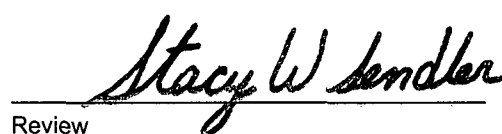
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F814 - F815.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	08-10-99
Laboratory Number:	08-06-TCA	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	Cool	Date Extracted:	08-06-99
Condition:	Cool & Intact	Date Analyzed:	08-10-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

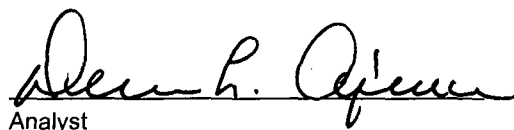
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F814 - F815.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	08-10-99
Laboratory Number:	F814	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Date Analyzed:	08-10-99
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	ND	ND	0.020	0.0%
p,m-Cresol	ND	ND	0.040	0.0%
2,4,6-Trichlorophenol	ND	ND	0.020	0.0%
2,4,5-Trichlorophenol	ND	ND	0.020	0.0%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

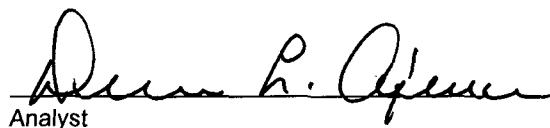
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F814 - F815.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	08-10-99
Laboratory Number:	08-10-TBN	Date Sampled:	N/A
Sample Matrix:	Hexane	Date Received:	N/A
Preservative:	N/A	Date Extracted:	N/A
Condition:	N/A	Date Analyzed:	08-10-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

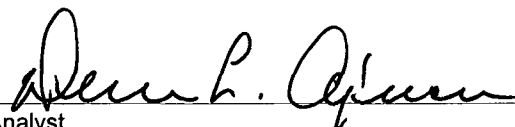
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F814 - F815.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Method Blank  
Laboratory Number: 08-06-TBN-MB  
Sample Matrix: Water  
Preservative: Cool  
Condition: Cool and Intact

Project #: N/A  
Date Reported: 08-10-99  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 08-10-99  
Analysis Requested: TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

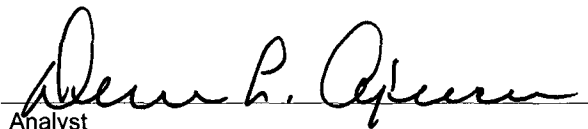
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F814 - F815.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QA/QC Matrix Duplicate Report

Client: QA/QC  
Sample ID: Matrix Duplicate  
Laboratory Number: F814  
Sample Matrix: Water  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 08-10-99  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 08-10-99  
Analysis Requested: TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	ND	ND	0.0%	0.020
Hexachloroethane	ND	ND	0.0%	0.020
Nitrobenzene	ND	ND	0.0%	0.020
Hexachlorobutadiene	ND	ND	0.0%	0.020
2,4-Dinitrotoluene	ND	ND	0.0%	0.020
HexachloroBenzene	ND	ND	0.0%	0.020

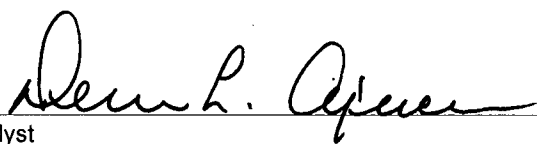
ND - Parameter not detected at the stated detection limit.


QA/QC Acceptance Criteria	Parameter	Maximum Difference
	8090 Compounds	30%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F814 - F815.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-10-TCM QA/QC	Date Reported:	08-10-99
Laboratory Number:	F814	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	08-10-99
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Barium	ND	ND	0.01	0.22	0.22	0.0%	0% - 30%
Cadmium	ND	ND	0.001	0.024	0.024	0.0%	0% - 30%
Chromium	ND	ND	0.01	0.23	0.23	0.0%	0% - 30%
Lead	ND	ND	0.05	ND	ND	0.0%	0% - 30%
Mercury	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.01	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.100	ND	0.098	98.0%	80% - 120%
Barium	1.00	0.22	1.20	98.4%	80% - 120%
Cadmium	0.500	0.024	0.523	99.8%	80% - 120%
Chromium	0.25	0.23	0.47	97.9%	80% - 120%
Lead	1.00	ND	0.99	99.0%	80% - 120%
Mercury	0.0250	ND	0.0249	99.6%	80% - 120%
Selenium	0.100	ND	0.097	97.0%	80% - 120%
Silver	1.00	ND	0.99	99.0%	80% - 120%

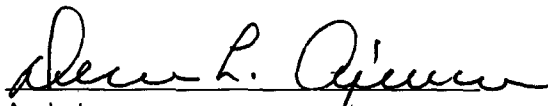
ND - Parameter not detected at the stated detection limit.

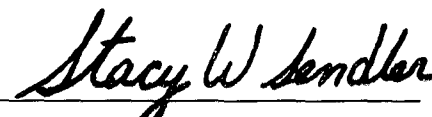
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals,  
SW-846, USEPA, December 1996.

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by  
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for samples F789, F814 and F815.

  
Analyst

  
Review



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Alamogordo, NM 87410  
Office IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/6/95  
Submit Original  
Plus 1 Copy  
to appropriate  
District Office

**RECEIVED**  
AUG 2 1999  
Environmental Bureau  
Oil Conservation Division

**RECEIVED**  
AUG 23 1999

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE OIL CON. DIV.

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/> Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	4. Generator <b>DIST. 3 COASTAL CHEMICAL</b>
2. Management Facility Destination <b>Key ENERGY DISPOSAL</b>	5. Originating Site <b>YARD</b>
3. Address of Facility Operator <b>#349 CR3500 AZtec, NM</b>	6. Transporter <b>Key</b>
7. Location of Material (Street Address or ULSTR) <b>YARD #10 RD 5911 FARMINGTON, NM</b>	8. State <b>NM</b>
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <b>(B)</b> All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

Rainwater MIXED with small amounts of unused chemicals

LAST Filed  
11-2-98

Estimated Volume 200665 cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael E. Talovich TITLE: MGR DATE: 8-20-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: <u>Devin G. Kent</u>	TITLE: <u>Geologist</u>	DATE: <u>8/23/99</u>
APPROVED BY: <u>Martyn J. Hughes</u>	TITLE: <u>Environmental Geologist</u>	DATE: <u>8/24/99</u>

## CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> COASTAL CHEMICAL CO. INC. #10 RD 5911 FARMINGTON, NM 87401	<b>2. Destination Name:</b> KEY ENERGY SERVICES 345 RD 3500 AZTEC, NM 87410
<b>3. Originating Site (name):</b>	<b>Location of the Waste (Street address &amp;/or ULSTR):</b> COASTAL CHEMICAL CO. INC. #10 RD 5911 FARMINGTON, NM 87401
Attach list of originating sites as appropriate	
<b>4. Source and Description of Waste</b> RINSE WATER FROM PUMP, HOSES AND TANKS USED TO DELIVER VIRGIN CHEMICALS. ALL CHEMICALS RINSED OUT ARE VIRGIN/UNUSED CHEMICALS. CHEMICALS MAY INCLUDE: ALKANOLAMINE, GLYCOL (TEG & EG) ANTIFREEZE.	

I, GARY HARDIN (Print Name) representative for:  
COASTAL CHEMICAL CO., INC. do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic  
analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For **NON-EXEMPT** waste only the following documentation is attached (check appropriate items):

☒ MSDS Information ☐ Other (description):  
☐ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

Name (Original Signature): 

Title: FACILITY MANAGER

Date: 8-20-99



**Dow U.S.A.**

The Dow Chemical Company  
Midland, Michigan 48674

## Material Safety Data Sheet

Dow Chemical U.S.A.\* Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 55520

Page: 1

Product Name: METHYLDIETHANOLAMINE

Effective Date: 07/12/93 Date Printed: 07/14/93

MSDS:000913

### 1. INGREDIENTS: (% w/w, unless otherwise noted)

Methyldiethanolamine

CAS# 000105-59-9 99%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

### 2. PHYSICAL DATA:

BOILING POINT: 464-491F, 240-255C

VAP PRESS: <1 mmHg @ 20C

VAP DENSITY: 4

SOL. IN WATER: Complete

SP. GRAVITY: 1.04-1.06

APPEARANCE: Pale straw liquid.

ODOR: Amine odor.

### 3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: 270F, 132C; 269F, 131C

METHOD USED: COC; Setaflash closed cup

#### FLAMMABLE LIMITS

LFL: Not determined

UFL: Not determined

EXTINGUISHING MEDIA: Water fog, carbon dioxide, dry chemical, foam. For large scale fires, alcohol resistant foams or protein foams may function, but much less effectively. Water may be used to flush spills away from fire exposures and to dilute spills to non-flammable mixtures. If possible, contain fire run off water. For large scale fires, direct water stream may cause violent frothing, but fine water spray may help control situation.

(Continued on page 2 , over)

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\* An Operating Unit of The Dow Chemical Company



Dow Chemical U.S.A.\* Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 55520

Page: 2

Product Name: METHYLDIETHANOLAMINE

Effective Date: 07/12/93 Date Printed: 07/14/93

MSDS:000913

### 3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

FIRE & EXPLOSION HAZARDS: Keep unnecessary people away; isolate hazard area and deny unnecessary entry. Highly toxic fumes are released in fire situation. Fire water run off may be toxic. When using water spray, boil over may occur when the product temperature reaches the boiling point of water (tank type scenarios, not spills).

FIRE-FIGHTING EQUIPMENT: Wear positive-pressure, self-contained breathing apparatus and full protective equipment.

### 4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) No relevant data.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Oxidizing material.

HAZARDOUS DECOMPOSITION PRODUCTS: Possible nitrogen oxides and carbon oxides.

HAZARDOUS POLYMERIZATION: Will not occur.

### 5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS: Wash small amounts with water. Dike to avoid contamination of sewer system with large amounts. Keep out of sewers, storm drains, surface waters and soil.

DISPOSAL METHOD: ++DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER++. For unused or uncontaminated material, the preferred management options are to send to a licensed recycler, reclaimer, or incinerator. The same management options are recommended for used or contaminated material, although additional evaluation is required. (see, for example, 40 CFR Part 261, "Identification and Listing of Hazardous Waste"). Any disposal practice must be in compliance with federal, state, provincial, and local laws and regulations. Check with appropriate agencies for your location. For additional information, see Section 4 (REACTIVITY DATA) and "REGULATORY INFORMATION".

As a service to its customers, Dow can provide lists of

(Continued on page 3)

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Dow Chemical U.S.A.\* Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 55520

Page: 3

Product Name: METHYLDIETHANOLAMINE

Effective Date: 07/12/93 Date Printed: 07/14/93

MSDS:000913

## 5. ENVIRONMENTAL AND DISPOSAL INFORMATION: (CONTINUED)

companies which recycle, reprocess or manage chemicals and companies that recondition used drums. Telephone Dow's Customer Information Center at 800/258-CHEM (2436) for further details.

## 6. HEALTH HAZARD DATA:

**EYE:** May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.

**SKIN CONTACT:** Prolonged or repeated exposure may cause skin irritation, even a burn. May cause more severe response if confined or skin is abraded.

**SKIN ABSORPTION:** A single prolonged skin exposure is not likely to result in absorption of harmful amounts. The LD50 for skin absorption in rabbits is >2000 mg/kg.

**INGESTION:** Single dose oral toxicity is low. The oral LD50 for rats is likely between 2000-3980 mg/kg. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury. Ingestion may cause gastrointestinal irritation or ulceration. Ingestion may cause burns of mouth and throat.

**INHALATION:** Excessive exposure may cause irritation to upper respiratory tract.

**SYSTEMIC & OTHER EFFECTS:** No relevant information found.

## 7. FIRST AID:

**EYES:** Immediate and continuous irrigation with flowing water for at least 30 minutes is imperative. Prompt medical consultation is essential.

**SKIN:** Wash off in flowing water or shower. Remove contaminated clothing and wash before reuse.

**INGESTION:** Do not induce vomiting. Give large amounts of water or milk if available and transport to medical facility.

(Continued on page 4 , over)

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Dow Chemical U.S.A.\* Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 55520

Page: 4

Product Name: METHYLDIETHANOLAMINE

Effective Date: 07/12/93 Date Printed: 07/14/93

MSDS:000913

## 7. FIRST AID: (CONTINUED)

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: May cause tissue destruction leading to stricture. If lavage is performed, suggest endotracheal and/or esophagosopic control. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

## 8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): None established.

VENTILATION: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

RESPIRATORY PROTECTION: If respiratory irritation is experienced, use an approved air-purifying respirator.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse.

EYE PROTECTION: Use chemical goggles. Eye wash fountain should be located in immediate work area.

## 9. ADDITIONAL INFORMATION:

### SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperature possibly resulting in spontaneous combustion.

MSDS STATUS: Revised sections 3, 5, 9, and Regulatory Information

For information regarding state/provincial and federal regulations see The Regulatory Information Section.

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Dow Chemical U.S.A.\* Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 55520

Page: R-1

Product Name: METHYLDIETHANOLAMINE

Effective Date: 07/12/93 Date Printed: 07/14/93

MSDS:000913

**REGULATORY INFORMATION:** (Not meant to be all-inclusive--selected regulations represented.)

**NOTICE:** The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See MSD Sheet for health and safety information.

#### U.S. REGULATIONS

=====

**SARA 313 INFORMATION:** To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

-----  
**SARA HAZARD CATEGORY:** This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard

-----  
**STATE RIGHT-TO-KNOW:** This product is not known to contain any substances subject to the disclosure requirements of

New Jersey  
Pennsylvania

#### OSHA HAZARD COMMUNICATION STANDARD:

-----  
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### CANADIAN REGULATIONS

=====

(Continued on page R-2 , over)

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Dow Chemical U.S.A.\* Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 55520

Page: R-2

Product Name: METHYLDIETHANOLAMINE

Effective Date: 07/12/93 Date Printed: 07/14/93

MSDS:000913

#### REGULATORY INFORMATION (CONTINUED)

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

D2B

-----  
CANADIAN TDG INFORMATION: For guidance, the Transportation of Dangerous Goods Classification for this product is:

Not regulated

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The Information Herein Is Given In Good Faith, But No Warranty,  
Express Or Implied, Is Made. Consult The Dow Chemical Company  
For Further Information.

\* An Operating Unit of The Dow Chemical Company

21  
MATERIAL SAFETY DATA SHEET  
TRIETHYLENE GLYCOL

1 HM18 HEALTH  
1 HM18 FLAMMABILITY  
0 HM18 REACTIVITY  
B HM18 PERSONAL PROTECTION

SECTION I - IDENTIFICATION

DISTRIBUTED BY..... COASTAL CHEMICAL COMPANY, INC  
P.O. BOX 820  
ABBEVILLE, LA 70511-0820  
(318) 893-3862  
EMERGENCY PHONE NUMBER... (318) 893-3862 OR CHEMTREC (800) 424-9300  
EFFECTIVE DATE..... 02/26/90  
MANUFACTURER'S NAME..... UNION CARBIDE  
DOW CHEMICAL  
TEXACO  
OXY-PETROCHEMICAL.

TRADE NAME..... TRIETHYLENE GLYCOL  
CHEMICAL FAMILY..... POLYETHYLENE GLYCOL  
CAS NUMBER..... 112-27-6  
CHEMICAL FORMULA..... C6H14O4

SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	X	TLV (Units)	PROD. CAS #
TRIETHYLENE GLYCOL	99	None Established	112-27-6

SECTION III - PHYSICAL DATA

FREEZING POINT (F)..... -7 Deg. C., 19 Deg. F.  
VAPOR PRESSURE (mm Hg)... (1 mm  
VAPOR DENSITY (Air=1).... 5.2, air = 1  
SOLUBILITY IN H2O..... Completely soluble in all proportions  
APPEARANCE/ODOR..... Clear, colorless, viscous liquid with slight odor.  
SPECIFIC GRAVITY (H2O=1). 1.1 @ 77 Deg. F., 25/25 Deg. C  
PH..... N/D

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT..... 350 Deg. F.  
LOWER FLAME LIMIT..... 0.9  
HIGHER FLAME LIMIT..... 9.2  
EXTINGUISH MEDIA..... Use water fog or spray, Alcohol Foam, Dry Powder, Carbon Dioxide (CO2).  
UNUSUAL FIRE HAZARD..... Containers may explode from internal pressure if confined to fire. Cool with water. Keep unnecessary people away. Approach fire from upwind side. Avoid breathing smoke, fumes, mist or vapors on the downwind side.

MATERIAL SAFETY DATA SHEET  
TRIETHYLENE GLYCOL

SECTION V - HEALTH HAZARD DATA

\*\*\*\*\*  
REGHOLD LIMIT VALUE.... Recommended 5 MG/M3 based on oil mist.

ROUTE OF ENTRY.	INHALATION?	SKIN?	INGESTION?
	Irritant	Mild irritant	Irritant

HEALTH HAZARDS..... ACUTE: Vapors or liquid may be irritating to skin, eyes, or mucous membranes. Avoid inhalation or skin/eye contact.

CARCINOGENICITY	NTP?	IARC MONOGRAPHS?	OSHA REGULATI
NO	NO	NO	NO

OVER EXPOSURE EFFECTS.... Skin irritation develops slowly after contact. Eye irritation develops immediately upon contact.

FIRST AID PROCEDURES..... In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. If swallowed do not induce vomiting, get immediate medical attention. If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get medical attention.

\*\*\*\*\*  
SECTION VI - REACTIVITY DATA

CHEMICAL STABILITY..... Product is stable

CONDITIONS TO AVOID..... Heat may cause internal pressure which could rupture container.

INCOMPATIBLE MATERIALS... Oxidizers or Oxidizing Materials.

DECOMPOSITION PRODUCTS... From fire; Smoke, Carbon dioxide, & Carbon Monoxide

HAZARDOUS POLYMERIZATION. Will not occur

POLYMERIZATION AVOID..... None

\*\*\*\*\*  
SECTION VII - SPILL OR LEAK PROCEDURE

FOR SPILL..... In case of spillage, absorb with inert material and dispose of in accordance with applicable regulation

WASTE DISPOSAL METHOD.... Industrial Waste. Follow Federal, State and Local laws.

\*\*\*\*\*  
SECTION VIII - SPECIAL PROTECTION

RESPIRATORY PROTECTION... When ventilation is not adequate, use of NIOSH approved organic vapor gas cartridge respirator is recommended.

ENTILATION..... Required in closed areas

CHANICAL EXHAUST..... Required in closed areas

LOCAL EXHAUST..... Desired

PROTECTIVE GLOVES..... Wear impervious gloves

EYE PROTECTION..... Use chemical goggles or full face shield.

MATERIAL SAFETY DATA SHEET  
TRIETHYLENE GLYCOL

OTHER PROTECTIVE  
EQUIPMENT..... Chemical type apron recommended

SECTION IX - SPECIAL HANDLING

HANDLING AND STORAGE..... Store away from oxidizers or materials bearing a yellow "DOT" label. Keep out of sun and away from heat. Clean up leaks immediately to prevent soil or water contamination.

PRECAUTIONARY MEASURES... Avoid contact with skin, eyes, and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown in Section V. Use with adequate ventilation.

HAZARD CLASS..... Not Regulated

DOT SHIPPING NAME..... Triethylene Glycol

REPORTABLE QUANTITY (RQ). None

UN NUMBER..... None

NA #..... None

PACKAGING SIZE..... N/A

SECTION X - REGULATORY

EPA ACUTE..... YES

EPA CHRONIC..... NO

EPA IGNITABILITY..... NO

EPA REACTIVITY..... NO

EPA SUDDEN RELEASE OF  
PRESSURE..... NO

DEGLA RQ VALUE..... None

SARA TPO..... None

SARA RL..... None

SECTION 313..... No

EPA HAZARD WASTE #..... None

CLEANAIR..... Yes Section 111

CLEAN WATER..... No

FOOT NOTES N/A - not applicable N/D - no data available  
( - means less than ) - means greater than  
App. - approximate Est. - estimated

PREPARED BY:..... Glen White, B.I.B., 817-560-4631

MATERIAL SAFETY DATA SHEET  
TRIETHYLENE GLYCOL

THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMER IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.

3  
MATERIAL SAFETY DATA SHEET  
TRIETHYLENE GLYCOL REPROCESSED

1 HMIS HEALTH  
1 HMIS FLAMMABILITY  
0 HMIS REACTIVITY  
B HMIS PERSONAL PROTECTION

=====

SECTION I - IDENTIFICATION

=====

DISTRIBUTED BY..... COASTAL CHEMICAL COMPANY, INC  
P.O. BOX 820  
ABBEVILLE, LA 70511-0820  
(318) 893-3862  
EMERGENCY PHONE NUMBER... (318) 893-3862 OR CHEMTREC (800) 424-9300  
EFFECTIVE DATE..... 02/26/90  
MANUFACTURER'S NAME.....  
TRADE NAME..... TRIETHYLENE GLYCOL REPROCESSED  
CHEMICAL FAMILY..... POLYETHYLENE GLYCOL  
CAS NUMBER..... 112-27-6  
CHEMICAL FORMULA..... C6H14O4

=====

SECTION II - HAZARDOUS INGREDIENTS

=====

HAZARDOUS COMPONENTS	%	TLV (Units)	PROD. CAS #
TRIETHYLENE GLYCOL	98	None Established	112-27-6

=====

SECTION III - PHYSICAL DATA

=====

FREEZING POINT (F)..... -7 Deg. C., 19 Deg. F.  
VAPOR PRESSURE (mm Hg)... <1 mm  
VAPOR DENSITY (Air=1).... 5.2, air = 1  
SOLUBILITY IN H2O..... Completely soluble in all proportions  
APPEARANCE/ODOR..... Light amber color, viscous liquid with slight odor.  
SPECIFIC GRAVITY (H2O=1). 1.1 @ 77 Deg. F., 25/25 Deg.C  
PH..... N/D

=====

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

=====

FLASH POINT..... 350 Deg. F.  
LOWER FLAME LIMIT..... 0.9  
HIGHER FLAME LIMIT..... 9.2  
EXTINGUISH MEDIA..... Use water fog or spray, Alcohol Foam, Dry Powder, Carbon Dioxide (CO2).  
UNUSUAL FIRE HAZARD..... Containers may explode from internal pressure if confined to fire. Cool with water. Keep unnecessary people away. Approach fire from upwind side. Avoid breathing smoke, fumes, mist or vapors on the downwind side.

=====

SECTION V - HEALTH HAZARD DATA

=====

THRESHOLD LIMIT VALUE.... Recommended 5 MG/M3 based on oil mist.

**MATERIAL SAFETY DATA SHEET**  
**TRIETHYLENE GLYCOL REPROCESSED**

ROUTES OF ENTRY	INHALATION?	SKIN?	INGESTION?
	Irritant	Mild irritant	Irritant

HEALTH HAZARDS..... ACUTE: Vapors or liquid may be irritating to skin, eyes, or mucous membranes. Avoid inhalation or skin/eye contact.

CARCINOGENICITY	NTP?	IARC MONOGRAPHS?	OSHA REGULATE
NO	NO	NO	NO

OVER EXPOSURE EFFECTS.... Skin irritation develops slowly after contact. Eye irritation develops immediately upon contact.

FIRST AID PROCEDURES..... In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. If swallowed, do not induce vomiting, get immediate medical attention. If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get medical attention.

=====

**SECTION VI - REACTIVITY DATA**

=====

CHEMICAL STABILITY..... Product is stable

CONDITIONS TO AVOID..... Heat may cause internal pressure which could rupture container.

INCOMPATIBLE MATERIALS... Oxidizers or Oxidizing Materials.

DECOMPOSITION PRODUCTS... From fire; Smoke, Carbon dioxide, & Carbon Monoxide.

HAZARDOUS POLYMERIZATION. Will not occur

POLYMERIZATION AVOID..... None

=====

**SECTION VII - SPILL OR LEAK PROCEDURE**

=====

FOR SPILL..... In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations

WASTE DISPOSAL METHOD.... Industrial Waste. Follow Federal, State and Local laws.

=====

**SECTION VIII - SPECIAL PROTECTION**

=====

RESPIRATORY PROTECTION... When ventilation is not adequate, use of NIOSH approved organic vapor gas cartridge respirator is recommended.

VENTILATION..... Required in closed areas

MECHANICAL EXHAUST..... Required in closed areas

LOCAL EXHAUST..... Desired

PROTECTIVE GLOVES..... Wear impervious gloves

EYE PROTECTION..... Use chemical goggles or full face shield.

OTHER PROTECTIVE

EQUIPMENT..... Chemical type apron recommended

=====

**SECTION IX - SPECIAL HANDLING**

=====



**MATERIAL SAFETY DATA SHEET**  
**TRIETHYLENE GLYCOL REPROCESSED**

=====

HANDLING AND STORAGE..... Store away from oxidizers or materials bearing a yellow "DOT" label. Keep out of sun and away from heat. Clean up leaks immediately to prevent soil or water contamination.

PRECAUTIONARY MEASURES... Avoid contact with skin, eyes, and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown in Section V. Use with adequate ventilation.

HAZARD CLASS..... NON HAZARDOUS

DOT SHIPPING NAME..... CHEMICALS, NOS

REPORTABLE QUANTITY (RQ). None

UN NUMBER..... None

NA #..... None

PACKAGING SIZE..... N/A

=====

=====

**SECTION X - REGULATORY**

=====

EPA ACUTE..... YES

EPA CHRONIC..... NO

EPA IGNITABILITY..... NO

EPA REACTIVITY..... NO

EPA SUDDEN RELEASE OF  
PRESSURE..... NO

CERCLA RQ VALUE..... None

SARA TPO..... None

SARA RQ..... None

SECTION 313..... No

EPA HAZARD WASTE #..... None

CLEANAIR..... Yes Section 111

CLEAN WATER..... No

FOOT NOTES    N/A - not applicable    N/D - no data available  
( - means less than    ) - means greater than  
App. - approximate    Est. - estimated

PREPARED BY:..... Glen White, S.I.S., 817-560-4631

THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMER IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.



# Material Safety Data Sheet

The Dow Chemical Company  
Midland, Michigan 48674

## 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Page: 1

24-Hour Emergency Phone Number: 517-636-4400

Product: GAS/SPEC (R) CS-PLUS SOLVENT ADDITIVE

Product Code: 29451

Effective Date: 06/30/94

Date Printed: 07/25/95

MSD: 002850

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-258-2436

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS	CAS#	AMOUNT (%w/w)
Proprietary alkylamine		90 to 100%
Water	CAS# 007732-18-5	Max. 4%

## 3. HAZARDS IDENTIFICATION

**EYE:** May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.

**SKIN CONTACT:** Short single exposure may cause skin burns. Prolonged exposure may cause severe skin burns.  
DOT classification: corrosive.

**SKIN ABSORPTION:** A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

**INGESTION:** Single dose oral toxicity is low. Amounts ingested incidental to industrial handling are not likely to cause injury; however ingestion of larger amounts may cause injury. Ingestion may cause gastrointestinal irritation or ulceration. Ingestion may cause burns of mouth and throat.

**INHALATION:** At room temperature, exposures to vapors are unlikely due to physical properties; higher temperatures may generate vapor levels sufficient to cause adverse effects.

**SYSTEMIC AND OTHER EFFECTS:** Repeated excessive exposures may cause liver and kidney effects. Birth defects are unlikely. Exposures having no adverse effects on the mother should have

(Continued on page 2 , over)

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# M A T E R I A L   S A F E T Y   D A T A   S H E E T

PAGE: 2

Product: GAS/SPEC (R) CS-PLUS SOLVENT ADDITIVE  
Product Code: 29451

Effective Date: 06/30/94

Date Printed: 07/25/95

MSD: 002850

---

no effect on the fetus.

## 4. FIRST AID

EYES: Immediate and continuous irrigation with flowing water for at least 30 minutes is imperative. Prompt medical consultation is essential.

SKIN: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician if irritation persists. Wash clothing before reuse. Destroy contaminated shoes.

INGESTION: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: Corrosive. May cause stricture. If lavage is performed, suggest endotracheal and/or esophagoscopy control. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

## 5. FIRE FIGHTING MEASURES

FLASH POINT: 160F, 71C  
METHOD USED: PMCC

FLAMMABLE LIMITS  
LFL: 1.6%  
UFL: 19.6%

AUTOIGNITION TEMPERATURE: 350C; 662F

EXTINGUISHING MEDIA: Water fog, carbon dioxide, dry chemical, foam. For large-scale fires, alcohol resistant foams are preferred if available. General purpose synthetic foams or protein foams may function, but much less effectively. Water may be used to flush spills away from fire exposures and to dilute spills to non-flammable mixtures. If possible, contain fire run-off water.

FIRE AND EXPLOSION HAZARDS: Keep unnecessary people away; isolate

(Continued on page 3)

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# MATERIAL SAFETY DATA SHEET

PAGE: 3

Product: GAS/SPEC (R) CS-PLUS SOLVENT ADDITIVE

Product Code: 29451

Effective Date: 06/30/94

Date Printed: 07/25/95

MSD: 002850

hazard area and deny unnecessary entry. Highly toxic fumes are released in fire situations. Fire water run-off may be toxic. See environmental section of this MSDS. When using water spray, boil-over may occur when the product temperature reaches the boiling point of water (tank-type scenarios, not spills). See also 'STORAGE AND HANDLING' section of this MSDS.

FIRE-FIGHTING EQUIPMENT: Wear positive pressure, self-contained breathing apparatus and full protective equipment.

## 6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

ACTION TO TAKE FOR SPILLS: Wash with small amounts of water. Dike to avoid contamination of sewer with large amounts, soak up with absorbent material, scoop into drums.

## 7. HANDLING AND STORAGE

### SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld or perform similar operations on or near empty containers. Will produce flammable vapors above the flash point.

### STORAGE:

Store in a tightly closed container, away from sunlight, in a cool, dry and well ventilated area. Keep away from strong acids and oxidizing materials.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINE(S): None established.

VENTILATION: Good general ventilation should be sufficient for most conditions.

RESPIRATORY PROTECTION: If respiratory irritation is experienced, use an approved air-purifying respirator.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation. Wear a face-shield which allows use of chemical goggles, or wear a full-face respirator, to protect face and eyes when there is any likelihood of splashes. Remove contaminated clothing

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Product: GAS/SPEC (R) CS-PLUS SOLVENT ADDITIVE

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immediately, wash skin area with soap and water, and launder clothing before reuse.

EYE PROTECTION: Use chemical goggles. Wear a face-shield which allows use of chemical goggles, or wear a full-face respirator, to protect face and eyes when there is any likelihood of splashes. Eye wash fountain should be located in immediate work area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT	: 306-324F, 152-162C
VAPOR PRESSURE	: <2.5 mmHg @ 20C
VAPOR DENSITY	: 2.6
SOLUBILITY IN WATER	: Complete
SPECIFIC GRAVITY	: 0.93-0.94 @ 20/20C
FREEZING POINT	: -4.5C, 24F
APPEARANCE	: Colorless liquid
ODOR	: Amine

## 10. STABILITY AND REACTIVITY

STABILITY: (CONDITIONS TO AVOID) Stable, avoid heat, sparks, and open flames.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Acids, strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion may produce carbon dioxide, toxic carbon monoxide and oxides of nitrogen. Unidentified organic compounds may be formed during combustion.

HAZARDOUS POLYMERIZATION: Will not occur.

## 11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

ACUTE SKIN: The dermal LD50 has not been determined.

ACUTE INGESTION: The oral LD50 for rats is between 1000 and 2340 mg/kg.

## 12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

(Continued on page 5)

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Date Printed: 07/25/95

MSD: 002850

No data available at MSDS effective date.

## 13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

DISPOSAL METHOD: Dispose by incineration in accordance with all local, state, and federal requirements.

## 14. TRANSPORT INFORMATION

### CANADIAN TDG INFORMATION:

For TDG regulatory information, if required, consult transportation regulations, product shipping papers, or your Dow representative.

## 15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

### U.S. REGULATIONS

=====

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard  
A delayed health hazard  
A fire hazard

### CANADIAN REGULATIONS

=====

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

(Continued on page 6 , over)

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# MATERIAL SAFETY DATA SHEET

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Product: GAS/SPEC (R) CS-PLUS SOLVENT ADDITIVE  
Product Code: 29451

Effective Date: 06/30/94

Date Printed: 07/25/95

MSD: 002850

## REGULATORY INFORMATION (CONTINUED)

HAZARDOUS PRODUCTS ACT INFORMATION: This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 and 14):

COMPONENTS:	CAS #	AMOUNT (%w/w)
Proprietary alkylamine		

HMIRA INFORMATION: A claim for exemption from ingredient disclosure has been filed under the Hazardous Materials Information Review Act (Canada). The Hazardous Materials Information Review Commission registry number, and date, assigned to this claim are:

Claim Registry Number: 3499

Filing Date: June 29, 1994

## 16. OTHER INFORMATION

PRODUCT USE: Gas conditioning solvent.

REVISION INDICATOR: Revised section 15

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The Information Herein Is Given In Good Faith, But No Warranty,  
Express Or Implied, Is Made. Consult The Dow Chemical Company  
For Further Information.



The Dow Chemical Company  
Midland, Michigan 48674

# Material Safety Data Sheet

## 1. CHEMICAL, PRODUCT & COMPANY IDENTIFICATION

Page: 1

24-Hour Emergency Phone Number: 517-636-4400

Product: GAS/SPEC (R) CS-PLUS SOLVENT

Product Code: 13693

Effective Date: 06/30/94 Date Printed: 01/10/95 MSD: 003430

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-258-2436

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Methyldiethanolamine	CAS# 000105-59-9	60-70%
Proprietary Alkylamine		
Water	CAS# 007732-18-5	2.0% MAX

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

\*\*\*\*\*  
 \* Causes severe eye and skin burns. Causes severe burns of the mouth \*  
 \* and throat. May be harmful if swallowed. May cause respiratory \*  
 \* tract irritation. Combustible liquid and vapor. \*  
 \*\*\*\*\*

### POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: Due to the pH of the material, it is assumed that exposure may cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.

SKIN: Short single exposure may cause severe skin burns. Classified as corrosive according to DOT. A single prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts. The dermal LD50 has not been determined.

INGESTION: Single dose oral toxicity considered to be low. The oral LD50 for rats is >1000 mg/kg. Small amounts swallowed incidental to normal handling are not likely to cause injury; swallowing amounts larger than that may cause injury. Ingestion may cause gastrointestinal irritation or ulceration. Ingestion

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Product: GAS/SPEC (R) CS-PLUS SOLVENT  
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may cause burns of mouth and throat. Observations in animals include liver and kidney effects.

INHALATION: Excessive exposure may cause irritation to upper respiratory tract.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:  
No relevant information found.

TERATOLOGY (BIRTH DEFECTS): Contains component(s) which did not cause birth defects or any other fetal effects in lab animals.

CANCER INFORMATION:  
No relevant information found.

REPRODUCTIVE EFFECTS:  
No relevant information found.

## 4. FIRST AID

EYES: Wash eyes immediately and continuously until assistance arrives for transport to medical facility; wash enroute, if possible. If medical assistance is not immediately available, wash for 30 minutes and seek medical attention immediately.

SKIN: Immediate continued and thorough washing in flowing water for 30 minutes is imperative while removing contaminated clothing. Prompt medical consultation is essential.

INGESTION: Do not induce vomiting. Give large amounts of water or milk if available and transport to medical facility.

INHALATION: Remove to fresh air if effects occur. Consult physician.

NOTE TO PHYSICIAN: If burn is present, treat as any thermal burn, after decontamination. Eye irrigation may be necessary for an extended period of time to remove as much caustic as possible. Duration of irrigation and treatment is at the discretion of medical personnel. May cause tissue destruction leading to stricture. If lavage is performed, suggest endotracheal and/or esophagoscopy control. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

## 5. FIRE FIGHTING MEASURES

(Continued on page 3)

(R) Indicates a Trademark of The Dow Chemical Company

# MATERIAL SAFETY DATA SHEET

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MSD: 003430

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FLASH POINT: 192F, 88.9C

METHOD USED: PMCC

## FLAMMABLE LIMITS

LFL: Not established

UFL: Not established

EXTINGUISHING MEDIA: Water fog, carbon dioxide, dry chemical, foam. For large scale fires, alcohol resistant foams are preferred if available. General purpose synthetic foams or protein foams may function, but much less effectively. Water may be used to flush spills away from fire exposures and to dilute spills to non-flammable mixtures. If possible, contain fire run off water.

FIRE AND EXPLOSION HAZARDS: Keep unnecessary people away; isolate hazard area and deny unnecessary entry. Highly toxic fumes are released in fire situations. Fire water run off may be toxic. See environmental section of this MSDS. When using water spray, boil over may occur when the product temperature reaches the boiling point of water (tank type scenarios, not spills). See also "storage and handling" section of this MSDS.

FIRE-FIGHTING EQUIPMENT: Wear positive pressure, self-contained breathing apparatus and full protective equipment.

## 6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

ACTION TO TAKE FOR SPILLS: Wash with small amounts of water. Dike to avoid contamination of sewer with large amounts, soak up with absorbent material, scoop into drums. Keep out of sewers, storm drains, surface waters and soil.

## 7. HANDLING AND STORAGE

### SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperature possibly resulting in spontaneous combustion. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld or perform similar operations on or near empty containers. Will produce flammable vapors above the flash

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# MATERIAL SAFETY DATA SHEET

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point.

## STORAGE:

Store in a tightly closed container, away from sunlight, in a cool, dry and well ventilated area. Keep away from strong acids and oxidizing materials.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINE(S): None established.

ENGINEERING CONTROLS: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

RESPIRATORY PROTECTION: If respiratory irritation is experienced, use an approved air-purifying respirator.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse.

EYE PROTECTION: Use chemical goggles. Wear a face shield which allows use of chemical goggles, or wear a full-face respirator, to protect face and eyes when there is any likelihood of splashes. Eye wash fountain should be located in immediate work area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT	: 183C, 361F
VAPOR PRESSURE	: 0.5 mmHg @ 25C
VAPOR DENSITY	: 3.5
SOLUBILITY IN WATER	: Complete
SPECIFIC GRAVITY	: 1.01 @ 25/25C
FREEZING POINT	: -23.1C
APPEARANCE	: Pale straw liquid
ODOR	: Amine odor

## 10. STABILITY AND REACTIVITY

STABILITY: (CONDITIONS TO AVOID) Stable, avoid heat, sparks, and open flames.

(Continued on page 5)

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INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Acids, strong oxidizers, halogenated hydrocarbons.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion may produce carbon dioxide, toxic carbon monoxide and nitrogen oxides.  
Unidentified organic compounds may be formed during combustion.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

MUTAGENICITY

No relevant information found.

12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

No data available at MSDS effective date.

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

DISPOSAL METHOD: Do not dump into any sewers, on the ground, or into any body of water. For unused or uncontaminated material, the preferred waste management options are to send to a licensed recycler, reclaimer, or incinerator. The same waste management options are recommended for used or contaminated material, although additional evaluation is required (in the U.S. see for example, 40 CFR, Part 261, "Identification and Listing of Hazardous Waste").

Any disposal practice must be in compliance with federal, state/provincial, and local laws and regulations. State/provincial and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Chemical additions, processing, storage, or otherwise altering this material may make the waste management information presented in this MSDS incomplete or otherwise inappropriate. As a service to its customers, Dow can provide lists of companies which recycle, reprocess or manage chemicals. In the U.S. telephone Dow's Customer Information Center at 800/258-2436 for further details.

14. TRANSPORT INFORMATION

(Continued on page 6 , over)

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# M A T E R I A L   S A F E T Y   D A T A   S H E E T

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Product: GAS/SPEC (R) CS-PLUS SOLVENT  
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## CANADIAN TDG INFORMATION:

For TDG regulatory information, if required, consult transportation regulations, product shipping papers, or your Dow representative.

## 15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

## U.S. REGULATIONS

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SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

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SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard  
A fire hazard

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## TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

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STATE RIGHT-TO-KNOW: The following product components are cited on

(Continued on page 7)

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# MATERIAL SAFETY DATA SHEET

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Product: GAS/SPEC (R) CS-PLUS SOLVENT  
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## REGULATORY INFORMATION (CONTINUED)

certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
PROPRIETARY INGREDIENT	PROPRIETARY	PA1

PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

## OSHA HAZARD COMMUNICATION STANDARD:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## CANADIAN REGULATIONS

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

B3 - combustible liquid with a flash point between 37.8C and 93.3C  
E - corrosive to metal or skin

Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

CPR STATEMENT: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

HAZARDOUS PRODUCTS ACT INFORMATION: This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 and 14):

COMPONENTS:	CAS #	AMOUNT (%w/w)
Methyldiethanolamine	CAS# 000105-59-9	60-70%
Proprietary Alkylamine		

HMIRA INFORMATION: A claim for exemption from ingredient disclosure has been filed under the Hazardous Materials Information Review Act (Canada). The Hazardous Materials Information Review Commission registry number, and date, assigned to this claim are:

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# MATERIAL SAFETY DATA SHEET

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## REGULATORY INFORMATION (CONTINUED)

Claim Number: 3500

Filing Date: June 29, 1994

### 16. OTHER INFORMATION

MSDS STATUS: Revised section 15

PRODUCT USE: Gas conditioning solvent.

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The Information Herein Is Given In Good Faith, But No Warranty,  
Express Or Implied, Is Made. Consult The Dow Chemical Company  
For Further Information.

**MATERIAL SAFETY DATA SHEET**

**ETHYLENE GLYCOL**

1 HMIS HEALTH  
1 HMIS FLAMMABILITY  
0 HMIS REACTIVITY  
B HMIS PERSONAL PROTECTION

**SECTION I - IDENTIFICATION**

DISTRIBUTED BY..... COASTAL CHEMICAL COMPANY, INC.  
(318) 893-3862  
EMERGENCY PHONE NUMBER... (318) 893-3862 OR CHEMTREC (800) 424-9300  
EFFECTIVE DATE..... 2/06/1996  
MANUFACTURER'S NAME..... UNION CARBIDE  
DOW CHEMICAL  
TEXACO  
OXY-PETROCHEMICAL  
  
TRADE NAME..... ETHYLENE GLYCOL  
CHEMICAL FAMILY..... GLYCOL  
CAS NUMBER..... 107-21-1  
CHEMICAL FORMULA..... HOCH<sub>2</sub>CH<sub>2</sub>OH

**SECTION II - HAZARDOUS INGREDIENTS**

HAZARDOUS COMPONENTS	%	TLV (Units)	PROD. CAS #
ETHYLENE GLYCOL	100%	ACGIH CEILING 50ppm	107-21-1

**SECTION III - PHYSICAL DATA**

FREEZING POINT (F)..... 9 DEG F  
VAPOR PRESSURE (mm Hg)... 0.12 MMHG @ 25 C  
VAPOR DENSITY (Air=1).... 2.14  
SOLUBILITY IN H<sub>2</sub>O..... COMPLETELY MISCIBLE  
APPEARANCE/ODOR..... COLORLESS LIQUID; PRACTICALLY ODORLESS  
SPECIFIC GRAVITY (H<sub>2</sub>O=1). 1.1155 @ 20/20 C  
PH..... N/A

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

FLASH POINT..... 247 DEG F  
LOWER FLAME LIMIT..... N/D  
HIGHER FLAME LIMIT..... N/D  
EXTINGUISH MEDIA..... Water fog or spray, Foam, Dry Powder, Carbon Dioxide (CO<sub>2</sub>).  
UNUSUAL FIRE HAZARD..... NONE KNOWN Approach fire from upwind side. Avoid breathing smoke, fumes, mist or vapors on the downwind side.



# MATERIAL SAFETY DATA SHEET

## ETHYLENE GLYCOL

### SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE.... 50 PPM BASED ON ETHYLENE GLYCOL

ROUTES OF ENTRY	INHALATION? IRRITANT, POSSIBLY NARCOTIC	SKIN? Not expected to cause significant health hazard	INGESTION? Ingestion of very large amounts could cause serious injury, or even death.
-----------------	---	--	---

HEALTH HAZARDS..... ACUTE: Vapors may be irritating to eyes, or mucous membranes. Avoid inhalation or eye contact. CHRONIC: Kidney and liver damage possible. May cause reproductive disorders.

CARCINOGENICITY	NTP?	IARC MONOGRAPHS?	OSHA REGULATED
NO	NO	NO	NO

OVER EXPOSURE EFFECTS.... Skin irritation develops slowly after contact. Eye irritation develops immediately upon contact. Symptoms of overexposure: headache, fatigue, nausea, irritation of respiratory tract, dizziness, staggering gait, confusion, unconsciousness.

FIRST AID PROCEDURES..... In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get medical attention. If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person.

### SECTION VI - REACTIVITY DATA

CHEMICAL STABILITY..... Product is stable

CONDITIONS TO AVOID..... Heat may cause internal pressure which could rupture container.

INCOMPATIBLE MATERIALS... Oxidizers or Oxidizing Materials. Alkaline Materials.

DECOMPOSITION PRODUCTS... From fire; Smoke, Carbon dioxide, & Carbon Monoxide  
DANGEROUS POLYMERIZATION. Will not occur

POLYMERIZATION AVOID..... None

# MATERIAL SAFETY DATA SHEET

## ETHYLENE GLYCOL

### SECTION VII - SPILL OR LEAK PROCEDURE

FOR SPILL..... In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations.

WASTE DISPOSAL METHOD.... Industrial Waste. Follow Federal, State and Local laws.

### SECTION VIII - SPECIAL PROTECTION

RESPIRATORY PROTECTION... When ventilation is not adequate, use of NIOSH approved organic vapor/acid gas cartridge respirator is recommended.

VENTILATION..... Required in closed areas

MECHANICAL EXHAUST..... Required in closed areas

LOCAL EXHAUST..... Desired

PROTECTIVE GLOVES..... Wear impervious gloves

EYE PROTECTION..... Use chemical goggles or full face shield.

OTHER PROTECTIVE EQUIPMENT..... Chemical type apron recommended

### SECTION IX - SPECIAL HANDLING

HANDLING AND STORAGE..... Store away from oxidizers or materials bearing a yellow "DOT" label. Keep out of sun and away from heat. Clean up leaks immediately to prevent soil or water contamination.

PRECAUTIONARY MEASURES... Avoid contact with skin, eyes, and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown in Section V. Use with adequate ventilation.

HAZARD CLASS..... Drums - NOT REGULATED  
Bulk - Class 9

DOT SHIPPING NAME..... Drum - Ethylene Glycol  
Bulk - Other regulated substances, liquid, n.o.s. (ethylene glycol)

REPORTABLE QUANTITY (RQ). 5,000 pounds

UN NUMBER..... None

NA #..... Drums - None; Bulk - NA3082

PACKAGING SIZE..... N/A

### SECTION X - REGULATORY

# MATERIAL SAFETY DATA SHEET

## ETHYLENE GLYCOL

EPA ACUTE..... YES  
EPA CHRONIC..... YES  
EPA IGNITABILITY..... NO  
EPA REACTIVITY..... NO  
EPA SUDDEN RELEASE OF  
PRESSURE..... NO

CERCLA RQ VALUE..... 5,000 pounds

SARA TPQ..... None

SARA RQ..... None

SECTION 313..... YES, ETHYLENE GLYCOL      107-21-1      100%

EPA HAZARD WASTE #..... None

CLEANAIR..... Yes, Section 111 and 1990 Amendments

CLEAN WATER..... No

FOOT NOTES    N/A - not applicable    N/D - no data available

< - means less than    > - means greater than

App. - approximate    Est. - estimated

PREPARED BY:..... Joe Hudman, Coastal Chemical Co., Inc. 713-477-6675

THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMER IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.

# MATERIAL SAFETY DATA SHEET

COASTALGUARD 100 ANTIFREEZE/COOLANT

1 HMIS HI  
1 HMIS FI  
0 HMIS RI  
B HMIS PI

## SECTION I - IDENTIFICATION

DISTRIBUTED BY..... COASTAL CHEMICAL CO., INC.  
(318) 893-3862  
EMERGENCY PHONE NUMBER... CHEMTREC (800) 424-9300  
EFFECTIVE DATE..... 2/06/1996  
MANUFACTURER'S NAME..... COASTAL CHEMICAL CO., INC.  
TRADE NAME..... COASTALGUARD 100 ANTIFREEZE/COOLANT  
CHEMICAL FAMILY..... INHIBITED ETHYLENE GLYCOL SOLUTION  
CAS NUMBER..... Blended Product  
CHEMICAL FORMULA..... Blended Product

## SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	%	TLV (Units)
ETHYLENE GLYCOL	95 %	ACGIH CEILING 50ppm

## SECTION III - PHYSICAL DATA

FREEZING POINT (F)..... APPROX. 22 DEG F  
VAPOR PRESSURE (mm Hg)... 0.12 MMHG @ 25 C  
VAPOR DENSITY (Air=1).... 2.14  
SOLUBILITY IN H2O..... COMPLETELY MISCIBLE  
APPEARANCE/ODOR..... YELLOW/GREEN LIQUID; PRACTICALLY ODORLESS  
SPECIFIC GRAVITY (H2O=1). 1.11 typical  
PH..... 10.5 - 11.0

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT..... APPROX. 247 DEG F  
LOWER FLAME LIMIT..... N/D  
HIGHER FLAME LIMIT..... N/D  
EXTINGUISH MEDIA..... Water fog or spray, Foam, Dry Powder (CO2).  
UNUSUAL FIRE HAZARD..... NONE KNOWN Approach fire from upwind breathing smoke, fumes, mist or vapor downwind side.

## SECTION V - HEALTH HAZARD DATA

# MATERIAL SAFETY DATA SHEET

COASTALGUARD 100 ANTIFREEZE/COOLANT

THRESHOLD LIMIT VALUE.... 50 PPM BASED ON ETHYLENE GLYCOL

ROUTES OF ENTRY	INHALATION?	SKIN?	INGESTION?
	IRRITANT, POSSIBLY NARCOTIC	Not expected to cause significant health hazard	Ingestion of very large amounts could cause serious injury, or even death.

HEALTH HAZARDS..... ACUTE: Vapors may be irritating to eyes, or mucous membranes. Avoid inhalation or eye contact. CHRONIC: Kidney and liver damage possible. May cause reproductive disorders.

CARCINOGENICITY	NTP?	IARC MONOGRAPHS?	OSHA REGULATED
NO	NO	NO	NO

OVER EXPOSURE EFFECTS.... Skin irritation develops slowly after contact. Eye irritation develops immediately upon contact. Symptoms of overexposure: headache, fatigue, nausea, irritation of respiratory tract, dizziness, staggering gait, confusion, unconsciousness.

FIRST AID PROCEDURES..... In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get medical attention. If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person.

## SECTION VI - REACTIVITY DATA

CHEMICAL STABILITY..... Product is stable  
CONDITIONS TO AVOID..... Heat may cause internal pressure which could rupture container.  
INCOMPATIBLE MATERIALS... OXIDIZING MATERIALS & OXIDIZERS  
DECOMPOSITION PRODUCTS... From fire; Smoke, Carbon dioxide, & Carbon Monoxide  
HAZARDOUS POLYMERIZATION. Will not occur  
POLYMERIZATION AVOID..... None

## SECTION VII - SPILL OR LEAK PROCEDURE

## MATERIAL SAFETY DATA SHEET

### COASTALGUARD 100 ANTIFREEZE/COOLANT

FOR SPILL..... In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations.

WASTE DISPOSAL METHOD.... Industrial Waste. Follow Federal, State and Local laws.

#### SECTION VIII - SPECIAL PROTECTION

RESPIRATORY PROTECTION... When ventilation is not adequate, use of NIOSH approved organic vapor/acid gas cartridge respirator is recommended.

VENTILATION..... Required in closed areas

MECHANICAL EXHAUST..... Required in closed areas

LOCAL EXHAUST..... Desired

PROTECTIVE GLOVES..... Wear impervious gloves

EYE PROTECTION..... Use chemical goggles or full face shield.

OTHER PROTECTIVE EQUIPMENT..... Chemical type apron recommended

#### SECTION IX - SPECIAL HANDLING

HANDLING AND STORAGE..... Store away from oxidizers or materials bearing a yellow "DOT" label. Keep out of sun and away from heat. Clean up leaks immediately to prevent soil or water contamination.

PRECAUTIONARY MEASURES... Avoid contact with skin, eyes, and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown in Section V. Use with adequate ventilation.

HAZARD CLASS..... Drums - Not Regulated  
Bulk - Class 9

DOT SHIPPING NAME..... Drums - COASTALGUARD 100  
Bulk - Other regulated substances, liquid, n.o.s. (ethylene glycol)

REPORTABLE QUANTITY (RQ). 5000 pounds

UN NUMBER..... None

NA #..... Drums - None; Bulk - NA3082

PACKAGING SIZE..... N/A

#### SECTION X - REGULATORY

EPA ACUTE..... YES

EPA CHRONIC..... YES

EPA IGNITABILITY..... NO

EPA REACTIVITY..... NO

MATERIAL SAFETY DATA SHEET

COASTALGUARD 100 ANTIFREEZE/COOLANT

EPA SUDDEN RELEASE OF

PRESSURE..... NO

CERCLA RQ VALUE..... 5000 pound for ethylene glycol

SARA TPQ..... None

SARA RQ..... None

SECTION 313..... YES, ETHYLENE GLYCOL 107-21-1 95% (1/1/87)

EPA HAZARD WASTE #..... None

CLEANAIR..... Yes, Section 111 Volatile Organic Compounds & Section  
112 Statutory Air Pollutants (1990 Amendments)

CLEAN WATER..... No

FOOT NOTES N/A - not applicable N/D - no data available

< - means less than > - means greater than

App. - approximate Est. - estimated

PREPARED BY:..... David Trahan, C.F.T. - 318-898-0001

THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.

# Material Safety Data Sheet

The Dow Chemical Company  
Midland, Michigan 48674

## 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Page: 1

24-Hour Emergency Phone Number: 517-636-4400

Product: DIETHANOLAMINE LOW FREEZING GRADE

Product Code: 21106

Effective Date: 03/01/96

Date Printed: 04/27/96

MSD: 000904

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-258-2436

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Diethanolamine  
Water

CAS# 000111-42-2  
CAS# 007732-18-5

85%  
15%

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

\*\*\*\*\*  
\* Colorless liquid. Slight ammonia odor. Causes eye burns. \*  
\* \*  
\* \*  
\*\*\*\*\*

### POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause severe irritation with corneal injury.

SKIN: Prolonged or repeated exposure may cause skin irritation, even a burn. May cause more severe response if skin is abraded (scratched or cut). A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Not classified as corrosive according to DOT.

INGESTION: Single dose oral toxicity is low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury. Observations in animals include liver and kidney effects following single oral doses. Ingestion may cause gastrointestinal irritation or ulceration.

(Continued on page 2 , over)

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# MATERIAL SAFETY DATA SHEET

PAGE: 2

Product: DIETHANOLAMINE LOW FREEZING GRADE

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Effective Date: 04/01/96

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MSD: 000904

**INHALATION:** At room temperature, exposures to vapors are minimal due to physical properties; higher temperatures may generate vapor levels sufficient to cause irritation and other effects.

**SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:** Results from repeated exposure tests on diethanolamine in laboratory animals include anemia (rats) and effects on kidney (rats and mice) and liver (mice). Heart and nervous system effects were also observed in these animals given exaggerated doses. Changes in other organs, causes of which are nonspecific, were judged secondary to the poor health of the animals due to the extremely high doses of diethanolamine given.

**TERATOLOGY (BIRTH DEFECTS):** Contains component(s) which did not cause birth defects; other fetal effects occurred only at doses toxic to the mother.

## 4. FIRST AID

**EYES:** Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

**SKIN:** Wash off in flowing water or shower.

**INGESTION:** Do not induce vomiting. Give large amounts of water or milk if available and transport to medical facility.

