

GW - 55

**GENERAL
CORRESPONDENCE**

YEAR(S):
2005-1996

**RECEIVED**
GW055

May 9, 2005

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

MAY 11 2005

Oil Conservation Division
Environmental BureauMr. Denny Foust
New Mexico Oil Conservation Division
District 3 Office
1000 Rio Brazos Road
Aztec, New Mexico 87410**RE: Annual Groundwater Monitoring and Sampling Report for the Thriftway
Refinery, 626 CR 5500, Bloomfield, New Mexico**

Dear Sirs:

Enclosed please find the Annual Groundwater Monitoring and Sampling Report prepared by Animas Environmental Services, LLC (AES) on behalf of Thriftway Marketing Corporation (Thriftway) for the Thriftway Refinery, located at 626 CR 5500, Bloomfield, San Juan County, New Mexico.

If you have any questions regarding this report, please do not hesitate to contact me at (505) 564-2281.

Sincerely,

Ross Kennemer
Project ManagerCc: Terry Griffin
BioTech Remediation
501 Airport Drive, Suite 104
Farmington, NM 87401

Enclosure: Annual Groundwater Monitoring and Sampling Report



Billings & Associates, Inc.

6808 Academy Parkway E. N. E.
Albuquerque, New Mexico 87109
Tel 505.345.1116
Fax 505.345.1756

email bradbillings@billingsandassociates.com

April 9, 2003

RECEIVED

APR 12 2004

Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505

Mr. Wayne Price
Petroleum Engineering Specialist
New Mexico Energy, Minerals and Natural Resources Dpt.
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Thriftway Bloomfield Refinery
2003 Annual Groundwater Monitor Report

Dear Mr. Price,

Enclosed please find a copy of the Report entitled "2003 Annual Groundwater Monitor Report" for the above mentioned site.

If you have any questions please do not hesitate to contact me at 505.345.1116.

Sincerely,

Brad Billings
Billings & Associates, Inc.

Enclosure

Cc: Ms. Terry Griffin/BioTech/Thriftway
Mr. Denny Foust, Aztec Office, NM Oil Conservation Division



Billings & Associates, Inc.

6808 Academy Parkway E. N. E.
Albuquerque, New Mexico 87109
Tel 505.345.1116
Fax 505.345.1756

email: bradbillings@billingsandassociates.com

April 1, 2003

RECEIVED
APR 07 2003
Environmental Bureau
Oil Conservation Division

Mr. Wayne Price
Petroleum Engineering Specialist
New Mexico Energy, Minerals and Natural Resources Dpt.
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Thriftway Bloomfield Refinery
2002 Annual Groundwater Monitor Report

Dear Mr. Price,

Enclosed please find a copy of the Report entitled "2002 Annual Groundwater Monitor Report" for the above mentioned site.

If you have any questions please do not hesitate to contact me at 505.345.1116.

Sincerely,



Brad Billings
Billings & Associates, Inc.

Enclosure

Cc: Ms. Terry Griffin/BioTech/Thriftway
Mr. Denny Foust, Aztec Office, NM Oil Conservation Division

THRIFTWAY REFINERY
626 Road 5500
Bloomfield, New Mexico

March 2003

Prepared by
HILLINGS & ASSOCIATES, INC

2002 ANNUAL GROUNDWATER MONITOR REPORT

Prepared for
NEW MEXICO OIL CONSERVATION DIVISION
Mr. Wayne Price, Project Manager, Santa Fe Office
&
Mr. Denny Foust, Aztec, Office

RECEIVED
APR 07 2003
Environmental Bureau
Oil Conservation Division

TABLE OF CONTENTS

Sections

- 1.0 INTRODUCTION
- 2.0 MONITORING AND SAMPLING ACTIVITIES
 - 2.1 Groundwater Measurement
 - 2.2 Groundwater Sample Collection and Analyses
 - 2.3 Sample Preservation and Handling
 - 2.4 Sample Transport
 - 2.5 Data Base Historic Laboratory Results
- 3.0 EQUIPMENT DECONTAMINATION
- 4.0 DISCUSSION AND RECOMMENDATIONS

Figures

- Figure 1 Water Level-Potentiometric Map (11/02)
- Figure 2 Benzene Concentration Map
- Figure 3 MTBE Concentration Map
- Figure 4 Conductivity Contour Map
- Figure 4A Chloride Concentration Map
- Figure 4B TDS Concentration Map

Tables

- Table 1A Most Recent Summary of Groundwater Monitoring Data
- Table 2A Most Recent Summary of Groundwater Benzene and MTBE Laboratory Results

Appendices

- Appendix A Laboratory data, QA/QC and chain of custody information
(all sample events for this reporting period) STRIPPER
- Appendix B Laboratory data, QA/QC and chain of custody information
(all sample events for this reporting period) MONITOR WELLS
- Appendix C Bill of Lading for sampled soils
- Appendix D Laboratory data, QA/QC and chain of custody information for soils

1.0 INTRODUCTION

Pursuant to and in compliance with the requirements of the New Mexico Oil Conservation Division (NMOCD), Billings & Associates, Inc. (BAI) is pleased to submit the following 2002 Annual Monitoring and Sampling Report for the Thriftway Bloomfield Refinery, located in Bloomfield, N.M. Site is located at 626 County Road 5500. Operated under Discharge Plan GW-055

Submitted report details the monitoring and sampling data activities on refinery property. Water table elevations in monitor wells were collected on select wells in July and November 2002. All wells that could be found and which contained sufficient ground water for measurement were assessed for depth to water. New influent and effluent water samples from the on site air stripper were collected generally monthly throughout 2002.

2.0 MONITORING/SAMPLING ACTIVITIES

BioTech personnel engaged in monitoring and sampling requirements for the Thriftway Bloomfield Refinery located in Bloomfield, New Mexico. Ground water gauging events detailed in this report occurred during July and November 2002.

Air stripper influent and effluent samples from operating tower were collected for later laboratory analysis by EPA Method SW 8021B on a nominally monthly basis in 2002. Influent and effluent samples collected in July and November 2002 were analyzed for the full suite of Methodologies as outlined below in section 2.2(2.2A). Hard copy of all laboratory data sheets, attendant chain of custody information and Quality Control Data are found in **Appendix A**.