**INHALATION:** Remove to fresh air if effects occur. Consult a physician.

**NOTE TO PHYSICIAN:** If burn is present, treat as any thermal burn, after decontamination. May cause tissue destruction leading to stricture. If lavage is performed, suggest endotracheal and/or esophagoscopic control. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

## 5. FIRE FIGHTING MEASURES

### FLAMMABLE PROPERTIES

FLASH POINT: \* None

METHOD USED: Setaflash

AUTOIGNITION TEMPERATURE:

\* No flash point observed up to the boiling point. Flash point of

(Continued on page 3)

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# MATERIAL SAFETY DATA SHEET

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Product: DIETHANOLAMINE LOW FREEZING GRADE  
Product Code: 21106

Effective Date: 03/01/96

Date Printed: 04/27/96

MSD: 000904

diethanolamine is 325F, 163C by Setaflash.

## FLAMMABILITY LIMITS

LFL: Not determined.

UFL: Not determined.

## HAZARDOUS COMBUSTION PRODUCTS:

EXTINGUISHING MEDIA: Water fog, alcohol foam, CO2, dry chemical.

FIRE FIGHTING INSTRUCTIONS: Not available.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear self-contained, positive-pressure breathing apparatus.

## 6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Clear non-emergency personnel from the area.

PROTECT THE ENVIRONMENT: Do not allow into sewers, on the ground, or into any body of water.

CLEANUP: Use a noncombustible absorbent such as sand and shovel into suitable containers. Do not use sawdust, wood chips or other cullulotic materials to absorb the spill.

## 7. HANDLING AND STORAGE

HANDLING: Prevent eye and skin contact. Avoid breathing vapors. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the auto-ignition temperature possibly resulting in spontaneous combustion.

STORAGE: Do not store in common area with halogenated materials.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

PERSONAL PROTECTIVE EQUIPMENT

(Continued on page 4, over)

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# MATERIAL SAFETY DATA SHEET

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Product: DIETHANOLAMINE LOW FREEZING GRADE  
Product Code: 21106

Effective Date: 03/01/96

Date Printed: 04/27/96

MSD: 000904

EYE/FACE PROTECTION: Use chemical goggles.

SKIN PROTECTION: When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron or full-body suit will depend on operation. If hands are cut or scratched, use gloves impervious to this material even for brief exposures.

RESPIRATORY PROTECTION: For most conditions, no respiratory protection should be needed; however, if handling at elevated temperatures without sufficient ventilation, use an approved air-purifying respirator.

EXPOSURE GUIDELINE(S): Diethanolamine: ACGIH TLV is 2 mg/m<sup>3</sup>, skin; OSHA PEL is 3 ppm. PELs are in accord with those recommended by OSHA, as in the 1989 revision of PELs.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless liquid.  
ODOR: Slight ammoniacal odor.  
VAPOR PRESSURE: Low.  
VAPOR DENSITY: Not determined.  
BOILING POINT: 244F, 118C  
SOLUBILITY IN WATER: Completely miscible.  
SPECIFIC GRAVITY: 1.08 @ 25/4C  
FREEZING POINT: 28F, -2C

## 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under normal storage conditions.

CONDITIONS TO AVOID: This product should not be heated above 60C in the presence of aluminum due to excessive corrosion and potential chemical reaction releasing flammable hydrogen gas.

INCOMPATIBILITY WITH OTHER MATERIALS: Strong oxidizers, strong acids. Product may potentially react with various halogenated organic solvents, resulting in temperature and/or pressure increases.

HAZARDOUS DECOMPOSITION PRODUCTS: Possible nitrogen oxides.

HAZARDOUS POLYMERIZATION: Will not occur.

## 11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

(Continued on page 5)

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# MATERIAL SAFETY DATA SHEET

PAGE: 5

Product: DIETHANOLAMINE LOW FREEZING GRADE  
Product Code: 21106

Effective Date: 01/01/96

Date Printed: 04/27/96

MSD: 000904

SKIN: The LD50 for skin absorption in rabbits is greater than 8,200 mg/kg (for diethanolamine).

INGESTION: The oral LD50 for rats is greater than 680 mg/kg (for diethanolamine).

MUTAGENICITY: In vitro mutagenicity studies were negative. (for diethanolamine).

## 12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

### ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Based largely or completely on data for major component(s). Bioconcentration potential is low (BCF less than 100 or Log Kow less than 3). Log octanol/water partition coefficient (log Kow) is -1.43. Henry's Law Constant (H) is  $5.35 \times 10^{-14}$  atm m<sup>3</sup>/mol.

DEGRADATION & TRANSFORMATION: Based largely or completely on data for major component(s). Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). 5-Day biochemical oxygen demand (BOD5) is 0.22 p/p. 10-Day biochemical oxygen demand (BOD10) is 0.74 p/p. 20-Day biochemical oxygen demand (BOD20) is 1.20 p/p. Theoretical oxygen demand (ThOD) is calculated to be 2.13 p/p. Inhibitory concentration (IC50) in OECD "Activated Sludge, Respiration Inhibition Test" (Guideline #209) is > 1000 mg/L. Material is ultimately biodegradable. Reaches more than 70% mineralization in OECD test for inherent biodegradability: Zahn-Wellens; 94% DOC removal in 14 days.

ECOTOXICOLOGY: Based largely or completely on data for major component(s). Material is slightly toxic to aquatic organisms on an acute basis (LC50 between 10 and 100 mg/L in most sensitive species). Acute LC50 for fathead minnow (Pimephales promelas) is 1460-1664 mg/L. Acute LC50 for bluegill (Lepomis macrochirus) is 1850-2100 mg/L. Acute LC50 for water flea (Daphnia magna) is 55-306 mg/L. Acute LC50 for the cladoceran Ceriodaphnia dubia is 30-160 mg/L. Acute LC50 for goldfish (Carassius auratus) is 800 to > 5000 mg/L at pH 9.7 and pH 7.0, respectively. Acute LC50 for mosquito fish (Gambusia affinis) is 1400-1800 mg/L.

## 13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

(Continued on page 6 , over)

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# MATERIAL SAFETY DATA SHEET

PAGE: 6

Product: DIETHANOLAMINE LOW FREEZING GRADE  
Product Code: 21106

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Date Printed: 04/27/96

MSD: 000904

DISPOSAL: Any disposal practice must be in compliance with all federal, state/provincial, and local laws and regulations. State/provincial and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Regulations may also vary in different locations. Chemical additions, processing, storage, or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate, or otherwise inappropriate. Waste characterization and disposal compliance are the responsibility solely of the party generating the waste or deciding to discard or dispose of the material. None of these waste management options should be considered 'arranging for disposal'.

Do not allow into any sewers, on the ground, or into any body of water.

The preferred waste management option is to send to a properly properly licensed or permitted incinerator.

As a service to its customers, Dow can provide lists of companies which recycle, reprocess, or manage chemicals. In the U.S., telephone Dow's Customer Information Center at 517-832-1556 or 800-258-2436 (U.S.) for further details.

## 14. TRANSPORT INFORMATION

### CANADIAN TDG INFORMATION:

For TDG regulatory information, if required, consult transportation regulations, product shipping papers, or your Dow representative.

### DEPARTMENT OF TRANSPORTATION (D.O.T.):

For DOT regulatory information, if required, consult transportation regulations, product shipping papers or contact your Dow representative.

## 15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply

(Continued on page 7)

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# MATERIAL SAFETY DATA SHEET

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Product: DIETHANOLAMINE LOW FREEZING GRADE  
Product Code: 21106

Effective Date: 03/01/96 Date Printed: 04/27/96 MSD: 000904

with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

## U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
DIETHANOLAMINE	000111-42-2	86 %

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard  
A delayed health hazard

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
DIETHANOLAMINE	000111-42-2	NJ3 PA1 PA3

NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).  
PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).  
PA3=Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD:

(Continued on page 8 , over)  
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# MATERIAL SAFETY DATA SHEET

PAGE: 8

Product: DIETHANOLAMINE LOW FREEZING GRADE  
Product Code: 21106

Effective Date: 05/01/96

Date Printed: 04/27/96

MSD: 000904

## REGULATORY INFORMATION (CONTINUED)

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND):

This product contains the following substance(s) listed as "Hazardous Substances" under CERCLA which may require reporting of releases:

Category:

Chemical Name	CAS#	RQ	% in Product
Diethanolamine	000111-42-2	100 lb	85%

### CANADIAN REGULATIONS

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

D2B - eye or skin irritant

Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

CPR STATEMENT: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

HAZARDOUS PRODUCTS ACT INFORMATION: This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 and 14):

COMPONENTS:	CAS #	AMOUNT (%w/w)
Diethanolamine	CAS# 000111-42-2	85%

## 16. OTHER INFORMATION

REVISION INDICATOR: Revised section 14.

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The Information Herein Is Given In Good Faith, But No Warranty, Express Or Implied, Is Made. Consult The Dow Chemical Company For Further Information.

strict I - (505) 393-6161  
D. Box 1980  
bbs, NM 88241-1980  
strict II - (505) 748-1283  
J. S. First  
csia, NM 88210  
strict III - (505) 334-6178  
Rio Brazos Road  
cc, NM 87410  
strict IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
**RECEIVED**  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131  
Environmental Bureau  
Oil Conservation Division

Form C-138  
Originated 8/6/95  
**RECEIVED**  
AUG 23 1999  
Submit Original  
Plus 1 Copy  
to appropriate  
District Office

**OIL CON. DIV.**

**DISL 3**

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/> Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	4. Generator <u>EL Paso Field Service</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	5. Originating Site <u>compressor site STATION</u>
3. Address of Facility Operator <u>#345 CR 3500 Aztec NM</u>	6. Transporter <u>Key</u>
7. Location of Material (Street Address or ULSTR) <u>T 30N, R 10W, NW 1/4 OF the NE 1/4 Sec 19</u>	8. State <u>NM</u>
9. <u>Circle One:</u> A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <u>B.</u> All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

Waste water created from the cleaning of Gas Dehydrator  
Acidic cleaning Agents used

Estimated Volume 100 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: mgr DATE: 8-20-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALEVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny G. Kent TITLE: Geologist DATE: 8/23/99  
APPROVED BY: Monty J. Kelly TITLE: Environmental Geologist DATE: 8/24/99



## CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:  El Paso Field Services Co. 614 Reilly Avenue Farmington, NM 87401	2. Destination Name:  Key Energy Services P. O: Box 900 Farmington, New Mexico 87499
3. Originating Site (name):  Potter Canyon Compressor Station	Location of Waste(Street address &/or ULSTR):  San Juan County, New Mexico T30N, R10W, NW/4 of the NE/4, Section 19
Attach list of originating sites as appropriate	
4. Source and Description of Waste  Spent acid and soda ash from gas dehydrator cleaning	

I, David Bays representative for:  
(Print Name)

El Paso Field Services Co. do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988 regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT Oilfield waste      ☒ NON-EXEMPT oilfield waste which is non-hazardous by  
characteristic analysis or by product identification

and that nothing has been added to the exempt or non-hazardous waste defined above.

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

☒ MSDS Information      ☐ Other (description)  
☐ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

Name (Original Signature): David Bays

Title: Principal Environmental Scientist

Date: August 18, 1999

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

file: Potter Canyon Analytic



July 31, 1999

Mr. John Lambdin  
El Paso Field Services, Inc.  
P.O. Box 4990  
Farmington, New Mexico 87499

Job No.: 903901

Dear John,

Enclosed are the analytical results for the sample collected from the EPFS location designated as "Potter Canyon-Sunco 100 BBL Tank". One water sample was collected by EPFS personnel on 07/15/99, and received by the Envirotech laboratory on 07/15/99 for Hazardous Waste Characterization analysis (Volatile and Semi-volatile Organics, Trace Metals, Reactivity, Corrosivity, and Ignitability).

The sample was documented on Envirotech Chain of Custody No. 7169 and assigned Laboratory No. F698 (EPFS No. 990320) for tracking purposes. The sample was analyzed 07/15/97 through 07/31/97 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615. It is always a pleasure doing business with you.

Respectfully submitted,  
**Envirotech, Inc.**

Stacy W. Sendler

Stacy W. Sendler  
Environmental Scientist/Laboratory Manager

enc.

SWS\lsws

*Reviewed & Accepted*  
*J. Sanchez*  
*8/11/99*

99039-01.lb1/wpd

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990320	Date Reported:	07-19-99
Lab ID#:	F698	Date Sampled:	07-15-99
Sample Matrix:	Water	Date Received:	07-15-99
Preservative:	Cool	Date Analyzed:	07-19-99
Condition:	Cool and Intact	Chain of Custody:	7169

Parameter	Result
-----------	--------

IGNITABILITY: Negative

CORROSIVITY: Negative pH = 6.87

REACTIVITY: Negative

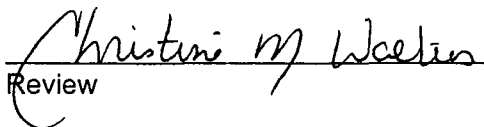
### RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
IGNITABILITY:	Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21. (i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)
CORROSIVITY:	Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. (i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)
REACTIVITY:	Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23. (i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: Potter Canyon, Sunco 100 BBL Tank.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990320	Date Reported:	07-23-99
Laboratory Number:	F698	Date Sampled:	07-15-99
Chain of Custody:	7169	Date Received:	07-15-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	07-23-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.0043	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

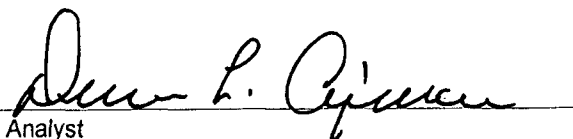
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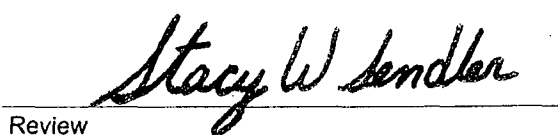
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Potter Canyon, Sunco 100 BBL Tank.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990320	Date Reported:	07-20-99
Laboratory Number:	F698	Date Sampled:	07-15-99
Chain of Custody:	7169	Date Received:	07-15-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	07-19-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	0.032	0.020	200
p,m-Cresol	0.043	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

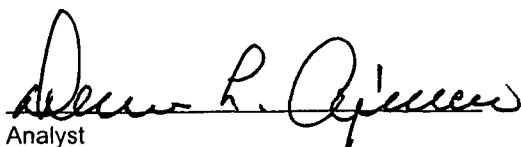
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

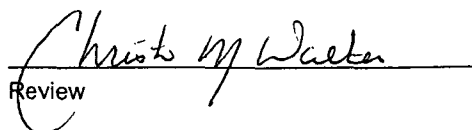
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: Potter Canyon, Sunco 100 BBL Tank.

  
Analyst

  
Review

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics

Client:	El Paso Field Services	Project #:	903901
Sample ID:	990320	Date Reported:	07-20-99
Laboratory Number:	F698	Date Sampled:	07-15-99
Chain of Custody:	7169	Date Received:	07-15-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	07-19-99
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

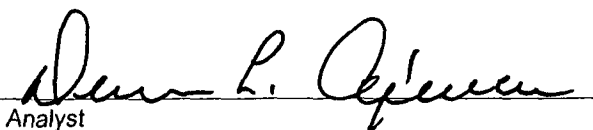
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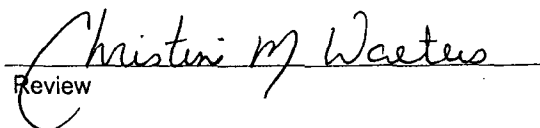
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	95%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: **Potter Canyon, Sunco 100 BBL Tank.**

  
Analyst

  
Review

Received Aug-05-99 03:01pm

AUG 05 '99 02:03PM ESL PORTLAND

from 503 620 0393 → PINNACLE LABS

page 2

P.2/4

**Environmental Services Laboratory**

Date: 05-Aug-99

CLIENT: Pinnacle Laboratories

Client Sample ID: 907056-01

Lab Order: 9907118

Tag Number:

Project: 907056/ENV/Lab Analysis

Collection Date: 7/15/99

Lab ID: 9907118-01A

Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>MERCURY</b>		SW 7470 / EPA 245.				Analyst: btn
Mercury, TCLP	ND	0.002		mg/L	1	7/29/99
<b>ICP METALS</b>		SW 8010 / EPA 200.				Analyst: btn
Arsenic, TCLP	ND	0.05		mg/L	1	
Barium, TCLP	0.94	0.05		mg/L	1	
Cadmium, TCLP	ND	0.05		mg/L	1	
Chromium, TCLP	ND	0.05		mg/L	1	
Lead, TCLP	ND	0.05		mg/L	1	
Selenium, TCLP	0.059	0.05		mg/L	1	
Silver, TCLP	ND	0.05		mg/L	1	

990320/FB98

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

\* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

1 of 3

# **ENVIROTECH LABS**

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**QUALITY ASSURANCE / QUALITY CONTROL**

**DOCUMENTATION**



# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report**

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	07-23-99
Laboratory Number:	07-23-TV-Blank	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-23-99
Condition:	N/A	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

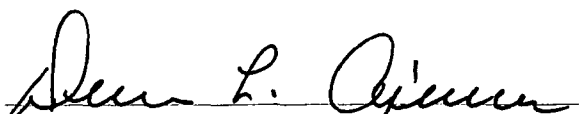
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F657 and F698.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

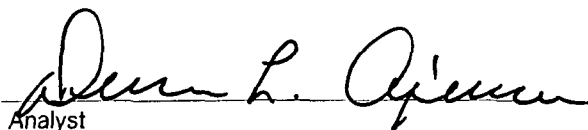
Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	07-23-99
Laboratory Number:	F657	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	07-23-99
Condition:	N/A	Date Extracted:	N/A

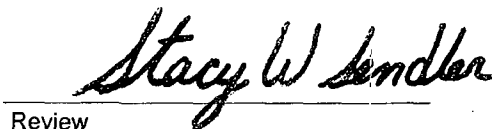
Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethene	ND	ND	0.0001	0.0%
2-Butanone (MEK)	ND	ND	0.0001	0.0%
Chloroform	0.0487	0.0487	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	0.0069	0.0069	0.0001	0.0%
1,2-Dichloroethane	ND	ND	0.0001	0.0%
Trichloroethene	0.0007	0.0007	0.0003	0.0%
Tetrachloroethene	0.0022	0.0022	0.0005	0.0%
Chlorobenzene	0.0038	0.0038	0.0003	0.0%
1,4-Dichlorobenzene	0.0042	0.0042	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples F657 and F698.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spike	Date Reported:	07-23-99
Laboratory Number:	F657	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	07-23-99
Condition:	N/A	Date Extracted:	N/A

Parameter	Sample Result (mg/L)	Spike Added (mg/L)	Spiked Sample Result (mg/L)	Det. Limit (mg/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
2-Butanone (MEK)	ND	0.050	0.0495	0.0001	99%	47-132
Chloroform	0.0487	0.050	0.0985	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0491	0.0001	98%	43-143
Benzene	0.0069	0.050	0.0567	0.0001	100%	39-150
1,2-Dichloroethane	ND	0.050	0.0494	0.0001	99%	51-147
Trichloroethene	0.0007	0.050	0.0501	0.0003	99%	35-146
Tetrachloroethene	0.0022	0.050	0.0516	0.0005	99%	26-162
Chlorobenzene	0.0038	0.050	0.0532	0.0003	99%	38-150
1,4-Dichlorobenzene	0.0042	0.050	0.0536	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples F657 and F698.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040  
PHENOLS  
Quality Assurance Report  
Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	07-20-99
Laboratory Number:	07-19-TCA-Blank	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-19-99
Condition:	N/A	Analysis Requested:	TCLP

Analytical Results	Concentration	Detection	Regulatory
Parameter	(mg/L)	Limit (mg/L)	Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-fluorophenol	98 %
	2,4,6-tribromophenol	99 %

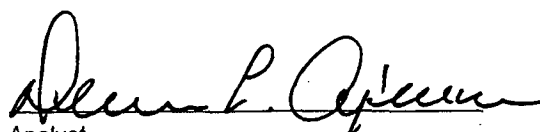
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

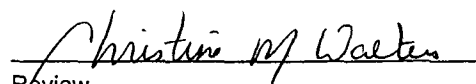
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F657 and F698.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040

PHENOLS

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	07-20-99
Laboratory Number:	07-15-TCA-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	Cool	Date Extracted:	07-15-99
Condition:	Cool & Intact	Date Analyzed:	07-19-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

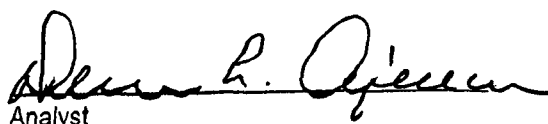
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

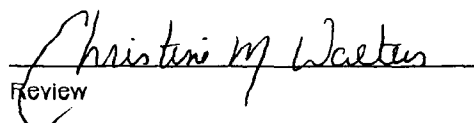
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F657 and F698.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	07-20-99
Laboratory Number:	F657	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Date Analyzed:	07-19-99
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	0.037	0.036	0.020	1.0%
p,m-Cresol	ND	ND	0.040	0.0%
2,4,6-Trichlorophenol	ND	ND	0.020	0.0%
2,4,5-Trichlorophenol	ND	ND	0.020	0.0%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

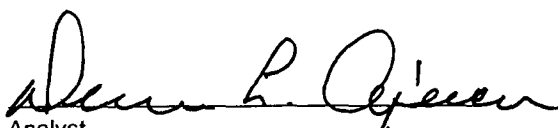
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

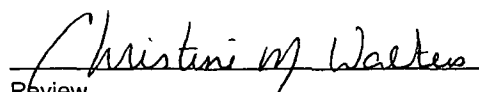
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F657 and F698.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
Quality Assurance Report

Client: QA/QC  
Sample ID: Laboratory Blank  
Laboratory Number: 07-19-TBN-Blank  
Sample Matrix: Hexane  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 07-20-99  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 07-19-99  
Analysis Requested: TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

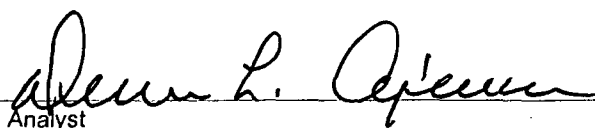
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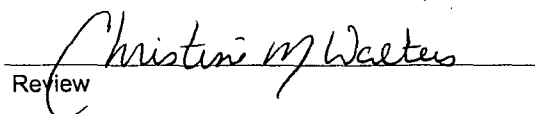
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F657 and F698.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	07-20-99
Laboratory Number:	07-15-TBN-MB	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool and Intact	Date Analyzed:	07-19-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

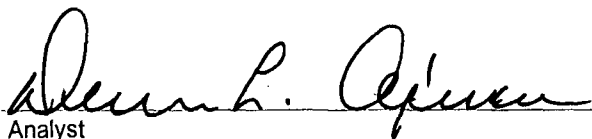
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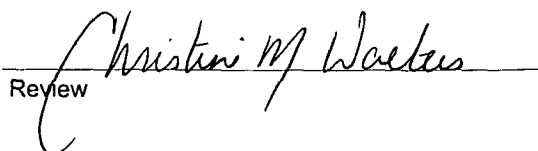
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F657 and F698.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QA/QC Matrix Duplicate Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	07-20-99
Laboratory Number:	F657	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Extracted:	N/A
Condition:	N/A	Date Analyzed:	07-19-99
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	ND	ND	0.0%	0.020
Hexachloroethane	ND	ND	0.0%	0.020
Nitrobenzene	ND	ND	0.0%	0.020
Hexachlorobutadiene	ND	ND	0.0%	0.020
2,4-Dinitrotoluene	ND	ND	0.0%	0.020
HexachloroBenzene	ND	ND	0.0%	0.020

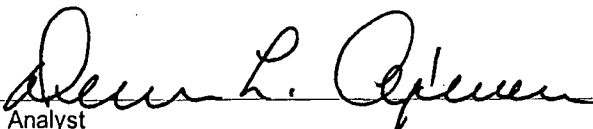
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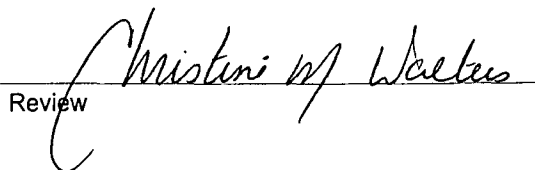
QA/QC Acceptance Criteria	Parameter	Maximum Difference
	8090 Compounds	30%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples F657 and F698.

  
Analyst

  
Review

## 7169

[illegible]

strict I - (505) 393-6161  
D. Box 1980  
bbs, NM 88241-1980  
strict II - (505) 748-1283  
J. S. First  
esia, NM 88210  
strict III - (505) 334-6178  
Rio Brazos Road  
cc, NM 87410  
strict IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
**RECEIVED**  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131  
Environmental Bureau  
Oil Conservation Division

Form C-138  
Originated 8/8/95  
Submit Original  
Plus 1 Copy  
to appropriate  
District Office

**RECEIVED**  
AUG 23 1999  
OIL CON. DIV.  
DIST. 2

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/> Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	4. Generator <u>Key Energy Services</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	5. Originating Site <u>MAIN YARD</u>
3. Address of Facility Operator <u>#345 CR 3500</u> <u>AZTEC NM</u>	6. Transporter <u>Key</u>
7. Location of Material (Street Address or ULSTR) <u>5651 US HWY 64</u> <u>FARMINGTON, NM</u>	8. State <u>NM</u>
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

WASTE WATER FROM WASHING OILFIELD SERVICE EQUIPMENT

CONTINUANCE

Estimated Volume 600 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovic TITLE: Manager DATE: 8-18-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny G. Junt TITLE: Geologist DATE: 8/23/99  
APPROVED BY: Monty G. Junt TITLE: Environmental Geologist DATE: 8/24/99

# CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> Key Energy Service, Inc. Four Corners Division 5651 U.S. Hwy 64 Farmington, NM 87401	<b>2. Destination Name:</b> KEY ENERGY DISPOSAL
<b>3. Originating Site (name):</b> Farmington Rig Truck Facility	<b>Location of the Waste (Street address &amp;/or ULSTR):</b> 5651 U.S. Hwy 64 Farmington, NM
Attach list of originating sites as appropriate	
<b>4. Source and Description of Waste</b> Waste water P/washing oil field equipment	

I, Robert W. James representative for:  
 (Print Name)  
Key Energy Service, Inc., Four Corners Division do hereby certify that,  
 according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
 1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste      ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information      ☐ Other (description):  
☒ RCRA Hazardous Waste Analysis  
☒ Chain of Custody

Name (Original Signature): Robert W. James  
 Title: Farmington Shop Manager  
 Date: August 17, 1999

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

March 8, 1999

Mr. Mike Talovich  
Key Energy Services, Inc.  
P.O. Box 900  
Farmington, New Mexico 87499

(505) 327-0416

Project No.: 98065-02

Dear Mr. Talovich,

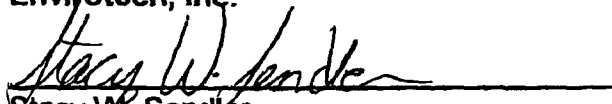
Enclosed are the analytical results for the sample collected from the location designated as "Shop". One water sample identified as "Shop" was collected from the designated location by Key Energy Services personnel on 03/01/99, and received by the Envirotech laboratory on 03/01/99 for Hazardous Waste Characterization analysis (Volatile and Semi-volatile Organics, Trace Metals, Reactivity, Corrosivity, and Ignitability).

The sample was documented on Envirotech Chain of Custody No. 6726 and assigned Laboratory No. E755 for tracking purposes.

The sample was analyzed on 03/02/99 through 03/05/99 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,  
Envirotech, Inc.

  
Stacy W. Sandler  
Environmental Scientist/Laboratory Manager

enclosure

SVWS/sws

98065-02.1b2/wpd

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Key Energy	Project #:	806502
Sample ID:	Shop	Date Reported:	03-04-99
Lab ID#:	E755	Date Sampled:	03-01-99
Sample Matrix:	Water	Date Received:	03-01-99
Preservative:	Cool	Date Analyzed:	03-03-99
Condition:	Cool and Intact	Chain of Custody:	6726

Parameter	Result
-----------	--------

IGNITABILITY: Negative

CORROSIVITY: Negative pH = 8.05

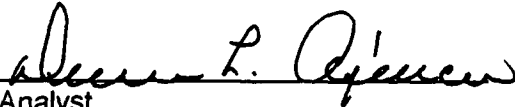
REACTIVITY: Negative

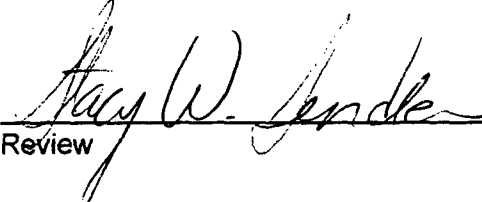
### RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
IGNITABILITY:	Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21. (i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)
CORROSIVITY:	Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. (i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)
REACTIVITY:	Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23. (i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: Shop.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

Client:	Key Energy	Project #:	806502
Sample ID:	Shop	Date Reported:	03-02-99
Laboratory Number:	E755	Date Sampled:	03-01-99
Chain of Custody:	6726	Date Received:	03-01-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-02-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	0.0050	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	0.0007	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

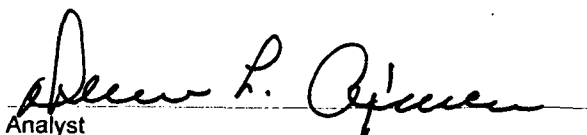
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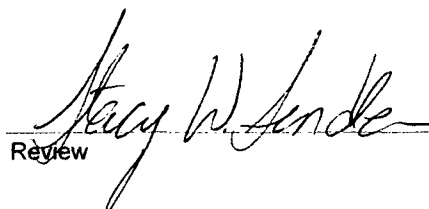
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Shop.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040

PHENOLS

Client:	Key Energy	Project #:	806502
Sample ID:	Shop	Date Reported:	03-05-99
Laboratory Number:	E755	Date Sampled:	03-01-99
Chain of Custody:	6726	Date Received:	03-01-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-05-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	0.467	0.020	200
p,m-Cresol	1.189	0.040	200
2,4,6-Trichlorophenol	0.276	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	0.493	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

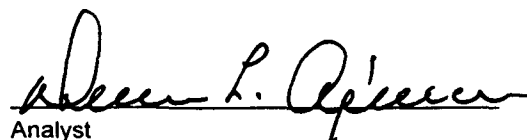
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

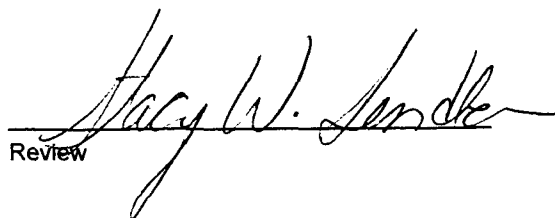
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: Shop.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics

Client:	Key Energy	Project #:	806502
Sample ID:	Shop	Date Reported:	03-05-99
Laboratory Number:	E755	Date Sampled:	03-01-99
Chain of Custody:	6726	Date Received:	03-01-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-05-99
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	0.103	0.020	3.0
Nitrobenzene	1.03	0.020	2.0
Hexachlorobutadiene	0.315	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	0.048	0.020	0.13


ND - Parameter not detected at the stated detection limit.


QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	101%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Shop.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

Client:	Key Energy	Project #:	806502
Sample ID:	Shop	Date Reported:	03-03-99
Laboratory Number:	E755	Date Sampled:	03-01-99
Chain of Custody:	6726	Date Received:	03-01-99
Sample Matrix:	Water	Date Analyzed:	03-03-99
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	0.0786	0.0001	5.0
Barium	0.464	0.001	21
Cadmium	0.0510	0.0001	0.11
Chromium	0.102	0.0001	0.60
Lead	0.213	0.0001	0.75
Mercury	ND	0.0001	0.025
Selenium	0.0329	0.0001	5.7
Silver	ND	0.0001	0.14

ND - Parameter not detected at the stated detection limit.

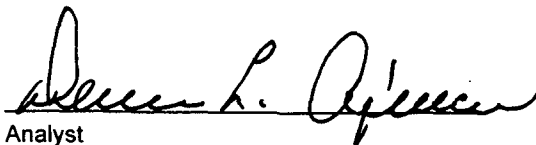
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060, 7080, 7131, 7191, 7470, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA. December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments: Shop.

  
Analyst

  
Review

# **ENVIROTECH LABS**

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**QUALITY ASSURANCE / QUALITY CONTROL**

**DOCUMENTATION**

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-02-99
Laboratory Number:	03-02-TCV-blank	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-02-99
Condition:	N/A	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

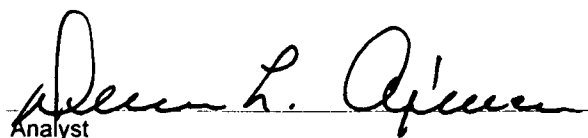
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

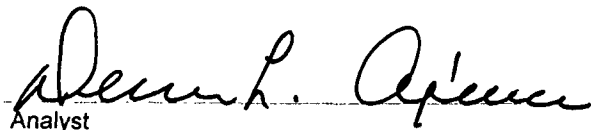
Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	03-02-99
Laboratory Number:	E755	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	03-02-99
Condition:	N/A	Date Extracted:	N/A

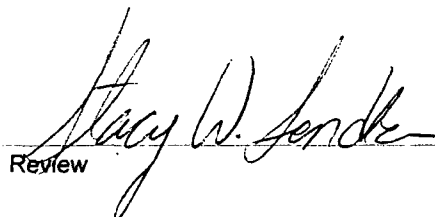
Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethene	ND	ND	0.0001	0.0%
2-Butanone (MEK)	ND	ND	0.0001	0.0%
Chloroform	0.0050	0.0050	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	ND	ND	0.0001	0.0%
1,2-Dichloroethane	0.0007	0.0007	0.0001	0.0%
Trichloroethene	ND	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	ND	ND	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Spike  
Laboratory Number: E755  
Sample Matrix: Water  
Analysis Requested: TCLP  
Condition: N/A

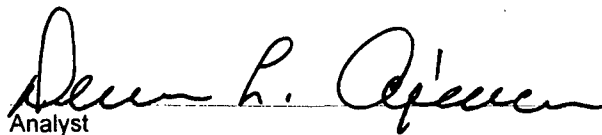
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Date Reported: 03-02-99  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 03-02-99  
Date Extracted: N/A

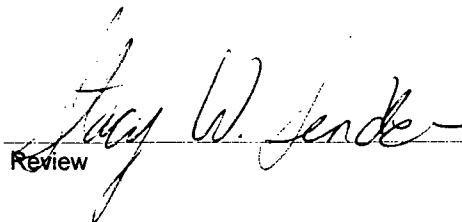
Parameter	Sample Result (mg/L)	Spike Added (mg/L)	Spiked Sample Result (mg/L)	Det. Limit (mg/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
2-Butanone (MEK)	ND	0.050	0.0495	0.0001	99%	47-132
Chloroform	0.0050	0.050	0.0548	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0491	0.0001	98%	43-143
Benzene	ND	0.050	0.0498	0.0001	100%	39-150
1,2-Dichloroethane	0.0007	0.050	0.0504	0.0001	99%	51-147
Trichloroethene	ND	0.050	0.0494	0.0003	99%	35-146
Tetrachloroethene	ND	0.050	0.0494	0.0005	99%	26-162
Chlorobenzene	ND	0.050	0.0494	0.0003	99%	38-150
1,4-Dichlorobenzene	ND	0.050	0.0494	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040

PHENOLS

Quality Assurance Report

Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-05-99
Laboratory Number:	03-05-TCA-Blank	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-05-99
Condition:	N/A	Analysis Requested:	TCLP

Analytical Results	Concentration	Detection	Regulatory
Parameter	(mg/L)	Limit	Limit
		(mg/L)	(mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-fluorophenol	98 %
	2,4,6-tribromophenol	99 %

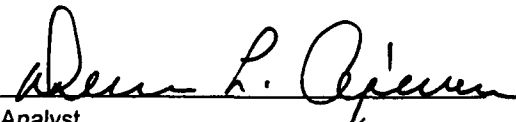
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

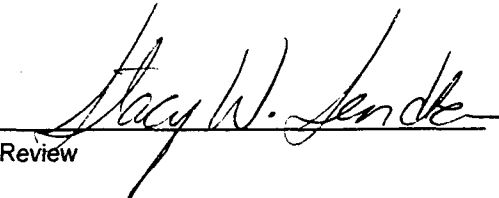
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	03-05-99
Laboratory Number:	03-04-TCA-MB	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Date Analyzed:	03-05-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

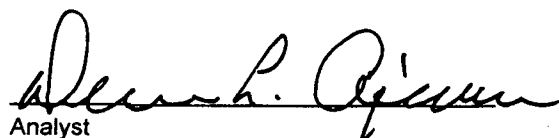
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	03-05-99
Laboratory Number:	E755	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Date Analyzed:	03-05-99
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	0.467	0.462	0.020	1.0%
p,m-Cresol	1.189	1.165	0.040	2.0%
2,4,6-Trichlorophenol	0.276	0.273	0.020	1.0%
2,4,5-Trichlorophenol	ND	ND	0.020	0.0%
Pentachlorophenol	0.493	0.489	0.020	0.8%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

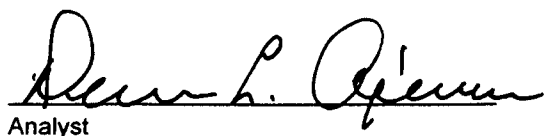
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
Quality Assurance Report

Client: QA/QC  
Sample ID: Laboratory Blank  
Laboratory Number: 03-05-TBN-Blank  
Sample Matrix: Hexane  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 03-05-99  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 03-05-99  
Analysis Requested: TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

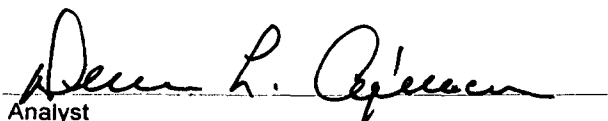
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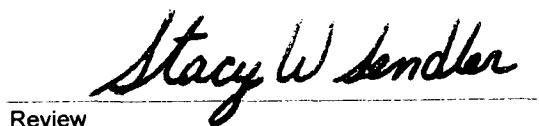
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	03-05-99
Laboratory Number:	03-04-TBN-MB	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool and Intact	Date Analyzed:	03-05-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QA/QC Matrix Duplicate Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	03-05-99
Laboratory Number:	E755	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Extracted:	N/A
Condition:	N/A	Date Analyzed:	03-05-99
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	ND	ND	0.0%	0.020
Hexachloroethane	0.103	0.102	1.0%	0.020
Nitrobenzene	1.03	1.02	0.9%	0.020
Hexachlorobutadiene	0.315	0.312	1.1%	0.020
2,4-Dinitrotoluene	ND	ND	0.0%	0.020
HexachloroBenzene	0.048	0.047	1.8%	0.020

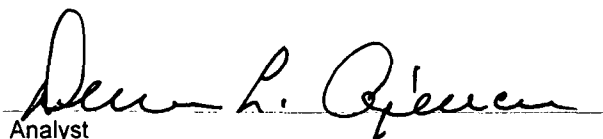
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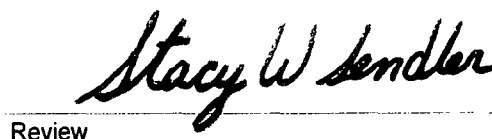
QA/QC Acceptance Criteria	Parameter	Maximum Difference
	8090 Compounds	30%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	03-03-TCM QA/QC	Date Reported:	03-03-99
Laboratory Number:	E695	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	03-03-99
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.0001	0.0437	0.0435	0.5%	0% - 30%
Barium	ND	ND	0.001	0.891	0.896	0.6%	0% - 30%
Cadmium	ND	ND	0.0001	0.0173	0.0174	0.6%	0% - 30%
Chromium	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Lead	ND	ND	0.0001	0.0149	0.0150	0.7%	0% - 30%
Mercury	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.0001	0.0315	0.0312	1.0%	0% - 30%
Silver	ND	ND	0.0001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.1000	0.0437	0.144	100.1%	80% - 120%
Barium	1.000	0.891	1.89	99.8%	80% - 120%
Cadmium	0.0500	0.0173	0.0672	99.9%	80% - 120%
Chromium	0.0500	ND	0.0498	99.6%	80% - 120%
Lead	0.1000	0.0149	0.115	99.9%	80% - 120%
Mercury	0.0250	ND	0.0249	99.6%	80% - 120%
Selenium	0.1000	0.0315	0.131	99.6%	80% - 120%
Silver	0.0500	ND	0.0498	99.6%	80% - 120%

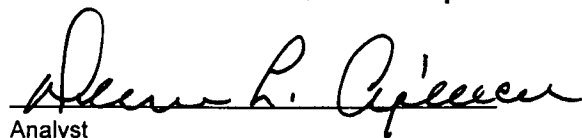
ND - Parameter not detected at the stated detection limit.

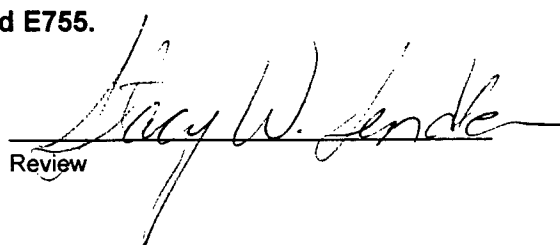
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals,  
SW-846, USEPA, December 1996.

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by  
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for samples E695, E696 and E755.

  
Analyst

  
Review

6726

[illegible]

District I - (505) 393-6161  
P.O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>Burlington</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>VAL VERDE Plant</u>
2. Management Facility Destination <u>KEY DISPOSAL</u>	6. Transporter <u>Key</u>
3. Address of Facility Operator <u>#345 CR 3500 Aztec NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>VALVERDE Plant</u>	
9. <u>Circle One:</u> <u>Bloomfield NM</u> A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

Amine Reclaimer Wash Rinse.

RECEIVED  
AUG 12 1999  
OIL CON. DIV.  
DIST. 3

Estimated Volume 210 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: MGR DATE: 8-12-99  
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Talovich TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny G. Funt TITLE: Geologist DATE: 8/12/99

APPROVED BY: Martyn J. Kelly TITLE: Environmental Geologist DATE: 8/13/99

# CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> Burlington Resources 3535 East 30 th Street Farmingto NM 87401		<b>2. Destination Name:</b> Sunco Disposal
<b>3. Originating Site (name):</b> Val Verde Plant		<b>Location of the Waste (Street address /or ULSTR):</b> Val Verde Plant
<b>4. Source and Description of Waste:</b> Amine reclaimer wash rinse. This waste was generated from rinsing the reclaimer with 50% Sodium Hydroxide solution to remove scaling. The waste was analyzed for TCLP metals and benzene and exhibited no hazardous characteristics. The TCLP parameters were chosen through "generators knowledge". Solution has been nuetralized to a pH of 6 and does not have corrosive characteristics.		

I, Jeff Schoenbacher representative for:  
Burlington Resources do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check the appropriate classi

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification.

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information ☐ Other (description):  
☐ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

Name (Original Signature): Jeff T. Schoenbacher

Title: Environmental Representative

Date: Wednesday, August 11, 1999



# CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> Burlington Resources 3535 East 30 th Street Farmington NM 87401	<b>2. Destination Name:</b> Sunco Disposal
<b>3. Originating Site (name):</b> Val Verde Plant	<b>Location of the Waste (Street address /or ULSTR):</b> Val Verde Plant
<b>4. Source and Description of Waste:</b> Amine reclaimer wash rinse.	

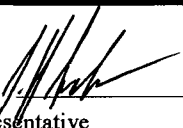
I, Jeff Schoenbacher representative for:  
Burlington Resources do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check the appropriate class)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification.

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information ☐ Other (description):  
☒ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

Name (Original Signature):   
Title: Environmental Representative  
Date: Monday, August 09, 1999



Jeff Schoenbacher  
Burlington Resources  
3535 E. 30th St.  
Farmington, NM 87402

August 2, 1999

Dear Jeff:

Enclosed please find the reports for the sample received by our laboratory for rush analysis on July 27, 1999.

If you have any questions about the results of these analyses, please don't hesitate to call me at your convenience.

Thank you for using IML for your analytical needs!

Sincerely,

Sharon Williams  
Organics Lab Supervisor

Enclosure

xc: File



# Inter-Mountain Laboratories, Inc.

Phone (505) 326-4737 Fax (505) 325-4182

2506 West Main Street, Farmington, NM 87401

**Client:** Burlington Resources  
**Project:** Val Verde Plant  
**Sample ID:** Rec. Waste #1  
**Lab ID:** 0399W03841  
**Matrix:** Liquid  
**Condition:** Warm

**Date Reported:** 08/02/99  
**Date Sampled:** 07/27/99  
**Date Received:** 07/27/99  
**Date Analyzed:** 07/30/99

Parameter	Analytical Result	PQL	MCL	Units
<b>TCLP METALS - EPA METHOD 1311</b>				
Arsenic	<0.25	0.25	5.0	mg/L
Barium	1	0.5	100.0	mg/L
Cadmium	<0.2	0.2	1.0	mg/L
Chromium	<0.5	0.5	5.0	mg/L
Lead	<0.5	0.5	5.0	mg/L
Selenium	<0.25	0.25	1.0	mg/L
Silver	<0.5	0.5	5.0	mg/L
<b>TCLP VOLATILES-ZHE - EPA METHOD 1311</b>				
Benzene	<5	5	0.5	µg/L

Reference: SW-846 - "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", United States Environmental Protection Agency, November, 1986.

Reviewed By

Sharon Williams, Organic Lab Supervisor



**Inter-Mountain Laboratories, Inc.**

Phone (505) 326-4737 Fax (505) 325-4182

2506 West Main Street, Farmington, NM 87401

## **QUALITY CONTROL / QUALITY ASSURANCE**



Phone (505) 326-4737 Fax (505) 325-4182

Inter-Mountain Laboratories, Inc.

2506 West Main Street, Farmington, NM 87401

## Quality Control / Quality Assurance

### Spike Analysis / Blank Analysis

#### TOXICITY CHARACTERISTIC LEACHING PROCEDURE

Client: **Burlington Resources**  
Project: Val Verde Plant  
Sample Matrix: Extract

Date Reported: 07/30/99  
Date Analyzed: 07/30/99  
Date Received: 07/27/99

#### Spike Analysis

Parameter	Spike Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery
Arsenic	0.46	<0.005	0.50	92%
Barium	0.82	0.24	0.50	116%
Cadmium	0.39	<0.004	0.50	78%*
Chromium	0.39	<0.01	0.50	78%*
Lead	0.85	<0.05	1.00	85%
Selenium	0.88	<0.005	1.00	88%
Silver	0.39	<0.01	0.50	78%*

#### Method Blank Analysis

Parameter	Result	Detection Limit	Units
Arsenic	ND	0.25	mg/L
Barium	ND	0.5	mg/L
Cadmium	ND	0.2	mg/L
Chromium	ND	0.5	mg/L
Lead	ND	0.5	mg/L
Selenium	ND	0.25	mg/L
Silver	ND	0.5	mg/L

#### References:

Method 1311: Toxicity Characteristic Leaching Procedure, SW-846, Rev. 0, July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, Rev. 1, July 1992.

#### Comments:

\* Spike recovery failed to meet established QC limits due to matrix interferences.

Reported by

Reviewed by

**Quality Control / Quality Assurance****Known Analysis****TOXICITY CHARACTERISTIC LEACHING PROCEDURE**

Client: **Burlington Resources**  
Project: Val Verde Plant  
Sample Matrix: Extract

Date Reported: 08/02/99  
Date Analyzed: 07/30/99  
Date Received: 07/27/99

**Known Analysis**

Parameter	Found Result	Known Result	Percent Recovery	Units
Arsenic	2.02	2.00	101%	mg/L
Barium	1.88	2.00	94%	mg/L
Cadmium	1.93	2.00	98%	mg/L
Chromium	1.96	2.00	98%	mg/L
Lead	1.94	2.00	97%	mg/L
Selenium	2.05	2.00	103%	mg/L
Silver	0.51	0.50	102%	mg/L

**References:**

Method 1311: Toxicity Characteristic Leaching Procedure,  
SW-846, Rev. 0, July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total  
Metals, SW-846, Rev. 1, July 1992.

**Comments:**

Reported by

Reviewed by

**BURLINGTON  
RESOURCES**

---

**ENVIRONMENTAL/SAFETY DEPARTMENT**

3535 East 30th Street, Farmington NM 87401  
P.O. Box 4289, Farmington, NM 87499  
(505) 326-9700 Fax: (505) 326-9725

**DATE:** August 9, 1999

**TO:** Mike Talovich

**COMPANY:** Sunco Disposal

**FAX:** 327-4962

**FROM:** Jeff Schoenbacher

**NO. OF PAGES (including cover):** 5

**COMMENTS OR SPECIAL INSTRUCTIONS:**

Hard Copy will follow.

Thx. Jeff Schoenbacher

BR Fax # 326-9725

Please call me at 326-9841 if you have any questions.

BDH -- VW3363, SODIUM HYDROXIDE 50% W-W, 10N, (SUPDAT)  
MATERIAL SAFETY DATA SHEET  
NSN: 681000N053897  
Manufacturer's CAGE: 38445  
Part No. Indicator: B  
Part Number/Trade Name: VW3363, SODIUM HYDROXIDE 50% W/W, 10N, (SUPDAT)

---

#### General Information

---

Company's Name: BDH INC  
Company's Street: 350 EVANS AVE  
Company's City: TORONTO, ONTARIO, CANADA  
Company's Zip Code: M8Z 1K5  
Company's Emerg Ph #: 800-424-9300 (CHEMTREC)  
Company's Info Ph #: 416-255-8521  
Record No. For Safety Entry: 002  
Tot Safety Entries This Stk#: 002  
Status: SMJ  
Date MSDS Prepared: 25AUG94  
Safety Data Review Date: 19DEC96  
MSDS Serial Number: CCWLM  
Hazard Characteristic Code: NK

---

#### Ingredients/Identity Information

---

Proprietary: NO  
Ingredient: SODIUM HYDROXIDE (CERCLA). LD50: (ORAL,RAT) 500 MG/KG  
Ingredient Sequence Number: 01  
Percent: 30-50  
NIOSH (RTECS) Number: WB4900000  
CAS Number: 1310-73-2  
OSHA PEL: 2 MG/M3  
ACGIH TLV: C 2 MG/M3

Proprietary: NO  
Ingredient: WATER  
Ingredient Sequence Number: 02  
NIOSH (RTECS) Number: ZC0110000  
CAS Number: 7732-18-5  
OSHA PEL: N/K (FP N)  
ACGIH TLV: N/K (FP N)

Proprietary: NO  
Ingredient: EYE PROT:& FULL LENGTH FACESHIELD (FP N).  
Ingredient Sequence Number: 03  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

---

#### Physical/Chemical Characteristics

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Appearance And Odor: CLEAR, COLORLESS LIQUID. ODORLESS.  
Evaporation Rate And Ref: NOT KNOWN  
Solubility In Water: MISCIBLE  
Percent Volatiles By Volume: 50-70  
pH: 14

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#### Fire and Explosion Hazard Data

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Flash Point: N/A  
Lower Explosive Limit: N/A  
Upper Explosive Limit: N/A  
Extinguishing Media: USE ANY SUITABLE FOR ADJACENT MATERIAL.  
Special Fire Fighting Proc: USE NIOSH APPROVED SCBA & FULL PROTECTIVE EQUIPMENT (FP N).



Unusual Fire And Expl Hazrds: CAN REACT WITH CERTAIN METALS (ALUMINUM, ZINC, TIN) TO RELEASE HYDROGEN GAS.

---

#### Reactivity Data

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Stability: YES

Cond To Avoid (Stability): HEAT.

Materials To Avoid: ACIDS.

Hazardous Decomp Products: NONE INDICATED.

Hazardous Poly Occur: NO

Conditions To Avoid (Poly): NOT RELEVANT.

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#### Health Hazard Data

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LD50-LC50 Mixture: SEE INGREDIENT 1

Route Of Entry - Inhalation: YES

Route Of Entry - Skin: NO

Route Of Entry - Ingestion: YES

Health Haz Acute And Chronic: ACUTE: CONTACT WITH THIS SOLUTION MAY RESULT IN SEVERE BURNS TO THE SKIN. THE VAPORS OF THIS SOLUTION ARE IRRITATING TO THE EYES AND RESPIRATORY PASSAGES.

Carcinogenicity - NTP: NO

Carcinogenicity - IARC: NO

Carcinogenicity - OSHA: NO

Explanation Carcinogenicity: NOT RELEVANT.

Signs/Symptoms Of Overexp: SEE HEALTH HAZARDS.

Med Cond Aggravated By Exp: NONE IDENTIFIED.

Emergency/First Aid Proc: EYE:FLUSH W/PLENTY OF WATER FOR @ LST 15 MINS WHILE HOLDING EYELIDS OPEN. HAVE EYES EXAMINED BY MED PERS. SKIN:IMMED FLUSH W/PLENTY OF WATER FOR @ LST 15 MINS WHILE REMOVING CONTAMD CLTHG & SHOES. INGEST:DO NOT INDUCE VOMIT. GIVE VICTIM A GLASS OF WATER/MILK. CALL PHYS IMMED. NEVER GIVE ANYTHING BY MOUTH TO UNCON PERSON. INHAL:REMOVE TO FRESH AIR. IF NOT BRTHG, TRAINED PERS SHOULD BEGIN (SUPDAT)

---

#### Precautions for Safe Handling and Use

---

Steps If Matl Released/Spill: EVAC AREA OF ALL UNNEC PERS. WEAR SUITABLE PROT EQUIP LISTED IN EXPOS CONTROLS/PERSONAL PROT. CONTAIN RELEASE & ELIM ITS SOURCE, IF THIS CAN BE DONE W/OUT RISK. TAKE UP & CONTAINERIZE FOR PROPER DISP AS DESCRIBED UNDER DISP. COMPLY WITH (SUPDAT)

Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

Waste Disposal Method: EPA WASTE NUMBER(S):D002. TREATMENT:NEUT TO PH 6-9. CONT LOCAL PERMITTED WASTE DISP SITE (TSD) FOR PERMISSIBLE TREATMENT SITES. ALWAYS CONT A PERMITTED WASTE DIPOSER (TSD) TO ASSURE COMPLIANCE W/ ALL CURRENT LOCAL, STATE AND FEDERAL REGS.

Precautions-Handling/Storing: STORE IN COOL, DRY AREA AWAY FROM ACIDS AND METALS. DO NOT BREATHE SOLUTION MIST.

Other Precautions: NONE SPECIFIED BY MANUFACTURER.

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#### Control Measures

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Respiratory Protection: NIOSH APPROVED RESPIRATOR APPROPRIATE FOR EXPOSURE OF CONCERN (FP N).

Ventilation: ENGINEERING CONTROLS:ENGINEERING &/OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOS. MATERIAL (SUPDAT)

Protective Gloves: IMPERVIOUS GLOVES (FP N).

Eye Protection: ANSI APPRVD CHEM WORKERS GOGGS (ING 3)

Other Protective Equipment: IMPERVIOUS PROT CLTHG SHOULD BE WORN TO PVNT SKIN CONTACT. ANSI APPRVD EYE WASH & DELUGE SHOWER (FP N).

Work Hygienic Practices: NONE SPECIFIED BY MANUFACTURER.

Suppl. Safety & Health Data: MFR TRADE NAME/PART NO:40% W/W, 33% W/W, 30 FED, STATE, & LOCAL REGS ON REPORTING RELEASE. REFER TO REGULATORY INFO FOR REPORTABLE QTY & OTHER REGULATORY DATA. VENT:SHOULD BE HANDLED/TRANSFERRED WITH ADEQUATE VENTILATION.

## =====

## Transportation Data

## =====

## Disposal Data

## =====

## Label Data

=====

Label Required: YES

Technical Review Date: 19DEC96

Label Date: 18DEC96

Label Status: G

Common Name: VW3363, SODIUM HYDROXIDE 50% W/W, 10N, (SUPDAT)

Chronic Hazard: NO

Signal Word: DANGER!

Acute Health Hazard-Severe: X

Contact Hazard-Severe: X

Fire Hazard-None: X

Reactivity Hazard-None: X

Special Hazard Precautions: ACUTE: CONTACT WITH THIS SOLUTION MAY RESULT  
IN SEVERE BURNS TO THE SKIN. THE VAPORS OF THIS SOLUTION ARE IRRITATING TO  
THE EYES AND RESPIRATORY PASSAGES. CHRONIC:NONE LISTED BY MANUFACTURER.

Protect Eye: Y

Protect Skin: Y

Protect Respiratory: Y

Label Name: BDH INC

Label Street: 350 EVANS AVE

Label City: TORONTO, ONTARIO, CANADA

Label Zip Code: M8Z 1K5

Label Emergency Number: 800-424-9300 (CHEMTREC)

District I - (505) 393-6161  
P. O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
Artesia, NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

RECEIVED

AUG 10 1999

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

Environmental Bureau

Oil Conservation Division

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>WFS</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>Compressor Sites</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	6. Transporter <u>Key</u>
3. Address of Facility Operator <u>#345, CR 3500 AZTEC NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>COMPRESSOR SITES</u>	
9. <u>Circle One</u> : A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

NON-EXEMPT WASTEWATER OFF COMPRESSOR SITES

RECEIVED  
AUG 05 1999

OIL CON. DIV.  
DIST. 3

CONTINUATION

Estimated Volume 16006615 cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: MBR DATE: 8-5-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-3346186

(This space for State Use)

APPROVED BY: Denny G. Fount TITLE: Geologist DATE: 8/6/99

APPROVED BY: Martyn J. Kuf- TITLE: Environmental Geologist DATE: 8-10-99

**CERTIFICATE OF WASTE STATUS**

<b>1. Generator Name and Address:</b>  Williams Field Service	<b>2. Destination Name:</b>  KEY ENERGY SERVICES Sunco Disposal Well P.O. Box 900, Farmington, NM 87499
<b>3. Originating Site (name):</b> Manzanares, Horse Canyon, Pump Mesa, Cedar Hill, PLA-9, 32-9, 32-8#2, 32-8#3, Navajo, 29-6#2, 29-6#4, 30-8, Sims Mesa, 29-7, Decker, Aztec, Middle Mesa, Carracas, 30-5, 31-6, 32-7, 20-6#3, Kernaghan, Trunk A,B,C,F,M,N,& T, Hart Mt., 31-6WPX, Laguna Seca, Martinez Draw, Quintana Mesa <b>Location of the Waste (Street address A/or ULSTR):</b>  Attach list of originating sites as appropriate	
<b>4. Source and Description of Waste</b>  Rain Water, wash water	

I, Buster Gaston, San Juan Business Unit Operations Coordinator representative for:  
(Print Name)

PRODUCTION OPERATORS, INC.

do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste

☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information

☐ Other (description):

☐ RCRA Hazardous Waste Analysis

☐ Chain of Custody

Name (Original Signature): Buster Gaston

Title: San Juan Business Unit Operations Coordinator

Date: 07-26-99

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

March 5, 1999

Mr. Bill Beevers  
Williams Field Service, Inc.  
Manzanares District  
P.O. Box 215  
Bloomfield, NM 87413

(505) 320-4642  
Fax (505) 632-4781

Project No.: 97050  
Job No.: 705004

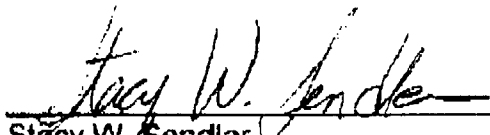
Dear Mr. Beevers,

Enclosed are the analytical results for one liquid sample collected from the location designated as "Horse Canyon". One liquid sample identified as "Waste Water" was collected by WFS designated personnel on 02/22/99, and delivered to the Envirotech laboratory on 02/22/99 for Hazardous Waste Characterization analysis (Volatile and Semi-volatile Organics, Trace Metals, Reactivity, Corrosivity, and Ignitability).

The sample was documented on Envirotech Chain of Custody No. 6615 and assigned Laboratory No. E696 for tracking purposes. The sample was analyzed 02/22/99 through 03/05/99 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615. It has been our pleasure doing business with you and we hope you will consider Envirotech, Inc. for any of your future environmental contracting needs.

Respectfully submitted,  
Envirotech, Inc.

  
Stacy W. Sandler  
Environmental Scientist/Laboratory Manager

enclosure

SWS\sws\97050-04.tb2/wpd

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Williams Field Service	Project #:	706004
Sample ID:	Waste Water	Date Reported:	02-26-99
Lab ID#:	E696	Date Sampled:	02-22-99
Sample Matrix:	Water	Date Received:	02-22-99
Preservative:	Cool	Date Analyzed:	02-23-99
Condition:	Cool and Intact	Chain of Custody:	6615

### Parameter

### Result

IGNITABILITY: Negative

CORROSIVITY: Negative

pH = 6.87

REACTIVITY: Negative

### RCRA Hazardous Waste Criteria

#### Parameter

#### Hazardous Waste Criterion

#### IGNITABILITY:

Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21.  
(i.e. Sample Ignition upon direct contact with flame or flash point < 60° C.)

#### CORROSIVITY:

Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22.  
(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)

#### REACTIVITY:

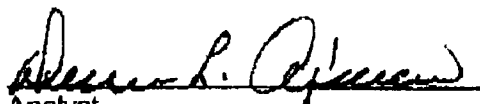
Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23.  
(i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)

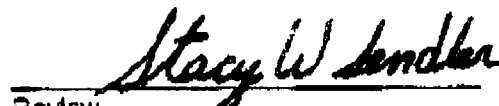
#### Reference:

40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

#### Comments:

Horse Canyon.

  
Analyst

  
Review

**ENVIROTECH LABS****Practical Solutions for a Better Tomorrow****EPA METHOD 1311  
TOXICITY CHARACTERISTIC  
LEACHING PROCEDURE  
TRACE METAL ANALYSIS**

Client:	Williams Field Service	Project #:	705004
Sample ID:	Waste Water	Date Reported:	03-03-99
Laboratory Number:	E696	Date Sampled:	02-22-99
Chain of Custody:	6615	Date Received:	02-22-99
Sample Matrix:	Water	Date Analyzed:	03-03-99
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	0.0473	0.0001	5.0
Barium	0.219	0.001	21
Cadmium	0.0083	0.0001	0.11
Chromium	0.0963	0.0001	0.60
Lead	0.0211	0.0001	0.75
Mercury	ND	0.0001	0.025
Selenium	0.0171	0.0001	5.7
Silver	ND	0.0001	0.14

ND - Parameter not detected at the stated detection limit.

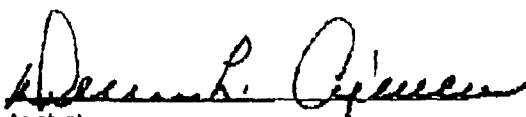
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

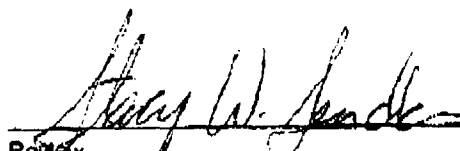
Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060, 7080, 7131, 7191, 7470, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1996.

Comments: Horse Canyon.

  
Analyst

  
Reviewer

**ENVIROTECH LABS****PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS**

Client:	Williams Field Service	Project #:	705004
Sample ID:	Waste Water	Date Reported:	03-01-99
Laboratory Number:	E896	Date Sampled:	02-22-99
Chain of Custody:	6615	Date Received:	02-22-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	02-26-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	0.637	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.303	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	0.0035	0.0003	0.5
Tetrachloroethene	0.0012	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
 Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
 Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994  
 Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Horse Canyon.

*Steven L. Jensen*  
Analyst

*Steve W. Jendek*  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS

Client:	Williams field Service	Project #:	705004
Sample ID:	Waste Water	Date Reported:	03-01-99
Laboratory Number:	E898	Date Sampled:	02-22-99
Chain of Custody:	6615	Date Received:	02-22-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-01-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	4.53	0.020	200
p,m-Cresol	6.08	0.040	200
2,4,6-Trichlorophenol	1.05	0.020	2.0
2,4,5-Trichlorophenol	17.1	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

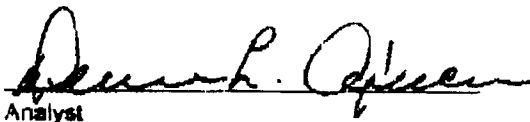
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

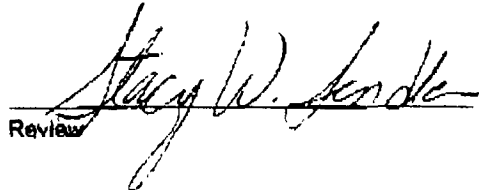
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1988.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: Horse Canyon.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
 Nitroaromatics and Cyclic Ketones  
 TCLP Base/Neutral Organics

Client:	Williams field Service	Project #:	705004
Sample ID:	Waste Water	Date Reported:	03-01-99
Laboratory Number:	E896	Date Sampled:	02-22-99
Chain of Custody:	6615	Date Received:	02-22-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-01-99
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	0.236	0.020	5.0
Hexachloroethane	0.350	0.020	3.0
Nitrobenzene	0.207	0.020	2.0
Hexachlorobutadiene	0.430	0.020	0.5
2,4-Dinitrotoluene	0.076	0.020	0.13
HexachloroBenzene	0.100	0.020	0.13

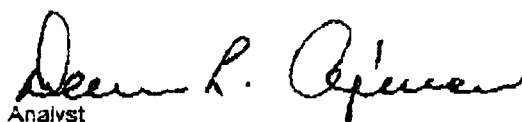
ND - Parameter not detected at the stated detection limit.

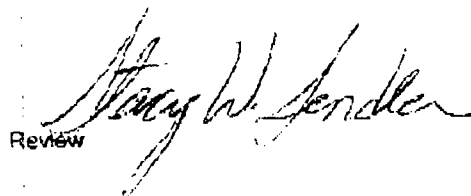
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
 Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
 Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1988.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Horse Canyon.

  
 Analyst

  
 Review

## 6615

SENT BY: 3-4-99 : 7:13AM : WILLIAMS FIELD SVC  
# 20/20

SENT BY:

3- 4-99 : 7:06AM : WILLIAMS FIELD SVC-

# 8/20

3- 3-99 : 2:07PM : YOUNG ENVIRONMENTAL

1005 8321000

\* 07 20

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**QUALITY ASSURANCE / QUALITY CONTROL**

**DOCUMENTATION**

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-01-99
Laboratory Number:	02-26-TCV Blank	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-26-99
Condition:	N/A	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.6
1,2-Dichloroethane	ND	0.0001	0.6
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0006	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.6

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
 Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
 Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
 Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E695 - E696.

*Deann L. Apes*  
Analyst

*Greg W. Jendek*  
Review

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report**

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	03-01-99
Laboratory Number:	02-22-TV-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-26-99
Condition:	N/A	Date Extracted:	02-22-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.6
1,2-Dichloroethane	ND	0.0001	0.6
Trichloroethene	ND	0.0003	0.6
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	99%
	Bromofluorobenzene	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
 Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
 Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
 Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E595 - E696.

Analyst

Review

**ENVIROTECH LABS****PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT**

Client: QA/QC  
 Sample ID: Matrix Duplicate  
 Laboratory Number: E696  
 Sample Matrix: TCLP Extract  
 Analysis Requested: TCLP  
 Condition: N/A

Project #: N/A  
 Date Reported: 03-01-99  
 Date Sampled: N/A  
 Date Received: N/A  
 Date Analyzed: 02-26-99  
 Date Extracted: N/A

Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethene	ND	ND	0.0001	0.0%
2-Butanone (MEK)	ND	ND	0.0001	0.0%
Chloroform	ND	ND	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	ND	ND	0.0001	0.0%
1,2-Dichloroethane	ND	ND	0.0001	0.0%
Trichloroethene	ND	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	ND	ND	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
 Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
 Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
 Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples E695 - E696.

*Debra L. Caputo*  
 Analyst

*Greg W. Jende*  
 Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Spike  
Laboratory Number: E695  
Sample Matrix: TCLP Extract  
Analysis Requested: TCLP  
Condition: N/A

Project #: N/A  
Date Reported: 03-01-99  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 02-26-99  
Date Extracted: N/A

Parameter	Sample Result (mg/L)	Spike Added (mg/L)	Spiked Sample Result (mg/L)	Det. Limit (mg/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
2-Butanone (MEK)	ND	0.050	0.0495	0.0001	99%	47-132
Chloroform	ND	0.050	0.0498	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0491	0.0001	98%	43-143
Benzene	ND	0.050	0.0498	0.0001	100%	39-150
1,2-Dichloroethane	ND	0.050	0.0494	0.0001	99%	51-147
Trichloroethene	ND	0.050	0.0494	0.0003	99%	35-146
Tetrachloroethene	ND	0.050	0.0494	0.0005	99%	26-162
Chlorobenzene	ND	0.050	0.0494	0.0003	99%	38-150
1,4-Dichlorobenzene	ND	0.050	0.0494	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 6030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples E695 - E696.

*Deborah L. O'Brien*  
Analyst

*Harry W. Sende*  
Review



**ENVIROTECH LABS****PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHOD 8040****PHENOLS****Quality Assurance Report****Laboratory Blank**

Client:	QA/QC	Project #	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-01-99
Laboratory Number:	03-01-TCA-Blank	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-01-99
Condition:	N/A	Analysis Requested:	TCLP

**Analytical Results**

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

**Surrogate Recoveries:****Parameter****Percent Recovery**

2-fluorophenol  
2,4,6-tribromophenol

98 %  
99 %

**References:**

Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

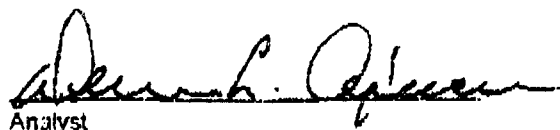
Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

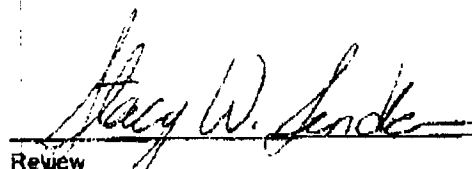
**Note:**

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

**Comments:**

QA/QC for samples E695 - E696.

  
Analyst

  
Review

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHOD 8040****PHENOLS****Quality Assurance Report**

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	03-01-99
Laboratory Number:	02-22-TCA-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extraction	Date Received:	N/A
Preservative:	Cool	Date Extracted:	02-22-99
Condition:	Cool & Intact	Date Analyzed:	03-01-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

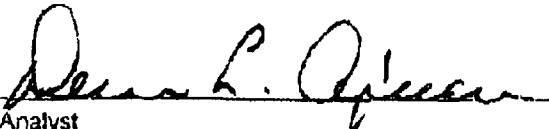
**References:** Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

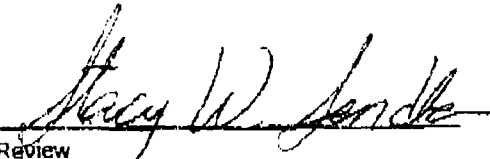
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

**Note:** Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

**Comments:** QA/QC for samples E695 - E698.

  
Analyst

  
Review

**ENVIROTECH LABS****PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHOD 8040  
PHENOLS  
Quality Assurance Report**

Client	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	03-01-99
Laboratory Number:	E695	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Date Analyzed:	03-01-99
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	ND	ND	0.020	0.0%
p,m-Cresol	ND	ND	0.040	0.0%
2,4,6-Trichlorophenol	0.708	0.701	0.020	1.0%
2,4,5-Trichlorophenol	0.222	0.219	0.020	1.1%
Pentachlorophenol	0.091	0.090	0.020	0.8%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

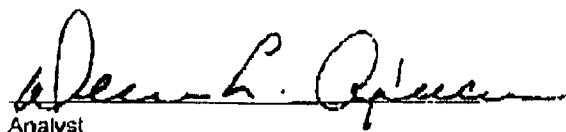
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

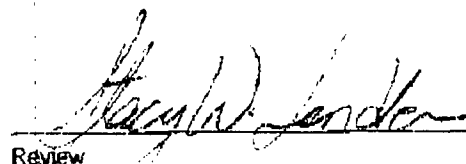
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E695 - E696.

  
Analyst

  
Review

**ENVIROTECH LABS****PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**EPA Method 8090**  
**Nitroaromatics and Cyclic Ketones**  
**TCLP Base/Neutral Organics**  
**Quality Assurance Report**

Client: QA/QC  
 Sample ID: Laboratory Blank  
 Laboratory Number: 03-01-TBN-Blank  
 Sample Matrix: Hexane  
 Preservative: N/A  
 Condition: N/A

Project #: N/A  
 Date Reported: 03-01-99  
 Date Sampled: N/A  
 Date Received: N/A  
 Date Extracted: N/A  
 Date Analyzed: 03-01-99  
 Analysis Requested: TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
 Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
 Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1988.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E695 - E696.

Analyst

Review

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QUALITY ASSURANCE REPORT**

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	03-01-99
Laboratory Number:	02-22-BN-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	Cool	Date Extracted:	02-22-99
Condition:	Cool and Intact	Date Analyzed:	03-01-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

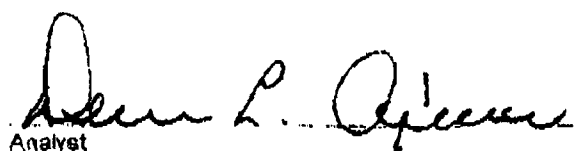
ND - Parameter not detected at the stated detection limit.

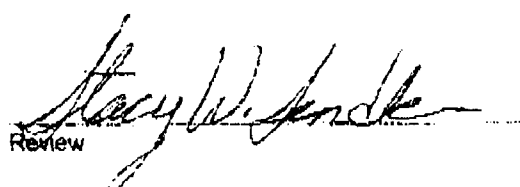
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	96%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
 Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
 Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E695 - E696.

  
Analyst

  
Reviewer

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QA/QC Matrix Duplicate Report**

Client: QA/QC  
 Sample ID: Matrix Duplicate  
 Laboratory Number: E695  
 Sample Matrix: TCLP Extract  
 Preservative: N/A  
 Condition: N/A

Project #: N/A  
 Date Reported: 03-01-99  
 Date Sampled: N/A  
 Date Received: N/A  
 Date Extracted: 02-22-99  
 Date Analyzed: 03-01-99  
 Analysis Requested: TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	ND	ND	0.0%	0.020
Hexachloroethane	0.056	0.055	1.0%	0.020
Nitrobenzene	ND	ND	0.0%	0.020
Hexachlorobutadiene	ND	ND	0.0%	0.020
2,4-Dinitrotoluene	ND	ND	0.0%	0.020
HexachloroBenzene	ND	ND	0.0%	0.020

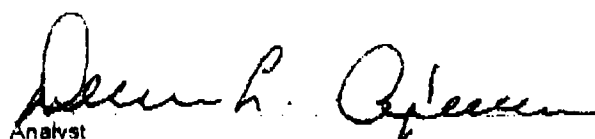
ND - Parameter not detected at the stated detection limit.

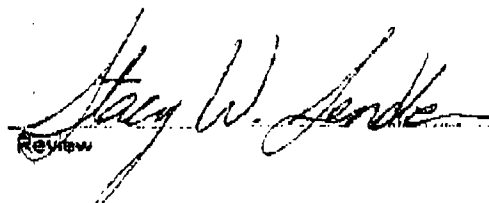
QA/QC Acceptance Criteria	Parameter	Maximum Difference
	8090 Compounds	30%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
 Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
 Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E695 - E696.

  
 Analyst

  
 Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	03-03-TCM QA/QC	Date Reported:	03-03-99
Laboratory Number:	E695	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	03-03-99
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.0001	0.0437	0.0435	0.5%	0% - 30%
Barium	ND	ND	0.001	0.891	0.896	0.6%	0% - 30%
Cadmium	ND	ND	0.0001	0.0173	0.0174	0.6%	0% - 30%
Chromium	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Lead	ND	ND	0.0001	0.0149	0.0150	0.7%	0% - 30%
Mercury	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.0001	0.0315	0.0312	1.0%	0% - 30%
Silver	ND	ND	0.0001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spike Sample	Percent Recovery	Acceptance Range
Arsenic	0.1000	0.0437	0.144	100.1%	80% - 120%
Barium	1.000	0.891	1.89	99.8%	80% - 120%
Cadmium	0.0500	0.0173	0.0672	99.9%	80% - 120%
Chromium	0.0500	ND	0.0498	99.6%	80% - 120%
Lead	0.1000	0.0149	0.115	99.9%	80% - 120%
Mercury	0.0250	ND	0.0249	99.6%	80% - 120%
Selenium	0.1000	0.0315	0.131	99.6%	80% - 120%
Silver	0.0500	ND	0.0498	99.6%	80% - 120%


ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for samples E695, E696 and E755.

  
Analyst

  
Review

District I - (505) 393-6161  
P. O. Box 19803  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
Alamogordo, NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

RECEIVED

JUN 1 8 1999

Environmental Bureau  
Oil Conservation Division

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>Burlington</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>LOCATION LIST</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	6. Transporter <u>Key</u>
3. Address of Facility Operator <u>CR 3500 #345 AZtec NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>SEE LOCATION LIST</u>	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

DRAIN WATER FROM COMPRESSOR OIL TANKS

RECEIVED  
JUN 15 1999

OIL CON. DIV.  
DIST. 3

Continuance of job (Permit)  
FOR COMPRESSOR STATION  
WASTE STREAMS

Estimated Volume 3000+ bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: MGR DATE: 6-11-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny J. Faint TITLE: Geologist DATE: 6/15/99  
APPROVED BY: Monty J. Faint TITLE: Environmental Geologist DATE: 6/16/99



# **BURLINGTON RESOURCES**

---

SAN JUAN DIVISION

June 2, 1999

Sunco Trucking  
P.O. Box 900  
5651 U.S. Highway 64  
Farmington, NM 87499

Attention: Mike Talovich, Manager

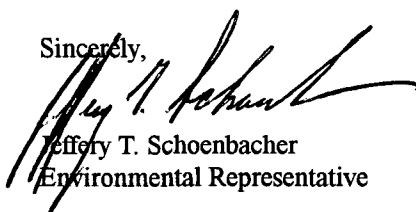
**Re: Drained Water from Used Oil Tank Annual Non-Exempt Certification**

Dear Mr. Talovich:

The purpose of this correspondence is to submit to your department the attached Certificate of Waste Status form for water generated from draining the used oil tank at the compressor stations. This waste stream was analyzed to comply with 40 CFR 262.11 waste determination requirements contained in the Resource Conservation and Recovery Act (RCRA). The parameters that were chosen for characterizing this waste stream was determined through "generators knowledge" defined under 40 CFR 262.11 ( c ) (2). The analysis for this waste stream exhibits this waste as being a non-hazardous waste. As required, the analysis was sent to you November 17, 1998 and was identified as Sample Project CC-51816.

Should you have any questions concerning the content or need additional information please feel free to contact me at 505-326-9537. Thank you for your time and consideration.

Sincerely,



Jeffery T. Schoenbacher  
Environmental Representative

CC: Correspondence

JTS:

# CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> Burlington Resources 3535 East 30 th Street Farmington NM 87401	<b>2. Destination Name:</b> Sunco Disposal
<b>3. Originating Site (name):</b> All Compressor Stations  <b>Unit:</b>	<b>Location of the Waste (Street address /or ULSTR):</b> See Attached. Sampled under project CC-51816 (non-haz). <b>Section:</b> <b>Township:</b> <b>Range:</b>
<b>4. Source and Description of Waste:</b> Drained water from oil tank.	

I, Jeff Schoenbacher representative for:  
Burlington Resources do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1988, regulatory determination, the above described waste is: (Check the appropriate classification)

☐ EXEMPT oilfield waste      ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification.

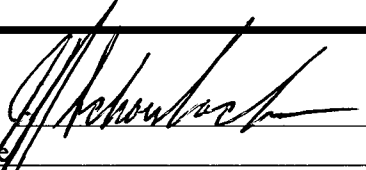
and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

---

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information      ☐ Other (description):  
☐ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

---

Name (Original Signature):   
Title: Env. Representative  
Date: Wednesday, June 02, 1999

Facility ID:	Compressor Site:	Quarter:	Section:	Township:	Range:	Lat./Long
35	311 Compressor Station		SW	27	30N 7W	San Juan NM
4	355 Compressor Station		SW	14	32N 11W	San Juan NM
21	Albright		NW	22	29N 10W	San Juan NM
34	Antler Compressor Station		SW	15	32N 11W W108°-1.544'	La Plata CO
6	Arch Rock	2/21/00	SW	14	32N 11W W107°-51.536'	San Juan NM
5	Buena Vista	9/5/01	NE	13	30N 9W W107°-43.702'	San Juan NM
7	Cedar Hill	9/30/01	SW	29	30N 10W W107°-54.449'	San Juan NM
23	Cox Canyon		NE	24	30N 9W	San Juan NM
12	Frances Mesa	6/9/00	SW	27	30N 7W W107°-33.719'	Rio Arriba NM
8	Gobernador Compressor	11/11/00	SW	10	31N 7W W107°-37.028'	Rio Arriba NM
2	Hart Canyon	10/11/00	SE	20	31N 10W W107°-54.032'	San Juan NM
13	Manzanares	10/11/00	SE	4	29N 8W	San Juan NM
17	Middle Mesa Compressor	11/14/01	SW	10	31N 7W W107°-33.866'	San Juan NM
14	Pump Canyon	11/7/00	NE	24	30N 9W W107°-43.936'	San Juan NM
28	Pump Mesa	8/19/03	SW	27	30N 7W W107°-38.712'	San Juan NM
16	Quinn	8/9/01	SW	16	31N 8W W107°-41.303'	San Juan NM

Facility ID:	Compressor Site:	Quarter:	Section:	Township:	Range:	Lat./Long
22	<u>Rattlesnake</u>	<input type="text" value="1/17/02"/>	SW	10	31N 7W	San Juan NM
19	<u>Rudy</u>	<input type="text"/>	SE	35	29N 11W	San Juan NM
15	<u>Sandstone</u>	<input type="text" value="6/9/00"/>	SE	32	31N 8W	San Juan NM
18	<u>Sins Mesa</u>	<input type="text" value="8/19/03"/>	NE	22	30N 7W	W107°-33.096' Rio Arriba NM
3	<u>Ute Compressor Station</u>	<input type="text"/>	SW	14	32N 11W	La Plata CO
36	<u>Val Verde Plant</u>	<input type="text" value="9/27/99"/>	SE	11	29N 11W	San Juan NM
20	<u>Zachary</u>	<input type="text"/>	SW	34	29N 10W	San Juan NM

## BURLINGTON RESOURCES

SAN JUAN DIVISION  
November 11, 1998

Sunco Trucking  
P.O. Box 900  
5651 U.S. Highway 64  
Farmington, NM 87499

Attention: Mike Talovich, Manager

Re: Characterization of Drained Water from Used Oil Tank

Dear Mr. Talovich:

The purpose of this correspondence is to submit to your department the attached wastewater analysis for water generated from draining the used oil tank.

Per your request, I have enclosed the waste analysis (CC#51816) for your records and for submitting to OCD under the C-138 Non-Exempt Waste approval form. The main purpose for analyzing this particular waste streams was to comply with 40 CFR 262.11 waste determination requirements contained in the Resource Conservation and Recovery Act (RCRA). As a result, the water was analyzed for hazardous characteristics focusing on TCLP metals, TCLP VOA, TCLP Semi-VOA, and flash point. Upon evaluating the analysis for this waste, it appears the material does not exhibit the characteristics of a hazardous waste. The pH, herbicides, and pesticides were not analyzed since the liquid is wash-down water, which is not characteristically corrosive and herbicide/pesticide do not come in contact with this waste.

Regarding the generation rates, the material will be generated periodically at all the compressor units' (13) Burlington Resources currently operates. The plans for draining the waste oil tanks of water component would proceed by a company representative contacting Sunco when a waste oil shipment is warranted. The intention of removing the water component from the waste oil tank is a direct waste minimization practice to eliminate the oil/water from mixture Burlington Resources operations.

Should you have any questions concerning the content or need additional information please feel free to contact me at 505-326-9537. Thank you for your time and consideration.

Sincerely,



Jeffrey T. Schoenbacher  
Environmental Representative

Enc. Sample Project CC-51816

CC: Bruce Gantner  
Ed Hasely  
Greg Kardo  
Gaza Scabolt  
Ken Johnson  
Correspondence  
Compressor Files

JTS:

**PRELIMINARY**

**VOLATILE ORGANIC TOXICITY CHARACTERISTIC LIST**

**TCLP Leachate**

**Method 8260**

Client: **Burlington Resources**  
Project: **Oil Tank Water / Compressor Stations**  
Sample ID: **DW #11298**  
Laboratory ID: **0398G08445**  
Sample Matrix: **Water/Oil Mix**

Date Reported: **11/10/98**  
Date Sampled: **11/02/98**  
Date Received: **11/02/98**  
Date Analyzed: **11/09/98**



Benzene	0.20	0.10	0.5	mg/L
2-Butanone (MEK)	ND	0.10	0.5	mg/L
Carbon tetrachloride	ND	0.10	100	mg/L
Chlorobenzene	ND	0.10	6.0	mg/L
Chloroform	ND	0.10	7.5	mg/L
1,2-Dichloroethane	ND	0.10	0.6	mg/L
1,1-Dichloroethene	ND	0.10	0.7	mg/L
1,4 Dichlorobenzene	ND	0.10	200	mg/L
Tetrachloroethene	ND	0.10	0.7	mg/L
Trichloroethene	ND	0.10	0.5	mg/L
Vinyl chloride	ND	0.10	0.2	mg/L

ND- Analyte not detected at stated detection level.

Reported By: 

Reviewed: \_\_\_\_\_

# PRELIMINARY

## SEMIVOLATILE ORGANICS /TCLP TCLP Leachate Method 8270

Client: **Burlington Resources**  
Project: **Oil Tank Water / Compressor Stations**  
Sample ID: **DW # 11298**  
Laboratory ID: **0398G06445**  
Sample Matrix: **Oil / Water Mix**

Date Reported: **11/10/98**  
Date Sampled: **11/02/98**  
Date Received: **11/02/98**  
Date Analyzed: **11/09/98**

Parameter	Concentration	Unit	Limit
-----------	---------------	------	-------

Cresol(Total)	ND	1.0	200.0	mg/L
2,4-Dinitrotoluene	ND	0.10	0.13	mg/L
Hexachlorobenzene	ND	0.10	0.13	mg/L
Hexachlorobutadiene	ND	0.20	0.5	mg/L
Hexachloroethane	ND	0.10	3.0	mg/L
Nitrobenzene	ND	0.50	2.0	mg/L
Pentachlorophenol	ND	0.20	100	mg/L
Pyridine	ND	0.50	5.0	mg/L
2,4,5-Trichlorophenol	ND	0.50	400.0	mg/L
2,4,6-Trichlorophenol	ND	0.50	2.0	mg/L

ND - Analyte not detected at stated detection level.

Reported By: [Signature]

Reviewed: \_\_\_\_\_

**TOXICITY CHARACTERISTIC LEACHING PROCEDURE  
TRACE METAL CONCENTRATION****PRELIMINARY**

Client: **Burlington Resources**  
Project: **Oil Tank Water / Compressor Stations**  
Sample ID: **DW #11298**  
Laboratory ID: **0398G08448**  
Sample Matrix: **Oil / Water Mix**

Date Reported: **11/10/98**  
Date Sampled: **11/02/98**  
Date Received: **11/02/98**  
Date Analyzed: **11/10/98**

**Parameters**

Arsenic.....	<0.061	0.061	5	mg/L
Barium.....	0.21	0.001	100	mg/L
Cadmium.....	<0.008	0.008	1	mg/L
Chromium.....	0.084	0.008	5	mg/L
Lead.....	<0.04	0.04	5	mg/L
Mercury.....	<0.0004	0.0004	0.2	mg/L
Selenium.....	<0.05	0.05	1	mg/L
Silver.....	<0.03	0.03	5	mg/L

**References:**

Method 1311: Toxicity Characteristic Leaching Procedure,  
SW-846 "Test Methods for Evaluating Solid Waste:  
Physical/Chemical Methods" 3rd Edition, Final Update III, December, 1996.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total  
Metals, SW-846 "Test Methods for Evaluating Solid Waste: Physical/  
Chemical Methods" 3rd Edition, Final Update III, December, 1996.

**Comments:**Reported By: 

Reviewed: \_\_\_\_\_



**Flash Point****PRELIMINARY**

Client: **Burlington Resources**  
Project: **Oil Water Tank / Compressor Stations**  
Sample ID: **DW #11298**  
Laboratory ID: **0398G08445**  
Sample Matrix: **Oil / Water Mix**  
Condition: **Intact**

Date Reported: **11/10/98**  
Date Sampled: **11/02/98**  
Date Received: **11/02/98**  
Date Analyzed: **11/05/98**

Analysis Results		
Flash Point	> 140	°F

**References:**

Analysis performed according to SW-846 "Test Methods for Evaluating Solid Waste: Physical / Chemical Methods" United States Environmental Protection Agency 3rd Edition, Final Update II, September, 1994.

Annual Book of ASTM Standards, Method D56.

Reported by: 

Reviewed by: \_\_\_\_\_

strict I - (505) 393-6161  
D. Box 980  
bbs, NM 88241-1980  
strict II - (505) 748-1283  
I S. First  
esla, NM 88210  
strict III - (505) 334-6178  
Rio Brazos Road  
ec, NM 87410  
strict IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Environmental Bureau  
Oil Conservation Division

*Martynne Kreling*  
Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

JUN 4 1999

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <i>FMC CORPORATION</i>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <i>YARD</i>
2. Management Facility Destination <i>Key Services Disposal</i>	6. Transporter <i>Key</i>
3. Address of Facility Operator <i>223500 #345 AZtec NM</i>	8. State <i>NM</i>
7. Location of Material (Street Address or ULSTR) <i>2405 Southside River Road Farmington NM</i>	
9. <u>Circle One:</u> A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.	
All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

*WASH WATER FROM oil field equipment washing bay.*

RECEIVED  
APR 29 1999

OIL CON. DIV.  
JUL 3

*Previously verbally approved  
4/29/99 - lacked characteristics  
L 80661s*

Estimated Volume 280661s cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: *Michael Talovich* TITLE: *MGR* DATE: *4-29-99*  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: *MICHAEL TALOVICH* TELEPHONE NO. *505-334-6186*

(This space for State Use)

APPROVED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: *Martynne J. Kreling* TITLE: *Environmental Geologist* DATE: *6-4-99*

## CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> FMC CORPORATION #20 County Road 5777 Farmington, NM	<b>2. Destination Name:</b> KEY ENERGY SERVICES Disposal Facility
<b>3. Originating Site (name):</b> SAME →	<b>Location of the Waste (Street address &amp;/or ULSTR):</b> 2405 SOUTH SIDE RIVER ROAD FARMINGTON, NM 87401
<small>Attach list of originating sites as appropriate</small>	
<b>4. Source and Description of Waste</b> Wash bay sump tanks. <del>Waste</del> Mostly water with residual grease and small amounts of pipe dope from the spraying-off of well heads.	

I, Luis ORTIZ representative for: FMC CORP. (Print Name) WELLSHEAD EQUIP. DIV. do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1988, regulatory determination, the above described waste is: (Check appropriate classification)


☐ EXEMPT oilfield waste     
 ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☒ MSDS Information  
☒ RCRA Hazardous Waste Analysis  
☒ Chain of Custody

☐ Other (description):

Name (Original Signature):   
 Title: DIST. COORDINATOR  
 Date: 9-28-99



## Analytical Results

ACZ Laboratories, Inc.  
2773 Downhill Drive  
Steamboat Springs, CO 80487  
(800) 334-5493

Lab Sample ID: **L22950-01**  
Client Sample ID: **9905003-01A**  
Client Project ID:  
ACZ Report ID: **RG92325 FMC301 Outdoor Sump**

On Site Technologies, LTD.  
612 E Murray Dr  
Farmington, NM 87499  
David Cox

Date Sampled: **4/30/99 09:20**  
Date Received: **5/4/99**  
Date Reported: **5/13/99**

Sample Matrix: **Waste Water**

### Soil Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Ignitability (Flashpoint)	M1010, Pensky-Martens Closed Cup	No Flash		C	1	5	5/12/99	as/cv

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Cyanide, reactive	Section 7.3 SW-846 (3rd Ed) & M9012		U	mg/L	0.03	0.1	5/6/99	bg
pH (lab)	M150.1 - Electrometric	7.2		units	0.1	0.1	5/5/99	cd
Sulfide, reactive	Section 7.3 SW-846 (3rd Ed) & M9030	0.2	B	mg/Kg	0.1	1	5/5/99	mh

**Note: Flashpoint - No Flash to 93° C.**

#### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL  
B = Analyte concentration detected at a value between MDL and PQL  
PQL = Practical Quantitation Limit

Vice President of Operations: Ralph Poulsen

# On Site Technologies, LTD.

612 E. Murray Drive  
Farmington, NM 87401  
(505) 325-2432

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

## Subcontractor:

ACZ Laboratories, Inc.  
2773 Downhill Drive

TEL: (800) 334-5493  
FAX: (970) 879-2216

Steamboat Springs, Colorado 80487

Acct #: TJV0776

(00) 5/3/99

03-May-99

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests			
				E150.1	SW1010	5x/7.3.3.2 CYANIDE	5x/7.3.4.2 SULFIDE
9905003-01A	Aqueous	4/30/99 9:20:00 AM	1LAMGU	1	1	1	1
9905003-02A	Aqueous	4/30/99 10:05:00 AM	1LAMGU	1	1	1	1

Comments: Please analyze two (2) water samples for Reactivity, Corrosivity and Ignitability.

Relinquished by: Heidi Rene	Received by: [Signature]	Date/Time: 5/3/99 1530
Relinquished by:	Received by:	Date/Time: 5/4/99 10:00

RECEIVED MAY 10 1999

## SAMPLE RECEIPT FORM

CLIENT:

ON-SITE

DATE

5/4/99

PROJECT #:

L22950

1) Does this project require special handling procedures such as CLP protocol?	<u>NA</u>	YES	NO
2) Are the custody seals on the cooler intact?	<u>NA</u>	YES	NO
3) Are the custody seals on the sample containers intact?	<u>NA</u>	YES	NO
4) Is there a Chain of Custody (COC), or other directive shipping papers present?		<u>YES</u>	NO
5) Is the COC complete? Relinquished? Yes ___ No ___ Requested Analysis? Yes ___ No ___		<u>YES</u>	NO
6) Is the COC in agreement with the samples received? # of Samples: Yes ___ No ___ Sample ID: Yes ___ No ___ Matrix: Yes ___ No ___ # of Containers: Yes ___ No ___		<u>YES</u>	NO
7) Is there enough sample for all requested analysis?		<u>YES</u>	NO
8) Are all samples within holding times for requested analysis?		<u>YES</u>	NO
9) Were all sample containers received intact?		<u>YES</u>	NO
10) Are samples requiring no headspace, headspace free?	<u>NA</u>	YES	NO
11) Do the samples require a Foreign Soils Permit Label or quarantine?		YES	<u>NO</u>
12) Do samples require special disposal/hold considerations? Non-Hazardous: Yes ___ No ___ Hazardous: Yes ___ No ___ Hold: ___ months			

Describe "NO" items (except #1, 11, & 12):

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

Was the client contacted? Yes \_\_\_ No \_\_\_

If yes: Date: \_\_\_\_\_

Name of person contacted: \_\_\_\_\_

Actions taken or client instructions:

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

Signature: 

CLIENT: ON-SITE  
PROJECT #: L22950

DATE 5/4/99  
ANALYST: DALE

CONTAINER	TEMP (°C)	RAD
ID	2° to 6°	μR/hr

CLIENT	4.b	12

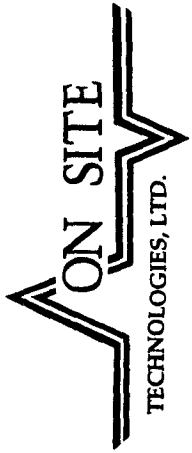
If container radioactivity is  
> 25  $\mu$ R/hr then each sample  
must be screened.

[illegible]

Temperature of container taken using temperature blank bottle      next to samples    or hand delivered on ice     .

**INTERNAL COMMENTS:**

REPORT COMMENTS:



# CHAIN OF CUSTODY RECORD

10132

Date: 4/30/99

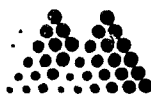
Page: 1 of 1

612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499  
LAB: (505) 325-5667 • FAX: (505) 327-1496

Purchase Order No.:		Project No.	
Name: <u>Shawn Adams</u>		Title: <u>Owner</u>	
Company: <u>Contract Environmental Services</u>		Company: <u>Contract Environmental Services</u>	
Address: <u>P.O. Box 3376</u>		Mailing Address: <u>P.O. Box 3376</u>	
City, State, Zip: <u>Farmington, NM 87499</u>		City, State, Zip: <u>Farmington, NM 87499</u>	
Telephone No.: <u>325-1198</u>		Telefax No.:	
PROJECT LOCATION: <u>FMC Outdoor Sump</u> <u>FMC Indoor Sump</u>		ANALYSIS REQUESTED	
SAMPLER'S SIGNATURE: <u>Shawn Adams</u>		LAB ID	
SEND INVOICE TO		RESULTS TO	
SAMPLE IDENTIFICATION		Number of Containers	
DATE	TIME	MATRIX	PRES.
<u>4/30/99</u>	<u>9:20</u>	<u>Aq</u>	<u>ALAC</u>
<u>4/30/99</u>	<u>10:05</u>	<u>Aq</u>	<u>ALAC</u>
FMC 301 Outdoor Sump		X	
FMC 302 Indoor Sump		X	
Relinquished by: <u>Shawn Adams</u>		Received by: <u>Shawn Adams</u>	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Method of Shipment:		Rush	
Authorized by: <u>Shawn Adams</u>		Date: <u>4/30/99</u>	
(Client Signature Must Accompany Request)		Special Instructions / Remarks: <u>Please place as soon as possible and for results immediately.</u>	



# Analytical Report



**Mountain States Analytical, Inc.**

*The Quality Solution*

On-Site Technologies, Ltd.  
612 E Murray Drive  
Farmington, NM 87401

Attn: Mr. David Cox  
Project: TCLP Liquid Analysis

MSAI Sample: 95512  
MSAI Group: 26488  
Date Reported: 04/27/99  
Discard Date: 05/27/99  
Date Submitted: 04/07/99  
Date Sampled: 04/05/99  
Collected by:  
Purchase Order:  
Project No.: 9904003

Sample ID: 9904003-01A  
Matrix: Water

Test	Analysis	Results as Received	Units	Method Detection Limit
0393T	Flame/hrICP Prep, TCLP, 3010A Method: SW-846 3010A	Batch. w134		
0410	Mercury Prep CVAA, Filtration Method: SW-846 7470A	Batch. w428		
13027	Metals by hrICP, TCLP (UTS) Method: SW-846 6010B			
	Arsenic	ND	mg/l	0.02
	Barium	0.348	mg/l	0.004
	Cadmium	ND	mg/l	0.004
	Chromium	ND	mg/l	0.010
	Lead	ND	mg/l	0.02
	Selenium	ND	mg/l	0.02
	Silver	ND	mg/l	0.004
1525	Mercury by CVAA, Filtration 7470A Method: SW-846 7470A	ND	mg/l	0.0001
0944	TCLP Filtration, Volatile (<0.5%) Method: IN HOUSE MSAI	0	% Solids	Not Determined
0945J	TCLP Filtration, hrICP Metals <0.5 Method: SW-846 1311	0.030	% Solids	0.001
0945M	TCLP Filtration, Mercury (<0.5%) Method: SW-846 1311	0.030	% Solids	0.001
0945S	TCLP Filtration, Semi-VOA, (<0.5%) Method: SW-846 1311	0.030	% Solids	0.001

# Analytical Report



**Mountain States Analytical, Inc.**

*The Quality Solution*

Page 2

On-Site Technologies, Ltd.

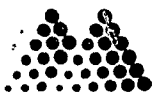
MSAI Sample: 95512

MSAI Group: 26488

Sample ID: 9904003-01A

Test	Analysis	Results as Received	Units	Method Detection Limit
3939	SVOA Extraction, Filtration Method: SW-846 3510C	Complete		
7066	Semi-VOA, TCLP Filtration Method: SW-846 8270A			
	2,4-Dinitrotoluene	ND	ug/l	6.0
	Hexachlorobenzene	ND	ug/l	7.6
	Hexachlorobutadiene	ND	ug/l	29
	Hexachloroethane	ND	ug/l	32
	Nitrobenzene	ND	ug/l	6.5
	Pyridine	ND	ug/l	6.0
	2-Methylphenol (o-Cresol)	ND	ug/l	9.2
	3 and 4- Methylphenol (m+p cresol)	ND	ug/l	8.9
	Pentachlorophenol	ND	ug/l	9.0
	2,4,5-Trichlorophenol	ND	ug/l	14
	2,4,6-Trichlorophenol	ND	ug/l	3.2
14146	Volatiles, TCLP Filtration, 8260B Method: SW-846 8260B			
	Benzene	ND	ug/l	1.6
	Carbon tetrachloride	ND	ug/l	3.7
	Chlorobenzene	ND	ug/l	2.7
	Chloroform	ND	ug/l	2.2
	1,2-Dichloroethane	ND	ug/l	2.7
	1,1-Dichloroethene	ND	ug/l	14.0
	2-Butanone (MEK)	ND	ug/l	100
	Tetrachloroethene	ND	ug/l	2.3
	Trichloroethene	ND	ug/l	3.2
	Vinyl chloride	ND	ug/l	9.8
	1,4-Dichlorobenzene	ND	ug/l	1.6

# Analytical Report



**Mountain States Analytical, Inc.**

*The Quality Solution*

Page 3

On-Site Technologies, Ltd.

MSAI Sample: 95512

MSAI Group: 26488

Sample ID: 9904003-01A

ND - Not detected at the Method Detection Limit.

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,  
Reviewed and Approved by:

Rolf E. Larsen  
Project Manager

1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990423A

Matrix: (soil/water) WATER

Lab Sample ID: 990413WB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: Z4972

Level: (low/med) LOW

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

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted:

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/23/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

95-48-7-----	2-Methylphenol (o-Cresol)_____	25.0	U
N0019500-----	3 and 4-Methylphenol_____	25.0	U
67-72-1-----	Hexachloroethane_____	10.0	U
98-95-3-----	Nitrobenzene_____	10.0	U
87-68-3-----	Hexachlorobutadiene_____	10.0	U
88-06-2-----	2,4,6-Trichlorophenol_____	25.0	U
95-95-4-----	2,4,5-Trichlorophenol_____	25.0	U
121-14-2-----	2,4-Dinitrotoluene_____	10.0	U
118-74-1-----	Hexachlorobenzene_____	10.0	U
87-86-5-----	Pentachlorophenol_____	25.0	U
110-86-1-----	Pyridine_____	10.0	U

2C  
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990427A

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	9904003	68	50	82	78	80	75			0
02										
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol ( 1- 90)  
 S2 (PHL) = Phenol-d6 ( 1- 67)  
 S3 (NBZ) = Nitrobenzene-d5 (18-114)  
 S4 (FBP) = 2-Fluorobiphenyl (31- 97)  
 S5 (TBP) = 2,4,6-Tribromophenol (19-139)  
 S6 (TPH) = Terphenyl-d14 (15-141)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D Surrogate diluted out

2C  
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990423A

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	CZEA	66	61	5*	78	95	84			1
02	CZNWA	63	60	83	94	25	101			0
03	SBLK	55	38	71	66	80	87			0
04	LCS	54	38	82	77	89	87			0
05	WATER	60	43	70	66	83	82			0
06	WATERMS	59	42	82	76	88	85			0
07	WATERMSD	60	42	83	80	92	89			0
08	DRY	61	44	76	72	85	88			0
09	OIL	69	48	85	88	113	116			0
10	WWSAMPLE	75	59	95	106D	112	114			0
11	1326-4	8	54	91	89	96	104			0
12	1328-4	89	70D	95	100D	99	109			0
13	1329-3	56	40	70	64	75	87			0
14	TBLK04/09	62	43	79	73	82	91			0
15	ACETONE	0*	0*	0*	0*	0*	0*			6
16										
17										
18										
19										
20										
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22										
23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol ( 1- 90)  
 S2 (PHL) = Phenol-d6 ( 1- 67)  
 S3 (NBZ) = Nitrobenzene-d5 (18-114)  
 S4 (FBP) = 2-Fluorobiphenyl (31- 97)  
 S5 (TBP) = 2,4,6-Tribromophenol (19-139)  
 S6 (TPH) = Terphenyl-d14 (15-141)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D Surrogate diluted out

## WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990423A

Matrix Spike - EPA Sample No.: WATER

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Phenol	400	97.9	269	43	12- 68
2-Chlorophenol	400	0.00	340	85	50- 98
1,4-Dichlorobenzene	400	0.00	278	70	35- 83
N-Nitrosodi-N-propylami	400	0.00	357	89	69-105
1,2,4-Trichlorobenzene	400	0.00	299	75	37- 89
4-Chloro-3-methylphenol	400	0.00	358	90	63-103
Acenaphthene	400	0.00	365	91	65- 97
4-Nitrophenol	400	0.00	198	50	8- 76
2,4-Dinitrotoluene	400	0.00	379	95	66-114
Pentachlorophenol	400	0.00	435	109	52-112
Pyrene	400	0.00	393	98	76-108

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Phenol	400	273	44	1	35	12- 68
2-Chlorophenol	400	329	82	3	17	50- 98
1,4-Dichlorobenzene	400	297	74	7	21	35- 83
N-Nitrosodi-N-propylami	400	349	87	2	10	69-105
1,2,4-Trichlorobenzene	400	311	78	4	21	37- 89
4-Chloro-3-methylphenol	400	367	92	2	12	63-103
Acenaphthene	400	375	94	3	10	65- 97
4-Nitrophenol	400	215	54	8	40	8- 76
2,4-Dinitrotoluene	400	391	98	3	13	66-114
Pentachlorophenol	400	440	110	1	18	52-112
Pyrene	400	399	100	2	8	76-108

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

\* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 0 out of 22 outside limits

COMMENTS:

FORM 3  
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990423A

Matrix Spike - Sample No.: LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Phenol	100		39.8	40	12- 68
2-Chlorophenol	100		78.1	78	50- 98
1,4-Dichlorobenzene	100		65.9	66	35- 83
N-Nitrosodi-N-propylami	100		89.5	90	69-105
1,2,4-Trichlorobenzene	100		65.1	65	37- 89
4-Chloro-3-methylphenol	100		91.2	91	63-103
Acenaphthene	100		84.5	84	65- 97
4-Nitrophenol	100		46.8	47	8- 76
2,4-Dinitrotoluene	100		97.9	98	66-114
Pentachlorophenol	100		102	102	52-112
Pyrene	100		95.7	96	76-108

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

\* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 11 outside limits

COMMENTS:



1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK1

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990423WL

Matrix: (soil/water) WATER

Lab Sample ID: 990423WB

Sample wt/vol: 5.000 (g/ml) ML

Lab File ID: V8670

Level: (low/med) LOW

Date Received:

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 04/23/99

Column: (pack/cap) CAP

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
---------	----------	--	---

75-01-4-----	Vinyl Chloride	5	U
75-35-4-----	1,1-Dichloroethene	5	U
78-93-3-----	2-Butanone	25	U
67-66-3-----	Chloroform	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	5	U
127-18-4-----	Tetrachloroethene	5	U
108-90-7-----	Chlorobenzene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U

2A  
WATER VOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990423WL

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
	=====	=====	=====	=====	=====	=====
01	VBLK1	103	101	101		0
02	VLCS	104	104	101		0
03	VLCS D	103	103	101		0
04	01A	106	103	99		0
05						
06						
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QC LIMITS

S1 (TOL) = Toluene-d8 (79-123)  
 S2 (BFB) = Bromofluorobenzene (74-127)  
 S3 (DCE) = 1,2-Dichloroethane-d4 (62-143)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D Surrogates diluted out

FORM 3  
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990423WL

Matrix Spike - Sample No.: vlcs

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT (ug/L)	LCS AMOUNT (ug/L)	LCS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	20.0		24.3	122	61-131
Benzene	20.0		22.4	112	81-125
Trichloroethene	20.0		22.9	114	78-122
Toluene	20.0		21.9	110	88-119
Chlorobenzene	20.0		20.3	102	75-123

COMPOUND	SPIKE ADDED (ug/L)	LCSD AMOUNT (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	REC.
1,1-Dichloroethene	20.0	24.5	122	0	13	61-131
Benzene	20.0	22.0	110	2	11	81-125
Trichloroethene	20.0	22.6	113	1	12	78-122
Toluene	20.0	20.9	104	6	9	88-119
Chlorobenzene	20.0	20.3	102	0	12	75-123

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

\* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS:

Mountain States Analytical, Inc.  
Daily QC Batching Data  
Data Released for Reporting

04/21/99  
14:31:08  
Group: 26488

Analysis Batch Number: 1524 -04/14/99-147 -2

Test Identification : 1524 -Mercury by CVAA, TCLP, 7470A

Sequence : 1524 -2

Number of Samples : 9

Batch Data-Date/Time : 04/14/99 / 15:07:31

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW-428	Mercury	0.0200	0.1000

SPIKE							QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER	
26527-95678	Mercury	25.0000	0.0210	23.8200	95.2	80.0	120.0	
26527-95678-2	Mercury	25.0000	0.0210	21.3890	85.5	50.0	150.0	

MSD							QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT	
26527-95678	Mercury	25.0000	0.0210	24.4700	97.8	80.0	120.0	2.7	20.0	

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
26527-95678	Mercury	0.0210	0.0020	165.2(11)	20.0	1.00

CONTROL							QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER		
PBW-428	Mercury	2.5450	2.5000	101.8	80.0	115.0		

		QC LIMITS				
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
ICV-	Mercury	3.0000	3.2300	107.7	90.0	110.0
CCV--2	Mercury	5.0000	5.0460	100.9	80.0	120.0
CCV--3	Mercury	5.0000	5.0330	100.7	80.0	120.0
CCV--4	Mercury	5.0000	4.9330	98.7	80.0	120.0
CCV--5	Mercury	5.0000	4.8940	97.9	80.0	120.0
CCV--6	Mercury	5.0000	4.8800	97.6	80.0	120.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Mercury	0.0060	0.1000
CCB-	Mercury	0.0480	0.1000
CCB-	Mercury	-0.0010	0.1000
CCB-	Mercury	-0.0090	0.1000
CCB-	Mercury	-0.0110	0.1000
CCB-	Mercury	-0.0200	0.1000

----- Result Footnotes -----

(11) - The duplicate results cannot be evaluated because both results are <MDL.