Appendix B contains this same grouping of information on the monitor wells sampled for laboratory analyses in July and November 2002. Ground water samples were analyzed by EPA Method SW 8021B.

2.1 Ground Water Measurement

At each gauging event, depth to ground water measurements were made and recorded for available monitor wells. A Solonist Probe was used to measure from the survey point at top of casing to identified ground water level. Data was generated to the nearest 100th of a foot. **Table 1A** displays most recent groundwater table information. Historic ground water elevation data has been supplied in previous reports. Ground water measurements were collected in fourteen (14) monitor wells for July 2002 sampling and twelve (12) for the November 2002 sampling event.

Field data have been corrected to measured elevations, where available, and were used to generate a potentiometric surface (as of the 11/2002 sample dates). This information is found on **Figure 1**.

2.2 Water Sample Collection

During transfer of water (influent and effluent) to sample container, care is taken to ensure that no head space or air bubbles remain in sample container and that a meniscus is created at top of sample container. Following closure of sample container, the sample was rotated and agitated, further ensuring that the sample container was void of free air.

During the November 2002 ground water sampling event, monitor well locations were sampled for later laboratory analysis following appropriate purge of bore volumes and rebound time allotment. Samples were analyzed for and by the following methods: Alkalinity, Total (method M2320B), Anions by Ion Chromatography (method E300), Aromatic Volatiles by GC/PID (method SW8021B), Conductivity @ 25C (method E120.1), Hardness, Total (method M2340B), ICP Metals, Dissolved (method SW6010B), ICP Metals, Total (method SW6010B), Mercury, total (method SW7470), pH (method E150.1), Polynuclear Aromatic Hydrocarbons (method SW8270C), Total Dissolved Solids (method CALC) and Total Dissolved Solids (method E160.1). All samples were collected as per accepted New Mexico protocol/regulation.

During July and November sampling events, influent and effluent samples were analyzed via the above methods.

Monthly samples collected at influent and effluent ports at the air stripper were assessed by methods 8021B.

2.3 Sample Preservation/Handling

All sample containers were appropriate for required testing and preserved as necessary for the requested analyses. All samples were handled/delivered as per accepted protocols.

2.4 Sample Transport

Following sample collection, each sample container was labeled for origin, time/date of collection, sample type, identification of sampler, preservative used and the requested laboratory analysis. Each sample was then logged for Chain of Custody data sheets. Samples requiring temperature reduction for shipping/transport were then placed in iced cooler.

2.5 Data Base

Historic laboratory data have been presented in previous reports. **Table 2A** details data collected concerning the reporting dates covered in this report. Laboratory data from influent and effluent samples of ICP metals total, mercury, anions, ICP metals dissolved, alkalinity, conductivity, hardness, pH, total dissolved solids (both calculated and in residue) PAH's and volatile organic compounds are found in **Appendix A**. This appendix also contains copies of QA/QC statements and chain of custody information. **Appendix A also** contains laboratory results, QA/QC and chain of custody (COC) information on monitor wells/ground water samples.

3.0 EQUIPMENT DECONTAMINATION

To prevent cross-contamination and ensure valid data, BioTech personnel used strict decontamination protocol. For all monitor well measurement and sample collection, the following method for decontaminating equipment was employed:

- Wash with Alconox and distilled water
- Rinse with distilled water
- Wash with Alconox and distilled water
- Double rinse with distilled water

4.0 DISCUSSION AND RECOMMENDATIONS

Developed ground water flow direction indicates sufficient capture of the ground water contamination is being maintained by the currently operating ground water treatment system. This is in general agreement with historical data.

Figure 2 represents a ground water contour of dissolved benzene as of the November 2002 sampling event. **Figure 3** displays the MTBE ground water contour for the same sampling event. **Figures 4, 4A, 4B**, in mapped format, indicate the values for conductivity, chlorides and TDS as of the November 2002 sampling event.

Ground water flow is nominally to the west/northwest at an approximate gradient of 0.05 ft/ft.

Of the monitor wells sampled, the highest benzene value found was at MW-12 at 12 parts per billion (ppb). Current value is approximately 50% lower than the previous year. The highest MTBE value assessed during the same monitoring event was found at well MW-20 at 350 ppb. Again, this is about 50% less than last year in this well.

RECEIVED
APR 07 2003
Environmental Bureau
Oil Conservation Division

Most recent influent and effluent water samples revealed the following: Influent was assessed at 340 ppb benzene (down from >800 ppb last year). Effluent was assessed at <0.5 ppb benzene.

These data indicate an adequately functional stripper system.

BAI believes the currently operating ground water recovery system is maintaining adequate hydraulic capture.

Overall dissolved ground water contamination data indicates site wide reduction in dissolved organic contaminant levels as of the November 2002 sampling date.

It is BAI's recommendation, based on current and historical data review, no additional work effort is needed beyond continued sampling by BioTech based on approved schedules.

Relative to points defined by NMOCD's letter dated November 19, 2001, the following is presented:

- Lagoon liners have been inspected by BioTech personnel.
- Below grade sumps at Tank #11 and Tank #12 have been cleaned out.
- Soils on North side of property were sampled and have been removed. Worked was accomplished by Empire Tech and EnviroTech. Bill of lading from soil removed at this location and near/at valve on Tank #23 is located in Appendix C. Laboratory data for soils is located in Appendix D.

Brad Billings

President

Billings & Associates, Inc.

Price, Wayne

From: Price, Wayne
Sent: Friday, March '14, 2003 2:08 PM
To: Price, Wayne; 'terry@redmesa.com'
Cc: Foust, Denny; Kieling, Martyne
Subject: RE: Thriftway Refinery waste

Dear Terry: Pursuant to our telephone conversation at approximately 1:30 pm today OCD hereby approves of this waste going to Safety Clean-Resource Recovery Technology located in Phonix Az. This approval expires April 15, 2003.