Groups & Samples

26476-95486    26484-95500    26485-95504    26488-95512    26527-95678    26528-95679    26531-95682    26533-95687  
26561-95789

Analysis Batch Number: HREXT-04/20/99-114 -2

Test Identification : HREXT-Metals for hr TCLP, by ICP

Sequence : DATQ110

Number of Samples : 9

Batch Data-Date/Time : 04/21/99 / 07:46:52

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-134	Silver	ND	0.0040
	Arsenic	0.0049	0.0200
	Barium	0.0010	0.0040
	Cadmium	ND	0.0040
	Chromium	0.0004	0.0100
	Copper	0.0023	0.0100
	Lead	0.0067	0.0200
	Selenium	0.0211(1d)	0.0200
	Zinc	0.0171	0.0500

## SPIKE

## QC LIMITS

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
26527-95678	Silver	0.1000	0.0005	0.0976	97.1	75.0	125.0
	Arsenic	5.0000	0.0053	5.1771	103.4	75.0	125.0
	Barium	10.0000	0.0528	9.7419	96.9	75.0	125.0
	Cadmium	0.1000	0.0045	0.0981	93.6	75.0	125.0
	Chromium	0.5000	0.1556	0.6404	97.0	75.0	125.0
	Copper	0.5000	0.0128	0.5219	101.8	75.0	125.0
	Lead	0.5000	0.0138	0.4835	93.9	75.0	125.0
	Selenium	5.0000	0.0162	5.3638	107.0	75.0	125.0
	Zinc	5.0000	0.0462	5.0806	100.7	75.0	125.0
26527-95678-2	Silver	0.1000	0.0005	0.0954	94.9	75.0	125.0
	Arsenic	5.0000	0.0053	5.0210	100.3	75.0	125.0
	Barium	10.0000	0.0528	9.6155	95.6	75.0	125.0
	Cadmium	0.1000	0.0045	0.0962	91.7	75.0	125.0
	Chromium	0.5000	0.1556	0.6312	95.1	75.0	125.0
	Copper	0.5000	0.0128	0.5104	99.5	75.0	125.0
	Lead	0.5000	0.0138	0.4649	90.2	75.0	125.0
	Selenium	5.0000	0.0162	5.3097	105.9	75.0	125.0
	Zinc	5.0000	0.0462	4.9697	98.5	75.0	125.0

## MSD

## QC LIMITS

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
26527-95678	Silver	0.1000	0.0005	0.0977	97.2	75.0	125.0	0.1	20.0
	Arsenic	5.0000	0.0053	5.1737	103.4	75.0	125.0	0.1	20.0
	Barium	10.0000	0.0528	9.7236	96.7	75.0	125.0	0.2	20.0
	Cadmium	0.1000	0.0045	0.0988	94.3	75.0	125.0	0.7	20.0
	Chromium	0.5000	0.1556	0.6412	97.1	75.0	125.0	0.1	20.0
	Copper	0.5000	0.0128	0.5212	101.7	75.0	125.0	0.1	20.0
	Lead	0.5000	0.0138	0.4827	93.8	75.0	125.0	0.2	20.0
	Selenium	5.0000	0.0162	5.4232	108.1	75.0	125.0	1.1	20.0
	Zinc	5.0000	0.0462	5.0729	100.5	75.0	125.0	0.2	20.0

## DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
26527-95678	Silver	0.0005	0.0005	4.1	20.0	1.00
	Arsenic	0.0053	0.0058	9.6	20.0	1.00
	Barium	0.0528	0.0534	1.2	20.0	1.00
	Cadmium	0.0045	0.0028	47.5(5a)	20.0	1.00
	Chromium	0.1556	0.1587	2.0	20.0	1.00

Analysis Batch Number: HREXT-04/20/99-114 -2

Test Identification : HREXT-Metals for hr TCLP, by ICP

Sequence : DATQ110

Number of Samples : 9

Batch Data-Date/Time : 04/21/99 / 07:46:52

## DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
26527-95678	Copper	0.0128	0.0126	1.3	20.0	1.00
	Lead	0.0138	0.0116	17.7	20.0	1.00
	Selenium	0.0162	0.0264	48.1(5a)	20.0	1.00
	Zinc	0.0462	0.0574	21.6(5a)	20.0	1.00

## CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS	
LCSW-134	Silver	0.0984	0.1000	98.4	80.0	120.0
	Arsenic	4.8491	5.0000	97.0	80.0	120.0
	Barium	9.6968	10.0000	97.0	80.0	120.0
	Cadmium	0.0960	0.1000	96.0	80.0	120.0
	Chromium	0.4888	0.5000	97.8	80.0	120.0
	Copper	0.5082	0.5000	101.6	80.0	120.0
	Lead	0.4840	0.5000	96.8	80.0	120.0
	Selenium	5.1090	5.0000	102.2	80.0	120.0
	Zinc	4.8156	5.0000	96.3	80.0	120.0

## QC LIMITS

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
ICV-	Silver	0.1000	0.1000	99.9	90.0	110.0
	Arsenic	1.0000	0.9832	98.3	90.0	110.0
	Barium	1.0000	1.0166	101.7	90.0	110.0
	Cadmium	1.0000	0.9788	97.9	90.0	110.0
	Chromium	1.0000	0.9992	99.9	90.0	110.0
	Copper	1.0000	0.9974	99.7	90.0	110.0
	Lead	5.0000	4.9879	99.8	90.0	110.0
	Selenium	1.0000	1.0075	100.8	90.0	110.0
	Zinc	1.0000	0.9952	99.5	90.0	110.0
CCV1--2	Silver	0.1000	0.0999	99.9	90.0	110.0
	Arsenic	1.0000	0.9743	97.4	90.0	110.0
	Barium	1.0000	1.0138	101.4	90.0	110.0
	Cadmium	1.0000	0.9798	98.0	90.0	110.0
	Chromium	1.0000	0.9989	99.9	90.0	110.0
	Copper	1.0000	0.9971	99.7	90.0	110.0
	Lead	5.0000	4.9911	99.8	90.0	110.0
	Selenium	1.0000	1.0007	100.1	90.0	110.0
	Zinc	1.0000	0.9952	99.5	90.0	110.0
CCV2--3	Silver	0.1000	0.0987	98.7	90.0	110.0
	Arsenic	1.0000	1.0029	100.3	90.0	110.0
	Barium	1.0000	1.0348	103.5	90.0	110.0
	Cadmium	1.0000	0.9575	95.8	90.0	110.0
	Chromium	1.0000	0.9989	99.9	90.0	110.0
	Copper	1.0000	1.0281	102.8	90.0	110.0
	Lead	5.0000	4.9387	98.8	90.0	110.0
	Selenium	1.0000	0.9965	99.7	90.0	110.0
	Zinc	1.0000	0.9843	98.4	90.0	110.0
CCV3--4	Silver	0.1000	0.0993	99.3	90.0	110.0
	Arsenic	1.0000	0.9867	98.7	90.0	110.0
	Barium	1.0000	1.0149	101.5	90.0	110.0

Analysis Batch Number: HREXT-04/20/99-114 -2

Test Identification : HREXT-Metals for hr TCLP, by ICP

Sequence : DATQ110

Number of Samples : 9

Batch Data-Date/Time : 04/21/99 / 07:46:52

CCV #	ANALYTE	TRUE VALUE	BATCH READ	QC LIMITS		
				% REC #	LOWER	UPPER
CCV3--4	Cadmium	1.0000	0.9836	98.4	90.0	110.0
	Chromium	1.0000	1.0069	100.7	90.0	110.0
	Copper	1.0000	0.9976	99.8	90.0	110.0
	Lead	5.0000	4.9862	99.7	90.0	110.0
	Selenium	1.0000	0.9866	98.7	90.0	110.0
	Zinc	1.0000	0.9965	99.7	90.0	110.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Silver	0.0001	0.0040
	Arsenic	0.0012	0.0200
	Barium	0.0000	0.0040
	Cadmium	ND	0.0040
	Chromium	0.0002	0.0100
	Copper	0.0019	0.0100
	Lead	0.0058	0.0200
	Selenium	ND	0.0200
	Zinc	0.0002	0.0500
CCB1-	Silver	0.0004	0.0040
	Arsenic	0.0073	0.0200
	Barium	ND	0.0040
	Cadmium	ND	0.0040
	Chromium	0.0000	0.0100
	Copper	0.0014	0.0100
	Lead	0.0026	0.0200
	Selenium	0.0059	0.0200
	Zinc	0.0001	0.0500
CCB2-	Silver	0.0002	0.0040
	Arsenic	0.0015	0.0200
	Barium	0.0006	0.0040
	Cadmium	0.0002	0.0040
	Chromium	0.0007	0.0100
	Copper	0.0011	0.0100
	Lead	0.0051	0.0200
	Selenium	ND	0.0200
	Zinc	0.0007	0.0500
CCB3-	Silver	0.0013	0.0040
	Arsenic	0.0124	0.0200
	Barium	ND	0.0040
	Cadmium	0.0001	0.0040
	Chromium	ND	0.0100
	Copper	0.0012	0.0100
	Lead	ND	0.0200
	Selenium	0.0124	0.0200
	Zinc	ND	0.0500

## ----- Result Footnotes -----

(1d) - The preparation blank concentration is less than 5% of the regulatory limit

(5a) - Duplicates not evaluated: Results are &lt;10x detection limit

Analysis Batch Number: HREXT-04/20/99-114 -2

Test Identification : HREXT-Metals for hr TCLP, by ICP

Sequence : DATQ110

Number of Samples : 9

Batch Data-Date/Time : 04/21/99 / 07:46:52

## Groups &amp; Samples

-----

26476-95486	26484-95500	26485-95504	26488-95512	26527-95678	26528-95679	26531-95682	26533-95687
26561-95789							



# On Site Technologies, LTD.

612 E. Murray Drive  
Farmington, NM 87401  
(505) 325-2432

## CHAIN-OF-CUSTODY RECORD

Page 1 of 1

### Subcontractor:

Mountain States Analytical, Inc.  
1645 West 2200 South

TEL: (800) 973-6724  
FAX: (801) 972-6278

Salt Lake City, UT 84119

Acct #:

06-Apr-99

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests									
				SW1311	SW1311/6010ASW1311/8240ASW1311/8270A	SW3010A	SW3510	SW7470					
9904003-01A	Aqueous	4/5/99 11:06:00 AM	1LAMGU	3	1	1	1	1	1	1	1	1	1

### Comments:

Please call David Cox @ 505-325-1556 for instructions on analysis. All samples will be composited for TCLP Metals, TCLP Volatiles and TCLP Semivolatiles analyses.

Relinquished by: <i>David S. Warden</i>	Date/Time: 4/6/99 1655	Received by: <i>Ruth A. Warden</i>	Date/Time: 04/07/99 @ 1030
Relinquished by:		Received by:	



Office I - (505) 393-6161  
D. Box 1980  
Albuquerque, NM 87241-4980  
Office II - (505) 748-1283  
J. S. First  
Albuquerque, NM 88210  
Office III - (505) 334-6178  
Rio Brazos Road  
Albuquerque, NM 87410  
Office IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

RECEIVED

MAY 26 1999

Environmental Bureau

Oil Conservation Division

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/> Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	4. Generator <u>FMC CORPORATION</u>
2. Management Facility Destination <u>Key DISPOSAL</u>	5. Originating Site <u>YARDWASH Sumps</u>
3. Address of Facility Operator <u>#345 CR 3500 AZtec NM</u>	6. Transporter <u>Key</u>
7. Location of Material (Street Address or ULSTR) <u>#17 County Road 5777</u> <u>FARMINGTON NM</u>	8. State <u>NM</u>
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

water mixed with GREASE and pipe dope mostly  
water

RECEIVED  
MAY 21 1999

OIL CON. DIV.  
DIST. 3

Estimated Volume 160 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: mgr DATE: 5-20-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. \_\_\_\_\_

(This space for State Use)

APPROVED BY: Henry G. Fent TITLE: Geologist DATE: 5/21/99  
APPROVED BY: Martyn J. Kuby TITLE: Env Geologist DATE: 5-28-99

FILE COPY

## CERTIFICATE OF WASTE STATUS

1. Generator Name and Address: FMC Corporation #20 County Road 5777 FARMINGTON, NM	2. Destination Name: KEY ENERGY SERVICES DISPOSAL FACILITY
3. Originating Site (name):  SAME →	Location of the Waste (Street address &/or ULSTR): #17 County Road 5777 FARMINGTON, NM
Attach list of originating sites as appropriate	
4. Source and Description of Waste  WASH BAY SUMP TANKS. MOSTLY WATER WITH RESIDUAL GREASE AND SMALL AMOUNTS OF PIPE DOPE FROM THE SPRAYING OFF OF WELLHEADS.	

1. Luis Ortiz representative for:  
(Print Name)  
FMC CORP. WELLHEAD EQUIPMENT DIVISION do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic  
analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information ☐ Other (description):  
☐ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

Name (Original Signature): [Signature]  
Title: DIST. COORDINATOR  
Date: 5-18-99

# Analytical Report


**Mountain States Analytical, Inc.**
*The Quality Solution*

On-Site Technologies, Ltd.  
612 E Murray Drive  
Farmington, NM 87401

Attn: Mr. David Cox  
Project: TCLP Analysis

MSAI Sample: 95990  
MSAI Group: 26620  
Date Reported: 05/10/99  
Discard Date: 06/09/99  
Date Submitted: 04/20/99  
Date Sampled: 04/19/99  
Collected by:  
Purchase Order:  
Project No.: 9904032

Sample ID: 9904032-01A

Matrix: Waste Water

Test	Analysis	Results as Received	Units	Dilution Factor	Method Detection Limit
0393T	Flame/hrICP Prep, TCLP, 3010A Method: SW-846 3010A	Batch. w160		1	
0410	Mercury Prep CVAA, Filtration Method: SW-846 7470A	Batch. w434		1	
13027	Metals by hrICP, TCLP (UTS) Method: SW-846 60108				
	Arsenic	ND	mg/l	1	0.1
	Barium	1.08	mg/l	1	0.1
	Cadmium	0.022	mg/l	1	0.1
	Chromium	ND	mg/l	1	0.1
	Lead	0.14	mg/l	1	0.1
	Selenium	ND	mg/l	1	0.1
	Silver	ND	mg/l	1	0.1
1524	Mercury by CVAA, TCLP, 7470A Method: SW-846 7470A	0.0001	mg/l	1	0.1
0946	TCLP Extraction, ZNE, SW, 1311 Method: SW-846 1311	100	% Solids	1	
0947J	TCLP Extraction, hrICP, Metals Method: SW-846 1311	100	% Solids	-	
0947M	TCLP Extraction, Mercury, 1311 Method: SW-846 1311	100	% Solids	1	
0947S	TCLP Extraction, Semi-VOA, 1311 Method: SW-846 1311	100	% Solids	1	



# Analytical Report


**Mountain States Analytical, Inc.**
*The Quality Solution*

Page 2

On-Site Technologies, Ltd.

MSAI Sampler: 95990

MSAI Group: 26620

Sample ID: 9904032-01A

Test	Analysis	Results as Received	Units	Dilution Factor	Method Detection Limit
0949	Semi-VOA, TCLP				
	Method: SW-846 8270A				
060	2,4-Dinitrotoluene	ND	mg/l	1	0.1
076	Hexachlorobenzene	ND	mg/l	1	0.1
29	Hexachlorobutadiene	ND	mg/l	1	0.1
32	Hexachloroethane	ND	mg/l	1	0.1
063	Nitrobenzene	ND	mg/l	1	0.1
060	Pyridine	ND	mg/l	1	0.1
08	2-Methylphenol (o-Cresol)	ND	mg/l	1	0.1
07	3 and 4- Methylphenol (m+p cresol)	ND	mg/l	1	0.1
090	Pentachlorophenol	ND	mg/l	1	0.1
14	2,4,5-Trichlorophenol	ND	mg/l	1	0.1
13	2,4,6-Trichlorophenol	ND	mg/l	1	0.1
30001	SVOA Extraction, TCLP	Complete		1	
	Method: SW-846 3510B				
14145	Volatiles, TCLP 8260B, SW				
	Method: SW-846 8260B				
016	Benzene	ND	mg/l	10	0.1
037	Carbon tetrachloride	ND	mg/l	10	0.1
027	Chlorobenzene	ND	mg/l	10	0.1
022	Chloroform	ND	mg/l	10	0.1
027	1,2-Dichloroethane	ND	mg/l	10	0.1
140	1,1-Dichloroethene	ND	mg/l	10	0.1
00	2-Butanone (MEK)	ND	mg/l	10	0.1
023	Tetrachloroethene	ND	mg/l	10	0.1
032	Trichloroethene	ND	mg/l	10	0.1
098	Vinyl chloride	ND	mg/l	10	0.1
016	1,4-Dichlorobenzene	ND	mg/l	10	0.1



# Analytical Results

ACZ Laboratories, Inc.  
2773 Downhill Drive  
Steamboat Springs, CO 80487  
(800) 334-5493

On Site Technologies, I.T.D.  
612 E Murray Dr  
Farmington, NM 87499  
David Cox

Lab Sample ID: L22950-02  
Client Sample ID: 9905003-02A FMC 302  
Client Project ID: INDOOR SUMP  
ACZ Report ID: RG92326

Date Sampled: 4/30/99 10:05  
Date Received: 5/4/99  
Date Reported: 5/13/99

Sample Matrix: Sludge

## Soil Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Ignitability (Flashpoint)	M1010, Pensky-Martens Closed Cup	No Flash		C	1	5	5/12/99	as/ev
pH, Conductivity	M9045	8.6		units	0.1	0.1	5/12/99	as

## Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Cyanide, reactive	Section 7.3 SW-846 (3rd Ed) & M9012		U	mg/Kg	0.03	0.1	5/6/99	bg
Sulfide, reactive	Section 7.3 SW-846 (3rd Ed) & M9030	2.1		mg/Kg	0.1	1	5/5/99	mh

Note: Flashpoint - No Flash to 94° C.

## Inorganic Quantities (based on EPA CLP 390)

U - Analyte was analyzed for but not detected at the indicated MDL  
B - Analyte concentration detected at a value between MDL and PQL  
PQL = Practical Quantitation Limit

REPIN101C.01.96.01

Page 1 of 1

*R. V. Poulsen*  
Vice President of Operations: Ralph Poulsen

**ACZ****Analytical Results**

ACZ Laboratories, Inc.  
2773 Downhill Drive  
Steamboat Springs, CO 80487  
(800) 334-5493

Lab Sample ID: **L22950-02**  
Client Sample ID: **9905003-02A**  
Client Project ID:  
ACZ Report ID: **RG92326 FMC302 Indoor Sump**

On Site Technologies, LTD.  
612 E Murray Dr  
Farmington, NM 87499  
David Cox

Date Sampled: **4/30/99 10:05**  
Date Received: **5/4/99**  
Date Reported: **5/13/99**

Sample Matrix: **Sludge**

**Soil Analysis**

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Ignitability (Flashpoint)	M1010, Pensky-Martens Closed Cup	No Flash		C	1	5	5/12/99	as/cv
pH, Corrosivity	M9045	8.6		units	0.1	0.1	5/12/99	as

**Wet Chemistry**

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Cyanide, reactive	Section 7.3 SW-846 (3rd Ed) & M9012		U	mg/Kg	0.03	0.1	5/6/99	bg
Sulfide, reactive	Section 7.3 SW-846 (3rd Ed) & M9030	2.1		mg/Kg	0.1	1	5/5/99	mh

Note: Flashpoint - No Flash to 94° C.

Add This to Key Disposal  
Fmc Corporation  
with District III stamp 5/21/99

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL  
B = Analyte concentration detected at a value between MDL and PQL  
PQL = Practical Quantitation Limit

*R. Poulsen*

Vice President of Operations: Ralph Poulsen



# On Site Technologies, LTD.

612 E. Murray Drive  
Farmington, NM 87401  
(505) 325-2432

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

## Subcontractor:

ACZ Laboratories, Inc.  
2773 Downhill Drive

TEL: (800) 334-5493  
FAX: (970) 879-2216

Steamboat Springs, Colorado 80487

Acct #: TJV0776

005669

03-May-99

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests			
				E150.1	SW1010	SW/7.3.3.2 CYANIDE	SW/7.3.3.2 SULFIDE
9905003-01A	Aqueous	4/30/99 9:20:00 AM	1LAMGU	1	1	1	1
9905003-02A	Aqueous	4/30/99 10:05:00 AM	1LAMGU	1	1	1	1

Comments: Please analyze two (2) water samples for Reactivity, Corrosivity and Ignitability.

Relinquished by: Heidi Raza	Date/Time: 5/3/99 1530
Relinquished by:	Date/Time: 5/14/99 10:00
Received by:	Date/Time:
Received by:	Date/Time:

RECEIVED MAY 10 1999

## SAMPLE RECEIPT FORM

CLIENT:

ON-SITE

DATE

5/4/99

PROJECT #:

L22950

1) Does this project require special handling procedures such as CLP protocol?	<u>NA</u>	YES	NO
2) Are the custody seals on the cooler intact?	<u>NA</u>	YES	NO
3) Are the custody seals on the sample containers intact?	<u>NA</u>	YES	NO
4) Is there a Chain of Custody (COC), or other directive shipping papers present?		<u>YES</u>	NO
5) Is the COC complete? Relinquished? Yes ___ No ___ Requested Analysis? Yes ___ No ___		<u>YES</u>	NO
6) Is the COC in agreement with the samples received? # of Samples: Yes ___ No ___ Sample ID: Yes ___ No ___ Matrix: Yes ___ No ___ # of Containers: Yes ___ No ___		<u>YES</u>	NO
7) Is there enough sample for all requested analysis?		<u>YES</u>	NO
8) Are all samples within holding times for requested analysis?		<u>YES</u>	NO
9) Were all sample containers received intact?		<u>YES</u>	NO
10) Are samples requiring no headspace, headspace free?	<u>NA</u>	YES	NO
11) Do the samples require a Foreign Soils Permit Label or quarantine?		YES	<u>NO</u>
12) Do samples require special disposal/hold considerations? Non-Hazardous: Yes ___ No ___ Hazardous: Yes ___ No ___ Hold: ___ months			

Describe "NO" items (except #1, 11, & 12):

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

Was the client contacted? Yes \_\_\_ No \_\_\_

If yes:

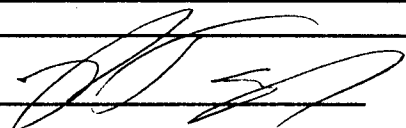
Date: \_\_\_\_\_

Name of person contacted: \_\_\_\_\_

Actions taken or client instructions:

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

Signature:



CLIENT: ON-SITE  
PROJECT #: 122950

DATE 5/4/99  
ANALYST: DALE

CONTAINER	TEMP (°C)	RAD
ID	2° to 6°	μR/hr

CLIENT	4.6	12

If container radioactivity is  
> 25  $\mu$ R/hr then each sample  
must be screened.

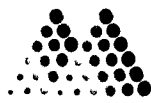
SAMPLE	R	G	Y	YG	B	BG	O	T	P	RAD
	<2	<2	<2	<2	<2	<2	<2	> 12	> 12	μR/hr

INTERNAL COMMENTS:

**REPORT COMMENTS:**



RECEIVED MAY 14 1999



**Mountain States Analytical, Inc.**

*The Quality Solution*

May 10, 1999

Mr. David Cox  
On-Site Technologies, Ltd.  
612 E Murray Drive  
Farmington, NM 87401

Reference:

Project: TCLP Analysis  
Project No.: 9904032  
MSAI Group: 26620

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following sample is included in the report.

9904032-01A **FMC Indoor Sump Composite** 

All holding times were met for the tests performed on these samples.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

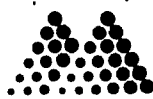
We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen  
Project Manager



# Analytical Report



**Mountain States Analytical, Inc.**

*The Quality Solution*

On-Site Technologies, Ltd.  
612 E Murray Drive  
Farmington, NM 87401

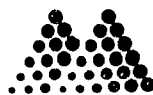
Attn: Mr. David Cox  
Project: TCLP Analysis

Sample ID: 9904032-01A  
Matrix: Waste Water

MSAI Sample: 95990  
MSAI Group: 26620  
Date Reported: 05/10/99  
Discard Date: 06/09/99  
Date Submitted: 04/20/99  
Date Sampled: 04/19/99  
Collected by:  
Purchase Order:  
Project No.: 9904032

Test	Analysis	Results as Received	Units	Dilution Factor	Method Detection Limit
0393T	Flame/hrICP Prep, TCLP, 3010A Method: SW-846 3010A	Batch. w160		1	
0410	Mercury Prep CVAA, Filtration Method: SW-846 7470A	Batch. w434		1	
13027	Metals by hrICP, TCLP (UTS) Method: SW-846 6010B				
	Arsenic	ND	mg/l	1	0.02
	Barium	1.08	mg/l	1	0.004
	Cadmium	0.022	mg/l	1	0.004
	Chromium	ND	mg/l	1	0.010
	Lead	0.14	mg/l	1	0.02
	Selenium	ND	mg/l	1	0.02
	Silver	ND	mg/l	1	0.004
1524	Mercury by CVAA, TCLP, 7470A Method: SW-846 7470A	0.0001	mg/l	1	0.0001
0946	TCLP Extraction, ZHE, sw, 1311 Method: SW-846 1311	100	% Solids	1	
0947J	TCLP Extraction, hrICP, Metals Method: SW-846 1311	100	% Solids	1	
0947M	TCLP Extraction, Mercury, 1311 Method: SW-846 1311	100	% Solids	1	
0947S	TCLP Extraction, Semi-VOA, 1311 Method: SW-846 1311	100	% Solids	1	

# Analytical Report



**Mountain States Analytical, Inc.**

*The Quality Solution*

Page 2

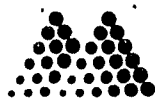
On-Site Technologies, Ltd.

MSAI Sample: 95990

MSAI Group: 26620

Sample ID: 9904032-01A

Test	Analysis	Results as Received	Units	Dilution Factor	Method Detection Limit
0949	Semi-VOA, TCLP Method: SW-846 8270A				
	2,4-Dinitrotoluene	ND	mg/l	1	0.0060
	Hexachlorobenzene	ND	mg/l	1	0.0076
	Hexachlorobutadiene	ND	mg/l	1	0.029
	Hexachloroethane	ND	mg/l	1	0.032
	Nitrobenzene	ND	mg/l	1	0.0065
	Pyridine	ND	mg/l	1	0.0060
	2-Methylphenol (o-Cresol)	ND	mg/l	1	0.008
	3 and 4- Methylphenol (m+p cresol)	ND	mg/l	1	0.007
	Pentachlorophenol	ND	mg/l	1	0.0090
	2,4,5-Trichlorophenol	ND	mg/l	1	0.014
	2,4,6-Trichlorophenol	ND	mg/l	1	0.013
3000T	SVOA Extraction, TCLP Method: SW-846 3510B	Complete		1	
14145	Volatiles, TCLP 8260B, SW Method: SW-846 8260B				
	Benzene	ND	mg/l	10	0.0016
	Carbon tetrachloride	ND	mg/l	10	0.0037
	Chlorobenzene	ND	mg/l	10	0.0027
	Chloroform	ND	mg/l	10	0.0022
	1,2-Dichloroethane	ND	mg/l	10	0.0027
	1,1-Dichloroethene	ND	mg/l	10	0.0140
	2-Butanone (MEK)	ND	mg/l	10	0.100
	Tetrachloroethene	ND	mg/l	10	0.0023
	Trichloroethene	ND	mg/l	10	0.0032
	Vinyl chloride	ND	mg/l	10	0.0098
	1,4-Dichlorobenzene	ND	mg/l	10	0.0016



**Mountain States Analytical, Inc.**

*The Quality Solution*

# *Analytical Report*

Page 3

On-Site Technologies, Ltd.

Sample ID: 9904032-01A

MSAI Sample: 95990

MSAI Group: 26620

ND - Not detected at the Method Detection Limit.

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,  
Reviewed and Approved by:

Rolf E. Larsen  
Project Manager



Mountain States Analytical, Inc.  
Daily QC Batching Data  
Data Released for Reporting

04/26/99  
13:53:56  
Group: 26620

Analysis Batch Number: 1524 -04/22/99-147 -1

Test Identification : 1524 -Mercury by CVAA, TCLP, 7470A

Sequence : 1524 -1

Number of Samples : 15

Batch Data-Date/Time : 04/22/99 / 15:14:59

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
26629-96011	Mercury	0.1120(1d)	0.1000

						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
26629-96019	Mercury	25.0000	0.1250	24.8160	98.8	80.0	120.0
26629-96018-2	Mercury	25.0000	0.1250	22.3600	88.9	50.0	150.0

						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
26629-96020	Mercury	25.0000	0.1250	24.6880	98.3	80.0	120.0	0.5	20.0

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
26629-96018	Mercury	0.1250	0.0470	90.7(5a)	20.0	1.00

					QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER
26629-96012	Mercury	2.6080	2.5000	104.3	80.0	115.0

QC LIMITS						
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
ICV-	Mercury	3.0000	3.1830	106.1	90.0	110.0
CCV--2	Mercury	5.0000	5.1060	102.1	80.0	120.0
CCV--3	Mercury	5.0000	4.9950	99.9	80.0	120.0
CCV--4	Mercury	5.0000	4.9940	99.9	80.0	120.0
CCV--5	Mercury	5.0000	5.0410	100.8	80.0	120.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Mercury	0.0340	0.1000
CCB-	Mercury	0.0560	0.1000
CCB-	Mercury	-0.0040	0.1000
CCB-	Mercury	-0.0450	0.1000
CCB-	Mercury	-0.0500	0.1000

----- Result Footnotes -----

(1d) - The preparation blank concentration is less than 5% of the regulatory limit

(5a) - Duplicates not evaluated: Results are <10x detection limit

Groups & Samples

26620-95990	26626-96008	26627-96009	26629-96011	26629-96012	26629-96013	26629-96014	26629-96015
26629-96016	26629-96017	26629-96018	26629-96019	26629-96020	26629-96021	26629-96022	26629-96026
26629-96027	26629-96028	26629-96029					

Mountain States Analytical, Inc.  
Daily QC Batching Data  
Data Released for Reporting

04/26/99  
13:53:57  
Group: 26620

Analysis Batch Number: HREXT-04/22/99-114 -1

Test Identification : HREXT-Metals for hr TCLP, by ICP

Sequence : DATQ112

Number of Samples : 16

Batch Data-Date/Time : 04/23/99 / 07:19:29

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-160	Silver	0.0001	0.0040
	Arsenic	0.0098	0.0200
	Barium	0.0008	0.0040
	Beryllium	ND	0.0002
	Cadmium	0.0006	0.0040
	Chromium	ND	0.0100
	Copper	0.0021	0.0100
	Nickel	ND	0.0040
	Lead	0.0011	0.0200
	Antimony	ND	0.0200
	Selenium	ND	0.0200
	Thallium	ND	0.0200
	Vanadium	ND	0.0040
	Zinc	0.0253	0.0500

SPIKE							QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER	
26629-96018	Silver	0.1000	0.0856	0.1927	107.1	75.0	125.0	
	Arsenic	5.0000	1.0347	6.2665	104.6	75.0	125.0	
	Barium	10.0000	0.1766	9.6578	94.8	75.0	125.0	
	Beryllium	0.1000	0.0605	0.1653	104.8	75.0	125.0	
	Cadmium	0.1000	4.0258	4.1988	173.0(2k)	75.0	125.0	
	Chromium	0.5000	0.0356	0.5346	99.8	75.0	125.0	
	Copper	0.5000	10.7664	11.3455	115.8	75.0	125.0	
	Nickel	5.0000	10.1367	14.7737	92.7	75.0	125.0	
	Lead	0.5000	0.2250	0.6840	91.8	75.0	125.0	
	Antimony	1.0000	1.0731	2.1852	111.2	75.0	125.0	
	Selenium	5.0000	-0.0074	5.3374	106.9	75.0	125.0	
	Thallium	0.2000	0.0926	0.2757	91.6	75.0	125.0	
	Vanadium	1.0000	0.0175	1.0023	98.5	75.0	125.0	
	Zinc	5.0000	92.8440	96.1863	66.8(2k)	75.0	125.0	
26629-96018-2	Silver	0.1000	0.0856	0.1597	74.1(2b)	75.0	125.0	
	Arsenic	5.0000	1.0347	5.9613	98.5	75.0	125.0	
	Barium	10.0000	0.1766	9.2387	90.6	75.0	125.0	
	Beryllium	0.1000	0.0605	0.1530	92.5	75.0	125.0	
	Cadmium	0.1000	4.0258	3.8209	-204.9(2k)	75.0	125.0	
	Chromium	0.5000	0.0356	0.5151	95.9	75.0	125.0	
	Copper	0.5000	10.7664	10.1744	-118.4(2k)	75.0	125.0	
	Nickel	5.0000	10.1367	14.2540	82.3	75.0	125.0	
	Lead	0.5000	0.2250	0.6626	87.5	75.0	125.0	
	Antimony	1.0000	1.0731	2.0435	97.0	75.0	125.0	
	Selenium	5.0000	-0.0074	5.1196	102.5	75.0	125.0	
	Thallium	0.2000	0.0926	0.2038	55.6(2b)	75.0	125.0	
	Vanadium	1.0000	0.0175	0.9635	94.6	75.0	125.0	
	Zinc	5.0000	92.8440	92.9369	1.9(2k)	75.0	125.0	

MSD

							QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD	#	LIMIT
26629-96018	Silver	0.1000	0.0856	0.1846	99.0	75.0	125.0	4.3		20.0
	Arsenic	5.0000	1.0347	6.2140	103.6	75.0	125.0	0.8		20.0

Analysis Batch Number: HREXT-04/22/99-114 -1

Test Identification : HREXT-Metals for hr TCLP, by ICP

Sequence : DATQ112

Number of Samples : 16

Batch Data/Date/Time : 04/23/99 / 07:19:29

MSD		QC LIMITS							
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
26629-96018	Barium	10.0000	0.1766	9.6108	94.3	75.0	125.0	0.5	20.0
	Beryllium	0.1000	0.0605	0.1612	100.6	75.0	125.0	2.5	20.0
	Cadmium	0.1000	4.0258	4.0773	51.5(2k)	75.0	125.0	2.9	20.0
	Chromium	0.5000	0.0356	0.5364	100.2	75.0	125.0	0.3	20.0
	Copper	0.5000	10.7664	11.0722	61.2(2k)	75.0	125.0	2.4	20.0
	Nickel	5.0000	10.1367	14.5160	87.6	75.0	125.0	1.8	20.0
	Lead	0.5000	0.2250	0.6737	89.7	75.0	125.0	1.5	20.0
	Antimony	1.0000	1.0731	2.1233	105.0	75.0	125.0	2.9	20.0
	Selenium	5.0000	-0.0074	5.3157	106.5	75.0	125.0	0.4	20.0
	Thallium	0.2000	0.0926	0.2587	83.0	75.0	125.0	6.4	20.0
	Vanadium	1.0000	0.0175	0.9981	98.1	75.0	125.0	0.4	20.0
	Zinc	5.0000	92.8440	95.7562	58.2(2k)	75.0	125.0	0.4	20.0

## DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
26629-96018	Silver	0.0856	0.0891	3.9	20.0	1.00
	Arsenic	1.0347	1.0634	2.7	20.0	1.00
	Barium	0.1766	0.1807	2.3	20.0	1.00
	Beryllium	0.0605	0.0612	1.0	20.0	1.00
	Cadmium	4.0258	4.1278	2.5	20.0	1.00
	Chromium	0.0356	0.0367	2.8	20.0	1.00
	Copper	10.7664	10.9413	1.6	20.0	1.00
	Nickel	10.1367	10.3956	2.5	20.0	1.00
	Lead	0.2250	0.2305	2.4	20.0	1.00
	Antimony	1.0731	0.8731	20.6(5a)	20.0	1.00
	Selenium	-0.0074	0.0000	200.0(11)	20.0	1.00
	Thallium	0.0926	0.0715	25.8(5a)	20.0	1.00
	Vanadium	0.0175	0.0194	10.1	20.0	1.00
	Zinc	92.8440	95.1303	2.4	20.0	1.00

## CONTROL

CONTROL		QC LIMITS			
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER UPPER
LCSW-160	Silver	0.0979	0.1000	97.9	80.0 120.0
	Arsenic	5.0317	5.0000	100.6	80.0 120.0
	Barium	9.8980	10.0000	99.0	80.0 120.0
	Beryllium	0.0996	0.1000	99.6	80.0 120.0
	Cadmium	0.1032	0.1000	103.2	80.0 120.0
	Chromium	0.5204	0.5000	104.1	80.0 120.0
	Copper	0.5133	0.5000	102.7	80.0 120.0
	Nickel	5.0423	5.0000	100.8	80.0 120.0
	Lead	0.4969	0.5000	99.4	80.0 120.0
	Antimony	0.9997	1.0000	100.0	80.0 120.0
	Selenium	5.1649	5.0000	103.3	80.0 120.0
	Thallium	0.1956	0.2000	97.8	80.0 120.0
	Vanadium	0.9960	1.0000	99.6	80.0 120.0
	Zinc	4.9727	5.0000	99.5	80.0 120.0

Analysis Batch Number: HREXT-04/22/99-114 -1

Test Identification : HREXT-Metals for hr TCLP, by ICP

Sequence : DATQ112

Number of Samples : 16

Batch Data-Date/Time : 04/23/99 / 07:19:29

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS	
					LOWER	UPPER
ICV-	Silver	0.1000	0.0991	99.1	90.0	110.0
	Arsenic	1.0000	0.9804	98.0	90.0	110.0
	Barium	1.0000	1.0061	100.6	90.0	110.0
	Beryllium	0.1000	0.1026	102.6	90.0	110.0
	Cadmium	1.0000	1.0167	101.7	90.0	110.0
	Chromium	1.0000	1.0402	104.0	90.0	110.0
	Copper	1.0000	1.0015	100.1	90.0	110.0
	Nickel	2.0000	1.9955	99.8	90.0	110.0
	Lead	5.0000	4.9244	98.5	90.0	110.0
	Antimony	1.0000	1.0088	100.9	90.0	110.0
	Selenium	1.0000	0.9919	99.2	90.0	110.0
	Thallium	1.0000	0.9854	98.5	90.0	110.0
	Vanadium	0.4000	0.4248	106.2	90.0	110.0
	Zinc	1.0000	0.9922	99.2	90.0	110.0
CCV1--2	Silver	0.1000	0.1006	100.6	90.0	110.0
	Arsenic	1.0000	0.9892	98.9	90.0	110.0
	Barium	1.0000	1.0106	101.1	90.0	110.0
	Beryllium	0.1000	0.1023	102.3	90.0	110.0
	Cadmium	1.0000	1.0071	100.7	90.0	110.0
	Chromium	1.0000	1.0336	103.4	90.0	110.0
	Copper	1.0000	1.0074	100.7	90.0	110.0
	Nickel	2.0000	2.0107	100.5	90.0	110.0
	Lead	5.0000	4.9657	99.3	90.0	110.0
	Antimony	1.0000	1.0100	101.0	90.0	110.0
	Selenium	1.0000	0.9996	100.0	90.0	110.0
	Thallium	1.0000	0.9854	98.5	90.0	110.0
	Vanadium	0.4000	0.4289	107.2	90.0	110.0
	Zinc	1.0000	1.0025	100.3	90.0	110.0
CCV2--3	Silver	0.1000	0.0988	98.8	90.0	110.0
	Arsenic	1.0000	1.0082	100.8	90.0	110.0
	Barium	1.0000	1.0131	101.3	90.0	110.0
	Beryllium	0.1000	0.1010	101.0	90.0	110.0
	Cadmium	1.0000	1.0291	102.9	90.0	110.0
	Chromium	1.0000	1.0358	103.6	90.0	110.0
	Copper	1.0000	0.9868	98.7	90.0	110.0
	Nickel	2.0000	2.0325	101.6	90.0	110.0
	Lead	5.0000	5.0713	101.4	90.0	110.0
	Antimony	1.0000	1.0245	102.4	90.0	110.0
	Selenium	1.0000	1.0131	101.3	90.0	110.0
	Thallium	1.0000	0.9906	99.1	90.0	110.0
	Vanadium	0.4000	0.4253	106.3	90.0	110.0
	Zinc	1.0000	1.0118	101.2	90.0	110.0
CCV3--4	Silver	0.1000	0.0982	98.2	90.0	110.0
	Arsenic	1.0000	0.9932	99.3	90.0	110.0
	Barium	1.0000	1.0115	101.2	90.0	110.0
	Beryllium	0.1000	0.1003	100.3	90.0	110.0
	Cadmium	1.0000	1.0455	104.6	90.0	110.0
	Chromium	1.0000	1.0479	104.8	90.0	110.0
	Copper	1.0000	0.9813	98.1	90.0	110.0

Analysis Batch Number: HREXT-04/22/99-114 -1

Test Identification : HREXT-Metals for hr TCLP, by ICP

Sequence : DATQ112

Number of Samples : 16

Batch Data-Date/Time : 04/23/99 / 07:19:29

## QC LIMITS

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
CCV3--4	Nickel	2.0000	2.0264	101.3	90.0	110.0
	Lead	5.0000	5.0431	100.9	90.0	110.0
	Antimony	1.0000	1.0196	102.0	90.0	110.0
	Selenium	1.0000	0.9995	100.0	90.0	110.0
	Thallium	1.0000	0.9777	97.8	90.0	110.0
	Vanadium	0.4000	0.4213	105.3	90.0	110.0
	Zinc	1.0000	1.0137	101.4	90.0	110.0
CCV4--5	Silver	0.1000	0.0993	99.3	90.0	110.0
	Arsenic	1.0000	0.9812	98.1	90.0	110.0
	Barium	1.0000	1.0031	100.3	90.0	110.0
	Beryllium	0.1000	0.1012	101.2	90.0	110.0
	Cadmium	1.0000	1.0305	103.1	90.0	110.0
	Chromium	1.0000	1.0412	104.1	90.0	110.0
	Copper	1.0000	0.9845	98.5	90.0	110.0
	Nickel	2.0000	1.9951	99.8	90.0	110.0
	Lead	5.0000	4.9377	98.8	90.0	110.0
	Antimony	1.0000	1.0073	100.7	90.0	110.0
	Selenium	1.0000	0.9852	98.5	90.0	110.0
	Thallium	1.0000	0.9681	96.8	90.0	110.0
	Vanadium	0.4000	0.4214	105.3	90.0	110.0
	Zinc	1.0000	1.0030	100.3	90.0	110.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Silver	ND	0.0040
	Arsenic	0.0127	0.0200
	Barium	0.0001	0.0040
	Beryllium	ND	0.0002
	Cadmium	0.0002	0.0040
	Chromium	ND	0.0100
	Copper	0.0002	0.0100
	Nickel	ND	0.0040
	Lead	ND	0.0200
	Antimony	0.0019	0.0200
	Selenium	ND	0.0200
	Thallium	ND	0.0200
	Vanadium	0.0007	0.0040
	Zinc	ND	0.0500
CCB1-	Silver	0.0001	0.0040
	Arsenic	0.0017	0.0200
	Barium	ND	0.0040
	Beryllium	ND	0.0002
	Cadmium	0.0001	0.0040
	Chromium	ND	0.0100
	Copper	ND	0.0100
	Nickel	ND	0.0040
	Lead	0.0021	0.0200
	Antimony	ND	0.0200
	Selenium	0.0018	0.0200
	Thallium	ND	0.0200

Mountain States Analytical, Inc.  
Daily QC Batching Data  
Data Released for Reporting04/26/99  
13:54:00  
Group: 26620

Analysis Batch Number: HREXT-04/22/99-114 -1

Test Identification : HREXT-Metals for hr TCLP, by ICP

Sequence : DATQ112

Number of Samples : 16

Batch Data-Date/Time : 04/23/99 / 07:19:29

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB1-	Vanadium	ND	0.0040
	Zinc	ND	0.0500
CCB2-	Silver	ND	0.0040
	Arsenic	0.0045	0.0200
	Barium	ND	0.0040
	Beryllium	ND	0.0002
	Cadmium	0.0001	0.0040
	Chromium	ND	0.0100
	Copper	0.0004	0.0100
	Nickel	ND	0.0040
	Lead	ND	0.0200
	Antimony	0.0058	0.0200
	Selenium	ND	0.0200
	Thallium	ND	0.0200
	Vanadium	ND	0.0040
	Zinc	0.0046	0.0500
CCB3-	Silver	0.0003	0.0040
	Arsenic	0.0087	0.0200
	Barium	ND	0.0040
	Beryllium	ND	0.0002
	Cadmium	0.0002	0.0040
	Chromium	ND	0.0100
	Copper	0.0005	0.0100
	Nickel	ND	0.0040
	Lead	ND	0.0200
	Antimony	ND	0.0200
	Selenium	ND	0.0200
	Thallium	ND	0.0200
	Vanadium	ND	0.0040
	Zinc	0.0001	0.0500
CCB4-	Silver	0.0008	0.0040
	Arsenic	0.0033	0.0200
	Barium	0.0003	0.0040
	Beryllium	ND	0.0002
	Cadmium	ND	0.0040
	Chromium	ND	0.0100
	Copper	ND	0.0100
	Nickel	ND	0.0040
	Lead	0.0017	0.0200
	Antimony	ND	0.0200
	Selenium	ND	0.0200
	Thallium	ND	0.0200
	Vanadium	ND	0.0040
	Zinc	ND	0.0500

Analysis Batch Number: HREXT-04/22/99-114 -1

Test Identification : HREXT-Metals for hr TCLP, by ICP

Sequence : DATQ112

Number of Samples : 16

Batch Data-Date/Time : 04/23/99 / 07:19:29

## ----- Result Footnotes -----

- (2k) - Sample concentration >4X spk added. Serial dilution was recovered within 10% limits.
- (2b) - The action limit for pre-pres TCLP spike recov is <50% & the sample 80-100% of reg limit
- (5a) - Duplicates not evaluated: Results are <10x detection limit
- (11) - The duplicate results cannot be evaluated because both results are <MDL.

## ----- Batch Notes -----

Zinc serial dilution recovered at a 10x and 50x in DATP113(w160).  
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## Groups &amp; Samples

26575-95831	26620-95990	26626-96008	26627-96009	26629-96013	26629-96014	26629-96015	26629-96016
26629-96017	26629-96018	26629-96021	26629-96022	26629-96026	26629-96027	26629-96028	26629-96029

1B  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LEA0499AMB

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990430C

Matrix: (soil/water) WATER

Lab Sample ID: 96210

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: X6290

Level: (low/med) LOW

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

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted:

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/30/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

95-48-7-----	2-Methylphenol (o-Cresol)_____	25.0	U
N0019500-----	3 and 4-Methylphenol_____	25.0	U
67-72-1-----	Hexachloroethane_____	10.0	U
98-95-3-----	Nitrobenzene_____	10.0	U
87-68-3-----	Hexachlorobutadiene_____	10.0	U
88-06-2-----	2,4,6-Trichlorophenol_____	25.0	U
95-95-4-----	2,4,5-Trichlorophenol_____	25.0	U
121-14-2-----	2,4-Dinitrotoluene_____	10.0	U
118-74-1-----	Hexachlorobenzene_____	10.0	U
87-86-5-----	Pentachlorophenol_____	25.0	U
110-86-1-----	Pyridine_____	10.0	U



2C  
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990430C

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	LEA0499AMB	43	30	69	60	64	61			0
02	LEA0499ALCS	44	31	75	67	71	59			0
03	LEA0499ALCSD	51	36	84	70	70	56			0
04	CBSEBA	32	24	78	64	58	60			0
05	CBSEBAMS	44	34	85	72	70	61			0
06	CBSEBAMSD	45	35	88	72	66	59			0
07	CBNEBA	38	33	1*	66	64	72			1
08	CBNEAA	52	39	83	75	73	85			0
09	CBNEAB	50	35	79	70	68	87			0
10	CBSEAA	52	43	79	68	70	60			0
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
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28										
29										
30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol ( 1- 90)  
 S2 (PHL) = Phenol-d6 ( 1- 67)  
 S3 (NBZ) = Nitrobenzene-d5 (18-114)  
 S4 (FBP) = 2-Fluorobiphenyl (31- 97)  
 S5 (TBP) = 2,4,6-Tribromophenol (19-139)  
 S6 (TPH) = Terphenyl-d14 (15-141)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D Surrogate diluted out

2C  
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990504A2

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	SBLK1	49	35	66	76	97	76			0
02	LCS	54	33	75	85	98	90			0
03	1346-4	66	47	76	90	100	78			0
04	1346-4MS	57	41	78	86	92	82			0
05	1346-4MSD	57	16	79	81	89	82			0
06	990403201A	59	46	66	78	91	70			0
07	1347-3	52	42	82	90	88	75			0
08	SBLK1	60	25	78	77	63	64			0
09	LCS	59	14	86	80	65	75			0
10	S-5	55	41	70	76	63	78			0
11	RWMA-4	63	8	81	56	60	88			0
12	RWMA-3	67	50	84	76	64	85			0
13	GW-2	68	52	87	79	61	73			0
14	RWMA-2A	72	61	85	82	74	87			0
15	RWMA-1	61	54	77	80	67	64			0
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol ( 1- 90)  
 S2 (PHL) = Phenol-d6 ( 1- 67)  
 S3 (NBZ) = Nitrobenzene-d5 (18-114)  
 S4 (FBP) = 2-Fluorobiphenyl (31- 97)  
 S5 (TBP) = 2,4,6-Tribromophenol (19-139)  
 S6 (TPH) = Terphenyl-d14 (15-141)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

## WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990430C

Matrix Spike - EPA Sample No.: CBSEBA

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Phenol	100	0.00	31.9	32	12- 68
2-Chlorophenol	100	0.00	62.6	63	50- 98
1,4-Dichlorobenzene	100	0.00	49.3	49	35- 83
N-Nitrosodi-N-propylami	100	0.00	85.7	86	69-105
1,2,4-Trichlorobenzene	100	0.00	51.5	52	37- 89
4-Chloro-3-methylphenol	100	0.00	70.0	70	63-103
Acenaphthene	100	0.00	85.7	86	65- 97
4-Nitrophenol	100	0.00	45.0	45	8- 76
2,4-Dinitrotoluene	100	0.00	99.9	100	66-114
Pentachlorophenol	100	0.00	85.0	85	52-112
Pyrene	100	0.00	97.4	97	76-108

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Phenol	100	33.1	33	4	35	12- 68
2-Chlorophenol	100	63.9	64	2	17	50- 98
1,4-Dichlorobenzene	100	53.4	53	8	21	35- 83
N-Nitrosodi-N-propylami	100	87.8	88	2	10	69-105
1,2,4-Trichlorobenzene	100	58.9	59	13	21	37- 89
4-Chloro-3-methylphenol	100	68.9	69	2	12	63-103
Acenaphthene	100	86.1	86	0	10	65- 97
4-Nitrophenol	100	43.8	44	3	40	8- 76
2,4-Dinitrotoluene	100	94.0	94	6	13	66-114
Pentachlorophenol	100	83.0	83	2	18	52-112
Pyrene	100	93.1	93	5	8	76-108

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

\* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 0 out of 22 outside limits

COMMENTS:

FORM 3  
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990430C

Matrix Spike - Sample No.: LEA0499ALCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Phenol	100		28.9	29	12- 68
2-Chlorophenol	100		59.0	59	50- 98
1,4-Dichlorobenzene	100		59.1	59	35- 83
N-Nitrosodi-N-propylami	100		74.2	74	69-105
1,2,4-Trichlorobenzene	100		67.8	68	37- 89
4-Chloro-3-methylphenol	100		75.0	75	63-103
Acenaphthene	100		85.9	86	65- 97
4-Nitrophenol	100		38.6	39	8- 76
2,4-Dinitrotoluene	100		90.4	90	66-114
Pentachlorophenol	100		80.1	80	52-112
Pyrene	100		91.8	92	76-108

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	REC.
Phenol	100	33.7	34	15	35	12- 68
2-Chlorophenol	100	68.5	69	15	17	50- 98
1,4-Dichlorobenzene	100	61.7	62	4	21	35- 83
N-Nitrosodi-N-propylami	100	82.4	82	10	10	69-105
1,2,4-Trichlorobenzene	100	72.0	72	6	21	37- 89
4-Chloro-3-methylphenol	100	75.8	76	1	12	63-103
Acenaphthene	100	86.0	86	0	10	65- 97
4-Nitrophenol	100	38.4	38	1	40	8- 76
2,4-Dinitrotoluene	100	87.6	88	3	13	66-114
Pentachlorophenol	100	78.8	79	2	18	52-112
Pyrene	100	89.8	90	2	8	76-108

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

\* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 0 out of 22 outside limits

COMMENTS:

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK1

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990506WL

Matrix: (soil/water) WATER

Lab Sample ID: 990506WB

Sample wt/vol: 5.000 (g/ml) ML

Lab File ID: V8930

Level: (low/med) LOW

Date Received:

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 05/06/99

Column: (pack/cap) CAP

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
---------	----------	--	---

74-97-5-----	Bromochloromethane	5	U
74-87-3-----	Chloromethane	5	U
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	5	U
75-00-3-----	Chloroethane	5	U
67-64-1-----	Acetone	25	U
75-35-4-----	1,1-Dichloroethene	5	U
75-09-2-----	Methylene Chloride	5	U
75-15-0-----	Carbon Disulfide	5	U
156-60-5-----	trans-1,2-Dichloroethene	5	U
108-05-4-----	Vinyl Acetate	5	U
75-34-3-----	1,1-Dichloroethane	5	U
78-93-3-----	2-Butanone	25	U
156-59-2-----	cis-1,2-Dichloroethene	5	U
67-66-3-----	Chloroform	5	U
71-55-6-----	1,1,1-Trichloroethane	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	5	U
78-87-5-----	1,2-Dichloropropane	5	U
75-27-4-----	Bromodichloromethane	5	U
100-75-8-----	2-Chloroethyl Vinyl Ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U
79-00-5-----	1,1,2-Trichloroethane	5	U
108-10-1-----	4-Methyl-2-Pentanone	5	U
591-78-6-----	2-Hexanone	5	U
127-18-4-----	Tetrachloroethene	5	U
124-48-1-----	Dibromochloromethane	5	U
108-90-7-----	Chlorobenzene	5	U
100-41-4-----	Ethylbenzene	5	U
108-38-3/106-42-	m+p-Xylene	10	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK1

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990506WL

Matrix: (soil/water) WATER

Lab Sample ID: 990506WB

Sample wt/vol: 5.000 (g/ml) ML

Lab File ID: V8930

Level: (low/med) LOW

Date Received:

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 05/06/99

Column: (pack/cap) CAP

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
140-88-5	Ethyl Acrylate	20	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
78-83-1	Isobutyl Alcohol	250	U
71-36-3	n-Butyl Alcohol	500	U
110-57-6	trans-1,4-Dichloro-2-butene	20	U
80-62-6	Methyl Methacrylate	20	U
123-91-1	1,4-Dioxane	500	U
74-95-3	Dibromomethane	5	U
79-46-9	2-Nitropropane	20	U
97-63-2	Ethyl Methacrylate	20	U
106-93-4	1,2-Dibromoethane	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
108-94-1	Cyclohexanone	250	U
96-18-4	1,2,3-Trichloropropane	5	U
10645-7	Pentachloroethane	20	U
98-82-8	Isopropylbenzene	5	U
100-44-7	Benzyl Chloride	20	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
104-51-8	n-Butylbenzene	5	U
91-20-3	Naphthalene	5	U
75-71-8	Dichlorodifluoromethane	5	U
75-69-4	Trichlorofluoromethane	5	U
60-29-7	Ethyl Ether	20	U
110-009	Furan	5	U
107-08-8	Acrolein	200	U
76-13-1	Freon 113	20	U
504-60-9	trans-Piperylene	20	U
504-60-9	cis-Piperylene	20	U
75-05-8	Acetonitrile	20	U
74-88-4	Methyl Iodide	20	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK1

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990506WL

Matrix: (soil/water) WATER

Lab Sample ID: 990506WB

Sample wt/vol: 5.000 (g/ml) ML

Lab File ID: V8930

Level: (low/med) LOW

Date Received:

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 05/06/99

Column: (pack/cap) CAP

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
---------	----------	--	---

107-05-1-----	Allyl Chloride	20	U
107-13-1-----	Acrylonitrile	20	U
1634-04-4-----	Methyl t-Butyl Ether	20	U
126-99-8-----	2-Chloro-1,3-Butadiene	200	U
107-12-0-----	Propionitrile (ethyl Cyanide)	250	U
141-78-6-----	Ethyl Acetate	20	U
126-98-7-----	Methacrylonitrile	20	U
109-99-9-----	Tetrahydrofuran	20	U
110-82-7-----	Cyclohexane	20	U
1476-11-5-----	cis-1,4-Dichloro-2-butene	20	U
594-20-7-----	2,2-Dichloropropane	5	U
563-58-6-----	1,1-Dichloropropene	5	U
142-28-9-----	1,3-Dichloropropane	5	U
103-65-1-----	n-Propylbenzene	5	U
108-86-1-----	Bromobenzene	5	U
95-49-8-----	o-Chlorotoluene	5	U
108-61-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	p-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
99-87-6-----	p-Isopropyltoluene	5	U
120-82-1-----	1,2,4-Trichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-Chloropropane	5	U
67-68-3-----	Hexachlorobutadiene	5	U
87-61-6-----	1,2,3-Trichlorobenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
76-14-2-----	Freon 114	20	U
110-54-3-----	Hexane	20	U

2A  
WATER VOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990506WL

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	VBLK1	100	101	108		0
02	VLCS	100	106	108		0
03	VLCS D	99	103	105		0
04	CYSWA	99	101	112		0
05	CYNEA	98	100	113		0
06	CXSEA	99	104	112		0
07	13362	100	101	107		0
08	13362MS	99	101	108		0
09	13362MSD	98	102	108		0
10	13372	99	103	110		0
11	4130	98	100	109		0
12	9101	98	100	110		0
13	01A	97	100	106		0
14	13422	99	102	110		0
15	13553	98	102	109		0
16	13573	99	102	109		0
17	13583	99	102	110		0
18	13463	99	100	107		0
19	2749	99	100	106		0
20	SHOP	99	101	109		0
21	2829	100	102	107		0
22	1S90081	100	101	101		0
23	9108	100	100	103		0
24	1333	99	97	101		0
25	2821	100	100	103		0
26						
27						
28						
29						
30						

QC LIMITS

S1 (TOL) = Toluene-d8 (79-123)

S2 (BFB) = Bromofluorobenzene (74-127)

S3 (DCE) = 1,2-Dichloroethane-d4 (62-143)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D Surrogates diluted out



## WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990506WL

Matrix Spike - EPA Sample No.: 13362

COMPOUND	SPIKE ADDED ( )	SAMPLE AMOUNT ( )	MS AMOUNT ( )	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	20.0	0.00	20.5	102	61-155
Benzene	20.0	0.00	22.5	112	86-122
Trichloroethene	20.0	0.00	37.4	187*	78-125
Toluene	20.0	0.00	22.4	112	86-115
Chlorobenzene	20.0	0.00	21.5	108	87-112

COMPOUND	SPIKE ADDED ( )	MSD AMOUNT ( )	MSD % REC #	% RPD #	QC LIMITS RPD REC.
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	20.0	21.5	108	6	10 61-155
Benzene	20.0	22.6	113	1	9 86-122
Trichloroethene	20.0	37.3	186*	0	14 78-125
Toluene	20.0	22.6	113	1	10 86-115
Chlorobenzene	20.0	21.8	109	1	7 87-112

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

\* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 2 out of 10 outside limits

COMMENTS: ms/msn m.i.s. / LCS OK

FORM 3  
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 990506WL

Matrix Spike - Sample No.: vlcs

COMPOUND	SPIKE ADDED ( )	SAMPLE AMOUNT (ug/L)	LCS AMOUNT ( )	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	20.0		19.1	96	61-155
Benzene	20.0		21.1	106	86-122
Trichloroethene	20.0		20.4	102	78-125
Toluene	20.0		20.8	104	86-115
Chlorobenzene	20.0		20.3	102	87-112

COMPOUND	SPIKE ADDED ( )	LCSD AMOUNT ( )	LCSD % REC #	% RPD #	QC LIMITS	
=====	=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	20.0	18.9	94	2	10	61-155
Benzene	20.0	21.0	105	1	9	86-122
Trichloroethene	20.0	20.4	102	0	14	78-125
Toluene	20.0	21.0	105	1	10	86-115
Chlorobenzene	20.0	20.8	104	2	7	87-112

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

\* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS:

1471

# On Site Technologies, LTD.

612 E. Murray Drive  
Farmington, NM 87401  
(505) 325-2432

## CHAIN-OF-CUSTODY RECORD

### Subcontractor:

Mountain States Analytical, Inc.  
1645 West 2200 South

TEL: (800) 973-6724  
FAX: (801) 972-6278

Salt Lake City, UT 84119

Acct #:

19-Apr-99

Requested Tests										
Sample ID	Matrix	Collection Date	Bottle Type	SW1311	SW1311/6010A	SW1311/8240A	SW1311/8270A	SW3010A	SW3510	SW7470
9904032-01A	Aqueous	4/19/99 11:00:00 AM	1LAMGU	3	1	1	1	1	1	1

### Comments:

Please call David Cox @ 505-325-1556 for instructions on analysis. All samples will be composited for TCLP Metals, TCLP Volatiles and TCLP Semivolatiles analyses.

Date/Time

Date/Time

Relinquished by: *Heidi Rees*

4/19/99 1610

Received by:

*Pat A. Anderson*

04/20/99 @ 1030



# CHAIN OF CUSTODY RECORD

5226

Date: 4/19/99

Page 1 of 1

657 W. Maple • P. O. Box 2606 • Farmington NM 87499  
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.:		Job No.		Name		Title	
SEND INVOICE TO		Name		Company		Title	
Company Contract Environmental Serv.		Address		Mailing Address			
Address P.O. Box 3376		City, State, Zip		City, State, Zip			
City, State, Zip Farmington, NM 87497		Telephone No.		Telephone No.		Telex No.	
Sampling Location: FMC Indoor Sump		ANALYSIS REQUESTED					
Sampler: Wes Hall		Number of Containers					
SAMPLE IDENTIFICATION		SAMPLE DATE		MATRIX		PRES.	
FMC201 40 ML VOA Indoor Sump 1st 7		4/19/99 11:00		HCL		HCL	
FMC201 40 ML VOA Indoor Sump 2nd 7		4/19/99 11:00		HCL		HCL	
FMC201 40 ML VOA Indoor Sump 3rd 7		4/19/99 11:00		HCL		HCL	
FMC201 40 ML VOA Indoor Sump 4th 7		4/19/99 11:05		HCL		HCL	
FMC201 40 ML VOA Indoor Sump 5th 7		4/19/99 11:05		HCL		HCL	
FMC201 40 ML VOA Indoor Sump 6th 7		4/19/99 11:10		HCL		HCL	
FMC201 40 ML VOA Indoor Sump 7th 7		4/19/99 11:10		HCL		HCL	
FMC201 40 ML VOA Indoor Sump 10th 7		4/19/99 11:10		HCL		HCL	
FMC201 40 ML VOA Indoor Sump 2nd 2		4/19/99 11:10		HCL		HCL	
Relinquished by: Wes Hall		Date/Time 4/19/99 12:30		Received by: Wes Hall		Date/Time 4/19/99 12:30	
Relinquished by:		Date/Time		Received by:		Date/Time	
Relinquished by:		Date/Time		Received by:		Date/Time	
Method of Shipment:		Rush		24-48 Hours		10 Working Days	
Authorized by: Wes Hall		Date 4/19/99		Special Instructions: The sample is for...			
(Client Signature Must Accompany Request)		Date 4/19/99		Special Instructions: The sample is for...			

District I - (505) 393-6161  
P.O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

RECEIVED

MAY 03 1999

Environmental Bureau  
Oil Conservation Division

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>WFS</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>MILAGRO Plant</u>
2. Management Facility Destination <u>KEY DISPOSAL</u>	6. Transporter <u>Key</u>
3. Address of Facility Operator <u>PHYSICAL: CR 3500 #345 AZTEC, NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>192 CR 4900 Blanco Field, NM 87413</u>	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.	
All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

WASTE WATER FROM EVAPORATION POND AT the NATURAL GAS  
Breachment Plant.

RECEIVED  
APR 29 1999

OIL CON. DIV.  
DIST. 3

Estimated Volume 2500+ bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: MGR DATE: 4-29-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny L. Feunt TITLE: Geologist DATE: 4/29/99  
APPROVED BY: Martyn J. Kelly TITLE: Env Geologist DATE: 5-4-99

## CERTIFICATE OF WASTE STATUS

1. Generator Name and Address: WILLIAMS FIELD SERVICES 192 CR 4900 Bloomfield NM. 87413	2. Destination Name: KEY ENERGY DISPOSAL
3. Originating Site (name): MILABRO PLANT 192 CR 4900 Bloomfield NM 87413 <small>Attach list of originating sites as appropriate</small>	Location of the Waste (Street address &/or ULSTR):
4. Source and Description of Waste Waste water	

I, NELSON M JLY TH representative for:  
(Print Name)  
WILLIAMS FIELD SERVICES / MILABRO PLANT do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information  
☒ RCRA Hazardous Waste Analysis  
☒ Chain of Custody

☐ Other (description):

Name (Original Signature): [Signature]

Title: Lead Mech

Date: 4/27/99

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

November 17, 1998

Mr. Mike Talovich  
Sunco, Inc.  
P.O. Box 900  
Farmington, New Mexico 87499

(505) 327-0416

Project No.: 98065-02

Dear Mr. Talovich,

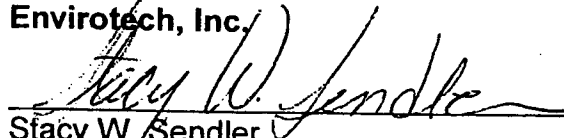
Enclosed are the analytical results for the sample collected from the location designated as "WFS Milagro Plant". One water sample identified as "Plant" was collected from the designated location by Sunco personnel on 10/29/98, and received by the Envirotech laboratory on 10/29/98 for Hazardous Waste Characterization analysis (Volatile and Semi-volatile Organics, Trace Metals, Reactivity, Corrosivity, and Ignitability).

The sample was documented on Envirotech Chain of Custody No. 6371 and assigned Laboratory No. E120 for tracking purposes.

The sample was analyzed on 10/29/98 through 11/16/98 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,  
Envirotech, Inc.

  
Stacy W. Sandler  
Environmental Scientist/Laboratory Manager

• enclosure

SWS/sws

98065-02.lb1/wpd

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	10-30-98
Lab ID#:	E120	Date Sampled:	10-29-98
Sample Matrix:	Soil	Date Received:	10-29-98
Preservative:	Cool	Date Analyzed:	10-29-98
Condition:	Cool and Intact	Chain of Custody:	6371

Parameter	Result
-----------	--------

IGNITABILITY: Negative

CORROSIVITY: Negative pH = 9.64

REACTIVITY: Negative

### RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
-----------	---------------------------

IGNITABILITY: Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21.  
(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)

CORROSIVITY: Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22.  
(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)

REACTIVITY: Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23.  
(i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: WFS Milagro Plant.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	10-29-98
Chain of Custody:	6371	Date Received:	10-29-98
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-11-98
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	0.059	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.0006	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	0.003	0.0002	7.5

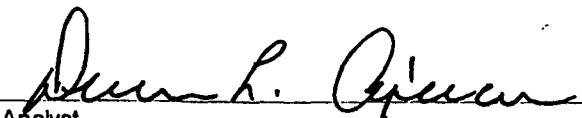
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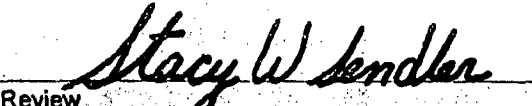
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: WFS Milagro Plant.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	10-29-98
Chain of Custody:	6371	Date Received:	10-29-98
Sample Matrix:	Water	Date Extracted:	11-09-98
Preservative:	Cool	Date Analyzed:	11-12-98
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	100%
	2,4,6-Tribromophenol	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: WFS Milagro Plant.

Analyst

Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	10-29-98
Chain of Custody:	6371	Date Received:	10-29-98
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-12-98
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	0.081	0.020	5.0
Hexachloroethane	0.190	0.020	3.0
Nitrobenzene	0.766	0.020	2.0
Hexachlorobutadiene	0.033	0.020	0.5
2,4-Dinitrotoluene	0.088	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

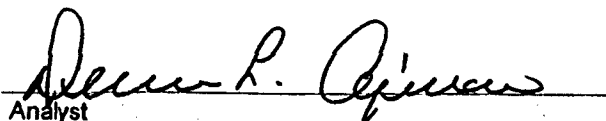
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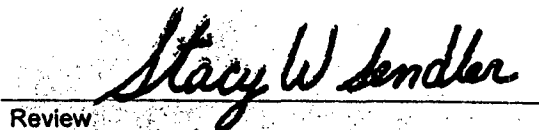
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: WFS Milagro Plant.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	11-13-98
Laboratory Number:	E120	Date Sampled:	10-29-98
Chain of Custody:	6371	Date Received:	10-29-98
Sample Matrix:	Water	Date Analyzed:	11-12-98
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	ND	0.0001	5.0
Barium	0.546	0.001	21
Cadmium	0.0017	0.0001	0.11
Chromium	ND	0.0001	0.60
Lead	0.0086	0.0001	0.75
Mercury	ND	0.0001	0.025
Selenium	ND	0.0001	5.7
Silver	ND	0.0001	0.14

ND - Parameter not detected at the stated detection limit.

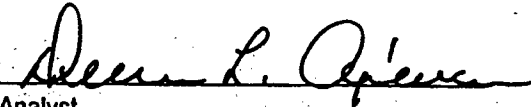
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060, 7080, 7131, 7191, 7470, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA. December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C, section 261.24, August 24, 1998.

Comments: WFS Milagro Plant.

  
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# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

## **QUALITY ASSURANCE / QUALITY CONTROL DOCUMENTATION**

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	11-12-98
Laboratory Number:	11-11-TCV-BLANK	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-11-98
Condition:	N/A	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

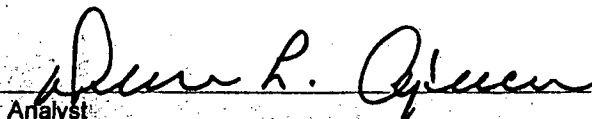
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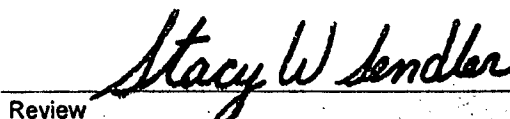
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	11-12-98
Laboratory Number:	11-04-TV-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-11-98
Condition:	N/A	Date Extracted:	11-04-98
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

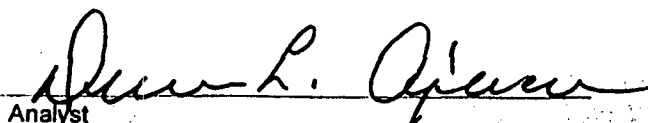
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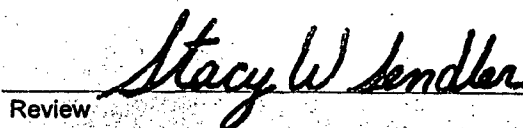
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	99%
	Bromofluorobenzene	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Duplicate  
Laboratory Number: E120  
Sample Matrix: TCLP Extract  
Analysis Requested: TCLP  
Condition: N/A

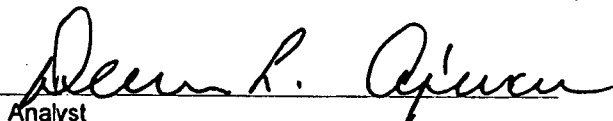
Project #: N/A  
Date Reported: 11-12-98  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 11-11-98  
Date Extracted: N/A

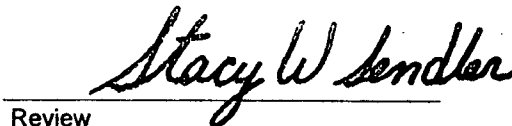
Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethene	ND	ND	0.0001	0.0%
2-Butanone (MEK)	0.059	0.059	0.0001	0.0%
Chloroform	ND	ND	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	0.0006	0.0006	0.0001	0.0%
1,2-Dichloroethane	ND	ND	0.0001	0.0%
Trichloroethene	ND	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	0.003	0.003	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Spike  
Laboratory Number: E120  
Sample Matrix: TCLP Extract  
Analysis Requested: TCLP  
Condition: N/A

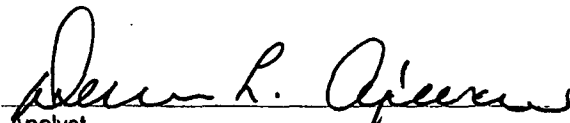
Project #: N/A  
Date Reported: 11-12-98  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 11-11-98  
Date Extracted: N/A

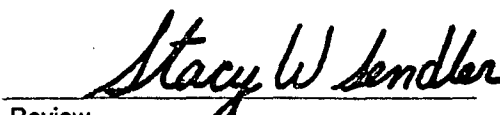
Parameter	Sample Result (mg/L)	Spike Added (mg/L)	Spiked Sample Result (mg/L)	Det. Limit (mg/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
2-Butanone (MEK)	0.059	0.050	0.1084	0.0001	100%	47-132
Chloroform	ND	0.050	0.0498	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0491	0.0001	98%	43-143
Benzene	0.0006	0.050	0.0504	0.0001	100%	39-150
1,2-Dichloroethane	ND	0.050	0.0494	0.0001	99%	51-147
Trichloroethene	ND	0.050	0.0494	0.0003	99%	35-146
Tetrachloroethene	ND	0.050	0.0498	0.0005	99%	26-162
Chlorobenzene	ND	0.050	0.0494	0.0003	99%	38-150
1,4-Dichlorobenzene	0.003	0.050	0.0524	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040

PHENOLS

Quality Assurance Report

Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	11-12-98
Laboratory Number:	11-12-TCA-BLANK	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-12-98
Condition:	N/A	Analysis Requested:	TCLP

Analytical Results	Concentration	Detection	Regulatory
Parameter	(mg/L)	Limit	Limit
		(mg/L)	(mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-fluorophenol	99 %
	2,4,6-tribromophenol	97 %

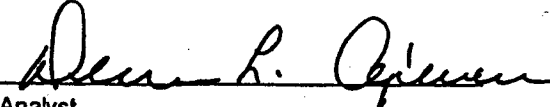
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.


Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147 - E148.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040

## PHENOLS

## Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	11-12-98
Laboratory Number:	11-04-TCA-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extraction	Date Received:	N/A
Preservative:	Cool	Date Extracted:	11-04-98
Condition:	Cool & Intact	Date Analyzed:	11-12-98
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	101%
	2,4,6-Tribromophenol	100%

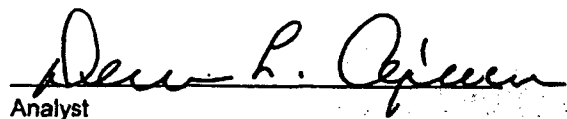
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

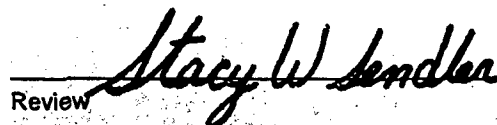
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147 - E148.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	N/A
Sample Matrix:	TCLP Extraction	Date Received:	N/A
Preservative:	Cool	Date Extracted:	11-04-98
Condition:	Cool & Intact	Date Analyzed:	11-12-98
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	ND	ND	0.020	0.0%
p,m-Cresol	ND	ND	0.040	0.0%
2,4,6-Trichlorophenol	ND	ND	0.020	0.0%
2,4,5-Trichlorophenol	ND	ND	0.020	0.0%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

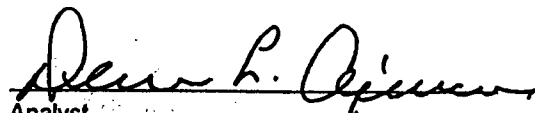
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

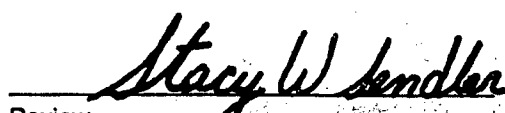
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147 - E148.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
Quality Assurance Report

Client: QA/QC  
Sample ID: Laboratory Blank  
Laboratory Number: 11-12-TBN-Blank  
Sample Matrix: Hexane  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 11-12-98  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 11-12-98  
Analysis Requested: TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

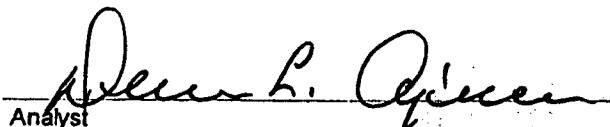
ND - Parameter not detected at the stated detection limit.

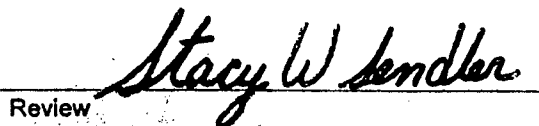
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Method Blank  
Laboratory Number: 11-04-BN-MB  
Sample Matrix: TCLP Extract  
Preservative: Cool  
Condition: Cool and Intact

Project #: N/A  
Date Reported: 11-12-98  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: 11-04-98  
Date Analyzed: 11-12-98  
Analysis Requested: TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

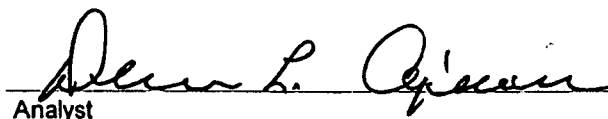
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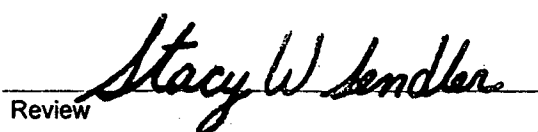
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QA/QC Matrix Duplicate Report

Client: QA/QC  
Sample ID: Matrix Duplicate  
Laboratory Number: E120  
Sample Matrix: TCLP Extract  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 11-12-98  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 11-12-98  
Analysis Requested: TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	0.081	0.081	0.0%	0.020
Hexachloroethane	0.190	0.188	1.0%	0.020
Nitrobenzene	0.766	0.759	0.9%	0.020
Hexachlorobutadiene	0.033	0.032	1.1%	0.020
2,4-Dinitrotoluene	0.088	0.085	3.0%	0.020
HexachloroBenzene	ND	ND	0.0%	0.020

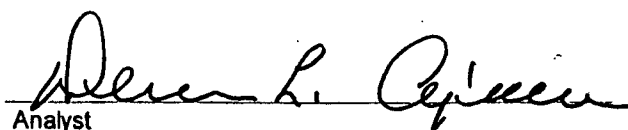
ND - Parameter not detected at the stated detection limit.

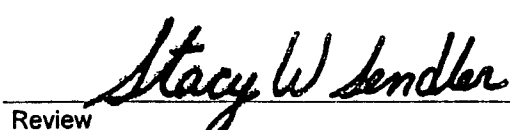
QA/QC Acceptance Criteria	Parameter	Maximum Difference
	8090 Compounds	30%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311  
TOXICITY CHARACTERISTIC  
LEACHING PROCEDURE  
TRACE METAL ANALYSIS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	11-12-TCM QA/QC	Date Reported:	11-13-98
Laboratory Number:	E120	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	11-12-98
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Barium	ND	ND	0.001	0.546	0.544	0.4%	0% - 30%
Cadmium	ND	ND	0.0001	0.0017	0.0016	5.9%	0% - 30%
Chromium	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Lead	ND	ND	0.0001	0.0086	0.0087	1.2%	0% - 30%
Mercury	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.0001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.1000	ND	0.0998	99.8%	80% - 120%
Barium	1.000	0.546	1.55	100.3%	80% - 120%
Cadmium	0.0500	0.0017	0.0515	99.6%	80% - 120%
Chromium	0.0500	ND	0.0499	99.8%	80% - 120%
Lead	0.1000	0.0086	0.109	99.9%	80% - 120%
Mercury	0.0250	ND	0.0248	99.2%	80% - 120%
Selenium	0.1000	ND	0.0997	99.7%	80% - 120%
Silver	0.0500	ND	0.0498	99.6%	80% - 120%

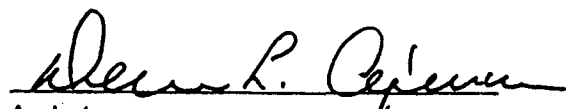
ND - Parameter not detected at the stated detection limit.


References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review





District I - (505) 393-6161  
P. O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
Alamogordo, NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

RECEIVED

APR 07 1999

Environmental Bureau  
Oil Conservation Division

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/> Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	4. Generator <u>Key Energy Serv.</u>
2. Management Facility Destination <u>Key Disposal</u>	5. Originating Site <u>Pipe Yard</u>
3. Address of Facility Operator <u>CR3500 #345 AZtec NM</u>	6. Transporter <u>Key</u>
7. Location of Material (Street Address or ULSTR) <u>#328 CR3500 AZtec NM</u>	8. State <u>NM</u>
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

fresh water mixed with UNUSED KCL fluid created  
from frac Tank Rinse out.

RECEIVED  
APR - 6 1999  
OIL CON. DIV.  
DIST. 3

Estimated Volume 800 bbls + cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: Manager DATE: 3-26-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny G. Foust TITLE: Geologist DATE: 4/6/99  
APPROVED BY: Monty J. Kinley TITLE: Env. Geologist DATE: 4/7/99

# CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> <i>Key ENERGY Serv.</i>	<b>2. Destination Name:</b> <i>Key ENERGY DISPOSAL</i>
<b>3. Originating Site (name):</b> <i>Key PipeYARD</i>	<b>Location of the Waste (Street address &amp;/or ULSTR):</b> <i>328 CR. 3500 Aztec, New Mexico</i>
<small>Attach list of originating sites as appropriate</small>	
<b>4. Source and Description of Waste</b> <i>Fresh Water mixed with unused KCL Fluid Created from Frac Tank Rinse outs.</i>	

I, Michael W. Church representative for:  
(Print Name)  
Key Energy Serv. PipeYARD do hereby certify that,  
 according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
 1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste      ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☒ MSDS Information      ☐ Other (description):  
☐ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

Name (Original Signature): *Michael W. Church*  
 Title: *Regional Manager*  
 Date: *3-26-99*

**MATERIAL SAFETY DATA SHEET**

POTASH  
CAUTION - MAY CAUSE SKIN AND  
EYE IRRITATION

**MOAB SALT, Inc.**  
P.O. Box 1208  
Moab, Utah (801) 259-771

**TEXASGULF Inc.**  
3101 Glenwood Avenue  
P.O. Box 30321  
Raleigh, N.C. 27622-0321 (919) 881-2700

TRANSPORTATION EMERGENCIES: CALL (800) 424-9300 (CHEMTREC)  
HEALTH EMERGENICES: CONTACT YOUR LOCAL POISON CENTER

**PRODUCT INFORMATION**

**CHEMICAL NAME AND SYNONYMS**  
POTASSIUM CHLORIDE

**TRADE NAME AND SYNONYMS** ✓  
POTASH, POTASSIUM MURIATE,  
MURIATE OF POTASH

**CHEMICAL FAMILY**  
INORGANIC SALT

**FORMULA**  
KCl

**CAS NUMBER**  
7447-40-7

Listed in: \_\_\_\_\_ OSHA SUBPART Z \_\_\_\_\_ ACGIH TLV LISTS; \_\_\_\_\_ NTP LIST;

\_\_\_\_\_ IARC MONOGRAPH; \_\_\_\_\_ X \_\_\_\_\_ NONE OF THE ABOVE

**TYPICAL COMPOSITION**  
POTASSIUM CHLORIDE  
SODIUM CHLORIDE

%  
96.8  
2.8 (CAS #7647-14-5)

**PHYSICAL DATA**

**BOILING POINT (°F)**  
**VAPOR PRESSURE (mm Hg.)**  
**VAPOR DENSITY (AIR-1)**  
**SOLUBILITY IN WATER**  
**APPEARANCE AND ODOR**  
**pH**

Sublimes @ 2732  
N/A  
N/A  
25% @ 68°F  
White crystals or granules, odorless  
7 at 1% ✓

**MELTING POINT (°F)** 1423  
**SPECIFIC GRAVITY (H2O-1)** 1.98  
**PERCENT VOLATILE** N/A  
**EVAPORATION RATE** N/A  
**OTHER**

**FIRE AND EXPLOSION HAZARD INFORMATION**

**FLASH POINT (METHOD USED)**  
**EXTINGUISHING MEDIA**  
**SPECIAL FIRE FIGHTING PROCEDURES**  
**UNUSUAL FIRE AND EXPLOSION HAZARDS**

NOT COMBUSTIBLE  
N/A  
NONE  
NONE

**FLAMMABLE LIMITS** LEL N/A  
UEL N/A

**HEALTH INFORMATION**

**THRESHOLD LIMIT VALUE:**

NONE ESTABLISHED. OSHA total nuisance dust limit of 15 mg/m<sup>3</sup> and a respirable fraction of 5 mg/m<sup>3</sup>. The ACGIH nuisance dust TLV of 10 mg/m<sup>3</sup> for the 8 hour time weighted average applies.

**EFFECTS OF OVEREXPOSURE** EYE-Irritant, SKIN-Slightly irritating. INHALATION-Irritates trachea and upper breathing passages. INGESTION-Large doses and cause G.I. irritation, purging, weakness and circulatory disturbances. Low toxicity. (Toxicity LD50 Rat=3020 mg/kg).

#### EMERGENCY AND FIRST AID PROCEDURES

EYE-Flush thoroughly with water. Seek medical attention if irritation persists.

SKIN-Wash thoroughly with soap and water.

INHALATION-Remove to fresh air. If discomfort continues, seek medical attention.

INGESTION-If person is conscious, give large amounts of water to drink and induce vomiting. Seek medical attention.

#### REACTIVITY DATA

STABILITY

☐  
☒

UNSTABLE  
STABLE

CONDITIONS TO AVOID

NONE

INCOMPATIBILITY (Materials to Avoid) Strong acids-can cause release of toxic chloride gasses.

HAZARDOUS DECOMPOSITION PRODUCTS None

HAZARDOUS

POLYMERIZATION

☐  
☒

May Occur  
Will Not Occur

CONDITIONS TO AVOID

NONE

#### SPILL OR LEAK PROCEDURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED** Prevent large quantities from contact with water ways or vegetation.

**WASTE DISPOSAL METHOD** If uncontaminated, recover and reuse product. Consult State or Federal environmental regulatory agencies for acceptable disposal procedures and location.

#### PERSONAL PROTECTION INFORMATION

EYE-Tight fitting goggles should be worn in dusty areas.

SKIN-if irritation occurs, long sleeves and impervious gloves should be worn.

RESPIRATORY-A NIOSH-approved dust respirator should be used when exposure exceeds the OSHA standard of 15 mg/m<sup>3</sup>.

#### SPECIAL PRECAUTIONS

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING** NONE

**OTHER PRECAUTIONS** Potash is mildly corrosive to steel when wet

strict I - (505) 393-6161  
D. Box 1989  
bbs, NM 88241-1980  
strict II - (505) 748-1283  
I S. First  
esia, NM 88210  
strict III - (505) 334-6178  
Rio Brazos Road  
c, NM 87410  
strict IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/6/95

**RECEIVED**

MAR 29 1999

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

Environmental Bureau

Oil Conservation Division

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>VANWATERS + ROGERS</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>YARD</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	6. Transporter <u>Key</u>
3. Address of Facility Operator <u>Phy: CR3500 #345 AZTEC NM</u> <u>MAILING PO BOX 900, FARMINGTON NM 87499</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>15th 5860</u> <u>FARMINGTON NM</u>	
9. <u>Circle One</u> : A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <u>B.</u> All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

Rainwater mixed (possibly) with methanol and triethylene glycol.

**RECEIVED**  
MAR 18 1999  
OIL CON. DIV.  
DIST. 3

Estimated Volume 160 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: M. Talovich TITLE: MGR DATE: 3-18-99

Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186  
6416

(This space for State Use)

APPROVED BY: Denny G. Feut TITLE: Geologist DATE: 3/19/99

APPROVED BY: Martyn G. Feut TITLE: Env. Geologist DATE: 3/29/99

## CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> VAN WATERS & ROGERS 15rd.5860 Farmington New Mexico 87401 325-3535 Tom Newman, Mike	<b>2. Destination Name:</b> KEY ENERGY
<b>3. Originating Site (name):</b> VAN WATERS&ROGERS 15Rd 5860 Farmington N.M. 87401 325-3535 Mike Anderson, Thomas A. Newman <small>Attach list of originating sites as appropriate</small>	<b>Location of the Waste (Street address &amp;/or ULSTR):</b>
<b>4. Source and Description of Waste</b>  Rain water that has built up over the last 6 months there is roughly 7000 gallons of water the p.h. is 7  MSDS. METHANOL/TRIETHYLENE GLYCOL ATTACHED TO FORM	

I, MIKE ANDERSON/VAN WATERS&ROGERS representative for:  
(Print Name)  
VAN WATERS & ROGERS do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic  
analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☒ MSDS Information  
☐ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

☐ Other (description):

Name (Original Signature):

Title:

Lead Material Handler

Date:

3/18/99

REPORT NUMBER: 971

VAN WATERS & ROGERS INC.

PAGE: 001

MSDS NO: HZ216830

MATERIAL SAFETY DATA SHEET

MAINFRAME UPLOAD DATE: 01/08/99

VERSION: 001

PRODUCT: METHANOL

ORDER NO:

PROD NO :

VAN WATERS & ROGERS INC. , A ROYAL PAKHOED COMPANY (425)889-3400  
6100 CARILLON POINT , KIRKLAND , WA 98033

----- EMERGENCY ASSISTANCE -----

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL - CHEMTREC  
(800)424-9300

PRODUCT NAME:  
METHANOL

MSDS #: HZ216830

1. CHEMICAL PRODUCT IDENTIFICATION  
PRODUCT NAME: METHANOL

SYNONYMS: CARBINOL  
METHYL ALCOHOL  
METHYL HYDROXIDE  
MONOHYDROXYMETHANE

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	
METHANOL *	67-56-1	99.5 -99.85%

OSHA HAZARDOUS ACCORDING TO 29 CFR 1910.1200

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

METHANOL IS A CLEAR, COLORLESS, MOBILE LIQUID WITH A MILD  
ALCOHOL ODOR.

DANGER!

FLAMMABLE (FLASH POINT: TOC, 60 F; TCC, 54 F)  
VAPOR IS HEAVIER THAN AIR AND CAN TRAVEL CONSIDERABLE



REPORT NUMBER: 971

VAN WATERS & ROGERS INC.

PAGE: 002

MSDS NO: HZ216830

MATERIAL SAFETY DATA SHEET

MAINFRAME UPLOAD DATE: 01/08/99

VERSION: 001

PRODUCT: METHANOL

ORDER NO:

PROD NO :

DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK.  
MATERIAL CAN BURN WITH LITTLE OR NO VISIBLE FLAME.  
POTENTIAL HEALTH EFFECTS

ROUTES OF EXPOSURE:

SKIN, EYES, INHALATION, INGESTION.

IMMEDIATE EFFECTS

SKIN:

REPEATED OR PROLONGED CONTACT CAUSES DRYING, BRITTLENESS,  
CRACKING AND IRRITATION. PROLONGED AND REPEATED SKIN CON-  
TACT WITH METHANOL-SOAKED MATERIAL HAS PRODUCED TOXIC  
EFFECTS INCLUDING VISION EFFECTS AND DEATH.

EYES:

MAY CAUSE EYE INJURY WHICH MAY PERSIST FOR SEVERAL DAYS.  
LIQUID (AND VAPOR IN HIGH CONCENTRATIONS) CAUSES IRRITATION,  
TEARING AND A BURNING SENSATION.

INHALATION:

EXTREMELY HIGH LEVELS CAUSE STUPOR, HEADACHE, NAUSEA, DIZZI-  
NESS, UNCONSCIOUSNESS AND MAY PRODUCE ADVERSE EFFECTS ON  
VISION.

INGESTION:

POISONOUS OR FATAL IF SWALLOWED. A SMALL AMOUNT (USUALLY  
TWO OR MORE OUNCES) CAN CAUSE MENTAL SLUGGISHNESS, NAUSEA  
AND VOMITING LEADING TO SEVERE ILLNESS, AND MAY PRODUCE  
ADVERSE EFFECTS ON VISION WITH POSSIBLE BLINDNESS OR DEATH  
IF TREATMENT IS NOT RECEIVED.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

SIGNIFICANT EXPOSURE TO THIS CHEMICAL MAY ADVERSELY AFFECT  
PEOPLE WITH CHRONIC DISEASE OF THE CENTRAL NERVOUS SYSTEM,  
SKIN, GASTROINTESTINAL TRACT AND/OR EYES.

FOR FURTHER INFORMATION, SEE:

SECTION 4 - FIRST AID MEASURES

SECTION 5 - FIRE FIGHTING MEASURES

SECTION 6 - ACCIDENTAL RELEASE MEASURES

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

SECTION 10 - STABILITY AND REACTIVITY

4. FIRST AID MEASURES

SKIN:

REMOVE CONTAMINATED CLOTHING AND WASH CONTAMINATED SKIN WITH  
LARGE AMOUNTS OF SOAP AND WATER. IF IRRITATION PERSISTS,  
CONTACT A PHYSICIAN.

EYES:

FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES. CONTACT A

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PHYSICIAN IMMEDIATELY.

INHALATION:

REMOVE PATIENT FROM CONTAMINATED AREA. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION, THEN OXYGEN IF NEEDED. CONTACT A PHYSICIAN IMMEDIATELY.

INGESTION:

INDUCE VOMITING OF CONSCIOUS PATIENT IMMEDIATELY BY GIVING TWO GLASSES OF WATER AND PRESSING FINGER DOWN THROAT. CONTACT A PHYSICIAN IMMEDIATELY.

NOTE TO PHYSICIANS:

WHEN PLASMA METHANOL CONCENTRATIONS ARE HIGHER THAN 20 MG/DECILITER, WHEN INGESTED DOSES ARE GREATER THAN 30 MILLILITERS, AND WHEN THERE IS EVIDENCE OF ACIDOSIS OR VISUAL ABNORMALITIES, A 10% SOLUTION OF ETHANOL IN 5% AQUEOUS DEXTROSE, ADMINISTERED INTRAVENOUSLY, IS A SAFE EFFECTIVE ANTIDOTE (WESTERN JOURNAL OF MEDICINE, MARCH 1985, P. 337).

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASHPOINT CLOSED CU: 60.0 F (15.6 C)

FLASHPOINT OPEN CUP : 54.0 F (12.2 C)

UPPER EXPLOSIVE LMT : 36.5 %

IN AIR BY VOLUME.

LOWER EXPLOSIVE LMT : 5.5 %

IN AIR BY VOLUME.

HAZARDOUS PRODUCTS OF COMBUSTION:

CARBON MONOXIDE.

EXTINGUISHING MEDIA:

USE CARBON DIOXIDE OR DRY CHEMICAL FOR SMALL FIRES; ALCOHOL-TYPE AQUEOUS FILM-FORMING FOAM OR WATER SPRAY FOR LARGE FIRES. WATER MAY BE INEFFECTIVE BUT SHOULD BE USED TO COOL FIRE-EXPOSED STRUCTURES AND VESSELS.

FIRE FIGHTING INSTRUCTIONS:

IF POTENTIAL FOR EXPOSURE TO VAPORS OR PRODUCTS OF COMBUSTION EXISTS, WEAR COMPLETE PERSONAL PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS WITH FULL FACE-PIECE OPERATED IN PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE. WATER SPRAY CAN BE USED TO REDUCE INTENSITY OF FLAMES AND TO DILUTE SPILLS TO NONFLAMMABLE MIXTURE. VAPOR IS HEAVIER THAN AIR AND CAN TRAVEL CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. MATERIAL CAN BURN WITH LITTLE OR NO VISIBLE FLAME.

6. ACCIDENTAL RELEASE MEASURES

ELIMINATE IGNITION SOURCES. AVOID EYE OR SKIN CONTACT; SEE "SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION" FOR RESPIRATOR INFORMATION. PLACE LEAKING CONTAINERS IN WELL-

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VENTILATED AREA WITH SPILL CONTAINMENT. IF FIRE POTENTIAL EXISTS, BLANKET SPILL WITH ALCOHOL-TYPE AQUEOUS FILM-FORMING FOAM OR USE WATER SPRAY TO DISPERSE VAPORS. CONTAIN SPILL TO FACILITATE CLEAN-UP. CLEAN-UP METHODS MAY INCLUDE ABSORBENT MATERIALS, VACUUM TRUCK, ETC. AVOID RUNOFF INTO STORM SEWERS AND DITCHES WHICH LEAD TO NATURAL WATERWAYS.

CALL THE NATIONAL RESPONSE CENTER (800 424 8802) IF THE QUANTITY (OF ANY COMPONENT) SPILLED IS EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY (RQ) UNDER CERCLA "SUPERFUND": 5000 LB/DAY.

FOR MORE INFORMATION, SEE "SECTION 15 - REGULATORY INFORMATION".

## 7. HANDLING AND STORAGE

### HANDLING:

USE WITH ADEQUATE VENTILATION. KEEP CONTAINERS CLOSED WHEN NOT IN USE. ALWAYS OPEN CONTAINERS SLOWLY TO ALLOW ANY EXCESS PRESSURE TO VENT. AVOID BREATHING VAPOR. AVOID CONTACT WITH EYES, SKIN OR CLOTHING. WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING. DECONTAMINATE SOILED CLOTHING THOROUGHLY BEFORE RE-USE. DESTROY CONTAMINATED LEATHER CLOTHING.

DO NOT EXPOSE TO TEMPERATURES ABOVE 49 C (120 F). USE SPARK-RESISTANT TOOLS. DO NOT LOAD INTO COMPARTMENTS ADJACENT TO HEATED CARGO. PROVIDE EMERGENCY EXHAUST. CLOTHING.

### STORAGE:

KEEP ALL CONTAINERS TIGHTLY CLOSED WHEN NOT IN USE. STORE OUT OF DIRECT SUNLIGHT AND ON AN IMPERMEABLE FLOOR.

DO NOT STORE WITH INCOMPATIBLE MATERIALS; SEE "SECTION 10 - STABILITY AND REACTIVITY".

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### ENGINEERING CONTROLS:

GENERAL OR DILUTION VENTILATION IS FREQUENTLY INSUFFICIENT AS THE SOLE MEANS OF CONTROLLING EMPLOYEE EXPOSURE. LOCAL VENTILATION IS USUALLY PREFERRED.

EXPLOSION-PROOF EQUIPMENT (FOR EXAMPLE, FANS, SWITCHES, GROUNDED DUCTS) SHOULD BE USED IN MECHANICAL VENTILATION SYSTEMS.

### PROTECTIVE EQUIPMENT

A SAFETY SHOWER AND EYE BATH SHOULD BE READILY AVAILABLE.

SKIN:

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WEAR IMPERVIOUS CLOTHING AND GLOVES TO PREVENT REPEATED OR PROLONGED CONTACT. THE RECOMMENDED MATERIAL OF CONSTRUCTION IS:

BUTYL RUBBER.

EYES:

WEAR CHEMICAL GOGGLES WHEN THERE IS A REASONABLE CHANCE OF EYE CONTACT.

INHALATION:

BASED ON WORKPLACE CONTAMINATE LEVEL AND WORKING LIMITS OF THE RESPIRATOR, USE A RESPIRATOR APPROVED BY NIOSH/MSHA. THE FOLLOWING IS THE MINIMUM RECOMMENDED EQUIPMENT FOR AN ACCEPTABLE LEVEL OF EXPOSURE. TO ESTIMATE AN ACCEPTABLE LEVEL OF EXPOSURE, SEE "SECTION 3 - HAZARDS IDENTIFICATION", "SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION" AND "SECTION 11 - TOXICOLOGICAL INFORMATION".

FOR CONCENTRATIONS  $\geq 1$  AND  $\leq 100$  TIMES THE ACCEPTABLE LEVEL: USE TYPE C FULL FACEPIECE SUPPLIED-AIR RESPIRATOR OPERATED IN PRESSURE-DEMAND OR CONTINUOUS-FLOW MODE. POSITIVE-PRESSURE SELF-CONTAINED BREATHING APPARATUS ESCAPE SYSTEM.

FOR CONCENTRATIONS  $\geq 100$  TIMES THE ACCEPTABLE LEVEL OR IDLH LEVEL OR UNKNOWN CONCENTRATION (SUCH AS IN EMERGENCIES): USE SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE IN PRESSURE-DEMAND MODE. TYPE C POSITIVE-PRESSURE FULL FACEPIECE SUPPLIED-AIR RESPIRATOR WITH AN AUXILIARY POSITIVE-PRESSURE SELF-CONTAINED BREATHING APPARATUS ESCAPE SYSTEM.

FOR ESCAPE: USE SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OR ANY RESPIRATOR SPECIFICALLY APPROVED FOR ESCAPE.

EXPOSURE GUIDELINES:

METHANOL (67-56-1)

OSHA PEL

ACGIH TLV

200 PPM (TWA)

250 PPM (STEL)

200 PPM (TWA)

ACGIH HAS GIVEN THIS SUBSTANCE A SKIN DESIGNATION.

CELANESE HAS ADOPTED THE ACGIH TLV.

1990 NIOSH IDLH\*: 25,000 PPM

1994 NIOSH IDLH: 6000 PPM

\*RECOGNIZED BY OSHA.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : CLEAR, COLORLESS, MOBILE LIQUID.

ODOR : MILD ALCOHOL ODOR.

PHYSICAL STATE : LIQUID

VAPOR PRESSURE : 96.0 HG  
(20 C)

VAPOR DENSITY : 1.11

AIR = 1 AT 20 C

BOILING POINT : 64.6 C (148.3 F)  
(760 MM HG)

FREEZING POINT : -97.8 C (-144.0 F)

SOLUBILITY : COMPLETE IN WATER.

SPECIFIC GRAVITY : 0.792  
H2O = 1 @ 20/20 C

EVAPORATION RATE : 2.0  
BUAC = 1

% VOLATILES : 100.0

MOLECULAR WEIGHT : 32.0

## 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:  
STABLE.

CONDITIONS TO AVOID:

HEAT, SPARKS, FLAME.

INCOMPATIBILITY:

SULFURIC ACID; OXIDIZING AGENTS SUCH AS HYDROGEN PEROXIDE,  
NITRIC ACID, PERCHLORIC ACID AND CHROMIUM TRIOXIDE.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR.

## 11. TOXICOLOGICAL INFORMATION

ORAL LD50 : 7.5 G/KG (RATS); PRACTICALLY NON-TOXIC TO  
RATS.

DERMAL : MINIMUM LETHAL DOSE, 1.6 G/KG (MONKEYS);  
LOW TOXICITY TO ANIMALS BY SKIN CONTACT.

INHALATION LC50 : 64,000 PPM (RATS, 4 HRS) PRACTICALLY NON-  
TOXIC IN RATS. REPEATED EXPOSURE OF MONKEYS TO 5000 PPM,  
6 HRS/DAY, 5 DAYS/WK FOR 4 WEEKS CAUSED NO TOXIC RESPONSE OR  
EFFECTS ON VISION.

MUTAGENICITY : IN VITRO, LIMITED EVIDENCE OF MUTAGENI-  
CITY (MOUSE LYMPHOMA FORWARD MUTATION ASSAY). IN VIVO, NO  
INFORMATION.

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CARCINOGENICITY : NO EVIDENCE OF CARCINOGENIC POTENTIAL IN LIMITED ANIMAL STUDIES IN WHICH METHANOL WAS GIVEN ORALLY OR APPLIED TO THE SKIN.

REPRODUCTION : REPORTED TO CAUSE BIRTH DEFECTS IN RATS EXPOSED TO VERY HIGH LEVELS OF VAPORS (20,000 PPM).

## 12. ECOLOGICAL INFORMATION

THIS INFORMATION IS BEING RESEARCHED.

## 13. DISPOSAL CONSIDERATIONS

ALL NOTIFICATION, CLEAN-UP AND DISPOSAL SHOULD BE CARRIED OUT IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. PREFERRED METHODS OF WASTE DISPOSAL ARE INCINERATION OR BIOLOGICAL TREATMENT IN FEDERAL/STATE APPROVED FACILITY.

HAZARDOUS WASTE (40 CFR 261): YES; U154, D001.

## 14. TRANSPORT INFORMATION

SHIPPING NAME : METHANOL  
HAZARD CLASS : 3, FLAMMABLE LIQUID  
SUBSIDIARY HAZARD : 6, POISONOUS MATERIALS  
UNITED NATIONS NO. : UN1230  
PACKING GROUP : II  
NORTH AMERICAN ER GUIDE : 131  
DOT REPORTABLE QUANTITY (RQ): 5000 LB/2270 KG

## CANADIAN TRANSPORTATION OF DANGEROUS GOODS

CLASSIFICATION : FLAMMABLE LIQUID 3 (6.1)

## 15. REGULATORY INFORMATION

RECIPIENT MUST COMMUNICATE ALL PERTINENT INFORMATION HEREIN TO EMPLOYEES AND CUSTOMERS.

## STATE REGULATIONS

THE FOLLOWING CHEMICALS ASSOCIATED WITH THE PRODUCT ARE SUBJECT TO THE RIGHT-TO-KNOW REGULATIONS IN THESE STATES:

METHANOL (67-56-1): CT, FL, IL, LA, MA, NJ, NY, PA, RI

## U.S. FEDERAL REGULATIONS

WE CERTIFY THAT ALL COMPONENTS ARE EITHER ON THE TSCA INVENTORY OR QUALIFY FOR AN EXEMPTION.

BARA 313 : METHANOL 99.85% (67-56-1)

## ENVIRONMENTAL:

CERCLA : METHANOL 99.85% (67-56-1)

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SARA 304 : METHANOL 99.85% (67-56-1)

SARA 311 :

ACUTE HEALTH----- YES

CHRONIC HEALTH----- YES

FIRE----- YES

SUDDEN RELEASE OF PRESSURE--- NO

REACTIVE----- NO

INTERNATIONAL REGULATIONS

LISTED ON THE CHEMICAL INVENTORIES OF THE FOLLOWING

COUNTRIES: AUSTRALIA, CANADA, EUROPE (EINECS), JAPAN AND  
KOREA.

WHMIS INGREDIENT DISCLOSURE LISTED COMPONENTS:

WHMIS CLASSIFICATION: CLASS B, DIVISION 2; CLASS D,  
DIVISION 1, SUBDIVISION A.

THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZ-  
ARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFOR-  
MATION REQUIRED BY THE CPR.

16. OTHER INFORMATION

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----- FOR ADDITIONAL INFORMATION -----

CONTACT: MSDS COORDINATOR

VAN WATERS & ROGERS INC.

DURING BUSINESS HOURS, PACIFIC TIME

(425)889-3400

03/17/99 06:10

PRODUCT:

CUST NO:

ORDER NO:

----- NOTICE -----

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DISCLAIMS ALL EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR

A PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED

HEREIN, AND SHALL UNDER NO CIRCUMSTANCES BE LIABLE FOR INCIDENTAL OR

CONSEQUENTIAL DAMAGES. \*\*

ALL INFORMATION APPEARING HEREIN IS BASED UPON DATA OBTAINED FROM THE  
MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMATION IS  
BELIEVED TO BE ACCURATE, VW&R MAKES NO REPRESENTATIONS AS TO ITS ACCURACY OR  
SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VW&RS CONTROL AND THEREFORE USERS  
ARE RESPONSIBLE TO VERIFY THIS DATA UNDER THEIR OWN OPERATING CONDITIONS TO  
DETERMINE WHETHER THE PRODUCT IS SUITABLE FOR THEIR PARTICULAR PURPOSES AND THEY  
ASSUME ALL RISKS OF THEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM  
THE PUBLICATION OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN.  
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RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER  
PROCESS.

\* \* \* E N D O F M S D S \* \* \*



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PROD NO :

VAN WATERS & ROGERS INC. , A ROYAL PAKHOED COMPANY (425)889-3400  
6100 CARILLON POINT , KIRKLAND , WA 98033

----- EMERGENCY ASSISTANCE -----

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL - CHEMTREC  
(800)424-9300

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 IDENTIFICATION

Product Name

TRIETHYLENE GLYCOL

Effective Date: 07/23/1998

Chemical Name

Triethylene glycol

Chemical Family

Ethylene glycol

Common Name

TRIETHYLENE GLYCOL

Formula

HO(C2H4O)3H

Synonym

TEG, Glycol-bis(hydroxyethyl)ether

1.2 COMPANY IDENTIFICATION

Union Carbide Corporation

89 Old Ridgebury Road

Danbury, CT 06817-0001

1.3 EMERGENCY TELEPHONE NUMBER

24 hours a day: 1-800-UCC-HELP (1-304-744-3487)

Number for non-emergency questions concerning MSDS (732) 563-5522

Additional information on this product may be obtained by calling the

Union Carbide Corporation Customer Service Center at 1-800-568-4000.

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## 2. COMPOSITION INFORMATION

Component

CAS #

Amount

Triethylene glycol

112-27-6

> 99.5 %

Ethylene glycol

107-21-1

0.1 %

## 3. HAZARDS IDENTIFICATION

### 3.1 EMERGENCY OVERVIEW

Appearance

Transparent colorless

Physical State

Liquid

Odor

Mild

Hazards of product

CAUTION!

REPEATED BREATHING OF AEROSOL IN HIGH CONCENTRATIONS IS HARMFUL.

### 3.2 POTENTIAL HEALTH EFFECTS

Effects of Single Acute Overexposure

Inhalation Short-term harmful health effects are not expected from vapor generated at ambient temperature. No evidence of short-term harmful effects from respirable aerosol based on available information. See "Effects of Repeated Overexposure."

Eye Contact No harmful effects expected from liquid. Vapor or mist may be irritating, experienced as discomfort, excess blinking and tear production, with excess redness of the conjunctiva.

Skin Contact Sustained contact may cause mild local redness.

Skin Absorption No evidence of harmful effects from available information.

Swallowing Abdominal discomfort, nausea and vomiting may occur.

Chronic, Prolonged or Repeated Overexposure

Effects of Repeated Overexposure Exposure to high concentrations of aerosol generated at room temperature may cause lung injury and liver dysfunction.

Other Effects of Overexposure Overexposure to vapor generated at high temperatures may result in eye and respiratory tract irritation, dizziness, nausea and the inhalation of harmful amounts of material.

Medical Conditions Aggravated by Exposure

A knowledge of the available toxicology information and of the physical and chemical properties of the material suggests that overexposure is unlikely to aggravate existing medical conditions.

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### 3.3 POTENTIAL ENVIRONMENTAL EFFECTS

See Section 12 for Ecological Information.

### 4. FIRST AID PROCEDURES

#### 4.1 INHALATION

Remove to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention.

#### 4.2 EYE CONTACT

Flush eyes thoroughly with water for several minutes. Remove contact lenses, if worn.

#### 4.3 SKIN CONTACT

Wash skin with soap and water.

#### 4.4 SWALLOWING

No emergency care anticipated.

#### 4.5 NOTES TO PHYSICIAN

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

### 5. FIRE FIGHTING MEASURES

#### 5.1 FLAMMABLE PROPERTIES

Flash Point - Closed Cup: Pensky-Martens Closed Cup ASTM D 93 176.6 deg C 350 deg F

Flash Point - Open Cup: Cleveland Open Cup ASTM D 92 190.5 deg C 375 deg F

Autoignition Temperature: Not currently available.

Flammable Limits In Air:

Lower

0.9 %(V) Calculated

Upper

9.2 %(V) Estimated

#### 5.2 EXTINGUISHING MEDIA

Apply alcohol-type or all-purpose-type foam by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires.

#### 5.3 EXTINGUISHING MEDIA TO AVOID

No information currently available.

#### 5.4 SPECIAL FIRE FIGHTING PROCEDURES

Do not direct a solid stream of water or foam into hot, burning pools; this may cause frothing and increase fire intensity.

#### 5.5 SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Use self-contained breathing apparatus and protective clothing.

#### 5.6 UNUSUAL FIRE AND EXPLOSION HAZARDS

Spontaneous Combustion in Porous Insulation: Leaks into porous insulation material may ignite at temperatures far below published autoignition or ignition temperatures, potentially even below the normal flash point.

See Section 8.3 - Engineering Controls

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## 5.7 HAZARDOUS COMBUSTION PRODUCTS

Burning can produce the following combustion products: Carbon monoxide and/or carbon dioxide. Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant.

## 6. ACCIDENTAL RELEASE MEASURES

Steps to be taken if Material is Released or Spilled:

Small spills can be flushed with large amounts of water; larger spills should be collected for disposal.

## 7. HANDLING AND STORAGE

### 7.1 HANDLING

General Handling

Avoid breathing aerosol.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

Ventilation

General (mechanical) room ventilation is expected to be satisfactory.