-----Original Message-----

From: Price, Wayne
Sent: Friday, March 14, 2003 10:37 AM
To: 'terry@redmesa.com'
Cc: Foust, Denny; Kieling, Martyne
Subject: Thriftway Refinery waste

Terry: We have been trying to get in touch with you by phone or E-mail. Please respond before you ship any waste off-site. You must ship the waste to an OCD approved site. You must use the C-138 process if going to an OCD permitted site. Please let us know where you are shipping the waste. Failure to do so may result in a Notice of Violation. Please be aware that the approval issued last year was under the understanding that you were using an OCD permitted site.

Sincerely:

<< OLE Object: Picture (Metafile) >>

Wayne Price

New Mexico Oil Conservation Division

1220 S. Saint Francis Drive

Santa Fe, NM 87505

505-476-3487

fax: 505-476-3462

E-mail: WPRICE@state.nm.us

Tracking:

Recipient

Price, Wayne

'terry@redmesa.com'

Foust, Denny

Kieling, Martyne

Read

Read: 3/14/2003 2:09 PM

Read: 3/17/2003 7:38 AM

Read: 3/14/2003 2:42 PM

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
 Socorro, NM 87410
 District 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

Form C-13
 Originated 8/87

MAR 04 2002

Environmental Bureau
 Oil Conservation Division

Submit Original
 Plus 1 Copy
 to appropriate
 District Office

Env. JN: 62008-001

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>THRIFTWAY Corp.</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>THRIFTWAY Refinery</u>
2. Management Facility Destination <u>Envirotech Soil Remediation Facility Landfarm #2</u>	6. Transporter <u>Envirotech</u>
3. Address of Facility Operator <u>5796 US Highway 64 Farmington, NM 87401</u>	8. State <u>New Mexico</u>
7. Location of Material (Street Address or ULSTR)	<u>Country Roads 5500 Bloomfield 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:

Bottom sludge at Evaporation ponds/LAGOONS

TCLP ATTACHED.

Denied Subject to Santa Fe review 2/28/02



Estimated Volume 100 cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: Harlan M. Brown TITLE: Landfarm Manager DATE: 2-28-02
 Waste Management Facility Authorized Agent
 TYPE OR PRINT NAME: Harlan M. Brown TELEPHONE NO. 505-632-0615

(This space for State Use)
 APPROVED BY: Walter G. [Signature] TITLE: Environmental Geologist DATE: 6/11/02

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
 Roswell, NM 87410
 District 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

Form C-13
 Originated 8/81

MAR 04 2002
 Environmental Bureau
 Oil Conservation Division

Submit Original
 Plus 1 Copy
 to appropriate
 District Office

Env. JN: 02008

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator <u>THRIFTWAY Corp.</u>
Verbal Approval Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	5. Originating Site <u>THRIFTWAY Refinery</u>
2. Management Facility Destination <u>Envirotech Soil Remediation Facility Landfarm #2</u>	6. Transporter <u>ENVIROTECH</u>
3. Address of Facility Operator <u>5796 US Highway 64 Farmington, NM 87401</u>	8. State <u>New Mexico</u>
7. Location of Material (Street Address or ULSTR)	<u>County Road 5500 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:

Sludge & water at crude Tank Sumps.

Denied
 Subject to Santa Fe
 review 2/28/02



Estimated Volume 20 bbl cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: Harlan M. Brown TITLE: Landfarm Manager DATE: 2-28-02
 Waste Management Facility Authorized Agent
 TYPE OR PRINT NAME: Harlan M. Brown TELEPHONE NO. 505-632-0615

(This space for State Use)

APPROVED BY: _____ TITLE: _____ DATE: _____
Harlan M. Brown TITLE: Environmental Geologist DATE: 6/11/02



GARY E. JOHNSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Telephone (505) 428-2500
Fax (505) 428-2567
www.nmenv.state.nm.us



PETER MAGGIORE
SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RECEIVED

JUN 04 2002

Environmental Bureau
Oil Conservation Division

May 31, 2002

EnviroTech Inc.
5796 U.S. Highway 64
Farmington, New Mexico 87401

**SUBJECT: WASTE STATUS DETERMINATION
THRIFTWAY BLOOMFIELD REFINERY
SAN JUAN COUNTY, NEW MEXICO
TR-02-001 (NMOCD DISCHARGE PLAN NUMBER GW-055)**

Attention: Mr. Harlan Brown
Mr. Morris Young

The New Mexico Environment Department (NMED) Hazardous Waste Bureau has reviewed the information regarding the disposal history of the surface impoundments and crude oil storage tank sump waste provided in your letter dated May 3, 2002. Based on the information provided in the attached letter from BioTech Remediation, dated April 10, 2002, the residual sludge was deposited in the surface impoundments prior to the May 1991 listing of petroleum refinery primary and secondary oil/water/solids separation sludge and is not considered to be listed as F037 and F038 waste under 20.4.1.200 NMAC (incorporating 40 CFR 261.31). In addition, information provided by you during our February 14, 2002 site meeting at the refinery facility indicated that the wastewater was not treated in an API separator prior to discharge to the surface impoundments; therefore, the sludge also does not contain K051 waste under 20.4.1.200 NMAC (incorporating 40 CFR 261.32).

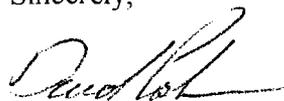
The BioTech Remediation letter also states that the crude oil tanks and sumps have not been used since December 1998. Based on the information provided in the letter, the sludge in the sumps was deposited prior to the February 1999 listing of crude oil storage tank sediment from refining operations and is not considered to be K169 listed waste under 20.4.1.200 NMAC (incorporating 40 CFR 261.32). The waste from the sumps and surface impoundments must be handled as hazardous waste if chemical analysis indicates any characteristic of hazardous waste as defined in 20.4.1.200 NMAC (incorporating 40 CFR 261 Subpart D). In addition, waste disposal activities

EnviroTech, Inc.
May 31, 2002
Page 2

must comply with all New Mexico Energy, Minerals & Natural Resources Department Oil Conservation Division requirements for waste handling, treatment and disposal.

Please call this office at (505) 428-2553 if you have questions regarding this determination or if conditions change that might affect the status of the waste.

Sincerely,



Dave Cobrain, R.P.G.
Geologist
Permits Management Program
Hazardous Waste Bureau

DWC

cc: James Bearzi, HWB
John Kieling, HWB
Debby Brinkerhoff, HWB
~~Martyne Kieling, OCD~~
Terry Griffin, BioTech Remediation
Pam Allen, HWB

Tracking: Blue File, 2002, Waste Determination, Thriftway Bloomfield Refinery.

ENVIROTECH INC.

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

May 3, 2002

New Mexico Environment Department
Hazardous Waste Bureau
Attn: Dave Cobrain, Waster Resource Specialist
2905 Rodeo Park Drive East, Bldg 1
Santa Fe, New Mexico 87505

505-428-2541
Fax 505-428-2567

Re: Revised letter for waste determination for the former Thriftway Refinery near Bloomfield,
New Mexico

Dear Mr. Cobrain:

Biotech Remediation has provided a revised letter describing the work they have proposed at the former Thriftway Refinery located near Bloomfield, New Mexico. The letter is attached to this correspondence. Please note that the scope of work has been modified to include cleanup of spills and leaks around several tanks located at the east end of the facility.

If you have further questions regarding this project or if we can be of further service please feel free to contact us at 505-632-0615.

Sincerely,
Envirotech Inc.

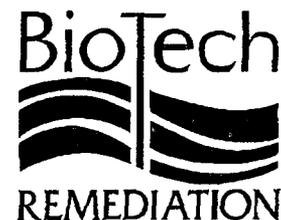


Harlan M. Brown
Geologist / Hydrogeologist
New Mexico Certified Scientist #083

cc:

Bitotech Remediation; Ms. Terry Griffin, 501 Airport Drive Suite 504, Farmington, NM 87401
NMOCD, Martyne Kieling, 1220 S. St Francis Drive, Santa Fe, New Mexico 87505

RECEIVED APR 11 2002



501 Airport Drive - Suite 104

Farmington, New Mexico 87401

Off: (505) 327-4965

Fax: (505) 564-3604

April 10, 2002

Morris Young
Envirotech Inc.
5796 US Hwy 64
Farmington, New Mexico 87401

Re: Thriftway Bloomfield Refinery

Dear Morris:

Thriftway is planning to clean several areas at the Bloomfield Refinery for inspection per the current Discharge Renewal Plan. In order to complete the inspection, the sumps and stained soils around several tanks within the tank farm and two lined lagoons will need to be cleaned and the sludge will need to be disposed of in an appropriate manner. It is our understanding that characterization of the waste streams for disposal is dependent on when the storage areas were last used. A Site Plan of the tanks and lagoon liners is attached.

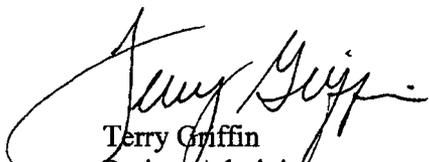
There are several crude oil storage tanks located at the east side of the refinery. A couple of the tanks have concrete sumps (6' x 10' x 5') adjacent to them that were used to catch condensed water drawn off the bottom of the tanks, the other tanks had valves which leaked and stained soil needs to be removed. All tanks and associated sumps were last used when they were rented to Giant Industries. The tanks and sumps have not been used since December 1998.

We also need to clean and inspect the lined evaporation lagoons located west of the refinery process unit. To the best of our knowledge the refinery ceased refining operations in December 1990. Process water from the plant has not been added to the evaporation lagoons since refinery operations stopped.

Morris Young
April 10, 2002
Page 2

Thank you for your assistance. If you need further information, please contact me at 505-327-4965.

Respectfully,



Terry Griffin
Project Administrator

hmb/TG

ENVIROTECH INC.

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

RECEIVED

MAR 06 2002

Environmental Bureau
Oil Conservation Division

March 5, 2002

New Mexico Environment Department
Hazardous Waste Bureau
Attn: Dave Cobrain, Waster Resource Specialist
2905 Rodeo Park Drive East, Bldg 1
Santa Fe, New Mexico 87505

505-428-2541
Fax 505-428-2567

Re: Waste determination for the former Thriftway Refinery near Bloomfield, New Mexico

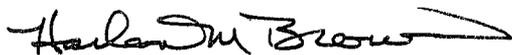
Dear Mr. Cobrain:

Biotech Environmental and the Thriftway Corporation have contracted Envirotech to clean sediments and sludge from lined evaporation ponds at the west end of the facility and concrete sumps at the east end of the facility to facilitate inspection. We are aware that some refinery wastes have been "Listed" as "F" or "K" wastes in recent changes to the Code of Federal Regulations. Ms. Terry Griffin has provided a letter (attached) indicating when the subject sumps and ponds were last in service. Based on her submittal and your inspection of the ponds and sumps on February 14, 2002 we would appreciate your determination as to the status of the waste streams at each of the process areas.

Decisions regarding waste disposal or remediation will be based on whether the waste is listed, characteristic, or non-exempt with no hazardous characteristics. We also request that you copy your determination to Biotech Remediation and to Martyne Kieling of the New Mexico Oil Conservation Division (NMOCD).

If you have further questions regarding this project or if we can be of further service please feel free to contact us at 505-632-0615.

Sincerely,
Envirotech Inc.



Harlan M. Brown
Geologist / Hydrogeologist
New Mexico Certified Scientist #083

cc:

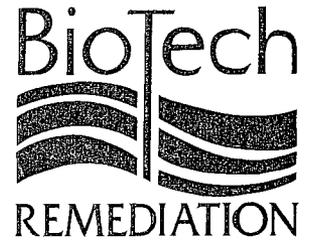
Bitotech Remediation; Ms. Terry Griffin, 501 Airport Drive Suite 504, Farmington, NM 87401
NMOCD, Martyne Kieling, 1220 S. St Francis Drive, Santa Fe, New Mexico 87505

RECEIVED

RECEIVED MAR 4 2002

MAR 06 2002

Environmental Bureau
Oil Conservation Division



501 Airport Drive - Suite 104

Farmington, New Mexico 87401
Off: (505) 327-4965
Fax: (505) 564-3604

February 25, 2002

Morris Young
Envirotech, Inc.
5796 U.S. Hwy 64-3014
Farmington, NM 87401

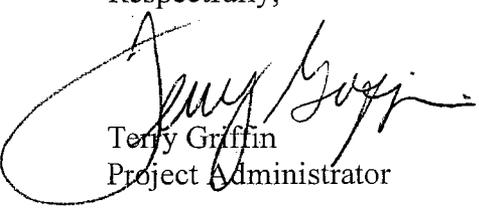
RE: Thriftway Bloomfield Refinery

Dear Morris:

Just a brief note to let you know that Giant's last active use of the tanks at the above-referenced facility was in December of 1998. To the best of my knowledge, the refinery began discontinuing operations in December 1990 and January 1991.