### 7.2 STORAGE

No information currently available.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### 8.1 EXPOSURE LIMITS

Component

Exposure Limits

Skin

TH State

Ethylene glycol

100 mg/m3 CEILING ACGIH

Aerosol

125 mg/m3 CEILING OSHA

50 ppm CEILING OSHA

100 mg/m3 CEILING UCC

Mist

Triethylene glycol

100 mg/m3 TWAS UCC

### 8.2 PERSONAL PROTECTION

Respiratory Protection: At ambient temperature none needed for vapor.

Wear full face respirator when recurrent exposures to high aerosol concentrations may occur.

Ventilation: General (mechanical) room ventilation is expected to be satisfactory.

Eye Protection:

Monogoggles or faceshield

Protective Gloves:

PVC-coated

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Other Protective Equipment:

Eye Bath, Safety Shower

### 3.3 ENGINEERING CONTROLS

PROCESS HAZARD: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into hot equipment under a vacuum, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Further information is available in a technical bulletin entitled "Ignition Hazards of Organic Chemical Vapors."

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Appearance: Transparent colorless

pH: Not currently available.

Solubility in Water (by weight): 100 %

Odor: Mild

Flash Point - Closed Cup: Pensky-Martens Closed Cup ASTM D 93 176.6 deg C

350 deg F

Flash Point - Open Cup: Cleveland Open Cup ASTM D 92 190.5 deg C

375 deg F

Molecular Weight: 150.17 g/mol

Boiling Point (760 mmHg): 288 deg C 550 deg F

Freezing Point: -4.3 deg C 24 deg F

Specific Gravity (H2O = 1): 1.126 20 deg C / 20 deg C

Vapor Pressure at 20 deg C: < 0.001 kPa 0.01 mmHg

Vapor Density (air = 1): 5.2

Evaporation Rate (Butyl Acetate = 1): < 0.001

Melting Point: Not determined.

## 10. STABILITY AND REACTIVITY

### 10.1 STABILITY/INSTABILITY Stable

Incompatible Materials: Explosive decomposition may occur if combined with strong acids or strong bases and subjected to elevated temperatures. Therefore, avoid strong acids and strong bases at elevated temperatures. Avoid contamination with strong oxidizing agents and materials reactive with hydroxyl compounds.

Hazardous Decomposition Products: If the fluid is heated above the temperature of the onset of initial decomposition, 206 C, thermal degradation may result in the formation of volatile organic compounds such as aldehydes including formaldehyde and acetaldehyde, dioxolanes, glycol ethers including ethylene glycol monomethyl ether, and other potentially harmful decomposition products. Respiratory protection may be required.

### 10.2 HAZARDOUS POLYMERIZATION Will Not Occur.

### 10.3 INHIBITORS/STABILIZERS Not applicable.

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# 11. TOXICOLOGICAL INFORMATION

## ACUTE TOXICITY

Peroral: rat male 16 ml/kg

Kill Rate: 0/5

Major Signs: sluggishness, unsteady gait

Gross Pathology: None.

Peroral: rat female 16 ml/kg

Kill Rate: 0/5

Major Signs: sluggishness, unsteady gait

Gross Pathology: None.

Percutaneous: rabbit 24 hr occluded male 16 ml/kg

Kill Rate: 0/5

Major Signs: emaciation and abdominal distention

Gross Pathology: lungs discolored; stomach and intestines liquid-filled; slight vascularization of skin at application site

Percutaneous: rabbit 24 hr occluded female 16 ml/kg

Kill Rate: 1/5

Major Signs: emaciation and abdominal distention

Gross Pathology: lungs discolored; stomach and intestines liquid-filled; slight vascularization of skin at application site

Inhalation: Exposure Time 4 h

rat male 5.2 mg/l

Kill Rate: 0/5

Major Signs: periocular wetness, blepharospasm, absence of pinch reflexes, unkempt fur

Gross Pathology: None.

Inhalation: Exposure Time 4 h

rat female 5.2 mg/l

Kill Rate: 0/5

Major Signs: periocular wetness, blepharospasm, absence of pinch reflexes, unkempt fur

Gross Pathology: None.

Inhalation: dynamic generation Exposure Time 6 h

rat male

21 deg C

Kill Rate: 0/5

Major Signs: None.

Gross Pathology: None.

Inhalation: dynamic generation Exposure Time 6 h

rat female

21 deg C

Kill Rate: 0/5

Major Signs: None.

Gross Pathology: None.

## IRRITATION

Skin: rabbit 4 hr occluded no irritation

Eye: rabbit 0.1 ml minor iritis, minor conjunctival

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MATERIAL SAFETY DATA SHEET

MAINFRAME UPLOAD DATE: 02/25/99

VERSION: 011

PRODUCT: TRIETHYLENE GLYCOL

ORDER NO:

PROD NO :

Irritation. No corneal injury

SENSITIZATION (ANIMAL AND HUMAN STUDIES)

guinea pig maximization procedure no reaction

CHRONIC TOXICITY AND CARCINOGENICITY

In a 9-day repeated inhalation exposure (6 hours/day) study with rats, mortality occurred at 4284 mg/m<sup>3</sup>; at 2011 mg/m<sup>3</sup> effects included eye irritation and increased alanine aminotransferase and alkaline phosphatase activities; at 494 mg/m<sup>3</sup> there was slightly increased alkaline phosphatase activity.

SIGNIFICANT DATA WITH POSSIBLE RELEVANCE TO HUMANS

Triethylene glycol was given to rats by inclusion in the diet for 90 days at concentrations of 10,000, 20,000 or 50,000 ppm. At the highest dose, there were decreases in body weight. Physiologic responses to these high doses were observed in kidney weight and urinalysis. No specific organ toxicity was seen.

In a 9-day (whole body) repeated inhalation exposure (6 hr/day) study with rats, mortality occurred at 4284 mg/m<sup>3</sup> and effects included eye irritation and increased alanine aminotransferase and alkaline phosphatase activities; at 494 mg/m<sup>3</sup> there was slightly increased alkaline phosphatase activity. In a subsequent 9-day (nose-only) repeated aerosol study rats were exposed to concentrations up to 1036 mg/m<sup>3</sup>. The only effect noted was slight (not statistically or biologically significant) decrease in body weight gain at 517 mg/m<sup>3</sup> and 1036 mg/m<sup>3</sup>, but not at 102 mg/m<sup>3</sup>. No indications of local or systemic target organ toxicity were noted, including effects on hematology, clinical chemistry or urinalysis. In a sensory irritation study in mice, exposure to high concentrations of triethylene glycol aerosol resulted in a decreased respiratory rate. The RD50, or concentration which produced a 50% decrease in respiratory rate, was 5.1 mg/l.

There was no evidence in developmental toxicity studies for either embryotoxic or teratogenic effects in mice or rats given triethylene glycol by gavage. Maternal toxicity was seen as reduced body weight and food consumption, increased water consumption, and increased relative kidney weight with rats, and clinical signs and increased relative kidney weight with mice. There was no histologic evidence of damage to the kidneys in either species. The no-observable effect doses for maternal toxicity were 1125 mg/kg/day for rats and 5630 mg/kg/day for mice. Minor fetotoxicity (reduced fetal body weights and increased skeletal variations) was present with doses of 11260 mg/kg/day for rats, and 5630 and 11260 mg/kg/day for mice. The no-observable effect dose for fetotoxicity was 5630 mg/kg/day for rats and 563 mg/kg/day for mice.

ADDITIONAL STUDIES

No evidence for skin sensitizing potential in a human repeated insult study

12. ECOLOGICAL INFORMATION

12.1 ENVIRONMENTAL FATE

BOD (% Oxygen consumption)

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PRODUCT: TRIETHYLENE GLYCOL

ORDER NO:

PROD NO :

Day 5

Day 10

Day 15

Day 20

Day 30

3 %

7 %

30 %

## 12.2 ECOTOXICITY

Ecotoxicity to Micro-organisms: Bacterial/NA IC50 16 h > 10000 mg/l

Ecotoxicity to Aquatic Invertebrates: Daphnia LC50 48 h > 10000 mg/l

Ecotoxicity to Fish: Fathead Minnow LC50 96 h > 10000 mg/l

## 12.3 FURTHER INFORMATION

THOD (measured) 1.55 mg/mg

THOD (calculated) 1.6 mg/mg

Octanol/Water Partition Coefficient - Calculated: -2.08

## 13. DISPOSAL CONSIDERATIONS

### 13.1 WASTE DISPOSAL METHOD

Incinerate in a furnace where permitted under appropriate Federal, State, and local regulations. Dispose in accordance with all applicable Federal, State, Provincial, and local environmental regulations. Empty containers should be recycled or disposed of through an approved waste management facility.

### 13.2 DISPOSAL CONSIDERATIONS

See Section 13.1

Disposal methods identified are for the product as sold. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permissible under applicable rules, regulations and/or laws governing your location.

## 14. TRANSPORT INFORMATION

### 14.1 U.S. D.O.T.

NON-BULK

Proper Shipping Name : NOT REGULATED

BULK

Proper Shipping Name : NOT REGULATED

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through your UCC sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

## 15. REGULATORY INFORMATION

### 15.1 FEDERAL/NATIONAL

ERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 SECTION 103)



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PRODUCT: TRIETHYLENE GLYCOL

ORDER NO:

PROD NO :

The following components of this product are specifically listed as hazardous substances in 40 CFR 302.4 (unlisted hazardous substances are not identified) and are present at levels which could require reporting:

Component

CAS #

Amount

Ethylene glycol

107-21-1

<= 0.1000 %

Acetic acid

64-19-7

<= 0.0100 %

1,4-Dioxane

123-91-1

<= 0.0001 %

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III

SECTIONS 302 AND 304

The following components of this product are listed as extremely hazardous substances in 40 CFR Part 355 and are present at levels which could require reporting and emergency planning:

None.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III

SECTION 313

The following components of this product are listed as toxic chemicals in 40 CFR 372.65 and are present at levels which could require reporting and customer notification under Section 313 and 40 CFR Part 372:

- This product does not contain toxic chemicals at levels which require reporting under the statute.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III

SECTIONS 311 AND 312

Delayed Hazard : Yes

Fire Hazard : No

Immediate Health Hazard : Yes

Reactive Hazard : No

Sudden Release of Pressure Hazard : No

TOXIC SUBSTANCES CONTROL ACT (TSCA)

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

15.2 STATE/LOCAL

PENNSYLVANIA (WORKER AND COMMUNITY RIGHT-TO-KNOW ACT)

This product is subject to the Worker and Community Right-to-Know Act. The following components of this product are at levels which could require identification in the MSDS:

Component

CAS #

Amount

Triethylene glycol

112-27-6

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PRODUCT: TRIETHYLENE GLYCOL

ORDER NO:

PROD NO :

<= 99.5000 %

MASSACHUSETTS (HAZARDOUS SUBSTANCES DISCLOSURE BY EMPLOYERS)

The following components of this product appear on the Massachusetts Substance List and are present at levels which could require identification in the MSDS:

Component

CAS #

Amount

1,4-Dioxane

123-91-1

<= 0.0001 %

CALIFORNIA PROPOSITION 65 (SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986)

This product contains trace levels of 1,4-DIOXANE known to the State of California to cause cancer.

Component

CAS #

Amount

1,4-Dioxane

123-91-1

<= 0.0001 %

CALIFORNIA SCAQMD RULE 443.1 (SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 443.1, LABELING OF MATERIALS CONTAINING ORGANIC SOLVENTS)

VOC : Vapor pressure <0.01 mmHg at 20 deg C

2 g/l

2 g/l of material less water and less exempted solvents.

This section provides selected regulatory information on this product including its components. This is not intended to include all regulations. It is the responsibility of the user to know and comply with all applicable rules, regulations and laws relating to the product being used.

## 16. OTHER INFORMATION

### 16.1 AVAILABLE LITERATURE AND BROCHURES

ADDITIONAL INFORMATION: Additional product safety information on this product may be obtained by calling your Union Carbide Corporation Sales or Customer Service contact. Ask for the brochure:

Product Information Bulletin on Triethylene Glycol.

### 16.2 SPECIFIC HAZARD RATING SYSTEM

Additional information on this product may be obtained by calling the Union Carbide Corporation Customer Service Center at 1-800-568-4000.

### 16.3 RECOMMENDED USES AND RESTRICTIONS

FOR INDUSTRY USE ONLY

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PRODUCT: TRIETHYLENE GLYCOL

ORDER NO:

PROD NO :

----- FOR ADDITIONAL INFORMATION -----

CONTACT: MSDS COORDINATOR

VAN WATERS & ROGERS INC.

DURING BUSINESS HOURS, PACIFIC TIME

(425)889-3400

03/17/99 06:14

PRODUCT:

CUST NO:

ORDER NO:

----- NOTICE -----

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PROCESS.

\* \* \* E N D O F M S D S \* \* \*

District I - (505) 393-6161  
P. O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
Artesia, NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

RECEIVED

MAR 1 1999

Environmental Bureau  
Oil Conservation Division

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>Universal Compression</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>YARD</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	6. Transporter <u>KEY ENERGY</u>
3. Address of Facility Operator <u>CR 7500 #345 AZTEC, NM</u> <u>P.O. Box 900 FARMINGTON, NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>1125 US HWY 550</u> <u>AZTEC, NM 87410</u>	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

WASTE WATER FROM WASHING COMPRESSORS

RECEIVED  
MAR 12 1999

OIL CON. DIV.

Estimated Volume 150 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: mgr DATE: 3-12-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

(This space for State Use)

APPROVED BY: Denny J. Feut TITLE: Geologist DATE: 3/15/99  
APPROVED BY: Monty J. Kelly TITLE: Env Geologist DATE: 3/17/99

## CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> Universal Compression 1125 US Hwy 550 Aztec, NM 87410	<b>2. Destination Name:</b> Sunco Disposal
<b>3. Originating Site (name):</b> Universal Compression 1125 U.S. Hwy 550 Aztec NM 87410 <small>Attach list of originating sites as appropriate</small>	<b>Location of the Waste (Street address &amp;/or ULSTR):</b> Same
<b>4. Source and Description of Waste</b> Waste Water From Washing Compressors.	

I, Phillip Creel representative for: Universal Compression (Print Name)  
do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information ☐ Other (description):  
☒ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

Name (Original Signature): Phillip R Creel  
Title: Area Supervisor  
Date: 3-11-99

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Universal Compressor	Project #:	98059-2
Sample ID:	Wash Bay Solids	Date Reported:	09-13-98
Lab ID#:	D900	Date Sampled:	09-04-98
Sample Matrix:	Soil	Date Received:	09-04-98
Preservative:	Cool	Date Analyzed:	09-13-98
Condition:	Cool & Intact	Chain of Custody:	6261

Parameter	Result
-----------	--------

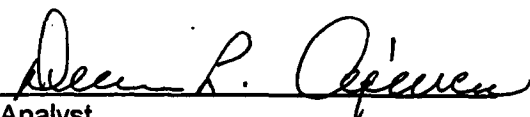
IGNITABILITY:	Negative
CORROSIVITY:	Negative      pH = 6.59
REACTIVITY:	Negative

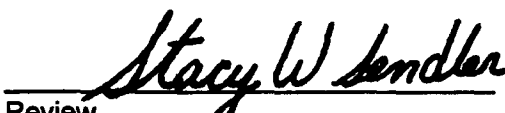
### RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
IGNITABILITY:	Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21. (i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)
CORROSIVITY:	Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. (i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)
REACTIVITY:	Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23. (i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: Flora Vista, NM.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

Client:	Universal Compressor	Project #:	98059-02
Sample ID:	Wash Bay Solids	Date Reported:	09-14-98
Laboratory Number:	D900	Date Sampled:	09-04-98
Chain of Custody:	6261	Date Received:	09-04-98
Sample Matrix:	Soil	Date Extracted:	09-13-98
Preservative:	Cool	Date Analyzed:	09-14-98
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	0.0659	0.0001	0.2
1,1-Dichloroethene	0.0046	0.0001	0.7
2-Butanone (MEK)	0.107	0.0001	200
Chloroform	0.0009	0.0001	6.0
Carbon Tetrachloride	0.0021	0.0001	0.5
Benzene	0.0003	0.0001	0.5
1,2-Dichloroethane	0.0004	0.0001	0.5
Trichloroethene	0.0008	0.0003	0.5
Tetrachloroethene	0.0031	0.0005	0.7
Chlorobenzene	0.0003	0.0003	100
1,4-Dichlorobenzene	0.0042	0.0002	7.5

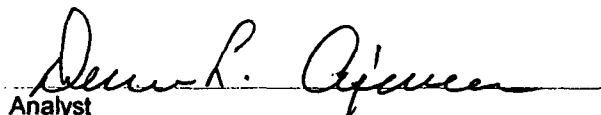
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Flora Vista, NM.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS

Client:	Universal Compressor	Project #:	98059-2
Sample ID:	Wash Bay Solids	Date Reported:	09-16-98
Laboratory Number:	D900	Date Sampled:	09-04-98
Chain of Custody:	6261	Date Received:	09-04-98
Sample Matrix:	Soil	Date Extracted:	09-13-98
Preservative:	Cool	Date Analyzed:	09-16-98
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	0.125	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	0.024	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	101%
	2,4,6-Tribromophenol	100%

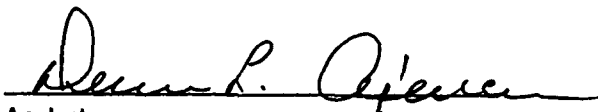
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: Flora Vista, NM.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics

Client:	Universal Compressor	Project #:	98059-2
Sample ID:	Wash Bay Solids	Date Reported:	09-15-98
Laboratory Number:	D900	Date Sampled:	09-04-98
Chain of Custody:	6261	Date Received:	09-04-98
Sample Matrix:	Soil	Date Extracted:	09-13-98
Preservative:	Cool	Date Analyzed:	09-15-98
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

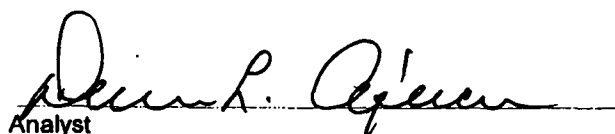
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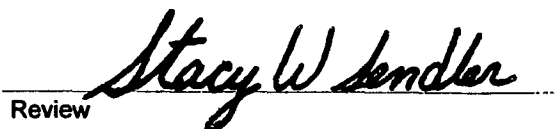
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Flora Vista, NM.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

Client:	Universal Compressor	Project #:	98059-2
Sample ID:	Wash Bay Solids	Date Reported:	09-16-98
Laboratory Number:	D900	Date Sampled:	09-04-98
Chain of Custody:	6261	Date Received:	09-04-98
Sample Matrix:	Soil	Date Analyzed:	09-16-98
Preservative:	Cool	Date Extracted:	09-13-98
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	ND	0.0001	5.0
Barium	0.691	0.001	21
Cadmium	0.0748	0.0001	0.11
Chromium	ND	0.0001	0.60
Lead	0.0059	0.0001	0.75
Mercury	ND	0.0001	0.025
Selenium	ND	0.0001	5.7
Silver	ND	0.0001	0.14

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060, 7080, 7131, 7191, 7470, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA. December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments: Flora Vista, NM.

  
Analyst

  
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# **ENVIROTECH LABS**

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**QUALITY ASSURANCE / QUALITY CONTROL**

**DOCUMENTATION**

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	09-14-98
Laboratory Number:	09-14-TCV-Blank	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-14-98
Condition:	N/A	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

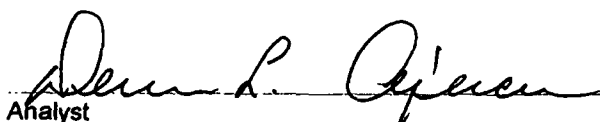
ND - Parameter not detected at the stated detection limit.

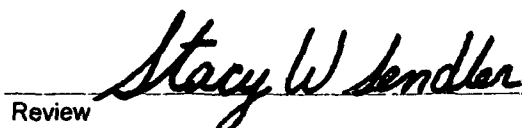
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples D897 and D900.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	09-14-98
Laboratory Number:	09-13-TV-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-14-98
Condition:	N/A	Date Extracted:	09-13-98
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

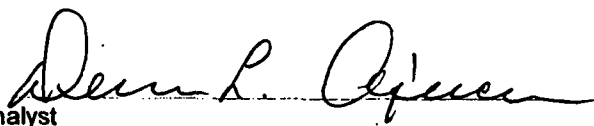
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	99%
	Bromofluorobenzene	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples D897 and D900.

Analyst 

Review 

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Duplicate  
Laboratory Number: D897  
Sample Matrix: TCLP Extract  
Analysis Requested: TCLP  
Condition: N/A

Project #: N/A  
Date Reported: 09-14-98  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 09-14-98  
Date Extracted: N/A

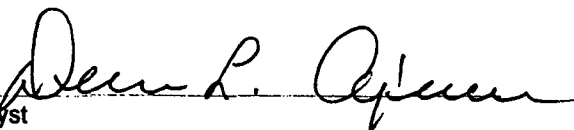
Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethene	ND	ND	0.0001	0.0%
2-Butanone (MEK)	0.135	0.135	0.0001	0.0%
Chloroform	ND	ND	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	0.0002	0.0002	0.0001	0.0%
1,2-Dichloroethane	ND	ND	0.0001	0.0%
Trichloroethene	ND	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	ND	ND	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

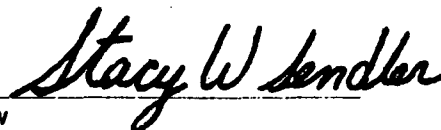
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples D897 and D900.

Analyst



Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Spike  
Laboratory Number: D897  
Sample Matrix: TCLP Extract  
Analysis Requested: TCLP  
Condition: N/A

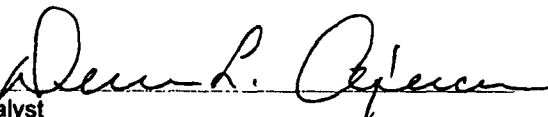
Project #: N/A  
Date Reported: 09-14-98  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 09-14-98  
Date Extracted: N/A

Parameter	Sample Result (mg/L)	Spike Added (mg/L)	Spiked Sample Result (mg/L)	Det. Limit (mg/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
2-Butanone (MEK)	0.135	0.050	0.185	0.0001	100%	47-132
Chloroform	ND	0.050	0.0498	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0491	0.0001	98%	43-143
Benzene	0.0002	0.050	0.0500	0.0001	100%	39-150
1,2-Dichloroethane	ND	0.050	0.0494	0.0001	99%	51-147
Trichloroethene	ND	0.050	0.0494	0.0003	99%	35-146
Tetrachloroethene	ND	0.050	0.0494	0.0005	99%	26-162
Chlorobenzene	ND	0.050	0.0494	0.0003	99%	38-150
1,4-Dichlorobenzene	ND	0.050	0.0494	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples D897 and D900.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	09-16-98
Laboratory Number:	09-16-TCA-Blank	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-16-98
Condition:	N/A	Analysis Requested:	TCLP

Analytical Results	Concentration	Detection	Regulatory
Parameter	(mg/L)	Limit	Limit
		(mg/L)	(mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-fluorophenol	101 %
	2,4,6-tribromophenol	100 %

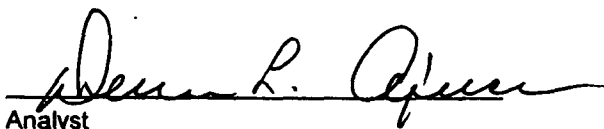
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples D897 and D900.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	09-16-98
Laboratory Number:	09-13-TCA-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extraction	Date Received:	N/A
Preservative:	Cool	Date Extracted:	09-13-98
Condition:	Cool & Intact	Date Analyzed:	09-16-98
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	99%
	2,4,6-Tribromophenol	101%

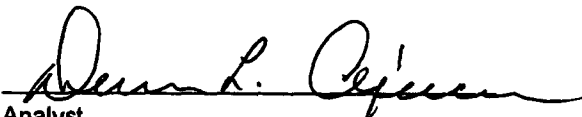
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.


Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples D897 and D900.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	09-16-98
Laboratory Number:	D897	Date Sampled:	N/A
Sample Matrix:	TCLP Extraction	Date Received:	N/A
Preservative:	Cool	Date Extracted:	09-13-98
Condition:	Cool & Intact	Date Analyzed:	09-16-98
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	ND	ND	0.020	0.0%
p,m-Cresol	ND	ND	0.040	0.0%
2,4,6-Trichlorophenol	ND	ND	0.020	0.0%
2,4,5-Trichlorophenol	ND	ND	0.020	0.0%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

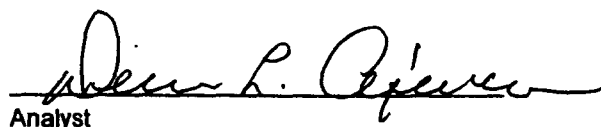
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples D897 and D900.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

**EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
Quality Assurance Report**

Client: QA/QC  
Sample ID: Laboratory Blank  
Laboratory Number: 09-15-TBN-Blank  
Sample Matrix: Hexane  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 09-15-98  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 09-15-98  
Analysis Requested: TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

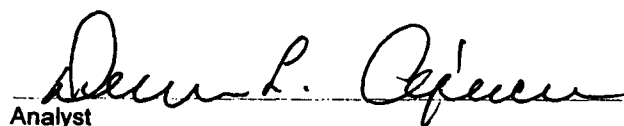
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples D897 and D900.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

**EPA Method 8090**  
**Nitroaromatics and Cyclic Ketones**  
**TCLP Base/Neutral Organics**  
**QUALITY ASSURANCE REPORT**

Client: QA/QC  
Sample ID: Method Blank  
Laboratory Number: 09-13-TBN-MB  
Sample Matrix: TCLP Extract  
Preservative: Cool  
Condition: Cool and Intact

Project #: N/A  
Date Reported: 09-15-98  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: 09-13-98  
Date Analyzed: 09-15-98  
Analysis Requested: TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

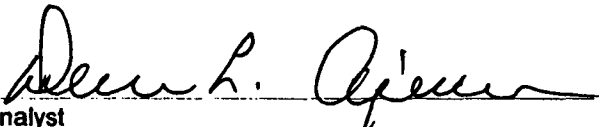
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples D897 and D900.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QA/QC Matrix Duplicate Report

Client: QA/QC  
Sample ID: Matrix Duplicate  
Laboratory Number: D897  
Sample Matrix: TCLP Extract  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 09-15-98  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 09-15-98  
Analysis Requested: TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	ND	ND	0.0%	0.020
Hexachloroethane	ND	ND	0.0%	0.020
Nitrobenzene	ND	ND	0.0%	0.020
Hexachlorobutadiene	ND	ND	0.0%	0.020
2,4-Dinitrotoluene	ND	ND	0.0%	0.020
HexachloroBenzene	ND	ND	0.0%	0.020

ND - Parameter not detected at the stated detection limit.

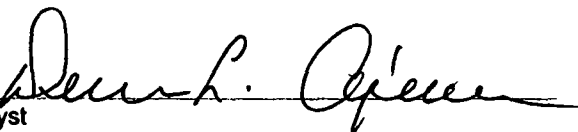
QA/QC Acceptance Criteria	Parameter	Maximum Difference
	8090 Compounds	30%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples D897 and D900.

Analyst



Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	09-16-TCM QA/QC	Date Reported:	09-16-98
Laboratory Number:	D897	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	09-16-98
Condition:	N/A	Date Extracted:	09-13-98

Arsenic	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Barium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Cadmium	ND	ND	0.0001	0.282	0.282	0.2%	0% - 30%
Chromium	ND	ND	0.0001	0.0059	0.0060	1.7%	0% - 30%
Lead	ND	ND	0.0001	0.144	0.144	0.1%	0% - 30%
Mercury	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.0001	ND	ND	0.0%	0% - 30%

Arsenic	0.1000	ND	0.0997	100%	80% - 120%
Barium	1.000	ND	0.999	100%	80% - 120%
Cadmium	0.0500	0.282	0.331	100%	80% - 120%
Chromium	0.0500	0.0059	0.0558	100%	80% - 120%
Lead	0.1000	0.144	0.244	100%	80% - 120%
Mercury	0.0250	ND	0.0249	100%	80% - 120%
Selenium	0.1000	ND	0.0999	100%	80% - 120%
Silver	0.0500	ND	0.0498	100%	80% - 120%


ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for samples D897 and D900.

  
Analyst

  
Review

## 6261

[illegible]

District I - (505) 593-6161  
P. O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
Artesia, NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

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MAR 1 1999

Environmental Bureau  
Oil Conservation Division

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>Key Energy Services Inc.</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>YARD WASTE WATER STORAGE TANK</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	6. Transporter <u>Key</u>
3. Address of Facility Operator <u>CR 9500 #345 AZTEC, NM P.O. BOX 900 FARMINGTON 87499</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>5651 U.S. Highway 64 FARMINGTON, NM</u>	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

OIL field Service equipment wash water

RECEIVED  
MAR 1 2 1999

OIL CON. DIV.  
DIST. 3

Estimated Volume 150 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: MGR DATE: 3-12-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6116

(This space for State Use)

APPROVED BY: Denny G. Frost TITLE: Geologist DATE: 3/15/99  
APPROVED BY: Martyn J. Ship TITLE: Env. Geologist DATE: 3/17/99



# CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> <i>Key Energy Service, Inc.</i> <i>Four Corner Division</i> <i>5651 U.S. Highway 64 Farmington, CT 06031</i>	<b>2. Destination Name:</b> <i>Key Energy Service, Inc.</i> <i>Disposal</i>
<b>3. Originating Site (name):</b> <i>Same as above.</i>	<b>Location of the Waste (Street address &amp;/or ULSTR):</b> <i>Farmington Yard</i> <i>Waste Water Storage tank</i>
<small>Attach list of originating sites as appropriate</small>	
<b>4. Source and Description of Waste</b> <i>Oilfield Service Equipment Wash Water</i>	

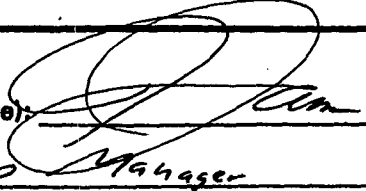
I, Bob James representative for: Key Energy Service, Inc. Four Corner Division (Print Name) do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste      ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☒ MSDS Information      ☐ Other (description):  
☒ RCRA Hazardous Waste Analysis  
☒ Chain of Custody

Name (Original Signature):   
 Title: Shop Manager  
 Date: March 12, 1999

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

March 8, 1999

Mr. Mike Talovich  
Key Energy Services, Inc.  
P.O. Box 900  
Farmington, New Mexico 87499

(505) 327-0416

Project No.: 98065-02

Dear Mr. Talovich,

Enclosed are the analytical results for the sample collected from the location designated as "Shop". One water sample identified as "Shop" was collected from the designated location by Key Energy Services personnel on 03/01/99, and received by the Envirotech laboratory on 03/01/99 for Hazardous Waste Characterization analysis (Volatile and Semi-volatile Organics, Trace Metals, Reactivity, Corrosivity, and Ignitability).

The sample was documented on Envirotech Chain of Custody No. 6726 and assigned Laboratory No. E755 for tracking purposes.

The sample was analyzed on 03/02/99 through 03/05/99 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,  
Envirotech, Inc.



Stacy W. Sendler  
Environmental Scientist/Laboratory Manager

enclosure

SWS/sws

98065-02.1b2/wpd

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Key Energy	Project #:	806502
Sample ID:	Shop	Date Reported:	03-04-99
Lab ID#:	E755	Date Sampled:	03-01-99
Sample Matrix:	Water	Date Received:	03-01-99
Preservative:	Cool	Date Analyzed:	03-03-99
Condition:	Cool and Intact	Chain of Custody:	6726

Parameter	Result
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IGNITABILITY: Negative

CORROSIVITY: Negative pH = 8.05

REACTIVITY: Negative

### RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
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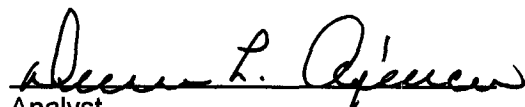
IGNITABILITY: Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21.  
(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)

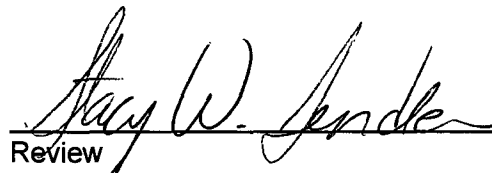
CORROSIVITY: Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22.  
(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)

REACTIVITY: Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23.  
(i.e. Violent reaction with water, strong base, strong acid, or the generation  
of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: Shop.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

Client:	Key Energy	Project #:	806502
Sample ID:	Shop	Date Reported:	03-02-99
Laboratory Number:	E755	Date Sampled:	03-01-99
Chain of Custody:	6726	Date Received:	03-01-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-02-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	0.0050	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	0.0007	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

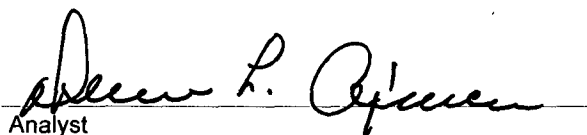
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Shop.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS

Client:	Key Energy	Project #:	806502
Sample ID:	Shop	Date Reported:	03-05-99
Laboratory Number:	E755	Date Sampled:	03-01-99
Chain of Custody:	6726	Date Received:	03-01-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-05-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	0.467	0.020	200
p,m-Cresol	1.189	0.040	200
2,4,6-Trichlorophenol	0.276	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	0.493	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

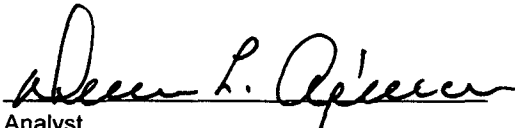
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

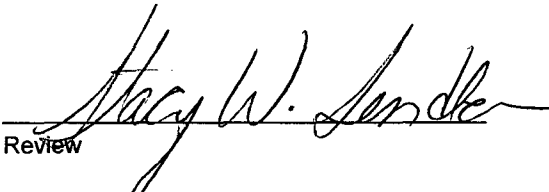
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: Shop.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics

Client:	Key Energy	Project #:	806502
Sample ID:	Shop	Date Reported:	03-05-99
Laboratory Number:	E755	Date Sampled:	03-01-99
Chain of Custody:	6726	Date Received:	03-01-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-05-99
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	0.103	0.020	3.0
Nitrobenzene	1.03	0.020	2.0
Hexachlorobutadiene	0.315	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	0.048	0.020	0.13

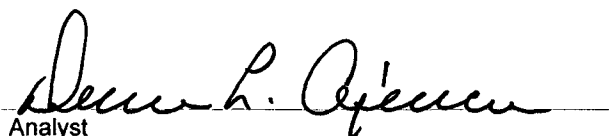
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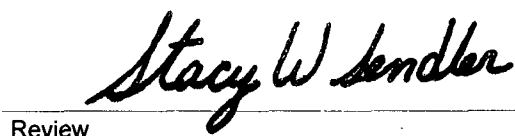
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	101%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Shop.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

Client:	Key Energy	Project #:	806502
Sample ID:	Shop	Date Reported:	03-03-99
Laboratory Number:	E755	Date Sampled:	03-01-99
Chain of Custody:	6726	Date Received:	03-01-99
Sample Matrix:	Water	Date Analyzed:	03-03-99
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	0.0786	0.0001	5.0
Barium	0.464	0.001	21
Cadmium	0.0510	0.0001	0.11
Chromium	0.102	0.0001	0.60
Lead	0.213	0.0001	0.75
Mercury	ND	0.0001	0.025
Selenium	0.0329	0.0001	5.7
Silver	ND	0.0001	0.14

ND - Parameter not detected at the stated detection limit.

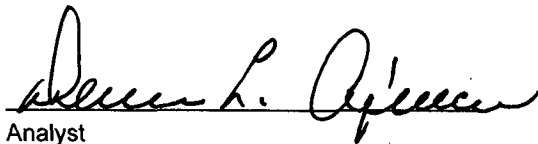
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060, 7080, 7131, 7191, 7470, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA. December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments: Shop.

  
Analyst

  
Review

# **ENVIROTECH LABS**

***PRACTICAL SOLUTIONS FOR A BETTER TOMORROW***

**QUALITY ASSURANCE / QUALITY CONTROL**

**DOCUMENTATION**



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-02-99
Laboratory Number:	03-02-TCV-blank	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-02-99
Condition:	N/A	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

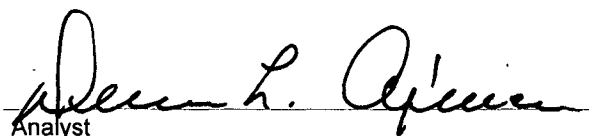
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

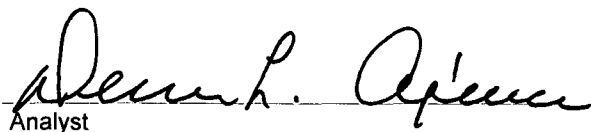
Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	03-02-99
Laboratory Number:	E755	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	03-02-99
Condition:	N/A	Date Extracted:	N/A

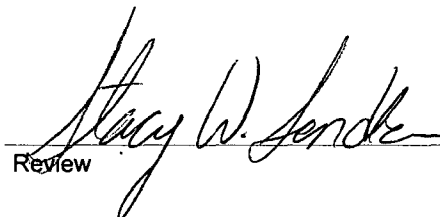
Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethene	ND	ND	0.0001	0.0%
2-Butanone (MEK)	ND	ND	0.0001	0.0%
Chloroform	0.0050	0.0050	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	ND	ND	0.0001	0.0%
1,2-Dichloroethane	0.0007	0.0007	0.0001	0.0%
Trichloroethene	ND	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	ND	ND	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Spike  
Laboratory Number: E755  
Sample Matrix: Water  
Analysis Requested: TCLP  
Condition: N/A

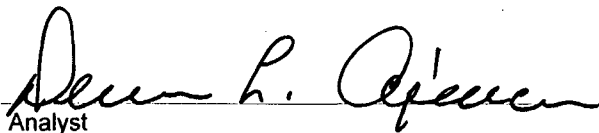
Project #: N/A  
Date Reported: 03-02-99  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 03-02-99  
Date Extracted: N/A

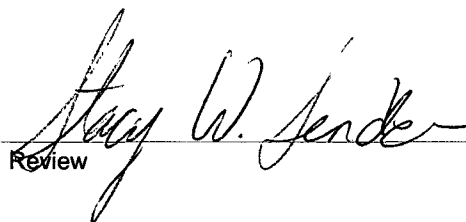
Parameter	Sample Result (mg/L)	Spike Added (mg/L)	Spiked Sample Result (mg/L)	Det. Limit (mg/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
2-Butanone (MEK)	ND	0.050	0.0495	0.0001	99%	47-132
Chloroform	0.0050	0.050	0.0548	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0491	0.0001	98%	43-143
Benzene	ND	0.050	0.0498	0.0001	100%	39-150
1,2-Dichloroethane	0.0007	0.050	0.0504	0.0001	99%	51-147
Trichloroethene	ND	0.050	0.0494	0.0003	99%	35-146
Tetrachloroethene	ND	0.050	0.0494	0.0005	99%	26-162
Chlorobenzene	ND	0.050	0.0494	0.0003	99%	38-150
1,4-Dichlorobenzene	ND	0.050	0.0494	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040

PHENOLS

Quality Assurance Report

Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-05-99
Laboratory Number:	03-05-TCA-Blank	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-05-99
Condition:	N/A	Analysis Requested:	TCLP

Analytical Results	Concentration	Detection	Regulatory
Parameter	(mg/L)	Limit	Limit
		(mg/L)	(mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-fluorophenol	98 %
	2,4,6-tribromophenol	99 %

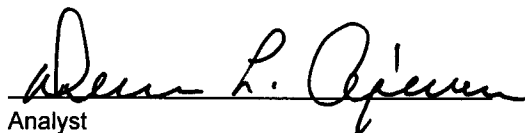
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

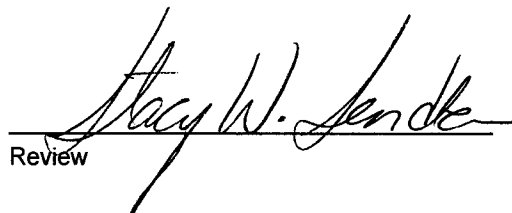
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040

PHENOLS

## Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	03-05-99
Laboratory Number:	03-04-TCA-MB	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Date Analyzed:	03-05-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

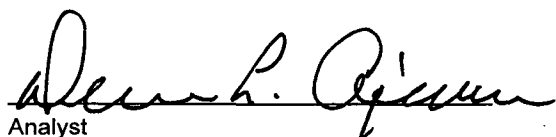
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

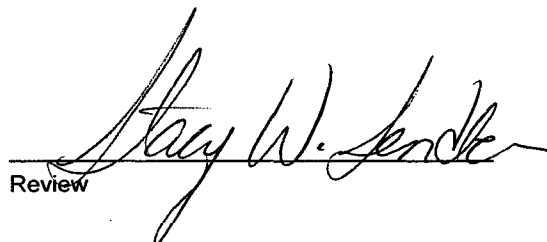
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	03-05-99
Laboratory Number:	E755	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Date Analyzed:	03-05-99
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	0.467	0.462	0.020	1.0%
p,m-Cresol	1.189	1.165	0.040	2.0%
2,4,6-Trichlorophenol	0.276	0.273	0.020	1.0%
2,4,5-Trichlorophenol	ND	ND	0.020	0.0%
Pentachlorophenol	0.493	0.489	0.020	0.8%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

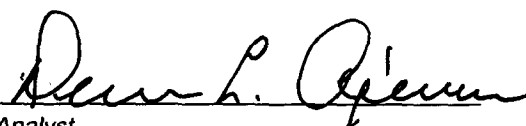
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

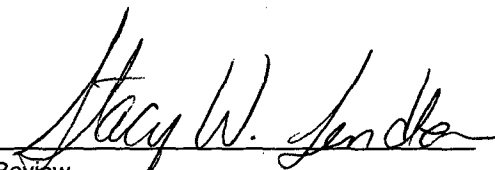
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
Quality Assurance Report

Client: QA/QC  
Sample ID: Laboratory Blank  
Laboratory Number: 03-05-TBN-Blank  
Sample Matrix: Hexane  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 03-05-99  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 03-05-99  
Analysis Requested: TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

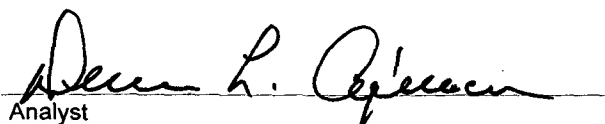
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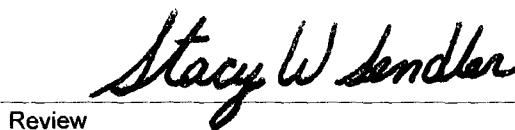
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Method Blank  
Laboratory Number: 03-04-TBN-MB  
Sample Matrix: Water  
Preservative: Cool  
Condition: Cool and Intact

Project #: N/A  
Date Reported: 03-05-99  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 03-05-99  
Analysis Requested: TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

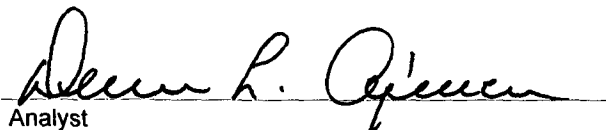
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QA/QC Matrix Duplicate Report

Client: QA/QC  
Sample ID: Matrix Duplicate  
Laboratory Number: E755  
Sample Matrix: TCLP Extract  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 03-05-99  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 03-05-99  
Analysis Requested: TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	ND	ND	0.0%	0.020
Hexachloroethane	0.103	0.102	1.0%	0.020
Nitrobenzene	1.03	1.02	0.9%	0.020
Hexachlorobutadiene	0.315	0.312	1.1%	0.020
2,4-Dinitrotoluene	ND	ND	0.0%	0.020
HexachloroBenzene	0.048	0.047	1.8%	0.020

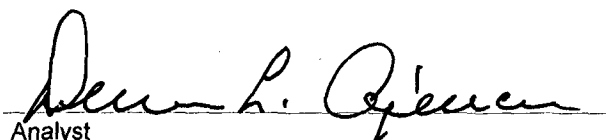
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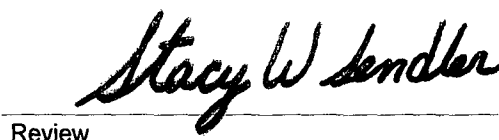
QA/QC Acceptance Criteria	Parameter	Maximum Difference
	8090 Compounds	30%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample E755.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311  
TOXICITY CHARACTERISTIC  
LEACHING PROCEDURE  
TRACE METAL ANALYSIS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	03-03-TCM QA/QC	Date Reported:	03-03-99
Laboratory Number:	E695	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	03-03-99
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.0001	0.0437	0.0435	0.5%	0% - 30%
Barium	ND	ND	0.001	0.891	0.896	0.6%	0% - 30%
Cadmium	ND	ND	0.0001	0.0173	0.0174	0.6%	0% - 30%
Chromium	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Lead	ND	ND	0.0001	0.0149	0.0150	0.7%	0% - 30%
Mercury	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.0001	0.0315	0.0312	1.0%	0% - 30%
Silver	ND	ND	0.0001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.1000	0.0437	0.144	100.1%	80% - 120%
Barium	1.000	0.891	1.89	99.8%	80% - 120%
Cadmium	0.0500	0.0173	0.0672	99.9%	80% - 120%
Chromium	0.0500	ND	0.0498	99.6%	80% - 120%
Lead	0.1000	0.0149	0.115	99.9%	80% - 120%
Mercury	0.0250	ND	0.0249	99.6%	80% - 120%
Selenium	0.1000	0.0315	0.131	99.6%	80% - 120%
Silver	0.0500	ND	0.0498	99.6%	80% - 120%

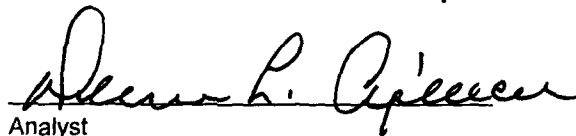
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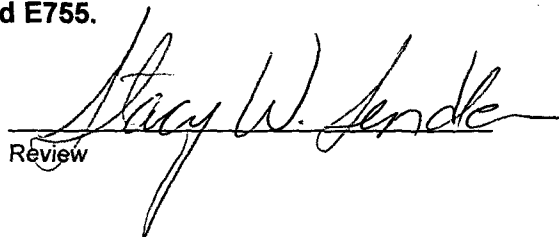
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals,  
SW-846, USEPA, December 1996.

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by  
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for samples E695, E696 and E755.

  
Analyst

  
Review

6726

# ENVIROTECH INC.

5796 U.S. Highway 64  
Farmington, New Mexico 87401  
(505) 632-0615

strict I - (505) 393-6161  
D. Box 1980  
bbs, NM 88241-1980  
strict II - (505) 748-1283  
J. S. First  
esia, NM 88210  
strict III - (505) 334-6178  
Rio Brazos Road  
c, NM 87410  
strict IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

**RECEIVED** Form C-138  
Originated 8/6/95

FEB 1 1998

Environmental Bureau  
Oil Conservation Division

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

**RECEIVED**  
FEB 2 1998

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>WASTE CON. DIV. PRODUCTION OPERATORS</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>See List</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	6. Transporter <u>Key</u>
3. Address of Facility Operator <u>CR 3500 #345 AZTEC, NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>See List</u>	
9. <u>Circle One</u> : A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <u>B.</u> All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

Williams Field Service  
NON-EXEMPT WASTEWATER off compressor sites

Continuation

Estimated Volume 500 bbls + cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: Mgr DATE: 2-11-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny G. Funt TITLE: Geologist DATE: 2/12/99

APPROVED BY: Martyn J. Kelly TITLE: Env. Geologist DATE: 3/5/99

Month of January 1999

**CERTIFICATE OF WASTE STATUS**

<b>1. Generator Name and Address:</b> PRODUCTION OPERATORS, INC. 4000 Lomas Street Farmington, NM 87401	<b>2. Destination Name:</b> KEY ENERGY P.O. Box 900 Farmington, NM 87499
<b>3. Originating Site (name):</b> 29-6 #2, 29-6 #3, 29-6 #4, 29-7, 30-5, 30-6, 31-6, 32-7, 32-8 #2, 32-8 #3, 32-9, Aztec, Carracas, Cedar Hill, Coyote Springs, Decker Junction, Hart Mt., Horse Canyon, Kernaghan, La Cosa, Manzanares, Middle Mesa, Moore, N-30, Navajo, PLA-9, Pipkin, Pump Mesa, Simms Mesa, Trunks A,B,C,F,L,M,T, CDPS <small>Attach list of originating sites as appropriate</small>	
<b>4. Source and Description of Waste</b>  RAIN WATER & WASH WATER	

I, Buster Gaston representative for:  
(Print Name)  
Production Operators, Inc. do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic  
analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information ☐ Other (description):  
☒ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

Name (Original Signature): Buster Gaston

Title: Operations Coordinator

Date: 2-9-99

Inter Mountain Laboratories, Inc.

1701 Phillips Circle  
Gillette, Wyoming 82718**TOXICITY CHARACTERISTIC LEACHING PROCEDURE  
HSL SEMI-VOLATILE COMPOUNDS**

Client: WILLIAMS FIELD SERVICE

Sample ID: 29-6 #4

Project ID: 29-6 # 4 COP

Lab ID: B981407

0398G01561

Matrix: Water

Date Reported: 04/21/98

Date Sampled: 04/02/98

Date Received: 04/03/98

Date Extracted: 01/01/99

Date Analyzed: 01/01/99

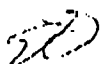
Parameter	Result	PQL	Regulatory Level	Units
1,4-Dichlorobenzene	ND	0.1	7.5	mg/L
2,4,6-Trichlorophenol	ND	0.2	400	mg/L
2,4,6-Trichlorophenol	ND	0.2	2.0	mg/L
2,4-Dinitrotoluene	ND	0.1	0.13	mg/L
Hexachloro-1,3 butadiene	ND	0.2	0.5	mg/L
Hexachlorobenzene	ND	0.2	0.13	mg/L
Hexachloroethane	ND	0.2	3.0	mg/L
m,p-Cresol	ND	0.1	200	mg/L
Nitrobenzene	ND	0.1	2.0	mg/L
o-Cresol	ND	0.1	200	mg/L
Pentachlorophenol	ND	0.5	100	mg/L
Pyridine	ND	0.2	5.0	mg/L
QUALITY CONTROL - Surrogate Recovery		%	QC Limits	
2,4,6-Tribromophenol	51		10 - 123	
2-Fluorobiphenyl	45		43 - 116	
2-Fluorophenol	58		21 - 100	
Nitrobenzene-d5	57		35 - 114	
Phenol-d6	69		10 - 94	
Terphenyl-d14	56		33 - 121	

ND - Not Detected at Practical Quantitation Level (PQL)

Reference: Method 8270B, Gas Chromatography/Mass Spectrometry for Semivolatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States EPA, September 1994.

Method 1311, Toxicity Characteristic Leaching Procedure, Test Methods for Evaluating Solid Wastes, SW-846, United States EPA, September 1994.

Analyst



Reviewed



Client Name: Inter-Mountain Labs, Inc.  
Submission #: 9804000047  
Project Name: 29-6 #4 CDP/IML-FARMINGTON  
Report Date: 04/08/98

**Client Sample #: 29-6 #4**

Laboratory ID #: 102821 Order Type: Normal Matrix: Liquid  
Sample Container: 2xVOA Vial  
Sampling Location: 0398 G01561  
Sampling Date: 04/02/98

**TCLP VOLATILES (EPA 8260)**

Date analyzed: 04/03/98

<u>C.A.S.#</u>	<u>Analyte</u>	<u>Results(mg/l)</u>	<u>Detection Limit</u>	<u>Haz.Limit</u>
71-43-2	Benzene	0.18	0.10	0.5
56-23-5	Carbon Tetrachloride	<0.10	0.10	0.5
108-90-7	Chlorobenzene	<0.10	0.10	100
67-66-3	Chloroform	<0.10	0.10	6.0
106-46-7	1,4-Dichlorobenzene	<0.10	0.10	7.5
107-06-2	1,2-Dichloroethane	<0.10	0.10	0.5
75-35-4	1,1-Dichloroethylene	<0.10	0.10	0.7
78-93-3	Methyl Ethyl Ketone	<0.10	0.10	200.0
127-18-4	Tetrachloroethylene	<0.10	0.10	0.7
79-01-6	Trichloroethylene	<0.10	0.10	0.5
75-01-4	Vinyl Chloride	<0.10	0.10	0.2

## TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL CONCENTRATION

Client: Williams Field Service  
Project: 29-6 #4 CDP  
Sample ID: Waste Water  
Laboratory ID: 0398G01561  
Sample Matrix: Water

Date Reported: 04/21/98  
Date Sampled: 04/02/98  
Date Received: 04/02/98  
Date Analyzed: 04/17/98

Parameter	Result	Detection Limit	Regulatory Level	Units
Arsenic.....	<0.005	0.005	5	mg/L
Barium.....	0.41	0.01	100	mg/L
Cadmium.....	<0.004	0.004	1	mg/L
Chromium.....	<0.01	0.01	5	mg/L
Lead.....	0.393	0.05	5	mg/L
Mercury.....	<0.001	0.001	0.2	mg/L
Selenium.....	0.014	0.005	1	mg/L
Silver.....	<0.01	0.01	5	mg/L

References: Method 1311: Toxicity Characteristic Leaching Procedure,  
SW-846, Rev. 0, July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total  
Metals, SW-846, Rev. 1, July 1992.

Comments:

Reported By: 

Reviewed: 



**ENVIROTECH LABS****PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****RECEIVED**

MAR 0 1999

Environmental Bureau  
Oil Conservation Division

March 5, 1999

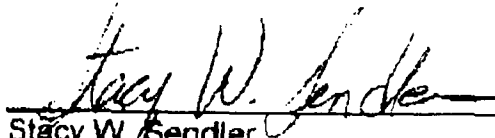
Mr. Bill Beevers  
Williams Field Service, Inc.  
Manzanaras District  
P.O. Box 215  
Bloomfield, NM 87413(505) 320-4642  
Fax (505) 632-4781Project No.: 97050  
Job No.: 705004

Dear Mr. Beevers,

Enclosed are the analytical results for one liquid sample collected from the location designated as "Horse Canyon". One liquid sample identified as "Waste Water" was collected by WFS designated personnel on 02/22/99, and delivered to the Envirotech laboratory on 02/22/99 for Hazardous Waste Characterization analysis (Volatile and Semi-volatile Organics, Trace Metals, Reactivity, Corrosivity, and Ignitability).

The sample was documented on Envirotech Chain of Custody No. 6615 and assigned Laboratory No. E696 for tracking purposes. The sample was analyzed 02/22/99 through 03/05/99 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615. It has been our pleasure doing business with you and we hope you will consider Envirotech, Inc. for any of your future environmental contracting needs.