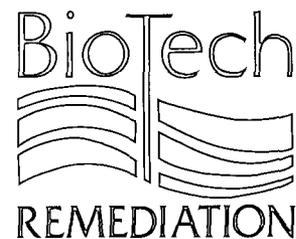
Thank you for your assistance. If you need any other information, please contact me at 505-327-4965.

Respectfully,



Terry Griffin
Project Administrator

Cc: File



501 Airport Drive – Suite 104

Farmington, New Mexico 87401
Off: (505) 327-4965
Fax: (505) 564-3604

February 25, 2002

Wayne Price
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

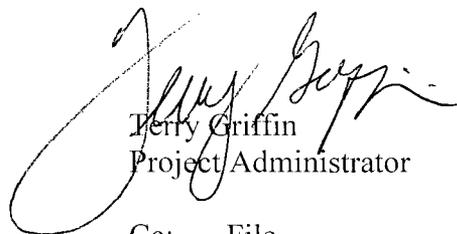
RE: Discharge Plan GW-055 Renewal
Thriftway Bloomfield Refinery

Dear Wayne:

Based on the Oil Conservation Division's ("OCD") letter of February 12, 2002, please find enclosed a check for \$8,400.00 for the above-referenced discharge plan renewal.

If you have any questions, please give me a call at 505-327-4965.

Respectfully,



Terry Griffin
Project Administrator

Cc: File

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. 6442 dated 2/26/2002
or cash received on _____ in the amount of \$ 8400⁰⁰
from BIOTECH REMEDIATION INC.
for THREEWAY-BLAINFIELD REFINERY GW-055
Submitted by: WAYNE PRICE (Family Name) Date: 2/28/02 (DP No.)
Submitted to ASD by: [Signature] Date: 11
Received in ASD by: _____ Date: _____
Filing Fee _____ New Facility _____ Renewal
Modification _____ Other _____ (Agency)
Organization Code 521.07 Applicable FY 2002

To be deposited in the Water Quality Management Fund.

Full Payment or Annual Increment _____

BIOTECH REMEDIATION INC.
710 E 20TH STREET
FARMINGTON, NM 87401
(505) 326-5571

WELLS FARGO BANK
95-219/1070

6442

DATE: 02/26/2002 AMOUNT: \$8,400.00

PAY Eight Thousand Four Hundred Dollars And 00 Cents

TO THE ORDER OF Oil Conservation Division
1220 South Francis Drive
Santa Fe N.M. 87505-0000

[Signature]
AUTHORIZED SIGNATURE

⑈006442⑈ ⑆107002192⑆9810153641⑈



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON

Governor

Betty Rivera

Cabinet Secretary

February 12, 2002

Lori Wrotenbery

Director

Oil Conservation Division

CERTIFIED MAIL

RETURN RECEIPT NO. 5357 7201

Ms. Terry Griffin
Thriftway Marketing Corporation
710 East 20th Street
Farmington, NM, 87401

Re: Discharge Plan GW-055 Renewal
Thriftway Marketing Corporation-Formal Bloomfield Refinery

Dear Ms. Griffin:

The New Mexico Oil Conservation Division (OCD) is in receipt of BioTech Remediation's letter dated November 19, 2001 and Billings & Associates, Inc.'s "Review of Data and Recommendations on Remedial Options: Discharge Plan GW-055 Renewal (Thriftway Marketing-Bloomfield Refinery)" on behalf of Thriftway Marketing Corporation.

It is OCD's understanding that Thriftway Marketing Corporation proposes to retain the option to re-activate the refinery and continue the groundwater remediation efforts under the discharge plan. The proposal requests the vadose zone investigation be deferred until after the groundwater quality has met the WQCC groundwater standards.

If this is Thriftway Marketing Corporation's intent, then OCD is prepared to issue the discharge plan as a renewal of the existing permit with a discharge plan fee of \$8400 for a period of five years. OCD approval conditions will require Thriftway Marketing Corporation to submit a discharge plan modification upon refinery re-activation or de-commissioning.

Please submit written comments by March 15, 2002 if Thriftway Marketing Corporation wishes to provide further clarification, otherwise the discharge plan will be renewed as discussed above.

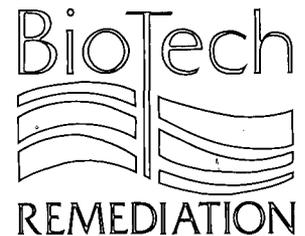
If you have any questions, please contact Wayne Price of my staff at (505-476-3487) or E-mail WPRICE@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/lwp

xc: OCD Aztec Office



November 19, 2001

710 E. 20th Street, Suite 400
Farmington, New Mexico 87401
Off: (505) 327-4965
Fax: (505) 564-3604

Mr. Wayne Price
Petroleum Engineering Specialist
New Mexico Energy, Minerals and Natural Resources Dpt.
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, N M 87505

RE: Discharge Plan Renewal GW-055
Thriftway Bloomfield Refinery



Dear Mr. Price:

Thriftway has contracted with BioTech Remediation Inc., to prepare and submit all necessary documentation required for approval for the Thriftway Bloomfield Refinery Discharge Plan GW-55.

The following text addresses the issues noted in your letter of September 26, 2001. The items will be addressed in the same order as presented in the reference letter.

1. The below grade sumps which contain oily waste at Tank #11 and Tank #12 will be cleaned out at the December 2001 Sampling and Monitoring event.
2. The soils located on the north side of the property will be sampled at the year end Quarterly Sampling and Monitoring event and the results will be published within the annual report. If the soils remain above regulatory limits, the soils will be removed to an approval land farm.
3. The on-site production well belongs to Arrington Oil out of Midland, Texas. Any work that is required there should be directed to Arrington Oil.
4. The valve on Tank #23 (reference in your letter as Tank #184), which was leaking, has been repaired and the stained soils will be sampled at the Quarterly Sampling and Monitoring event in December and will be removed and transported to an approved land farm upon receipt of analysis.
5. BioTech is in the process of contracting with The Snow Company, out of Albuquerque, New Mexico, to inspect the lagoon liners. Schedules permitting, the inspection should take place shortly after the first of the year and results will be published within the required Annual Report.

November 19, 2001
Mr. Wayne Price
Page 2

Enclosed also is a letter which Brad Billings, with Billings and Associates, Inc., has prepared reviewing the most current data for the refinery with recommendations for remedial options for this discharge permit renewal.

I have also enclosed a check for \$50.00 to satisfy the ground water permit fee. I believe that with this submittal, the permit application is complete. However, if you find that additional information is required, please contact me at 505-327-4965.

Respectfully,



Terry Griffin
Project Administrator

Enclosures (2)

CC: File
Thriftway Company
Brad Billings, Billings and Associates



November 9, 2001

Wayne Price (Pet.Engr.Spec.)
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division (OCD)
2040 S. Pacheco
Santa Fe, New Mexico 87505

RE: Review of Data and Recommendations on Remedial Options: Discharge Plan GW-055
Renewal (Thriftway Marketing-Bloomfield Refinery)

Dear Mr. Price,

Billings & Associates, Inc. (BAI), has been requested, by Thriftway Marketing, to review current and historical data regarding the identified Bloomfield Refinery, and offer recommendations on current remedial efforts, and/or need for additional remedial efforts. Reviewed data include free product information, benzene water quality data and hydrologic control. Included is a discussion of vadose zone investigation and/or active remediation.

Additionally, a cursory review of human health risk relative to the site is made. Current United States Environmental Protection Agency stance on source control and monitored natural attenuation is offered as well.

FREE PRODUCT

Analysis of free product aspects is as follows:

Overall product thickness trends in those wells having contained or still containing free product reveal a distinct reduction in available recoverable product.

Product recovery system has removed over 8,900 gallons of free phase product as of 1/17/01.

Contour maps developed by BioTech (see free product contours from June, September and December 2000 in Appendix A) indicate adequate capture and control for prevention of product migration.

DISSOLVED BENZENE - GROUND WATER

Analysis of dissolved benzene in ground water is as follows:

Appendix B contains contour maps of benzene in ground water from April, June, September and December 2000. These figures indicate an adequately controlled plume.

Analysis of ground water benzene trends indicates those wells currently without free product, and above detection limits in benzene should be at or below New Mexico ground water standards for this chemical within a reasonable time frame (as recently defined by the State of New Mexico and the EPA).

Several wells which historically contained free product have recently become devoid of measurable levels. These wells have a short history (less than one year in most cases) of benzene evaluation however, the same benzene reduction trend identified in other monitor wells should follow.

HYDROLOGIC CONTROL

Contour maps of potentiometric surfaces derived from April, June, September and December 2000 by BioTech (see Appendix C) indicate adequate hydrologic control of ground water movement is being maintained by the system currently operating.

VADOSE ZONE

BAI does not feel vadose zone remediation/evaluation is warranted at this time for the following reasons:

Evaluation of the ground water considerations discussed previously reveals a controlled contaminant environment.

Free product thickness trends are downward (reducing).

Ground water benzene trends are also decreasing, and will likely achieve or fall below New Mexico ground water standards within a reasonable time frame.

Natural attenuation processes in the vadose zone (ie. bacterial degradation/destruction) are well documented on fuel related hydrocarbons by the United States Environmental Protection Agency (USEPA). These processes, in all likelihood, are occurring at this site on a continual basis.

RISK CONSIDERATION

Based on the following reasons, the site should be considered a low human health risk.

- 1) Geographical location of the refinery.
- 2) Refinery is not currently in operation.
- 3) No closely surrounding home or business.
- 4) No surface water impacts.
- 5) On going active and productive remedial system for ground water and product recovery.

SOURCE CONTROL

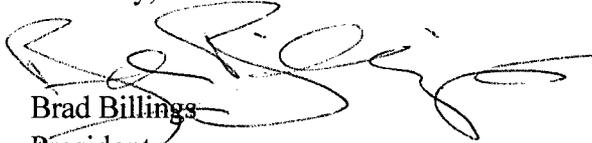
The USEPA has stated in Handbook of Groundwater Protection and Cleanup Policies for RCRA Corrective Action (EPA/530/R-01/015, September 2001) that if source control is in place, and if contaminant plume(s) are stable or shrinking (as is currently the case at the refinery) then monitored (as is occurring at the refinery) natural attenuation may be a viable remedial option.

When free phase product is no longer found, and when all water quality data indicates standards or less for chemicals of concern, the vadose zone should be evaluated. In all probability the vadose zone may be at or below state soil standards for chemicals of concern by the time the ground water has attained or bested state standards. If other remedial concerns are raised at the time of vadose examination, options to complete remediation on site should be considered.

RECOMMENDATIONS

It is our recommendation the OCD should approve a renewal of the discharge permit to continue current remedial operations at the refinery. This recommendation is based on review of current data, trend analysis of water quality and free phase product thickness reductions, contaminant plume(s) control, and low human health risk of contaminants on site.