Respectfully submitted,  
Envirotech, Inc.  
Stacy W. Sandler  
Environmental Scientist/Laboratory Manager

enclosure

SWS\sws\97050-04.1b2/wpd

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Williams Field Service	Project #:	705004
Sample ID:	Waste Water	Date Reported:	02-26-99
Lab ID#:	E696	Date Sampled:	02-22-99
Sample Matrix:	Water	Date Received:	02-22-99
Preservative:	Cool	Date Analyzed:	02-23-99
Condition:	Cool and Intact	Chain of Custody:	6615

Parameter	Result
-----------	--------

IGNITABILITY:	Negative
---------------	----------

CORROSIVITY:	Negative	pH = 6.87
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REACTIVITY:	Negative
-------------	----------

### RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
-----------	---------------------------

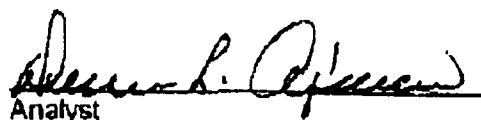
IGNITABILITY:	Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21. (i.e. Sample Ignition upon direct contact with flame or flash point < 60° C.)
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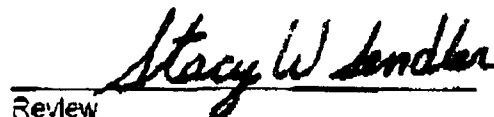
CORROSIVITY:	Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. (i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)
--------------	--

REACTIVITY:	Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23. (i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)
-------------	---

Reference:	40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.
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Comments:	Horse Canyon.
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Analyst

  
Review

**ENVIROTECH LABS****PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHOD 1311  
TOXICITY CHARACTERISTIC  
LEACHING PROCEDURE  
TRACE METAL ANALYSIS**

Client:	Williams Field Service	Project #:	705004
Sample ID:	Waste Water	Date Reported:	03-03-99
Laboratory Number:	E696	Date Sampled:	02-22-99
Chain of Custody:	6615	Date Received:	02-22-99
Sample Matrix:	Water	Date Analyzed:	03-03-99
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	0.0473	0.0001	5.0
Barium	0.219	0.001	21
Cadmium	0.0083	0.0001	0.11
Chromium	0.0963	0.0001	0.60
Lead	0.0211	0.0001	0.75
Mercury	ND	0.0001	0.025
Selenium	0.0171	0.0001	5.7
Silver	ND	0.0001	0.14

ND - Parameter not detected at the stated detection limit.

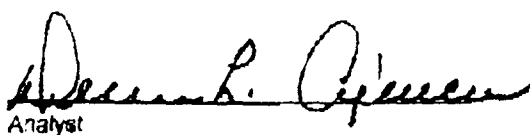
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

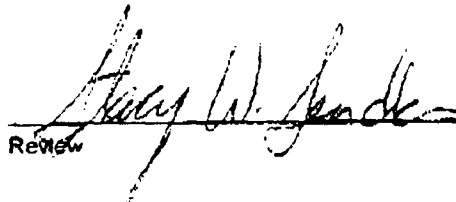
Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060, 7080, 7131, 7191, 7470, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1996.

Comments: Horse Canyon.

  
Analyst

  
Reviewer

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	705004
Sample ID:	Waste Water	Date Reported:	03-01-99
Laboratory Number:	E696	Date Sampled:	02-22-99
Chain of Custody:	6615	Date Received:	02-22-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	02-26-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	0.637	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.303	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	0.0035	0.0003	0.5
Tetrachloroethene	0.0012	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Horse Canyon.

*Steven L. Apene*  
Analyst

*Steve W. Jendek*  
Review

**ENVIROTECH LABS****PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHOD 8040  
PHENOLS**

Client:	Williams field Service	Project #:	705004
Sample ID:	Waste Water	Date Reported:	03-01-99
Laboratory Number:	E698	Date Sampled:	02-22-99
Chain of Custody:	6815	Date Received:	02-22-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-01-99
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	4.53	0.020	200
p,m-Cresol	6.08	0.040	200
2,4,6-Trichlorophenol	1.05	0.020	2.0
2,4,6-Trichlorophenol	17.1	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

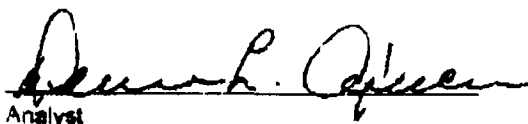
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

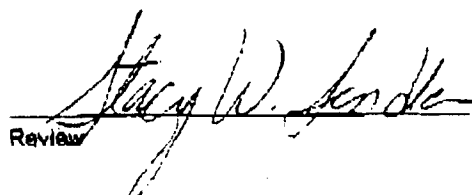
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1988.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: Horse Canyon.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics

Client:	Williams field Service	Project #:	705004
Sample ID:	Waste Water	Date Reported:	03-01-99
Laboratory Number:	E896	Date Sampled:	02-22-99
Chain of Custody:	6615	Date Received:	02-22-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-01-99
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	0.236	0.020	5.0
Hexachloroethane	0.350	0.020	3.0
Nitrobenzene	0.207	0.020	2.0
Hexachlorobutadiene	0.430	0.020	0.5
2,4-Dinitrotoluene	0.076	0.020	0.13
HexachloroBenzene	0.100	0.020	0.13

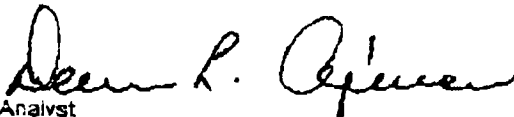
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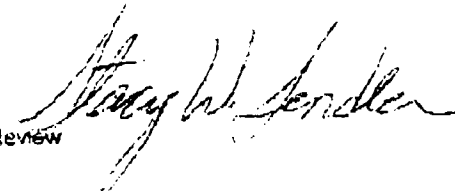
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1988.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Horse Canyon.

  
Analyst

  
Review

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# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

**QUALITY ASSURANCE / QUALITY CONTROL**

**DOCUMENTATION**



**ENVIROTECH LABS****PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report**

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-01-99
Laboratory Number:	02-26-TCV Blank	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-26-99
Condition:	N/A	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.6
1,2-Dichloroethane	ND	0.0001	0.6
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0006	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.6

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
 Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
 Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
 Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E695 - E698.

*Deann L. Apicew*  
Analyst

*Greg W. Jender*  
Review

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report**

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	03-01-99
Laboratory Number:	02-22-TV-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-26-99
Condition:	N/A	Date Extracted:	02-22-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

**QA/QC Acceptance Criteria****Parameter****Percent Recovery**

Trifluorotoluene	99%
Bromofluorobenzene	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
 Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
 Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
 Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E595 - E696.

*Debra L. O'Brien*  
Analyst

*Harry W. Jenkins*  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	03-01-99
Laboratory Number:	E696	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	02-26-99
Condition:	N/A	Date Extracted:	N/A

Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethane	ND	ND	0.0001	0.0%
2-Butanone (MEK)	ND	ND	0.0001	0.0%
Chloroform	ND	ND	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	ND	ND	0.0001	0.0%
1,2-Dichloroethane	ND	ND	0.0001	0.0%
Trichloroethene	ND	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	ND	ND	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples E695 - E696.

*Debra L. Caplan*  
Analyst

*Mary W. Jende*  
Review

**ENVIROTECH LABS****PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT**

Client: QA/QC  
 Sample ID: Matrix Spike  
 Laboratory Number: E896  
 Sample Matrix: TCLP Extract  
 Analysis Requested: TCLP  
 Condition: N/A

Project #: N/A  
 Date Reported: 03-01-99  
 Date Sampled: N/A  
 Date Received: N/A  
 Date Analyzed: 02-26-99  
 Date Extracted: N/A

Parameter	Sample Result (mg/L)	Spike Added (mg/L)	Spiked Sample Result (mg/L)	Det. Limit (mg/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
2-Butanone (MEK)	ND	0.050	0.0495	0.0001	99%	47-132
Chloroform	ND	0.050	0.0498	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0491	0.0001	98%	43-143
Benzene	ND	0.050	0.0498	0.0001	100%	39-150
1,2-Dichloroethane	ND	0.050	0.0494	0.0001	99%	51-147
Trichloroethene	ND	0.050	0.0494	0.0003	99%	35-146
Tetrachloroethene	ND	0.050	0.0494	0.0005	99%	26-162
Chlorobenzene	ND	0.050	0.0494	0.0003	99%	38-150
1,4-Dichlorobenzene	ND	0.050	0.0494	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
 Method 6030, Purge-and-Trap, SW-846, USEPA, July 1992.  
 Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
 Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples E895 - E896.

*Deborah L. O'Brien*  
 Analyst

*Greg W. Sunde*  
 Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040

PHENOLS

Quality Assurance Report

Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-01-99
Laboratory Number:	03-01-TCA-Blank	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-01-99
Condition:	N/A	Analysis Requested:	TCLP

## Analytical Results

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

## Surrogate Recoveries:

Parameter	Percent Recovery
2-fluorophenol	98 %
2,4,6-tribromophenol	99 %

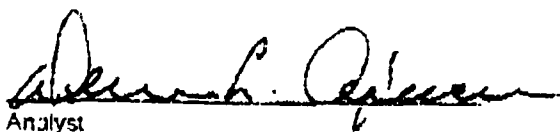
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

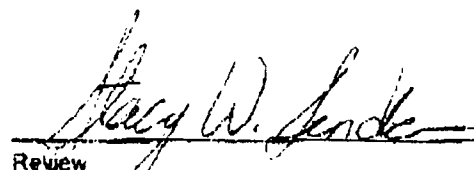
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E695 - E696.

  
Analyst

  
Review

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHOD 8040****PHENOLS****Quality Assurance Report**

Client:	QA/QC	Project #:	N/A
Sample ID:	Methua Blank	Date Reported:	03-01-99
Laboratory Number:	02-22-TCA-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extraction	Date Received:	N/A
Preservative:	Cool	Date Extracted:	02-22-99
Condition:	Cool & Intact	Date Analyzed:	03-01-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

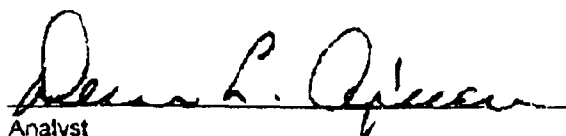
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

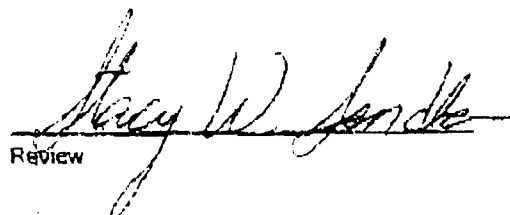
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E695 - E696.

  
Analyst

  
Review

**ENVIROTECH LABS****PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****EPA METHOD 8040  
PHENOLS  
Quality Assurance Report**

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	03-01-99
Laboratory Number:	E695	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Date Analyzed:	03-01-99
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	ND	ND	0.020	0.0%
p,m-Cresol	ND	ND	0.040	0.0%
2,4,6-Trichlorophenol	0.708	0.701	0.020	1.0%
2,4,5-Trichlorophenol	0.222	0.219	0.020	1.1%
Pentachlorophenol	0.091	0.090	0.020	0.8%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

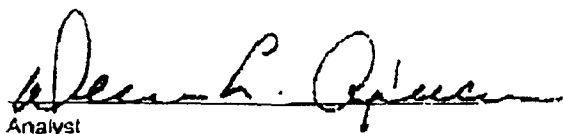
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

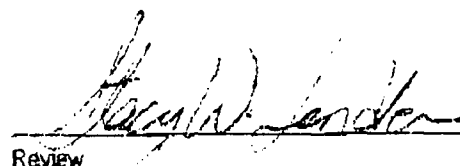
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E695 - E696.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

**EPA Method 8090**  
**Nitroaromatics and Cyclic Ketones**  
**TCLP Base/Neutral Organics**  
**Quality Assurance Report**

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-01-99
Laboratory Number:	03-01-TBN-Blank	Date Sampled:	N/A
Sample Matrix:	Hexane	Date Received:	N/A
Preservative:	N/A	Date Extracted:	N/A
Condition:	N/A	Date Analyzed:	03-01-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
 Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
 Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1988.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E695 - E696.

Analyst

Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	03-01-99
Laboratory Number:	02-22-BN-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	Cool	Date Extracted:	02-22-99
Condition:	Cool and Intact	Date Analyzed:	03-01-99
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

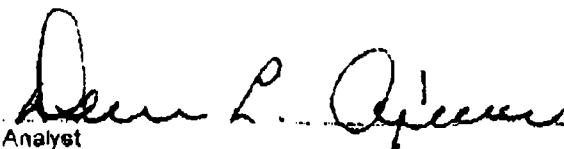
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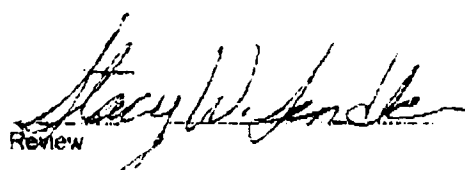
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	96%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E695 - E696.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QA/QC Matrix Duplicate Report

Client: QA/QC  
Sample ID: Matrix Duplicate  
Laboratory Number: E695  
Sample Matrix: TCLP Extract  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 03-01-99  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: 02-22-99  
Date Analyzed: 03-01-99  
Analysis Requested: TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	ND	ND	0.0%	0.020
Hexachloroethane	0.056	0.053	1.0%	0.020
Nitrobenzene	ND	ND	0.0%	0.020
Hexachlorobutadiene	ND	ND	0.0%	0.020
2,4-Dinitrotoluene	ND	ND	0.0%	0.020
HexachloroBenzene	ND	ND	0.0%	0.020

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Maximum Difference
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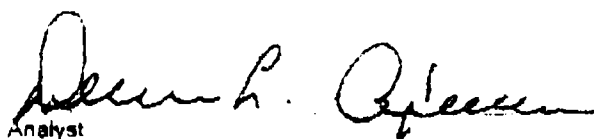
8090 Compounds

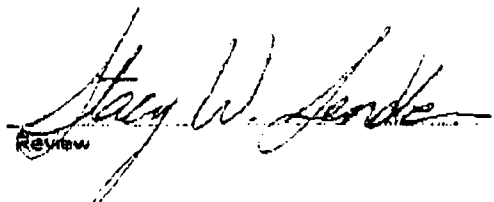
30%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E695 - E696.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	03-03-TCM QA/QC	Date Reported:	03-03-99
Laboratory Number:	E695	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	03-03-99
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% DIF	Acceptance Range
Arsenic	ND	ND	0.0001	0.0437	0.0435	0.5%	0% - 30%
Barium	ND	ND	0.001	0.891	0.896	0.6%	0% - 30%
Cadmium	ND	ND	0.0001	0.0173	0.0174	0.6%	0% - 30%
Chromium	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Lead	ND	ND	0.0001	0.0149	0.0150	0.7%	0% - 30%
Mercury	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.0001	0.0315	0.0312	1.0%	0% - 30%
Silver	ND	ND	0.0001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample Conc.	Spike Sample	Percent Recovery	Acceptance Range
Arsenic	0.1000	0.0437	0.144	100.1%	80% - 120%
Barium	1.000	0.891	1.89	99.8%	80% - 120%
Cadmium	0.0500	0.0173	0.0672	99.9%	80% - 120%
Chromium	0.0500	ND	0.0498	99.6%	80% - 120%
Lead	0.1000	0.0149	0.115	99.9%	80% - 120%
Mercury	0.0250	ND	0.0249	99.6%	80% - 120%
Selenium	0.1000	0.0315	0.131	99.8%	80% - 120%
Silver	0.0500	ND	0.0498	99.6%	80% - 120%

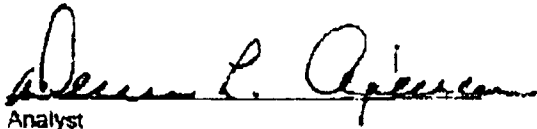
ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1985

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for samples E695, E696 and E755.

  
Analyst

  
Review

Office I - (505) 393-6161  
D. Box 1980  
Albuquerque, NM 88241-1980  
Office II - (505) 748-1283  
J. S. First  
Albuquerque, NM 88210  
Office III - (505) 334-6178  
Rio Brazos Road  
Albuquerque, NM 87410  
Office IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

**RECEIVED**

FEB 1 1998

Environmental Bureau  
Oil Conservation Division

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>WFS</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>Lybrook Plant</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	6. Transporter <u>Key Energy</u>
3. Address of Facility Operator <u>PHYSICAL: CR 3500 # 345 AZtec, NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>MM 103 HWY 44</u> <u>Cuba NM 87013</u>	
9. <u>Circle One</u> : A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

Williams Field Service  
PLANT WASTE WATER FROM NATURAL GAS PROCESSING

LAST FILED  
ON 12-29-98

**RECEIVED**  
FEB 12 1999  
OIL CON. DIV.  
DIST. 3

Estimated Volume 500 bbls + cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: MGR DATE: 2-29-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny G. Kent TITLE: Geologist DATE: 2/12/99  
APPROVED BY: Martyn J. Kelly TITLE: Env. Geologist DATE: 3/5/99

## CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> WFS 295 CHIPLETA WAY SALT LAKE CITY, UT 84158	<b>2. Destination Name:</b> KEY ENERGY DISPOSAL
<b>3. Originating Site (name):</b> WFS Lybrook Plant <small>Attach list of originating sites as appropriate</small>	<b>Location of the Waste (Street address &amp;/or ULSTR):</b> mile post 103 Highway 44 Cuba NM 87013
<b>4. Source and Description of Waste</b> PLANT WASTEWATER FROM NATURAL GAS PROCESSING OPERATIONS	

I, CARLOS D. ADAIR representative for:  
(Print Name)

do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste

☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic  
analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information  
☒ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

☐ Other (description):

Name (Original Signature): Carlos D. Adair

Title: Lead Mechanic

Date: 2/8/99

## QWAL LABORATORIES, INC.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

## LABORATORY REPORT:

REFERENCE #:

9812755

SENT WILLIAMS GAS PIPELINE  
 TO: 295 CHIPETA WAY  
 SALT LAKE CITY, UT 84108  
 801-584-6543 FAX 584-7760  
 DUANE ADAIR

DATE REPORTED: 12/28/98  
 DATE COLLECTED: 12/21/98  
 DATE RECEIVED: 12/22/98

P.O. #:

PROJECT: WASTEWATER POND

Sample ID: LYB-WW POND

Sample Matrix: WATER

Sample Date Collected: 12/21/98

TEST	METHOD	RESULT	UNITS	DL	ANALYSED	BY
TCLP EXTRACTION	EPA 1311	DONE				RH
SILVER, TCLP	SW 846 6010	0.020	MG/L	0.01	12/28/98	MS2
ARSENIC, TCLP	SW 846 7060	0.003	MG/L	0.001	12/23/98	MS
BARIUM, TCLP	SW 846 6010	0.610	MG/L	0.005	12/28/98	MS2
CADMIUM, TCLP	SW 846 6010	<0.005	MG/L	0.005	12/28/98	MS2
CHROMIUM, TCLP	SW 846 6010	0.167	MG/L	0.01	12/28/98	MS2
MERCURY, TCLP	SW 846 7470	<0.0002	MG/L	0.0002	12/28/98	JMM
LEAD, TLCP	SW 846 6010	<0.050	MG/L	0.05	12/28/98	MS2
SELENIUM, TCLP	SW 846 7740	0.0039	MG/L	0.002	12/23/98	MS

Sample ID: LYB-WW POND MS

Sample Matrix: WATER

Sample Date Collected: 12/21/98

TEST	METHOD	RESULT	UNITS	DL	ANALYSED	BY
TCLP EXTRACTION	EPA 1311	DONE				RH
SILVER, TCLP	SW 846 6010	96.5	% REC		12/28/98	MS2
ARSENIC, TCLP	SW 846 7060	104.7	% REC		12/23/98	MS
BARIUM, TCLP	SW 846 6010	118.9	% REC		12/28/98	MS2
CADMIUM, TCLP	SW 846 6010	124.8	% REC		12/28/98	MS2
CHROMIUM, TCLP	SW 846 6010	99.9	% REC		12/28/98	MS2
MERCURY, TCLP	SW 846 7470	101.4	% REC		12/28/98	JMM
LEAD, TLCP	SW 846 6010	81.8	% REC		12/28/98	MS2
SELENIUM, TCLP	SW 846 7740	92.0	% REC		12/23/98	MS

Sample ID: LYB-WW POND

Sample Matrix: WATER

Sample Date Collected: 12/21/98

TEST	METHOD	RESULT	UNITS	DL	ANALYSED	BY
TCLP EXTRACTION	EPA 1311	DONE				RH

REFERENCE #: 9812755

PAGE: 1

Sample ID: LYS-WW POND

Sample Matrix: WATER

Sample Date Collected: 12/21/98

TEST	METHOD	RESULT	UNITS	DL	ANALYSED	BY
TCLP SEMI-VOLATILES	SW 846 8270					
O-CRESOL		ND	MG/L	0.10	12/23/98	SKW
P-CRESOL		ND	MG/L	0.10	12/23/98	SKW
M-CRESOL		ND	MG/L	0.10	12/23/98	SKW
1,4-DICHLOROBENZENE		ND	MG/L	0.10	12/23/98	SKW
2,4-DINITROTOLUENE		ND	MG/L	0.10	12/23/98	SKW
HEXACHLOROBENZENE		ND	MG/L	0.10	12/23/98	SKW
HEXACHLOROBUTADIENE		ND	MG/L	0.10	12/23/98	SKW
HEXACHLOROETHANE		ND	MG/L	0.10	12/23/98	SKW
NITROBENZENE		ND	MG/L	0.10	12/23/98	SKW
PENTACHLOROPHENOL		ND	MG/L	0.50	12/23/98	SKW
PYRIDINE		ND	MG/L	0.10	12/23/98	SKW
2,4,5-TRICHLOROPHENOL		ND	MG/L	0.10	12/23/98	SKW
2,4,6-TRICHLOROPHENOL		ND	MG/L	0.10	12/23/98	SKW
TCLP EXTRACTION	EPA 1311	DONE				RH
TCLP VOLATILES	SW 846 8260					
BENZENE		ND	MG/L	0.015	12/22/98	TK
CARBON TETRACHLORIDE		ND	MG/L	0.015	12/22/98	TK
CHLOROBENZENE		ND	MG/L	0.015	12/22/98	TK
CHLOROFORM		ND	MG/L	0.015	12/22/98	TK
1,2-DICHLOROETHANE		ND	MG/L	0.015	12/22/98	TK
1,1-DICHLOROETHYLENE		ND	MG/L	0.015	12/22/98	TK
METHYL ETHYL KETONE		ND	MG/L	0.015	12/22/98	TK
TETRACHLOROETHYLENE		ND	MG/L	0.015	12/22/98	TK
TRICHLOROETHYLENE		ND	MG/L	0.015	12/22/98	TK
VINYL CHLORIDE		ND	MG/L	0.015	12/22/98	TK

ND=NONE DETECTED

DL=DETECTION LIMIT

SU=STANDARD UNITS

B=DETECTED IN METHOD BLANK

APPROVED BY:

  
 TERRY KOESTER  
 LABORATORY DIRECTOR

\*FAX COPY TO INGRID AT 801-584-7760 ALSO.

**Established 1976**

**TO ORDER: FAX 1-316-232-7730 OR PHONE 1-316-232-1970**

\_\_\_\_\_  
 ...d By:

**\*FAILURE TO COMPLETE THIS FORM MAY DELAY LABORATORY RESULTS.**



**ENVIROTECH LABS****PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****RECEIVED**

MAR 6 1999

February 28, 1999

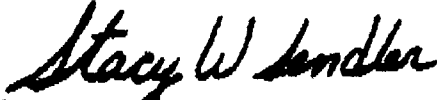
Environmental Bureau  
Oil Conservation DivisionMr. Duane Adair  
Williams Field Services, Inc.  
WFS-Lybrook  
HCR 17 Box 360  
Cuba, NM 87013(505) 324-7210  
Fax (505) 632-4845Project No.: 97073  
Job No. : 707304

Dear Mr. Adair,

Enclosed are the analytical results for one water sample collected from the location designated as "Lybrook - North Pond. One water sample identified as Water-Grab' " was collected by WFS designated personnel on 02/22/99, and delivered to the Envirotech laboratory on 02/22/99 for RCRA Characterization analysis (Ignitability, Reactivity, and Corrosivity).

The sample was documented on Envirotech Chain of Custody No. 6617 and assigned Laboratory No. E705 for tracking purposes. The sample was analyzed on 02/23/99 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615. It has been our pleasure doing business with you and we hope you will consider Envirotech, Inc. for any of your future environmental contracting needs.

Respectfully submitted,  
Envirotech, Inc.Stacy W. Sender  
Environmental Scientist/Laboratory Manager

enclosure

SWS\sws\97073-04.lb1\wpd

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW****SUSPECTED HAZARDOUS  
WASTE ANALYSIS**

Client:	Williams Field Service	Project #:	707304
Sample ID:	Water - Grab	Date Reported:	02-24-99
Lab ID#:	E705	Date Sampled:	02-22-99
Sample Matrix:	Water	Date Received:	02-22-99
Preservative:	Cool	Date Analyzed:	02-23-99
Condition:	Cool and Intact	Chain of Custody:	6617

Parameter	Result
IGNITABILITY:	Negative
CORROSIVITY:	Negative      pH = 9.78
REACTIVITY:	Negative      Cyanide = <0.001 mg/L Sulfide = 0.052 mg/L

**RCRA Hazardous Waste Criteria**

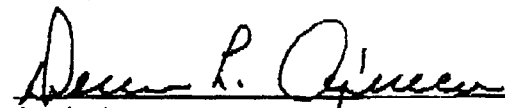
IGNITABILITY: Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21.  
(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)

CORROSIVITY: Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22.  
(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)

REACTIVITY: Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23.  
(i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: Lybrook - North Pond.

  
Analyst

  
Review

# CHAIN OF CUSTODY RECORD

6617

P.04

505 568 4366

WFS LYBROOK PLANT

09:21

MAP-04-1999

Client / Project Name Terra Alta  
Williams Field Service

Project Location  
Lybrook - North Pond

ANALYSIS / PARAMETERS

Remarks

Sampler: Tony Grobini

Client No. 707304  
~~635455~~

No. of Containers  
RCRA  
RCI

Sample No./ Identification

Sample Date

Sample Time

Lab Number

Water - Grab

2-22-99

10:35

5705

Relinquished by: (Signature)

[Signature]

Date

Time

Relinquished by: (Signature)

[Signature]

Date

Time

Relinquished by: (Signature)

[Signature]

Date

Time

Relinquished by: (Signature)

[Signature]

Date

Time

Results Attn:

Duane Agair

WFS-LV2002

HCER 17 Apr 2000

Cadon, NV, 87013

Page 505-632-4845

5796 U.S. Highway 64

Farmington, New Mexico 87401

Page 324-7210

(505) 632-0615

Received by: (Signature)

[Signature]

**ENVIROTECH INC.**

Sample Receipt		
Received intact	Y	N
Cool - Ice/Blue Ice	Y	N/A

strict I - (505) 393-6161  
D. Box 1980  
bbs, NM 88241-1980  
strict II - (505) 748-1283  
J. S. First  
esia, NM 88210  
strict III - (505) 334-6178  
Rio Brazos Road  
ec, NM 87410  
strict IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>ENRON TRANSPORTATION</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>Pipeline between Bloomfield + Gallup</u>
2. Management Facility Destination <u>KEY ENERGY SERVICES DISPOSAL</u>	6. Transporter <u>Key</u>
3. Address of Facility Operator <u>CR3500 #345 AZTEC NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR)	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. (B) All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

WATER + SOAP USED PIG PIPELINE between  
Bloomfield AND Gallup

RECEIVED  
FEB 22 1999

OIL CON. DIV.  
DIST. 3

Estimated Volume 500+ bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: [Signature] TITLE: MGR DATE: 2-22-99  
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: [Signature] TITLE: Geologist DATE: 2/24/99  
APPROVED BY: [Signature] TITLE: Env. Geologist DATE: 2/26/99

## CERTIFICATE OF WASTE STATUS

1. Generator Name and Address: ENRON TRANSPORTATION & STORAGE	2. Destination Name: KEY ENERGY DISPOSAL
3. Originating Site (name): TRANSWESTERN GALLUP SAN JUAN INTERCONNECT 4MI EAST OF GALLUP NEW MEXICO <small>Attach list of originating sites as appropriate</small>	Location of the Waste (Street address &/or ULSTR) DIST. 3
4. Source and Description of Waste WATER AND SOAP USED TO CLEAN THE SAN JUAN PIPELINE THAT RUNS FROM BLOOMFIELD N.M. TO THE GALLUP INTER CONNECT EAST OF GALLUP. THE WATER WAS INJECTED INTO THE PIPE AT BLOOMFIELD.	

RECEIVED  
FEB 22 1999  
OIL CON. DIV.  
DIST. 3

I, JAMES R. RUSSELL representative for:

ENRON TRANSPORTATION & STORAGE do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☒ MSDS Information ☒ Other (description): ANALYTICAL OF THE  
☐ RCRA Hazardous Waste Analysis WATER  
☐ Chain of Custody

Name (Original Signature): James R. Russell

Title: ENVIRONMENTAL SPECIALIST

Date: 2/17/99



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

February 10, 1999

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. Z-357-870-065**

Mr. James R. Russell  
Enron Transportation and Storage  
Summit Office Building  
4001 Indian School Road, NE, Suite 250  
Albuquerque, New Mexico 87110

**RE: Waste Water Disposal  
Transwestern Pipeline Company  
San Juan-Gallup Interconnect  
Gallup, New Mexico**

Dear Mr. Russell:

The New Mexico Oil Conservation Division (OCD) has received the Enron Transportation & Storage (Enron) letter dated January 22, 1999 requesting that Enron be allowed to dispose of twenty two thousand (22000) gallons of wastewater generated from oil and gas activities. Based on the information provided, and the certification by Enron that this waste is non-hazardous and acceptable by the Key Energy, Farmington, New Mexico Class I disposal well facility, **the request is approved.**

Note, that OCD approval does not relieve Enron of liability should disposal of this material result in contamination of surface water, ground water or the environment. Also, OCD approval does not relieve Enron from compliance or reporting requirements that may apply from other federal, state, and local rules/regulations.

If you have any questions please feel free to call me at (505)-827-7156.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Jack Ford".

W. Jack Ford, C.P.G.  
Geologist  
Environmental Bureau-OCD

cc: Aztec OCD District Office

# Material Safety Data Sheet

## Section 1. Chemical Product and Company Identification

Common Name	<b>NSPEC 105 Cleaner</b>	Code	10259
Supplier	COASTAL FLUID TECHNOLOGIES, INC. 3520 Veterans Memorial Drive ABBEVILLE, LA 70510 318-893-1952	MSDS#	Not available.
Synonym	Not available.	Validation Date	3/17/97
Trade name	Not available.	Print Date	3/17/97
Material Uses	Not available.	In case of Emergency	TRANSPORTATION EMERGENCY: CHEM-TEL, INC. 1-800-255-3924
Manufacturer	COASTAL FLUID TECHNOLOGIES, INC. 3520 Veterans Memorial Drive ABBEVILLE, LA 70510 318-893-1952		

## Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	TLV/PEL	LC <sub>50</sub> /LD <sub>50</sub>
Confidential Information				

## Section 3. Hazards Identification

Emergency Overview	<b>CAUTION!</b>  MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION.
Routes of Entry	Eye contact. Ingestion.
Potential Acute Health Effects	Slightly dangerous to dangerous in case of skin contact (irritant), of eye contact (irritant). Very slightly to slightly dangerous in case of skin contact (permeator), of ingestion, of inhalation. This product may irritate eyes and skin upon contact.
Potential Chronic Health Effects	<b>CARCINOGENIC EFFECTS:</b> Not available. <b>MUTAGENIC EFFECTS:</b> Not available. <b>TERATOGENIC EFFECTS:</b> Not available. Toxicity of the product to the reproductive system: Not available. There is no known effect from chronic exposure to this product. Repeated or prolonged exposure is not known to aggravate medical condition.

## Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Seek medical attention.
Skin Contact	If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
Hazardous Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Continued on Next Page

Inhalation	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
Hazardous Inhalation	No additional information.
Ingestion	DO NOT induce vomiting. Have conscious person drink several glasses of water or milk. Seek immediate medical attention.
Hazardous Ingestion	DO NOT induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

**Section 5. Fire and Explosion Data**

Flammability of the Product	Combustible.
Auto-Ignition Temperature	Not available.
Flash Points	CLOSED CUP: >93.333°C (201.8°F)
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ...).
Fire Hazards in Presence of Various Substances	Very slightly to slightly flammable in presence of open flames and sparks, of heat.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. No specific information is available in our database regarding the product's risks of explosion in the presence of various materials.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemicals, CO <sub>2</sub> , water spray or foam.. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.
Special Remarks on Fire Hazards	When heated to decomposition, it emits toxics fumes. (Diethanolamine)
Special Remarks on Explosion Hazards	No additional remark.

**Section 6. Accidental Release Measures**

Small Spill	The concentrated form of this material is a cleaner and is not considered hazardous. During application, hazardous material on the apparatus or structure being cleaned may become part of the cleaning solution. Check with all applicable regulations before disposing of the material created during application.
Large Spill	The concentrated form of this material is a cleaner and is not considered hazardous. During application, hazardous material on the apparatus or structure being cleaned may become part of the cleaning solution. Check with all applicable regulations before disposing of the material created during application.

**Section 7. Handling and Storage**

Handling	Not available.
Storage	Keep container tightly closed in a cool, well-ventilated place.



**Section 8. Exposure Controls/Personal Protection**

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.		
Personal Protection	Safety glasses. Lab coat. Gloves (impervious).		
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.		
Chemical Name or Product Name	CAS #	Exposure Limits	
Confidential Information			

**Section 9. Physical and Chemical Properties**

Physical state and appearance	Liquid.	Odor	Slight.
Molecular Weight	Not applicable.	Taste	Not available.
pH (1% soln/water)	7 to 8 [Basic.]	Color	Brown. (Dark.)
Boiling Point	The lowest known value is >275°C (528.8°F)		
Melting Point	Not available		
Critical Temperature	Not available.		
Specific Gravity	0.85 (Water = 1)		
Vapor Pressure	Not available.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		
Evaporation rate	Not available.		
Viscosity	Not available.		
Water/Oil Dist. Coeff.	The product is much more soluble in water.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water, methanol.		
Solubility	Easily soluble in cold water, hot water, methanol. Insoluble in diethyl ether, n-octanol.		
Physical Chemical Comments	Not available.		

**Section 10. Stability and Reactivity Data**

Chemical Stability	The product is stable.
Conditions of Instability	No additional remark.
Incompatibility with various substances	Slightly reactive to reactive with acids. Very slightly to slightly reactive with oxidizing agents.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	No.

**Section 11. Toxicological Information**

Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	Toxicity of the product to the reproductive system: Not available.
Other Toxic Effects on Humans	Slightly dangerous to dangerous in case of skin contact (irritant), of eye contact (irritant). Very slightly to slightly dangerous in case of skin contact (permeator), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals	No additional remark.
Special Remarks on Chronic Effects on Humans	Can cause gastrointestinal disturbances. (1,2-Propylene glycol)
Special Remarks on other Toxic Effects on Humans	No additional remark.

**Section 12. Ecological Information**

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	No additional remark.

**Section 13. Disposal Considerations**

Waste Disposal	Recycle, if possible. Consult your local or regional authorities.
----------------	---

**Section 14. Transport Information**

Propper Shipping Name	Not Regulated
DOT Classification	Not a DOT controlled material (United States).
DOT Identification Number	Not applicable (PIN and PG).
Packing Group	NONE
Hazardous Substances Reportable Quantity	Not available.
Special Provisions for Transport	Not Regulated

**Section 15. Regulatory Information**

Federal and State Regulations	The following product(s) is (are) listed by the State of Massachusetts: <b>Diethanolamine</b> The following product(s) is (are) listed on TSCA: <b>Diethanolamine, 1,2-Propylene glycol</b>
Other Classifications	WHMIS (Canada) Not controlled under WHMIS (Canada). DSCL (EEC) Not controlled under DSCL (Europe).

Continued on Next Page

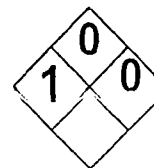
## Section 16. Other Information

HMIS (U.S.A.)

Health Hazard	1
Fire Hazard	0
Reactivity	0
Personal Protection	B

National Fire  
Protection  
Association (U.S.A.)

Health



Fire Hazard

Reactivity

Specific hazard

References Not available.

Other Special  
Considerations No additional remark.

Validated by Charles Toups on 3/17/97.

Verified by Charles Toups.

Printed 3/17/97.

Emergency Contact

CHEM-TEL, INC. - 1-800-255-3924

**Notice to Reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



January 22, 1999

**Enron Transportation  
& Storage**

*Services Provided by Northern  
Natural Gas Company and  
Transwestern Pipeline Company  
Summit Office Building  
4001 Indian School Road, NE, Suite 250  
Albuquerque, NM 87110  
(505) 260-4000  
Fax (505) 254-1437*

Mr. Roger Anderson  
Oil Conservation Division  
P. O. Box 2040  
South Pacheco Street  
Santa Fe, New Mexico 87505

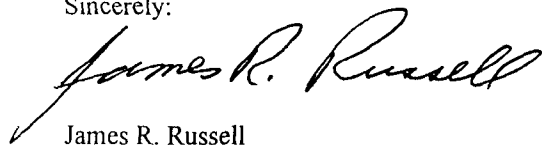
Re: Disposal of Wastewater at San Juan – Gallup interconnects Gallup New Mexico:

Dear Mr. Anderson:

Transwestern Pipeline Company, owner and operator of the San Juan – Gallup interconnect, request approval from your agency to dispose of waste generated from oil and gas activities at the above reference facility. This request address disposal of twenty two thousand gallons (22000 gal) that was used to clean the pipeline from our San Juan facility to the Gallup interconnects. The analytical for this water is attached. Key Energy, Farmington New Mexico, will dispose of this waste into a deep well class 1. Approval of this request will allow Transwestern Pipeline Company to complete this project and will not create any adverse impact to the facilities environment.

If you should have any question or need additional information please give me a call at our Albuquerque office (505) 260-4011.

Sincerely:



James R. Russell

Xc: Rich Jolly  
PT Foster  
Rick Smith  
Gallup Team



L9103

December 8, 1998

Charlie Allen  
Enron Transwestern Pipeline  
P.O. Box 1019  
Thoreau, NM 87323

Phone: (505) 862-7443  
FAX: (505) 862-7826

Re: Laboratory Sample Analysis

Project: Enron Transport & Storage  
Station 1-8 PCB Sampling


Project Manager: Charlie Allen

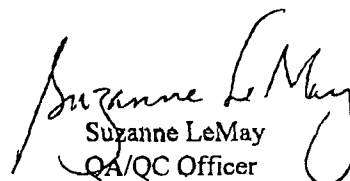
Dear Charlie Allen:

On Thursday, December 3, 1998, OAL received six (6) samples for analysis: four waste oil samples; and two water samples. 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 L9103.

Sincerely,

  
Deborah Griffiths  
Project Manager

  
Suzanne LeMay  
QA/QC Officer

cc: Butch Russell, Charlie Allen, Larry Campbell

**OREGON ANALYTICAL LABORATORY**

A Division of Portland General Electric  
14855 S.W. Scholls Ferry Road, Beaverton, OR 97007  
Phone 503-590-5300 • Fax 503-590-1404  
www.oalab.com/oal • Toll-Free 1-800-644-0067



L9103

**Sample Summary**

<u>Sample ID</u>	<u>Lab #</u>	<u>Description</u>	<u>Sampled</u>	<u>Received</u>
NFT BOTTOM H2O PHASE	L9103-1	water	12/02/98 12:10	12/03/98
NFT TOP OIL PHASE	L9103-2	waste oil	12/02/98 12:15	12/03/98
NFT MIDDLE OIL PHASE	L9103-3	waste oil	12/02/98 12:20	12/03/98
SFT BOTTOM H2O PHASE	L9103-4	water	12/02/98 12:25	12/03/98
SFT TOP OIL PHASE	L9103-5	waste oil	12/02/98 12:30	12/03/98
SFT MIDDLE OIL PHASE	L9103-6	waste oil	12/02/98 12:35	12/03/98

**Definition of Terms**

**ND** Analytical result was below the reporting limit.

**Analysts**

<u>Initials</u>	<u>Analyst</u>	<u>Title</u>
CN	Cedric Neel	Analyst
DMC <sup>2</sup>	Debbie McBreen-McKenzie	Chemist /Supervisor
GCK	Bill Kernion	Chemist

**Method Summary**

<u>Analysis</u>	<u>Method</u>
Arsenic	EPA 200.9
Flash Point (PMCC)	EPA 1010/ASTM D93
Lead	EPA 200.7/6010

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14855 S.W. Scholls Ferry Road, Beaverton, OR 97007  
Phone 503-590-5300 • Fax 503-590-1404



L9103

Client: **Enron Transport & Storage**  
Contact: **Charlie Allen**

Project: **Station 1-8 PCB Sampling**

## Oil Analyses

Sample ID	Matrix	Result	Reporting Limit	Units	Date Analyzed	Method	Lab Number	Comment	Analyst
Analyte									
<b>NFT BOTTOM H2O PHASE; NORTH FRAC TANK</b> Water									
Sampled: 12/02/98							L9103-1		
Flash Point (PMCC)		>200.		°F	12/04/98	EPA 1010/ASTM D93			CN
Flash Point (PMCC)		>93.		°C	12/04/98	EPA 1010/ASTM D93			CN
<b>NFT TOP OIL PHASE; NORTH FRAC TANK</b> Waste Oil									
Sampled: 12/02/98							L9103-2		
Flash Point (PMCC)		>200.		°F	12/04/98	EPA 1010/ASTM D93			CN
Flash Point (PMCC)		>93.		°C	12/04/98	EPA 1010/ASTM D93			CN
<b>NFT MIDDLE OIL PHASE; NORTH FRAC TANK</b> Waste Oil									
Sampled: 12/02/98							L9103-3		
Flash Point (PMCC)		>200.		°F	12/04/98	EPA 1010/ASTM D93			CN
Flash Point (PMCC)		>93.		°C	12/04/98	EPA 1010/ASTM D93			CN
<b>SFT BOTTOM H2O PHASE; SOUTH FRAC TANK</b> Water									
Sampled: 12/02/98							L9103-4		
Flash Point (PMCC)		>200.		°F	12/04/98	EPA 1010/ASTM D93			CN
Flash Point (PMCC)		>93.		°C	12/04/98	EPA 1010/ASTM D93			CN
<b>SFT TOP OIL PHASE; SOUTH FRAC TANK</b> Waste Oil									
Sampled: 12/02/98							L9103-5		
Flash Point (PMCC)		>200.		°F	12/04/98	EPA 1010/ASTM D93			CN
Flash Point (PMCC)		>93.		°C	12/04/98	EPA 1010/ASTM D93			CN
<b>SFT MIDDLE OIL PHASE; SOUTH FRAC TANK</b> Waste Oil									
Sampled: 12/02/98							L9103-6		
Flash Point (PMCC)		>200.		°F	12/04/98	EPA 1010/ASTM D93			CN
Flash Point (PMCC)		>93.		°C	12/04/98	EPA 1010/ASTM D93			CN

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14855 S.W. Scholls Ferry Road, Beaverton, OR 97007  
Phone 503-590-5300 • Fax 503-590-1404  
www.pge.com/lab • Toll Free 1-800-644-0067



L9103

Client: **Enron Transport & Storage**  
Contact: **Charlie Allen**

Project: **Station 1-8 PCB Sampling****TCLP Metals**

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment Analyst
Analyte								

				Sampled: 12/02/98				
				TCLP EPA 1311: 12/03/98				
<b>NFT BOTTOM H2O PHASE; NORTH FRAC TANK</b>		<b>Water</b>			Microwave Digestion EPA 3015: 12/04/98		<b>L9103-1</b>	
Arsenic	ND	0.20	mg/L	12/08/98	EPA 200.9			GCK
Lead	ND	2.5	mg/L	12/08/98	EPA 200.7/6010			DMC <sup>2</sup>

				Sampled: 12/02/98				
				TCLP EPA 1311: 12/04/98				
<b>SFT BOTTOM H2O PHASE; SOUTH FRAC TANK</b>		<b>Water</b>			Microwave Digestion EPA 3015: 12/04/98		<b>L9103-4</b>	
Arsenic	ND	0.20	mg/L	12/08/98	EPA 200.9			GCK
Lead	ND	2.5	mg/L	12/08/98	EPA 200.7/6010			DMC <sup>2</sup>

				Sampled: 12/02/98				
				TCLP EPA 1311: 12/04/98				
<b>SFT TOP OIL PHASE; SOUTH FRAC TANK</b>		<b>Waste Oil</b>			Microwave Digestion EPA 3016: 12/04/98		<b>L9103-5</b>	
Arsenic	ND	0.20	mg/L	12/08/98	EPA 200.9			GCK
Lead	ND	2.5	mg/L	12/08/98	EPA 200.7/6010			DMC <sup>2</sup>

				Sampled: 12/02/98				
				TCLP EPA 1311: 12/04/98				
<b>SFT MIDDLE OIL PHASE; SOUTH FRAC TANK</b>		<b>Waste Oil</b>			Microwave Digestion EPA 3015: 12/04/98		<b>L9103-6</b>	
Arsenic	ND	0.20	mg/L	12/08/98	EPA 200.9			GCK
Lead	ND	2.5	mg/L	12/08/98	EPA 200.7/6010			DMC <sup>2</sup>

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www.oal-lab.com • Toll-Free 1-800-644-0867







L9103

Client: **Enron Transport & Storage**  
Contact: **Charlie Allen**

Project: **Station 1-8 PCB Sampling**

## Total Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
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NFT TOP OIL PHASE; NORTH FRAC TANK		Waste Oil	Microwave Digestion EPA 3051:12/04/98		Sampled:12/02/98		L9103-2		
Arsenic	0.21	0.20	mg/kg	12/08/98	EPA 200.9			GCK	
Lead	ND	2.5	mg/kg	12/08/98	EPA 200.7/6010			DMC <sup>2</sup>	

NFT MIDDLE OIL PHASE; NORTH FRAC TANK		Waste Oil	Microwave Digestion EPA 3051:12/04/98		Sampled:12/02/98		L9103-3		
Arsenic	0.22	0.20	mg/kg	12/08/98	EPA 200.9			GCK	
Lead	ND	2.5	mg/kg	12/08/98	EPA 200.7/6010			DMC <sup>2</sup>	

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www.oalab.com



**L9591**

January 14, 1999

Charlie Allen  
Enron Transwestern Pipeline  
P.O. Box 1019  
Thoreau, NM 87323

Phone: (505) 862-7443

FAX: (505) 862-7826

Re: Laboratory Sample Analysis  
Project: San Juan Frac Tanks  
Project Manager: Charlie Allen

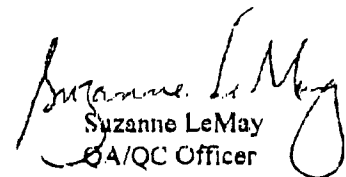
Dear Charlie Allen:

On Monday, January 11, 1999, OAL received one (1) liquid sample for analysis. The sample was 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 L9591.

Sincerely,

Kami Morrow  
Project Manager

  
Suzanne LeMay  
QA/QC Officer

cc: Butch Russell, Charlie Allen, Larry Campbell

Oregon Analytical Laboratory  
14855 S.W. Scholls Ferry Road  
Beaverton, Oregon 97007

## Facsimile Transmission Cover Sheet

Date: Thursday, January 14, 1999

Fax #: (505) 862-7826

To: Charlie Allen

Company: Enron Transwestern Pipeline

From: Doug McKenzie

Phone: (503) 590-5300

Total Number of Pages (including cover sheet): 16

Project: San Juan Frac Tanks

Re: Results for one liquid sample (L9591).

Thank you for choosing OAL for your testing needs!

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.



L9591

**Sample Summary**

<u>Sample ID</u>	<u>Lab #</u>	<u>Description</u>	<u>Sampled</u>	<u>Received</u>
SAN JUAN FRAC TANKS	L9591-1	liquid	01/08/99 13:30	01/11/99

**Definition of Terms**

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>
CN	Cedric Neel	Analyst
CV	Cheryl Vezzani	Chemist
DM	Dan Miller	Organics Chemist
JD	Jason Davendonis	Technician
PB	Pat Buddrus	Organics Chemist

**Method Summary**

<u>Analysis</u>	<u>Method</u>
Barium	EPA 200.7/6010
Cadmium	EPA 200.7/6010
Chromium	EPA 200.7/6010
Flash Point (PMCC)	EPA 1010/ASTM D93
Mercury	EPA 245.1/7470A
Selenium	EPA 200.7/6010
Silver	EPA 200.7/6010
TCLP Semivolatiles	EPA 8270
Volatile Organic Compounds (VOC)	EPA 8260



L9591

Client: *Enron Transwestern Pipeline*  
Contact: *Charlie Allen*

Project: *San Juan Frac Tanks*

## Oil Analyses

Sample ID	Matrix	Result	Reporting Limit	Units	Date Analyzed	Method	Lab Number
Analyte							Comment Analyst

SAN JUAN FRAC TANKS	Liquid					Sampled: 01/08/99	L9591-J
Flash Point (PMCC)		>200.		'F	01/11/99	EPA 1010/ASTM D93	CN
Flash Point (PMCC)		>93.		'C	01/11/99	EPA 1010/ASTM D93	CN



L9591

Client: **Enron Transwestern Pipeline**  
 Contact: **Charlie Allen**

Project: **San Juan Frac Tanks**

## TCLP Metals

Sample ID	Matrix	Result	Reporting Limit	Units (ppm)	Date Analyzed	Method	Lab Number	Comment	Analyst
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<b>SAN JUAN FRAC TANKS</b> Liquid		Sampled: 01/08/99 TCLP EPA 1311: 01/11/99 Hot Plate Digestion EPA 200.7/3005A: 01/12/99 Mercury Digestion: 01/12/99							
									L9591-1
		Barium	1.0E	1.0	mg/L	01/13/99	EPA 200.7/6010	D1	CV
		Cadmium	ND	0.10	mg/L	01/13/99	EPA 200.7/6010	D1	CV
		Chromium	0.12	0.10	mg/L	01/13/99	EPA 200.7/6010	D1	CV
		Mercury	ND	0.010	mg/L	01/13/99	EPA 245.1/7470A	D1	JD
		Selenium	ND	1.0	mg/L	01/13/99	EPA 200.7/6010	D1	CV
		Silver	ND	0.10	mg/L	01/13/99	EPA 200.7/6010	D1	CV

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric  
 14855 SW Columbia River Blvd. Beaverton, OR 97005

- 2 -





L9591

Client: Enron Transwestern Pipeline  
Contact: Charlie Allen

Project: San Juan Frac Tanks

## TCLP Semivolatiles (Totals\*)

by EPA Method 8270

Sample ID	Analyte	Results	Blank Result	Reporting Limit	Regulatory Limit	Units	COMMENT	Lab Number
SAN JUAN FRAC TANKS      LIQUID      MB0112S      Sampled: 01/08/99 Analyzed: 01/12/99      L9591-1								
<b>CASE</b>								
110-86-1	Pyridine	nd	nd	500.00	5.0	mg/L	D1	
106-46-7	1,4-Dichlorobenzene	nd	nd	100.00	7.5	mg/L	D1	
	Total Cresol	nd	nd	100.00	200	mg/L	D1	
67-72-1	Hexachloroethane	nd	nd	100.00	3.0	mg/L	D1	
98-95-3	Nitrobenzene	nd	nd	100.00	2.0	mg/L	D1	
87-68-3	Hexachlorobutadiene	nd	nd	100.00	0.5	mg/L	D1	
88-08-2	2,4,6-Trichlorophenol	nd	nd	100.00	2.0	mg/L	D1	
85-95-4	2,4,5-Trichlorophenol	nd	nd	100.00	400	mg/L	D1	
121-14-2	2,4-Dinitrotoluene	nd	nd	100.00	0.13	mg/L	D1	
118-74-1	Hexachlorobenzene	nd	nd	100.00	0.13	mg/L	D1	
87-86-5	Pentachlorophenol	nd	nd	500.00	100	mg/L	D1	
							Recovery	Recovery
Acid Surrogates:							L9591-1	MB0112S
2-Fluorophenol							103%	107%
Phenol-d6							98%	104%
2,4,6-Tribromophenol							103%	92%
Base / Neutral Surrogates:								
1,2-Dichlorobenzene d-4							103%	104%
Nitrobenzene-d5							99%	96%
2-Fluorobiphenyl							103%	103%

none detected = nd

2-Methylphenol + 4-Methylphenol = Total Cresol

Elevated Reporting Limit due to sample matrix = D1

Samples containing less than half a percent solid are analyzed as totals = \*

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric

12455 SW Scholls Road, Portland, OR 97207





L9591

Client: *Enron Transwestern Pipeline*  
Contact: *Charlie Allen*

Project: *San Juan Frac Tanks*

**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>SAN JUAN FRAC TANKS</i>	<i>Liquid</i>					
See Attached Data Sheet						
						<i>Sampled: 01/08/99</i>
						<i>Extracted: 01/11/99</i>
						<i>Analyzed: 01/12/99 by DM</i>
						<i>L9591-1</i>



L9591

Client: Enron Transwestern Pipeline  
Contact: Charlie Allen

Project: San Juan Frac Tanks

## TCLP Volatiles (Totals)

### by EPA Method 8260

Sample ID								Lab Number
Analyte	Result	Blank Result	Reporting Limit	Regulatory Limit	Units	Comment		
SAN JUAN FRAC TANKS		MB0112		Sampled: 01/08/99		Analyzed: 01/12/99 L9591-1		
CAS #								
75-01-4	Vinyl chloride . . . . .	nd	nd	1	0.2	mg/L	D1	
75-35-4	1,1-Dichloroethene . . . . .	nd	nd	1	0.7	mg/L	D1	
78-93-3	2-Butanone . . . . .	nd	nd	20	200	mg/L	D1	
67-66-3	Chloroform . . . . .	nd	nd	1	6	mg/L	D1	
88-23-5	Carbon tetrachloride . . . . .	nd	nd	1	0.5	mg/L	D1	
71-43-2	Benzene . . . . .	nd	nd	1	0.5	mg/L	D1	
107-06-2	1,2-Dichloroethane . . . . .	nd	nd	1	0.5	mg/L	D1	
79-01-6	Trichloroethene . . . . .	nd	nd	1	0.5	mg/L	D1	
127-18-4	Tetrachloroethene . . . . .	nd	nd	1	0.7	mg/L	D1	
108-90-7	Chlorobenzene . . . . .	nd	nd	1	100	mg/L	D1	
Surrogates				Recovery	Recovery			
1,2-Dichloroethane-d4				L9591-1	MB0112			
Toluene-d8				98%	100%			
4-Bromofluorobenzene				99%	100%			

none detected = nd

Samples containing less than half percent solids are analyzed as totals.

Elevated reporting limits due to sample matrix = D1

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric

14000 SW 25th Avenue, Portland, OR 97205



L9591

Client: Enron Transwestern Pipeline  
Contact: Charlie Allen

Project: San Juan Frac Tanks

## Semivolatiles LCS & LCSD by EPA Method 8270

Sample ID	Lab Number	Lab Number		
Analyte	Recovery	Recovery	RPD	COMMENT

WATER		LCS0111S	LCSD0111S	Sampled: NA Analyzed: 01/11/99	
CASE#					
108-95-2	Phenol	50%	51%	1%	
95-57-8	2-Chlorophenol	98%	94%	4%	
106-46-7	1,4-Dichlorobenzene	105%	98%	7%	
621-64-7	N-Nitroso-di-n-propylamine	97%	92%	5%	
120-82-1	1,2,4-Trichlorobenzene	104%	97%	7%	
59-50-7	4-Chloro-3-methylphenol	90%	85%	6%	
83-32-8	Acenaphthene	116%	108%	7%	
121-14-2	2,4-Dinitrotoluene	90%	91%	1%	
100-02-7	4-Nitrophenol	35%	39%	11%	
87-86-5	Pentachlorophenol	89%	86%	4%	
129-00-0	Pyrene	110%	102%	8%	
		Acid Surrogates:		Recovery	Recovery
		2-Fluorophenol		LCS0111S	LCSD0111S
				76%	83%
		Phenol-d8		58%	60%
		2,4,6-Tribromophenol		105%	108%
		Base / Neutral Surrogates:			
		1,2-Dichlorobenzene d-4		81%	80%
		Nitrobenzene-d5		98%	103%
		2-Fluorobiphenyl		95%	96%

none detected = nd



L9591

Client: Enron Transwestern Pipeline  
Contact: Charlie Allen

Project: San Juan Frac Tanks

**Volatiles LCS**  
by EPA Method 8260

					Lab Number
Analyte	Results	Amount Spiked	Units	Recovery	

Analyzed: 01/12/99

LCS0112

**CAS #**

75-35-4	1,1-Dichloroethane .....	19.5	20.0	ug/L	98%
71-43-2	Benzene .....	21.3	20.0	ug/L	106%
79-01-6	Trichloroethene .....	20.9	20.0	ug/L	104%
108-88-3	Toluene .....	20.9	20.0	ug/L	104%
108-90-7	Chlorobenzene .....	20.8	20.0	ug/L	104%

**Surrogates**

Recovery

LCS0112

1,2-Dichloroethane-d4

99%

Toluene-d8

97%

4-Bromofluorobenzene

97%

none detected = nd

strict I - (505) 393-6161  
D. Box 1980  
bbbs, NM 88241-1980  
strict II - (505) 748-1283  
1 S. First  
esia, NM 88210  
strict III - (505) 334-6178  
Rio Brazos Road  
c, NM 87410  
strict IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

**RECEIVED**

FEB 1 1998

Environmental Bureau  
Oil Conservation Division

Form C-138  
Originated 8/5/95

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>BURLINGTON</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>COMPRESSOR STATIONS</u>
2. Management Facility Destination <u>KEY ENERGY DISPOSAL</u>	6. Transporter <u>Key</u>
3. Address of Facility Operator <u>PHYSICAL: CR 3500 #345 AZTEC NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>see list</u>	
9. <u>Circle One</u> : A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <u>B.</u> All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

DRAINED WATER FROM COMPRESSOR OIL TANKS

**RECEIVED**  
FEB 12 1999  
OIL CON. DIV.  
DIST. 3

Estimated Volume 500 bbls + cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: [Signature] TITLE: MGR DATE: 2-12-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: [Signature] TITLE: Geologist DATE: 2/12/99  
APPROVED BY: [Signature] TITLE: Env. Geologist DATE: 2/19/99

# CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> Burlington Resources 3535 East 30 th Street Farmington NM 87401	<b>2. Destination Name:</b> Sunco Disposal
<b>3. Originating Site (name):</b> All Compressor Stations  <b>Unit:</b>	<b>Location of the Waste (Street address /or ULSTR):</b> See Attached. Sampled under project CC-51816 (non-haz). <b>Section:</b> <b>Township:</b> <b>Range:</b>
<b>4. Source and Description of Waste:</b> Drained water from oil tank.	