Sincerely,

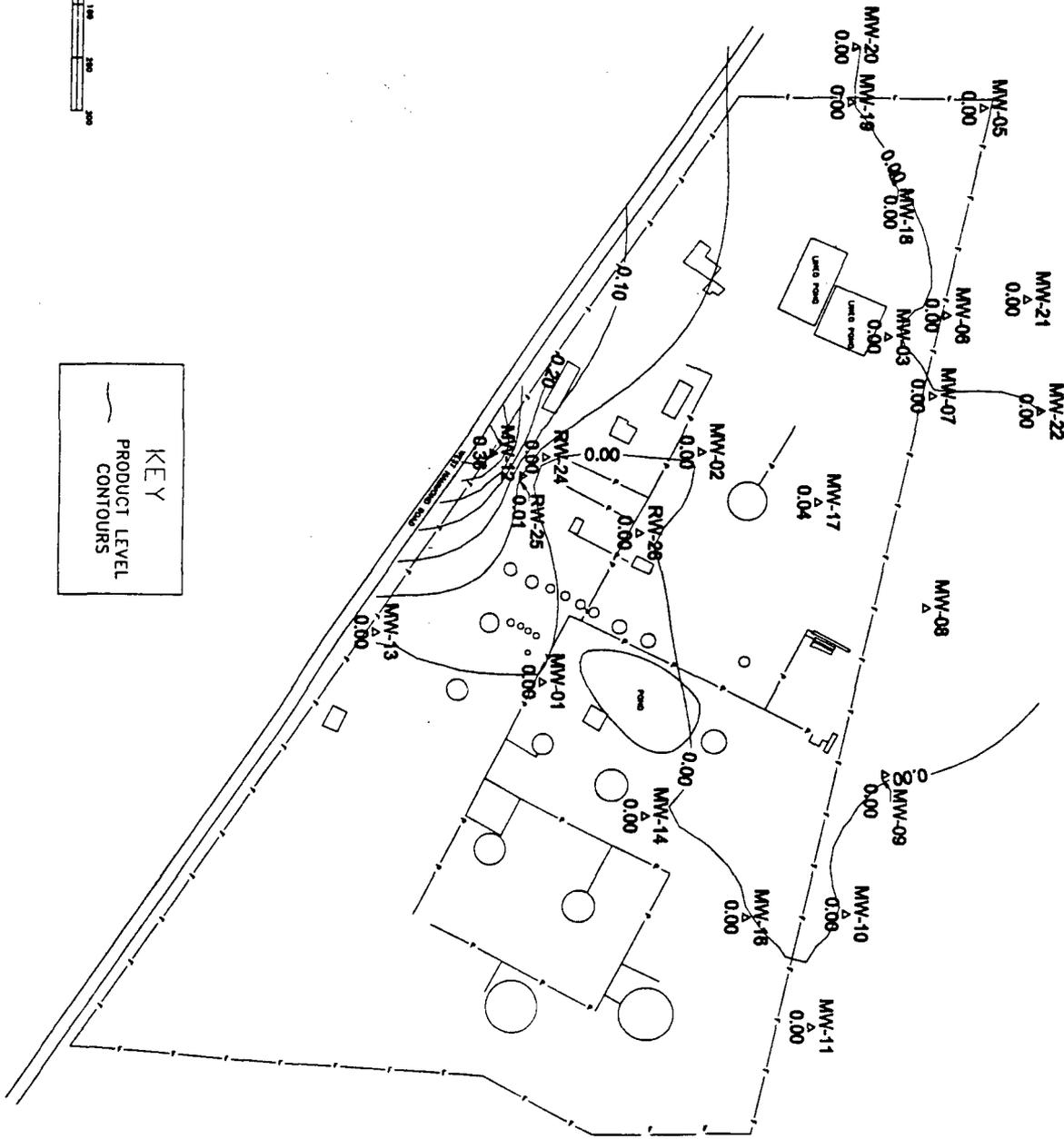


Brad Billings
President

Billings & Associates, Inc.