I, Jeff Schoenbacher representative for:  
Burlington Resources do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check the appropriate classification)

☐ EXEMPT oilfield waste      ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification.


and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

---

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☐ MSDS Information      ☐ Other (description):  
☐ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

---

Name (Original Signature):   
Title: Env. Representative  
Date: Tuesday, February 09, 1999

**Burlington Resources Oil & Gas Company  
Compressor Stations**

		QTR	SEC	TWP	RNG
1.	Frances Mesa	SW	27	30N	7W
2.	Cedar Hill	SW	29	32N	10W
3.	Gobernador	NW	31	30N	7W
4.	Manzanares	SE	4	29N	8W
5.	Pump Canyon	NE	24	30N	9W
6.	Hart Canyon	SE	20	31N	10W
7.	Buena Vista	NE	13	30N	9W
8.	Sandstone	SE	32	31N	8W
9.	Quinn	SW	16	31N	8W
10.	Arch Rock	SW	14	31N	10W
11.	Pump Mesa	SW	14	31N	8W
12.	Middle Mesa	SW	10	31N	7W
13.	Simms Mesa	NE	22	30N	7W
14.	Rudy	SE	35	29N	11W
15.	Zachry	SW	34	29N	10W
16.	Albright	NW	22	29N	10W
17.	Rattlesnake	SW	10	31N	7W
18.	Cox	SW	20	32N	10W
19.	Lateral 311	NE	17	29N	10W
20.	Lateral 355	SE	25	30N	11W
21.	Ute	SW	14	32N	11W
22.	State	NW	16	28N	9W

# BURLINGTON RESOURCES

---

SAN JUAN DIVISION

February 9, 1999

Sunco Trucking  
P.O. Box 900  
5651 U.S. Highway 64  
Farmington, NM 87499

Attention: Mike Talovich, Manager

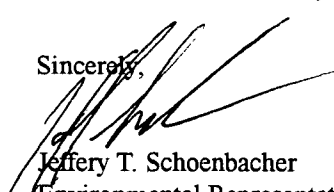
**Re: Drained Water from Used Oil Tank Annual Non-Exempt Certification**

Dear Mr. Talovich:

The purpose of this correspondence is to submit to your department the attached Certificate of Waste Status form for water generated from draining the used oil tank at the compressor stations. This waste stream was analyzed to comply with 40 CFR 262.11 waste determination requirements contained in the Resource Conservation and Recovery Act (RCRA). The parameters that were chosen for characterizing this waste stream was determined through "generators knowledge" defined under 40 CFR 262.11 ( c ) (2). ). The analysis for this waste stream exhibits this waste as being a non-hazardous waste. As required, the analysis was sent to you November 17, 1998 and was identified as Sample Project CC-51816.

Should you have any questions concerning the content or need additional information please feel free to contact me at 505-326-9537. Thank you for your time and consideration.

Sincerely,



Jeffery T. Schoenbacher  
Environmental Representative

CC: Bruce Gantner  
Ed Hasely  
Greg Kardos  
Gaza Seabolt  
Ken Johnson  
Correspondence  
Compressor Files

JTS:



**BURLINGTON  
RESOURCES**

SAN JUAN DIVISION  
November 11, 1998

Sunco Trucking  
P.O. Box 900  
5651 U.S. Highway 64  
Farmington, NM 87499

Attention: Mike Talovich, Manager

**Re: Characterization of Drained Water from Used Oil Tank**

Dear Mr. Talovich:

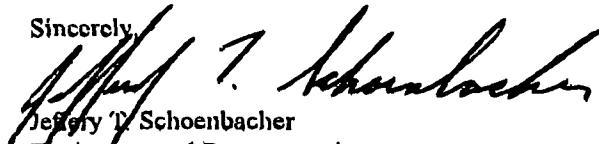
The purpose of this correspondence is to submit to your department the attached wastewater analysis for water generated from draining the used oil tank.

Per your request, I have enclosed the waste analysis (CC#51816) for your records and for submitting to OCD under the C-138 Non-Exempt Waste approval form. The main purpose for analyzing this particular waste streams was to comply with 40 CFR 262.11 waste determination requirements contained in the Resource Conservation and Recovery Act (RCRA). As a result, the water was analyzed for hazardous characteristics focusing on TCLP metals, TCLP VOA, TCLP Semi-VOA, and flash point. Upon evaluating the analysis for this waste, it appears the material does not exhibit the characteristics of a hazardous waste. The pH, herbicides, and pesticides were not analyzed since the liquid is wash-down water, which is not characteristically corrosive and herbicide/pesticide do not come in contact with this waste.

Regarding the generation rates, the material will be generated periodically at all the compressor units' (13) Burlington Resources currently operates. The plans for draining the waste oil tanks of water component would proceed by a company representative contacting Sunco when a waste oil shipment is warranted. The intention of removing the water component from the waste oil tank is a direct waste minimization practice to eliminate the oil/water from mixture Burlington Resources operations.

Should you have any questions concerning the content or need additional information please feel free to contact me at 505-326-9537. Thank you for your time and consideration.

Sincerely,



Jeffrey T. Schoenbacher  
Environmental Representative

Enc. Sample Project CC-51816

CC: Bruce Gantner  
Ed Hasely  
Greg Kardo  
Gaza Scabolt  
Ken Johnson  
Correspondence  
Compressor Files

JTS:

**PRELIMINARY**

**VOLATILE ORGANIC TOXICITY CHARACTERISTIC LIST**

**TCLP Leachate**

**Method 8260**

Client: **Burlington Resources**  
Project: **Oil Tank Water / Compressor Stations**  
Sample ID: **DW #11288**  
Laboratory ID: **0398G06445**  
Sample Matrix: **Water/Oil Mix**

Date Reported: **11/10/98**  
Date Sampled: **11/02/98**  
Date Received: **11/02/98**  
Date Analyzed: **11/09/98**

Parameter	Result	Unit
-----------	--------	------

Benzene	0.20	0.10	0.5	mg/L
2-Butanone (MEK)	ND	0.10	0.5	mg/L
Carbon tetrachloride	ND	0.10	100	mg/L
Chlorobenzene	ND	0.10	6.0	mg/L
Chloroform	ND	0.10	7.5	mg/L
1,2-Dichloroethane	ND	0.10	0.6	mg/L
1,1-Dichloroethene	ND	0.10	0.7	mg/L
1,4 Dichlorobenzene	ND	0.10	200	mg/L
Tetrachloroethene	ND	0.10	0.7	mg/L
Trichloroethene	ND	0.10	0.5	mg/L
Vinyl chloride	ND	0.10	0.2	mg/L

ND- Analyte not detected at stated detection level.

Reported By: 

Reviewed: \_\_\_\_\_

# PRELIMINARY

## SEMIVOLATILE ORGANICS /TCLP TCLP Leachate Method 8270

Client: **Burlington Resources**  
Project: **Oil Tank Water / Compressor Stations**  
Sample ID: **DW # 11298**  
Laboratory ID: **0398G08448**  
Sample Matrix: **Oil / Water Mix**

Date Reported: **11/10/98**  
Date Sampled: **11/02/98**  
Date Received: **11/02/98**  
Date Analyzed: **11/09/98**

Parameter	Method	Units	Result	Units
-----------	--------	-------	--------	-------

Cresol(Total)	ND	1.0	200.0	mg/L
2,4-Dinitrotoluene	ND	0.10	0.13	mg/L
Hexachlorobenzene	ND	0.10	0.13	mg/L
Hexachlorobutadiene	ND	0.20	0.5	mg/L
Hexachloroethane	ND	0.10	3.0	mg/L
Nitrobenzene	ND	0.50	2.0	mg/L
Pentachlorophenol	ND	0.20	100	mg/L
Pyridine	ND	0.50	5.0	mg/L
2,4,5-Trichlorophenol	ND	0.50	400.0	mg/L
2,4,6-Trichlorophenol	ND	0.50	2.0	mg/L

ND - Analyte not detected at stated detection level.

Reported By: 

Reviewed: \_\_\_\_\_

Inter-Mountain Laboratories, Inc.

2606 W. Main Street  
Farmington, New Mexico 87401TOXICITY CHARACTERISTIC LEACHING PROCEDURE  
TRACE METAL CONCENTRATION

PRELIMINARY

Client: Burlington Resources  
Project: Oil Tank Water / Compressor Stations  
Sample ID: DW #11298  
Laboratory ID: 0398G06445  
Sample Matrix: Oil / Water Mix

Date Reported: 11/10/98  
Date Sampled: 11/02/98  
Date Received: 11/02/98  
Date Analyzed: 11/10/98

Parameter	Result	Method	Unit
-----------	--------	--------	------

Arsenic.....	<0.061	0.061	5 mg/L
Barium.....	0.21	0.001	100 mg/L
Cadmium.....	<0.008	0.008	1 mg/L
Chromium.....	0.084	0.008	5 mg/L
Lead.....	<0.04	0.04	5 mg/L
Mercury.....	<0.0004	0.0004	0.2 mg/L
Selenium.....	<0.05	0.05	1 mg/L
Silver.....	<0.03	0.03	5 mg/L

References: Method 1311: Toxicity Characteristic Leaching Procedure,  
SW-846 "Test Methods for Evaluating Solid Waste:  
Physical/Chemical Methods" 3rd Edition, Final Update III, December, 1996.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total  
Metals, SW-846 "Test Methods for Evaluating Solid Waste: Physical/  
Chemical Methods" 3rd Edition, Final Update III, December, 1996.

## Comments:

Reported By: 

Reviewed: \_\_\_\_\_

**Flash Point****PRELIMINARY**

**Client:** Burlington Resources  
**Project:** Oil Water Tank / Compressor Stations  
**Sample ID:** DW #11208  
**Laboratory ID:** 0398G08445  
**Sample Matrix:** Oil / Water Mix  
**Condition:** Intact

**Date Reported:** 11/10/98  
**Date Sampled:** 11/02/98  
**Date Received:** 11/02/98  
**Date Analyzed:** 11/05/98

Analysis	Result	Unit
Flash Point	> 140	°F

**References:**

Analysis performed according to SW-846 "Test Methods for Evaluating Solid Waste: Physical / Chemical Methods" United States Environmental Protection Agency 3rd Edition, Final Update II, September, 1994.

Annual Book of ASTM Standards, Method D56.

Reported by: 

Reviewed by: \_\_\_\_\_

## **QUALITY CONTROL / QUALITY ASSURANCE**

**Quality Control / Quality Assurance****Volatile Organics by GC/MS****Spike Analysis**

Client: **Burlington Resources**  
Project: Oil Tank Water / Compressor Stations  
Sample Matrix: Oil / Water Mix  
Concentration Units: mg/L

Date Reported: 11/10/98  
Date Analyzed: 11/09/98  
Date Received: 11/02/98

Analyte	Spike Amount	% Recovery 1	% Recovery 2	Accuracy %	
				Var.	Limits
1,1-Dichloroethene	20ppb	114	120	5.6	20-234
Trichloroethene	20ppb	112	110	1.8	71-157
Benzene	20ppb	122	122	0.33	37-151
Toluene	20ppb	130	128	1.8	47-150
Chlorobenzene	20ppb	102	108	5.9	37-160

Reported by



Reviewed by



**Quality Control / Quality Assurance****Semivolatile Organics by GC/MS****Spike Analysis**

Client: **Burlington Resources**  
Project: Oil Tank Water / Compressor Stations  
Sample Matrix: Oil / Water Mix  
Concentration Units: mg/L

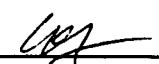
Date Reported: 11/10/98  
Date Analyzed: 11/09/98  
Date Received: 11/02/98

Analyte	Spike Amount	% Recovery 1	% Recovery 2	Accuracy %	
				Var.	Limits
Phenol	200 ppb	103	94.1	8.6	10-120
2-Chlorophenol	200 ppb	100	77.9	22	23-134
Acenaphthene	100 ppb	85.0	71.2	16	47-145
Pyrene	100 ppb	95.9	86.6	9.7	52-125

Reported by



Reviewed by





**Quality Control / Quality Assurance****Toxicity Characteristic Leaching Procedure****Metals Spike Analysis**


Client: **Burlington Resources**  
Project: Oil Tank Water / Compressor Stations  
Sample Matrix: Oil / Water Mix  
Concentration Units: mg/L

Date Reported: 11/10/98  
Date Analyzed: 11/09/98  
Date Received: 11/02/98

Analyte	Spike Amount	% Recovery 1	% Recovery 2
Arsenic	4.0	93.3	94.1
Barium	4.0	74.6	77.9
Cadmium	4.0	85.8	71.2
Chromium	4.0	98.0	86.6
Lead	4.0	75.4	76.0
Mercury	N/A	N/A	N/A
Selenium	4.0	104.5	104.5
Silver	4.0	97.1	97.3

Comments : Data not available.

Reported by



Reviewed by



## Quality Control / Quality Assurance

### Known Analysis

### FLASH POINT

Client: **Burlington Resources**  
Project: Oil Water Tank / Compressor Stations  
Sample Matrix: Oil / Water Mix

Date Reported: 11/10/98  
Date Analyzed: 11/05/98  
Date Received: 11/02/98

Parameter	Found Result	Known Result
p-Xylene	77°F	77°F

**Reference:** Analysis performed according to SW-846 "Test Methods for Evaluating Solid Waste: Physical / Chemical Methods" United States Environmental Protection Agency 3rd Edition, Final Update II, September, 1994.

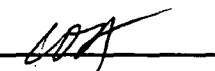
Annual Book of ASTM Standards, Method D56.

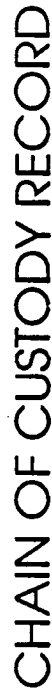
**Comments:**

Reported by

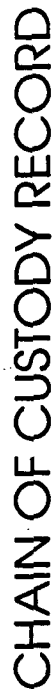


Reviewed by





**Inter-Mountain Laboratories, Inc.**



# CHAIN OF CUSTODY RECORD

[illegible]

Office I - (505) 393-6161  
D. Box 1980  
Albuquerque, NM 88201  
Office II - (505) 748-1283  
J. S. First  
Albuquerque, NM 88210  
Office III - (505) 334-6178  
Rio Brazos Road  
Albuquerque, NM 87410  
Office IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

RECEIVED

FEB 1 1998

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

Environmental Bureau  
Oil Conservation Division

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>WFS</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>MILAGRO PLANT</u>
2. Management Facility Destination <u>Key DISPOSAL</u>	6. Transporter
3. Address of Facility Operator <u>Physical: CR 3500 #345</u> <u>AZtec, NM</u> <u>192 CR 4900</u>	8. State
7. Location of Material (Street Address or ULSTR) <u>Bloomfield, NM 87413</u>	
9. <u>Circle One:</u> A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

WASTE WATER FROM EVAPORATION POND at the NATURAL  
Gas Breechment Plant

RECEIVED  
FEB 12 1998  
OIL CON. DIV.  
DIST. 3

Continuation - new TCLP

Estimated Volume 1000 + bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: MGR DATE: 2-10-99  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Dennis G. Hunt TITLE: Geologist DATE: 2/12/99

APPROVED BY: Martyn J. Kelly TITLE: Env. Geologist DATE: 2/17/99

## CERTIFICATE OF WASTE STATUS

1. Generator Name and Address: Williams Field Services 295 CHIPOTA WAY SALT LAKE CITY, UT 84158	2. Destination Name: SUNCO DISPOSAL
3. Originating Site (name): MILAGRO PLANT	Location of the Waste (Street address &/or ULSTR): 192 CR 4900 Bloomfield, NM 87413
Attach list of originating sites as appropriate	
4. Source and Description of Waste WASTEWATER FROM EVAPORATION PONDS AT NATURAL GAS BREACHMENT PLANT	

I, RICK WOOTEN representative for:  
(Print Name)  
William Field Services (MILAGRO PLANT) do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☒ MSDS Information  
☒ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

☐ Other (description):

Name (Original Signature): [Signature]

Title: PLANT SUPERINTENDENT

Date: 2-9-99

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

November 17, 1998

Mr. Mike Talovich  
Sunco, Inc.  
P.O. Box 900  
Farmington, New Mexico 87499

(505) 327-0416

Project No.: 98065-02

Dear Mr. Talovich,

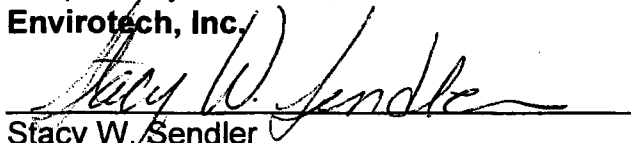
Enclosed are the analytical results for the sample collected from the location designated as "WFS Milagro Plant". One water sample identified as "Plant" was collected from the designated location by Sunco personnel on 10/29/98, and received by the Envirotech laboratory on 10/29/98 for Hazardous Waste Characterization analysis (Volatile and Semi-volatile Organics, Trace Metals, Reactivity, Corrosivity, and Ignitability).

The sample was documented on Envirotech Chain of Custody No. 6371 and assigned Laboratory No. E120 for tracking purposes.

The sample was analyzed on 10/29/98 through 11/16/98 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,  
Envirotech, Inc.



Stacy W. Sandler  
Environmental Scientist/Laboratory Manager

enclosure

SWS/sws

98065-02.lb1/wpd

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	10-30-98
Lab ID#:	E120	Date Sampled:	10-29-98
Sample Matrix:	Soil	Date Received:	10-29-98
Preservative:	Cool	Date Analyzed:	10-29-98
Condition:	Cool and Intact	Chain of Custody:	6371

Parameter	Result
-----------	--------

IGNITABILITY: Negative

CORROSIVITY: Negative pH = 9.64

REACTIVITY: Negative

### RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
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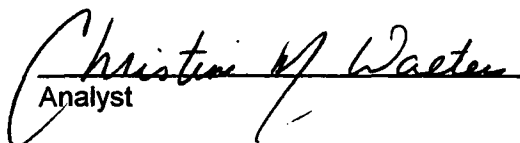
IGNITABILITY: Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21.  
(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)

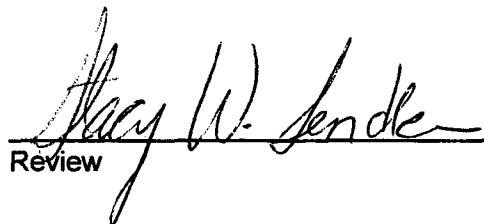
CORROSIVITY: Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22.  
(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)

REACTIVITY: Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23.  
(i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: WFS Milagro Plant.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	10-29-98
Chain of Custody:	6371	Date Received:	10-29-98
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-11-98
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	0.059	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.0006	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	0.003	0.0002	7.5

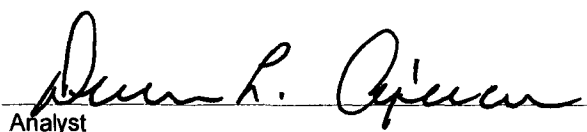
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	98%
	Bromofluorobenzene	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: WFS Milagro Plant.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	10-29-98
Chain of Custody:	6371	Date Received:	10-29-98
Sample Matrix:	Water	Date Extracted:	11-09-98
Preservative:	Cool	Date Analyzed:	11-12-98
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	100%
	2,4,6-Tribromophenol	100%

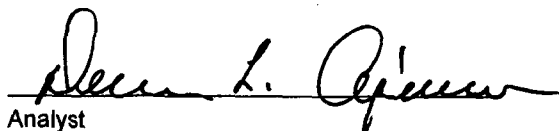
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: WFS Milagro Plant.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	10-29-98
Chain of Custody:	6371	Date Received:	10-29-98
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-12-98
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	0.081	0.020	5.0
Hexachloroethane	0.190	0.020	3.0
Nitrobenzene	0.766	0.020	2.0
Hexachlorobutadiene	0.033	0.020	0.5
2,4-Dinitrotoluene	0.088	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

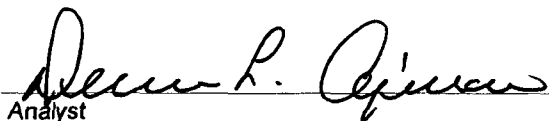
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: WFS Milagro Plant.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

Client:	Sunco Disposal	Project #:	98065-02
Sample ID:	Plant	Date Reported:	11-13-98
Laboratory Number:	E120	Date Sampled:	10-29-98
Chain of Custody:	6371	Date Received:	10-29-98
Sample Matrix:	Water	Date Analyzed:	11-12-98
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	ND	0.0001	5.0
Barium	0.546	0.001	21
Cadmium	0.0017	0.0001	0.11
Chromium	ND	0.0001	0.60
Lead	0.0086	0.0001	0.75
Mercury	ND	0.0001	0.025
Selenium	ND	0.0001	5.7
Silver	ND	0.0001	0.14

ND - Parameter not detected at the stated detection limit.

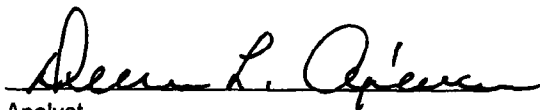
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 7060, 7080, 7131, 7191, 7470, 7421, 7740, 7761 Analysis of Metals by GFAA and Cold Vapor Techniques, SW-846, USEPA. December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments: WFS Milagro Plant.

  
Analyst

  
Review

# **ENVIROTECH LABS**

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**QUALITY ASSURANCE / QUALITY CONTROL**

**DOCUMENTATION**

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	11-12-98
Laboratory Number:	11-11-TCV-BLANK	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-11-98
Condition:	N/A	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

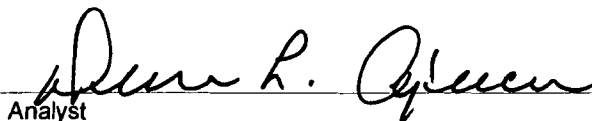
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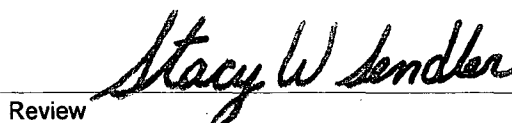
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	100%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	11-12-98
Laboratory Number:	11-04-TV-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-11-98
Condition:	N/A	Date Extracted:	11-04-98
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

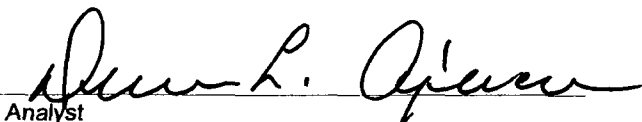
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	99%
	Bromofluorobenzene	98%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Duplicate  
Laboratory Number: E120  
Sample Matrix: TCLP Extract  
Analysis Requested: TCLP  
Condition: N/A

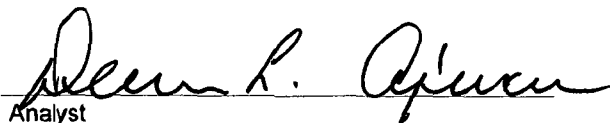
Project #: N/A  
Date Reported: 11-12-98  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 11-11-98  
Date Extracted: N/A


Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethene	ND	ND	0.0001	0.0%
2-Butanone (MEK)	0.059	0.059	0.0001	0.0%
Chloroform	ND	ND	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	0.0006	0.0006	0.0001	0.0%
1,2-Dichloroethane	ND	ND	0.0001	0.0%
Trichloroethene	ND	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	0.003	0.003	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020  
AROMATIC / HALOGENATED  
VOLATILE ORGANICS  
QUALITY ASSURANCE REPORT

Client: QA/QC  
Sample ID: Matrix Spike  
Laboratory Number: E120  
Sample Matrix: TCLP Extract  
Analysis Requested: TCLP  
Condition: N/A

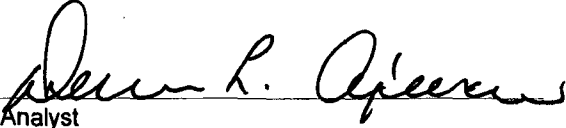
Project #: N/A  
Date Reported: 11-12-98  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 11-11-98  
Date Extracted: N/A

Parameter	Sample Result (mg/L)	Spike Added (mg/L)	Spiked Sample Result (mg/L)	Det. Limit (mg/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
2-Butanone (MEK)	0.059	0.050	0.1084	0.0001	100%	47-132
Chloroform	ND	0.050	0.0498	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0491	0.0001	98%	43-143
Benzene	0.0006	0.050	0.0504	0.0001	100%	39-150
1,2-Dichloroethane	ND	0.050	0.0494	0.0001	99%	51-147
Trichloroethene	ND	0.050	0.0494	0.0003	99%	35-146
Tetrachloroethene	ND	0.050	0.0498	0.0005	99%	26-162
Chlorobenzene	ND	0.050	0.0494	0.0003	99%	38-150
1,4-Dichlorobenzene	0.003	0.050	0.0524	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.  
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.  
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

**PRACTICAL SOLUTIONS FOR A BETTER TOMORROW**

**EPA METHOD 8040**

**PHENOLS**

**Quality Assurance Report**

**Laboratory Blank**

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	11-12-98
Laboratory Number:	11-12-TCA-BLANK	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-12-98
Condition:	N/A	Analysis Requested:	TCLP

Analytical Results	Concentration	Detection	Regulatory
Parameter	(mg/L)	Limit	Limit
		(mg/L)	(mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-fluorophenol	99 %
	2,4,6-tribromophenol	97 %

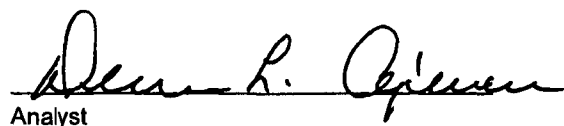
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147 - E148.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	11-12-98
Laboratory Number:	11-04-TCA-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extraction	Date Received:	N/A
Preservative:	Cool	Date Extracted:	11-04-98
Condition:	Cool & Intact	Date Analyzed:	11-12-98
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	101%
	2,4,6-Tribromophenol	100%

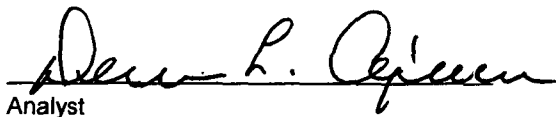
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Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147 - E148.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	11-12-98
Laboratory Number:	E120	Date Sampled:	N/A
Sample Matrix:	TCLP Extraction	Date Received:	N/A
Preservative:	Cool	Date Extracted:	11-04-98
Condition:	Cool & Intact	Date Analyzed:	11-12-98
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	ND	ND	0.020	0.0%
p,m-Cresol	ND	ND	0.040	0.0%
2,4,6-Trichlorophenol	ND	ND	0.020	0.0%
2,4,5-Trichlorophenol	ND	ND	0.020	0.0%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

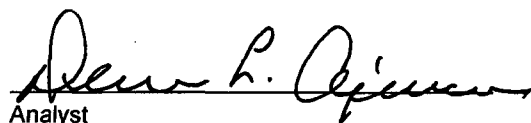
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

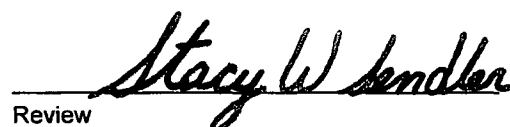
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147 - E148.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
Quality Assurance Report

Client: QA/QC  
Sample ID: Laboratory Blank  
Laboratory Number: 11-12-TBN-Blank  
Sample Matrix: Hexane  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 11-12-98  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 11-12-98  
Analysis Requested: TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

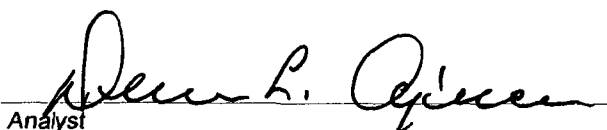
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Method Blank	Date Reported:	11-12-98
Laboratory Number:	11-04-BN-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	Cool	Date Extracted:	11-04-98
Condition:	Cool and Intact	Date Analyzed:	11-12-98
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

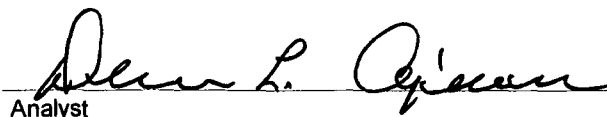
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery
	2-fluorobiphenyl	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090  
Nitroaromatics and Cyclic Ketones  
TCLP Base/Neutral Organics  
QA/QC Matrix Duplicate Report

Client: QA/QC  
Sample ID: Matrix Duplicate  
Laboratory Number: E120  
Sample Matrix: TCLP Extract  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 11-12-98  
Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date Analyzed: 11-12-98  
Analysis Requested: TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	0.081	0.081	0.0%	0.020
Hexachloroethane	0.190	0.188	1.0%	0.020
Nitrobenzene	0.766	0.759	0.9%	0.020
Hexachlorobutadiene	0.033	0.032	1.1%	0.020
2,4-Dinitrotoluene	0.088	0.085	3.0%	0.020
HexachloroBenzene	ND	ND	0.0%	0.020

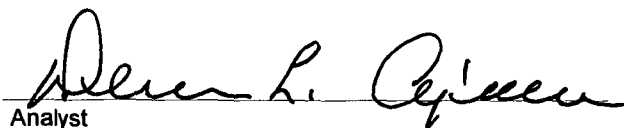
ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Maximum Difference
	8090 Compounds	30%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.  
Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.  
Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311  
TOXICITY CHARACTERISTIC  
LEACHING PROCEDURE  
TRACE METAL ANALYSIS  
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	11-12-TCM QA/QC	Date Reported:	11-13-98
Laboratory Number:	E120	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	11-12-98
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Barium	ND	ND	0.001	0.546	0.544	0.4%	0% - 30%
Cadmium	ND	ND	0.0001	0.0017	0.0016	5.9%	0% - 30%
Chromium	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Lead	ND	ND	0.0001	0.0086	0.0087	1.2%	0% - 30%
Mercury	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.0001	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.0001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.1000	ND	0.0998	99.8%	80% - 120%
Barium	1.000	0.546	1.55	100.3%	80% - 120%
Cadmium	0.0500	0.0017	0.0515	99.6%	80% - 120%
Chromium	0.0500	ND	0.0499	99.8%	80% - 120%
Lead	0.1000	0.0086	0.109	99.9%	80% - 120%
Mercury	0.0250	ND	0.0248	99.2%	80% - 120%
Selenium	0.1000	ND	0.0997	99.7%	80% - 120%
Silver	0.0500	ND	0.0498	99.6%	80% - 120%

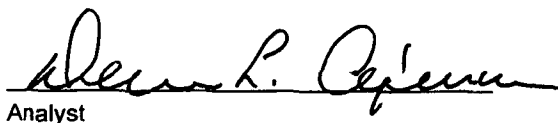
ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals,  
SW-846, USEPA, December 1996.

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by  
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for samples E120 and E147.

  
Analyst

  
Review



# CHAIN OF CUSTODY RECORD

6371

Client / Project Name		Project Location		ANALYSIS / PARAMETERS																				
SUNCO DISPOSAL		WFS MILLERD Plant																						
Sample: METACOLIC		Client No. 98065-02																						
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TCLP No. H/P					Remarks													
PLANT	10-29-99	1030	E120	water	10	✓																		
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		Sample Receipt												
<i>[Signature]</i>		10-29-99		1115		<i>[Signature]</i>		10-29-99		11:15		<table border="1"> <tr> <td colspan="2">Received Intact</td> <td>Y</td> <td>N</td> <td>N/A</td> </tr> <tr> <td colspan="2">Cool - Ice/Blue Ice</td> <td>✓</td> <td></td> <td></td> </tr> </table>			Received Intact		Y	N	N/A	Cool - Ice/Blue Ice		✓		
Received Intact		Y	N	N/A																				
Cool - Ice/Blue Ice		✓																						
Relinquished by: (Signature)						Received by: (Signature)																		
Relinquished by: (Signature)						Received by: (Signature)																		

**ENVIROTECH INC.**

5796 U.S. Highway 64  
Farmington, New Mexico 87401  
(505) 632-0615

District I - (505) 393-6161  
P.O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
Alamogordo, NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

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JAN 06 1999

Environmental Bureau  
Oil Conservation Division

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>WFS</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>Lybrook Plant</u>
2. Management Facility Destination <u>KEY ENERGY SERVICES DISPOSAL</u>	6. Transporter <u>KEY ENERGY</u>
3. Address of Facility Operator <u>CR 3500 #345 AZTEC, NM</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>NM 103 Highway 44</u> <u>Cuba NM 87013</u>	
9. <u>Circle One</u> : A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <u>B.</u> All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

Plant waste water from NATURAL GAS PROCESSING

RECEIVED  
DEC 29 1998

OIL CON. DIV.  
DIST. 3

*wait on  
originals*

Estimated Volume 300 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: Michael Talovich TITLE: MGR DATE: 12-29-98  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. \_\_\_\_\_

(This space for State Use)

APPROVED BY: Denny G. Fount TITLE: Geologist DATE: 1/4/99  
APPROVED BY: Martinez J. Kelly TITLE: Env. Geologist DATE: 1/7/99

**CERTIFICATE OF WASTE STATUS**

<b>1. Generator Name and Address:</b> WILLIAMS FIELD SERVICES CO 295 CHIPETA WAY SALT LAKE CITY, UT 84158	<b>2. Destination Name:</b> Key Energy
<b>3. Originating Site (name):</b> WFS Lybrook Plant	<b>Location of the Waste (Street address &amp;/or ULSTR):</b> Milepost 103 Highway 44 Cuba NM 87013
Attach list of originating sites as appropriate	
<b>4. Source and Description of Waste</b> plant wastewater from natural gas processing operations	

I, Ingrid Deklan representative for:  
(Print Name)  
Williams Field Services do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check appropriate classification)

☐ EXEMPT oilfield waste ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic  
analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For **NON-EXEMPT** waste only the following documentation is attached (check appropriate items):

☐ MSDS Information  
☒ RCRA Hazardous Waste Analysis  
☐ Chain of Custody

☐ Other (description):

Name (Original Signature):

Title:

Date:

Ingrid Deklan  
Env't'l Specialist  
12/28/98

## QWAL LABORATORIES, INC.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

## LABORATORY REPORT:

REFERENCE #:

9812755

SENT WILLIAMS GAS PIPELINE  
 TO: 295 CHIPETA WAY  
 SALT LAKE CITY, UT 84108  
 801-584-6543 FAX 584-7760  
 DUANE ADAIR

DATE REPORTED: 12/28/98  
 DATE COLLECTED: 12/21/98  
 DATE RECEIVED: 12/22/98

P.O. #:

PROJECT: WASTEWATER POND

Sample ID: LYB-WW POND  
 Sample Date Collected: 12/21/98

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	DL	ANALYZED	BY
TCLP EXTRACTION	EPA 1311	DONE				RH
SILVER, TCLP	SW 846 6010	0.020	MG/L	0.01	12/28/98	MS2
ARSENIC, TCLP	SW 846 7060	0.003	MG/L	0.001	12/23/98	MS
BARIUM, TCLP	SW 846 6010	0.610	MG/L	0.005	12/28/98	MS2
CADMIUM, TCLP	SW 846 6010	<0.005	MG/L	0.005	12/28/98	MS2
CHROMIUM, TCLP	SW 846 6010	0.167	MG/L	0.01	12/28/98	MS2
MERCURY, TCLP	SW 846 7470	<0.0002	MG/L	0.0002	12/28/98	JMM
LEAD, TLCP	SW 846 6010	<0.050	MG/L	0.05	12/28/98	MS2
SELENIUM, TCLP	SW 846 7740	0.0039	MG/L	0.002	12/23/98	MS

Sample ID: LYB-WW POND MS  
 Sample Date Collected: 12/21/98

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	DL	ANALYZED	BY
TCLP EXTRACTION	EPA 1311	DONE				RH
SILVER, TCLP	SW 846 6010	96.5	% REC		12/28/98	MS2
ARSENIC, TCLP	SW 846 7060	104.7	% REC		12/23/98	MS
BARIUM, TCLP	SW 846 6010	118.9	% REC		12/28/98	MS2
CADMIUM, TCLP	SW 846 6010	124.8	% REC		12/28/98	MS2
CHROMIUM, TCLP	SW 846 6010	99.9	% REC		12/28/98	MS2
MERCURY, TCLP	SW 846 7470	101.4	% REC		12/28/98	JMM
LEAD, TLCP	SW 846 6010	81.8	% REC		12/28/98	MS2
SELENIUM, TCLP	SW 846 7740	92.0	% REC		12/23/98	MS

Sample ID: LYB-WW POND  
 Sample Date Collected: 12/21/98

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	DL	ANALYZED	BY
TCLP EXTRACTION	EPA 1311	DONE				RH

REFERENCE #: 9812755

PAGE: 1

Sample ID: LYB-WW POND  
Sample Date Collected: 12/21/98

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	DL	ANALYZED	BY
TCCLP SEMI-VOLATILES		SW 846 8270				
O-CRESOL		ND	MG/L	0.10	12/23/98	SKW
P-CRESOL		ND	MG/L	0.10	12/23/98	SKW
M-CRESOL		ND	MG/L	0.10	12/23/98	SKW
1,4-DICHLOROBENZENE		ND	MG/L	0.10	12/23/98	SKW
2,4-DINITROTOLUENE		ND	MG/L	0.10	12/23/98	SKW
HEXACHLOROBENZENE		ND	MG/L	0.10	12/23/98	SKW
HEXACHLOROBUTADIENE		ND	MG/L	0.10	12/23/98	SKW
HEXACHLOROETHANE		ND	MG/L	0.10	12/23/98	SKW
NITROBENZENE		ND	MG/L	0.10	12/23/98	SKW
PENTACHLOROPHENOL		ND	MG/L	0.50	12/23/98	SKW
PYRIDINE		ND	MG/L	0.10	12/23/98	SKW
2,4,5-TRICHLOROPHENOL		ND	MG/L	0.10	12/23/98	SKW
2,4,6-TRICHLOROPHENOL		ND	MG/L	0.10	12/23/98	SKW
TCCLP EXTRACTION	EPA 1311	DONE				RH
TCCLP VOLATILES		SW 846 8260				
BENZENE		ND	MG/L	0.015	12/22/98	TK
CARBON TETRACHLORIDE		ND	MG/L	0.015	12/22/98	TK
CHLOROBENZENE		ND	MG/L	0.015	12/22/98	TK
CHLOROFORM		ND	MG/L	0.015	12/22/98	TK
1,2-DICHLOROETHANE		ND	MG/L	0.015	12/22/98	TK
1,1-DICHLOROETHYLENE		ND	MG/L	0.015	12/22/98	TK
METHYL ETHYL KETONE		ND	MG/L	0.015	12/22/98	TK
TETRACHLOROETHYLENE		ND	MG/L	0.015	12/22/98	TK
TRICHLOROETHYLENE		ND	MG/L	0.015	12/22/98	TK
VINYL CHLORIDE		ND	MG/L	0.015	12/22/98	TK

ND=NONE DETECTED

DL=DETECTION LIMIT

SU=STANDARD UNITS

B=DETECTED IN METHOD BLANK

APPROVED BY:

  
TERRY KOESTER  
LABORATORY DIRECTOR

\*FAX COPY TO INGRID AT 801-584-7760 ALSO.

District I - (505) 393-6161  
P.O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
Rio Brazos Road  
Alamogordo, NM 87410  
District IV - (505) 827-7131

New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

Form C-138  
Originated 8/8/95

RECEIVED

NOV 24 1998

Submit Original  
Plus 1 Copy  
to appropriate  
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>Burlington</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>COMPRESSOR STATIONS</u>
2. Management Facility Destination <u>KEY DISPOSAL</u>	6. Transporter <u>SUNCO</u>
3. Address of Facility Operator <u>Physical: #345 CR 3500 Aztec N.M.</u>	8. State <u>NM</u>
7. Location of Material (Street Address or ULSTR) <u>see list</u>	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.	
All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

DRAINED WATER FROM UNDER COMPRESSOR OIL TANK OIL

RECEIVED  
NOV 12 1998  
OIL CON. DIV.  
DIST. 3

Original  
Hand copy of  
analysis will follow  
when received

Estimated Volume 400 bbls cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_ cy

SIGNATURE: M. Talovich TITLE: MGR DATE: 11-12-98  
Waste Management Facility Authorized Agent  
TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny G. Fout TITLE: Geologist DATE: 11/23/98  
APPROVED BY: Christina J. King TITLE: Env Geologist DATE: 11/24/98

# CERTIFICATE OF WASTE STATUS

<b>1. Generator Name and Address:</b> Burlington Resources 3535 East 30 th Street Farmington NM 87401	<b>2. Destination Name:</b> Sunco Disposal  <b>RECEIVED</b> NOV 12 1998 <b>OIL COIN. DIV.</b> <b>DIST. 3</b>
<b>3. Originating Site (name):</b>  All Compressor Stations  <b>Unit:</b>	<b>Location of the Waste (Street address./or ULSTR):</b> See Attached. Sampled under project CC-51816 (non-haz). <b>Section:</b> <b>Township:</b> <b>Range:</b>

<b>4. Source and Description of Waste:</b> Drained water from oil tank.
--

I, Jeff Schoenbacher representative for:  
Burlington Resources do hereby certify that,  
according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July,  
1988, regulatory determination, the above described waste is: (Check the appropriate classification)

☐ EXEMPT oilfield waste      ☒ NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification.

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For NON-EXEMPT waste only the following documentation is attached (check appropriate items):

☒ MSDS Information      ☐ Other (description):  
☒ RCRA Hazardous Waste Analysis  
☒ Chain of Custody

Name (Original Signature): Jeff Schoenbacher  
Title: Env. Representative  
Date: Thursday, November 12, 1998

**Burlington Resources Oil & Gas Company  
Compressor Stations**

		QTR	SEC	TWP	RNG
1.	Frances Mesa	SW	27	30N	7W
2.	Cedar Hill	SW	29	32N	10W
3.	Gobernador	NW	31	30N	7W
4.	Manzanares	SE	4	29N	8W
5.	Pump Canyon	NE	24	30N	9W
6.	Hart Canyon	SE	20	31N	10W
7.	Buena Vista	NE	13	30N	9W
8.	Sandstone	SE	32	31N	8W
9.	Quinn	SW	16	31N	8W
10.	Arch Rock	SW	14	31N	10W
11.	Pump Mesa	SW	14	31N	8W
12.	Middle Mesa	SW	10	31N	7W
13.	Simms Mesa	NE	22	30N	7W
14.	Rudy	SE	35	29N	11W
15.	Zachry	SW	34	29N	10W
16.	Albright	NW	22	29N	10W
17.	Rattlesnake	SW	10	31N	7W
18.	Cox	SW	20	32N	10W
19.	Lateral 311	NE	17	29N	10W
20.	Lateral 355	SE	25	30N	11W
21.	Ute	SW	14	32N	11W
22.	State	NW	16	28N	9W



# BURLINGTON RESOURCES

SAN JUAN DIVISION

November 17, 1998

Sunco Trucking  
P.O. Box 900  
5651 U.S. Highway 64  
Farmington, NM 87499

Attention: Mike Talovich, Manager

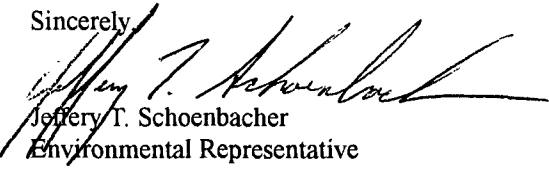
**Re: Characterization of Drained Water from Used Oil Tank**

Dear Mr. Talovich:

The purpose of this correspondence is to submit to your department the attached final wastewater analysis for water generated from draining the used oil tank at the compressor stations. The main purpose for analyzing these waste streams was to comply with 40 CFR 262.11 waste determination requirements contained in the Resource Conservation and Recovery Act (RCRA). The parameters that were chosen for characterizing these waste streams were determined through "generators knowledge" defined under 40 CFR 262.11 ( c ) (2). ). Upon evaluating the analysis for this waste stream it appears the water does not exhibit the characteristics of a hazardous waste.

Should you have any questions concerning the content or need additional information please feel free to contact me at 505-326-9537. Thank you for your time and consideration.

Sincerely,

  
Jeffery T. Schoenbacher  
Environmental Representative

Enc. Sample Project CC-51816

CC: Bruce Gantner  
Ed Hasely  
Greg Kardos  
Gaza Seabolt  
Ken Johnson  
Correspondence  
Compressor Files

JTS:

RECEIVED  
NOV 20 1998  
OIL CON. DIV.  
DIST. 3

Jeff Schoenbacher  
Burlington Resources  
3535 E. 30th St.  
Farmington, NM 87402

November 10, 1998


Mr. Schoenbacher:

Enclosed, please find the reports for the sample received by our laboratory for analysis on November 2, 1998.

If you have any questions about the results of these analyses, please don't hesitate to call me at your convenience.

We appreciate your business!

Sincerely,



Sharon Williams  
Organics Lab Supervisor

Enclosure

xc: File

## BURLINGTON RESOURCES

### Case Narrative

On November 2, 1998, one sample was submitted to Inter-Mountain Laboratories - Farmington for rush analysis. The sample was identified by project "Oil Tank Water / Compressor Stations". The sample was analyzed for the parameters indicated on the accompanying Chain of Custody form # 51816.

Digestion of the extracted sample for metals was performed by "Acid Digestion of Aqueous Samples and Extracts for Total Metals", SW-846, Rev. 1, July 1992.

Trace metals was performed on the sample by "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, U.S.E.P.A., November, 1986.

Analysis for the Volatiles was performed by Method 8260A, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, U.S.E.P.A., September, 1994.

Semi-Volatile analysis was performed by Method 8270, Gas Chromatography/Mass Spectrometry for Semi-Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, U.S.E.P.A., November, 1990.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies.

Quality control reports appear at the end of the analytical package and may be identified by title. If there are any questions regarding the information presented in this package, please feel free to call at your convenience.

Sincerely,



Sharon Williams  
Organics Lab Supervisor

**VOLATILE ORGANIC TOXICITY CHARACTERISTIC LIST**  
**TCLP Leachate**  
**Method 8260**

Client:	<b>Burlington Resources</b>	Date Reported:	11/10/98
Project:	Oil Tank Water / Compressor Stations	Date Sampled:	11/02/98
Sample ID:	DW #11298	Date Received:	11/02/98
Laboratory ID:	0398G06445	Date Analyzed:	11/09/98
Sample Matrix:	Water/Oil Mix		

Parameter	Result	Reporting Limit	Hazardous Limit	Units
Benzene	0.20	0.10	0.5	mg/L
2-Butanone (MEK)	ND	0.10	0.5	mg/L
Carbon tetrachloride	ND	0.10	100	mg/L
Chlorobenzene	ND	0.10	6.0	mg/L
Chloroform	ND	0.10	7.5	mg/L
1,2-Dichloroethane	ND	0.10	0.5	mg/L
1,1-Dichloroethene	ND	0.10	0.7	mg/L
1,4 Dichlorobenzene	ND	0.10	200	mg/L
Tetrachloroethene	ND	0.10	0.7	mg/L
Trichloroethene	ND	0.10	0.5	mg/L
Vinyl chloride	ND	0.10	0.2	mg/L

ND- Analyte not detected at stated detection level.

Reported By: Reviewed: 

**SEMIVOLATILE ORGANICS /TCLP**  
**TCLP Leachate**  
**Method 8270**

Client: **Burlington Resources**  
Project: Oil Tank Water / Compressor Stations  
Sample ID: DW # 11298  
Laboratory ID: 0398G06445  
Sample Matrix: Oil / Water Mix

Date Reported: 11/10/98  
Date Sampled: 11/02/98  
Date Received: 11/02/98  
Date Analyzed: 11/09/98

Parameter	Result	Reporting Limit	Hazardous Limits	Units
Cresol(Total)	ND	1.0	200.0	mg/L
2,4-Dinitrotoluene	ND	0.10	0.13	mg/L
Hexachlorobenzene	ND	0.10	0.13	mg/L
Hexachlorobutadiene	ND	0.20	0.5	mg/L
Hexachloroethane	ND	0.10	3.0	mg/L
Nitrobenzene	ND	0.50	2.0	mg/L
Pentachlorophenol	ND	0.20	100	mg/L
Pyridine	ND	0.50	5.0	mg/L
2,4,5-Trichlorophenol	ND	0.50	400.0	mg/L
2,4,6-Trichlorophenol	ND	0.50	2.0	mg/L

ND - Analyte not detected at stated detection level.

Reported By: 

Reviewed: 

**TOXICITY CHARACTERISTIC LEACHING PROCEDURE  
TRACE METAL CONCENTRATION**

Client: **Burlington Resources**  
Project: Oil Tank Water / Compressor Stations  
Sample ID: DW #11298  
Laboratory ID: 0398G06445  
Sample Matrix: Oil / Water Mix

Date Reported: 11/10/98  
Date Sampled: 11/02/98  
Date Received: 11/02/98  
Date Analyzed: 11/10/98

Parameter	Result	Detection Limit	Regulatory Level	Units
Arsenic.....	<0.061	0.061	5	mg/L
Barium.....	0.21	0.001	100	mg/L
Cadmium.....	<0.008	0.008	1	mg/L
Chromium.....	0.084	0.008	5	mg/L
Lead.....	<0.04	0.04	5	mg/L
Mercury.....	<0.0004	0.0004	0.2	mg/L
Selenium.....	<0.05	0.05	1	mg/L
Silver.....	<0.03	0.03	5	mg/L

**References:** Method 1311: Toxicity Characteristic Leaching Procedure,  
SW-846 "Test Methods for Evaluating Solid Waste:  
Physical/Chemical Methods" 3rd Edition, Final Update III, December, 1996.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total  
Metals, SW-846 "Test Methods for Evaluating Solid Waste: Physical/  
Chemical Methods" 3rd Edition, Final Update III, December, 1996.

**Comments:**Reported By: Reviewed: 

## Flash Point

Client: **Burlington Resources**  
Project: Oil Water Tank / Compressor Stations  
Sample ID: DW #11298  
Laboratory ID: 0398G06445  
Sample Matrix: Oil / Water Mix  
Condition: Intact

Date Reported: 11/10/98  
Date Sampled: 11/02/98  
Date Received: 11/02/98  
Date Analyzed: 11/05/98

Analyte	Result	Units
Flash Point	> 140	°F

### References:

Analysis performed according to SW-846 "Test Methods for Evaluating Solid Waste: Physical / Chemical Methods" United States Environmental Protection Agency 3rd Edition, Final Update II, September, 1994.

Annual Book of ASTM Standards, Method D56.

Reported by: 

Reviewed by: 

## **QUALITY CONTROL / QUALITY ASSURANCE**



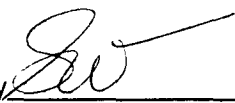
**Quality Control / Quality Assurance****Volatile Organics by GC/MS****Spike Analysis**

Client: **Burlington Resources**  
Project: Oil Tank Water / Compressor Stations  
Sample Matrix: Oil / Water Mix  
Concentration Units: mg/L

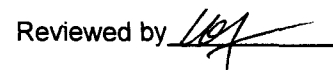
Date Reported: 11/10/98  
Date Analyzed: 11/09/98  
Date Received: 11/02/98

Analyte	Spike Amount	% Recovery 1	% Recovery 2	Accuracy %	
				Var.	Limits
1,1-Dichloroethene	20ppb	114	120	5.6	20-234
Trichloroethene	20ppb	112	110	1.8	71-157
Benzene	20ppb	122	122	0.33	37-151
Toluene	20ppb	130	128	1.8	47-150
Chlorobenzene	20ppb	102	108	5.9	37-160

Reported by



Reviewed by



**Quality Control / Quality Assurance****Semivolatile Organics by GC/MS****Spike Analysis**

Client: **Burlington Resources**  
Project: Oil Tank Water / Compressor Stations  
Sample Matrix: Oil / Water Mix  
Concentration Units: mg/L

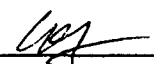
Date Reported: 11/10/98  
Date Analyzed: 11/09/98  
Date Received: 11/02/98

Analyte	Spike Amount	Accuracy %		Var.	Limits
		% Recovery 1	% Recovery 2		
Phenol	200 ppb	103	94.1	8.6	10-120
2-Chlorophenol	200 ppb	100	77.9	22	23-134
Acenaphthene	100 ppb	85.0	71.2	16	47-145
Pyrene	100 ppb	95.9	86.6	9.7	52-125

Reported by



Reviewed by



**Quality Control / Quality Assurance****Toxicity Characteristic Leaching Procedure****Metals Spike Analysis**

Client: **Burlington Resources**  
Project: Oil Tank Water / Compressor Stations  
Sample Matrix: Oil / Water Mix  
Concentration Units: mg/L

Date Reported: 11/10/98  
Date Analyzed: 11/09/98  
Date Received: 11/02/98

Analyte	Spike Amount	% Recovery 1	% Recovery 2
Arsenic	4.0	93.3	94.1
Barium	4.0	74.6	77.9
Cadmium	4.0	85.8	71.2
Chromium	4.0	98.0	86.6
Lead	4.0	75.4	76.0
Mercury	N/A	N/A	N/A
Selenium	4.0	104.5	104.5
Silver	4.0	97.1	97.3

Comments : Data not available.

Reported by



Reviewed by



**Quality Control / Quality Assurance****Known Analysis  
FLASH POINT**

Client: **Burlington Resources**  
Project: Oil Water Tank / Compressor Stations  
Sample Matrix: Oil / Water Mix

Date Reported: 11/10/98  
Date Analyzed: 11/05/98  
Date Received: 11/02/98

Parameter	Found Result	Known Result
p-Xylene	77°F	77°F

**Reference:** Analysis performed according to SW-846 "Test Methods for Evaluating Solid Waste: Physical / Chemical Methods" United States Environmental Protection Agency 3rd Edition, Final Update II, September, 1994.

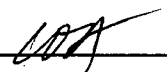
Annual Book of ASTM Standards, Method D56.

**Comments:**

Reported by



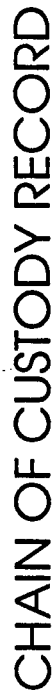
Reviewed by





# CHAIN OF CUSTODY RECORD

[illegible]



# CHAIN OF CUSTODY RECORD

**Inter-Mountain Laboratories, Inc.**