cc: Terry Griffin (Thriftway) w/appendices
File w/appendices

Appendix A



THRIFTWAY REFINERY
626 RD 5500
BLOOMFIELD, NM

810,040300pl

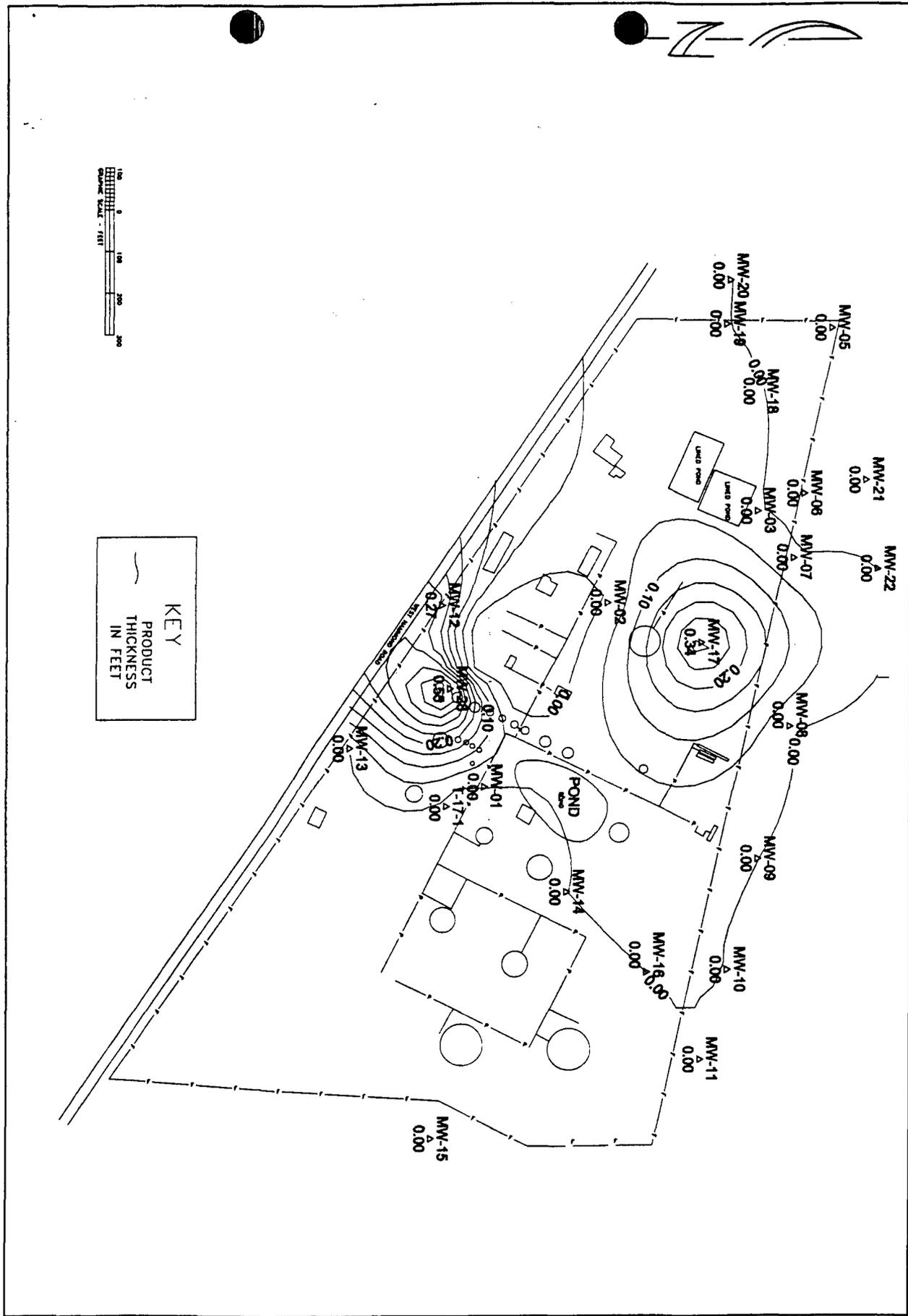
DRAWN BY: K. SINKS

FIGURE 4A PRODUCT
LEVEL CONTOUR MAP

APRIL 3, 2000



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
PHONE 505-327-4965
FAX 505-364-3804



THRIFTWAY REFINERY
626 RD 5500
BLOOMFIELD, NM

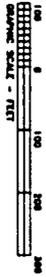
DRAWN BY: K. SINKS

FIGURE 4B PRODUCT THICKNESS MAP

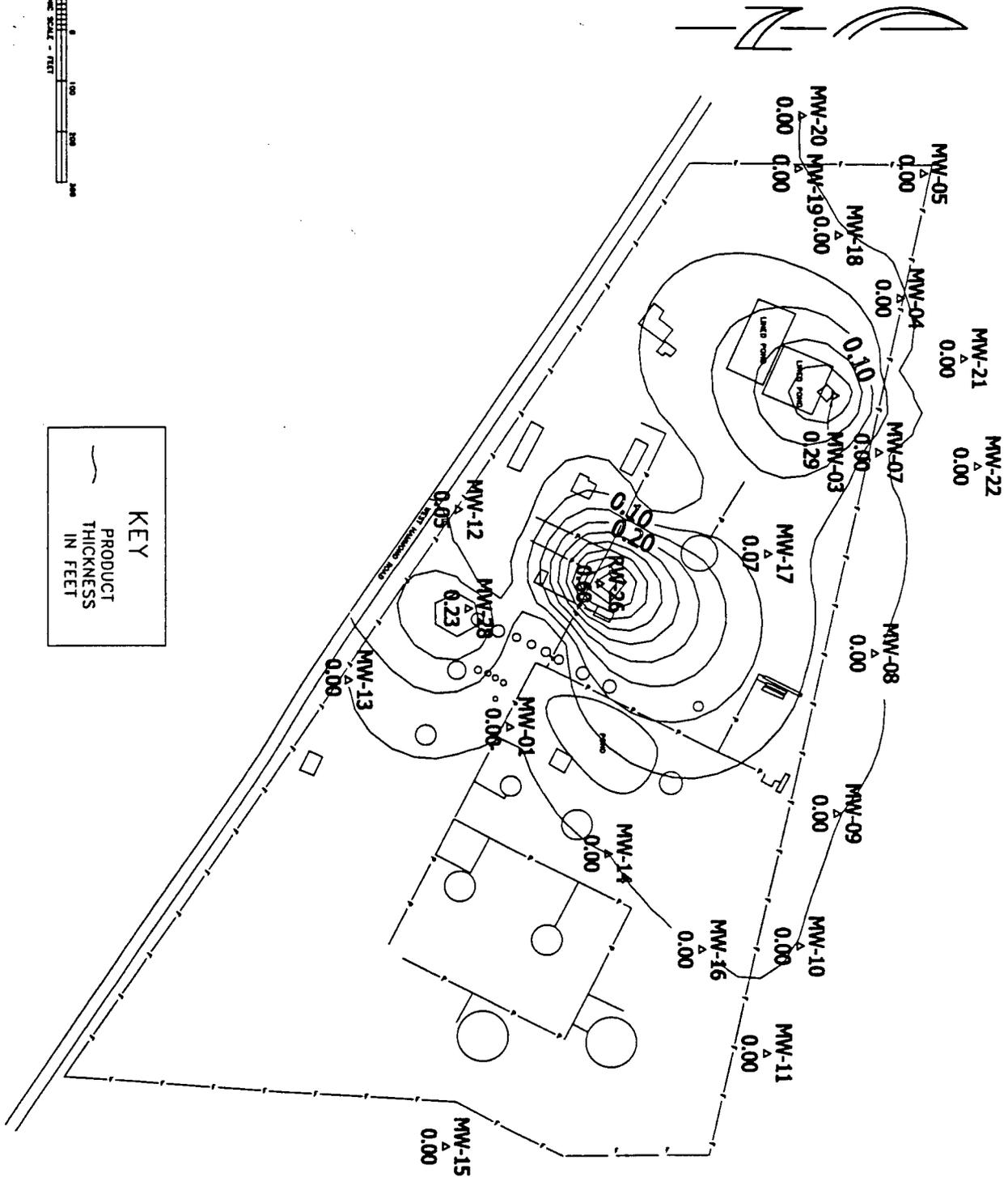
JUNE 8, 2000



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
PHONE 505-327-4985
FAX 505-564-3604



KEY
 PRODUCT THICKNESS IN FEET



THRIFTWAY REFINERY
 626 RD 5500
 BLOOMFIELD, NM

810,121100PL

DRAWN BY: K. SINKS

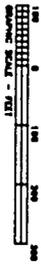
FIGURE 4D PRODUCT THICKNESS MAP

DECEMBER 11, 2000

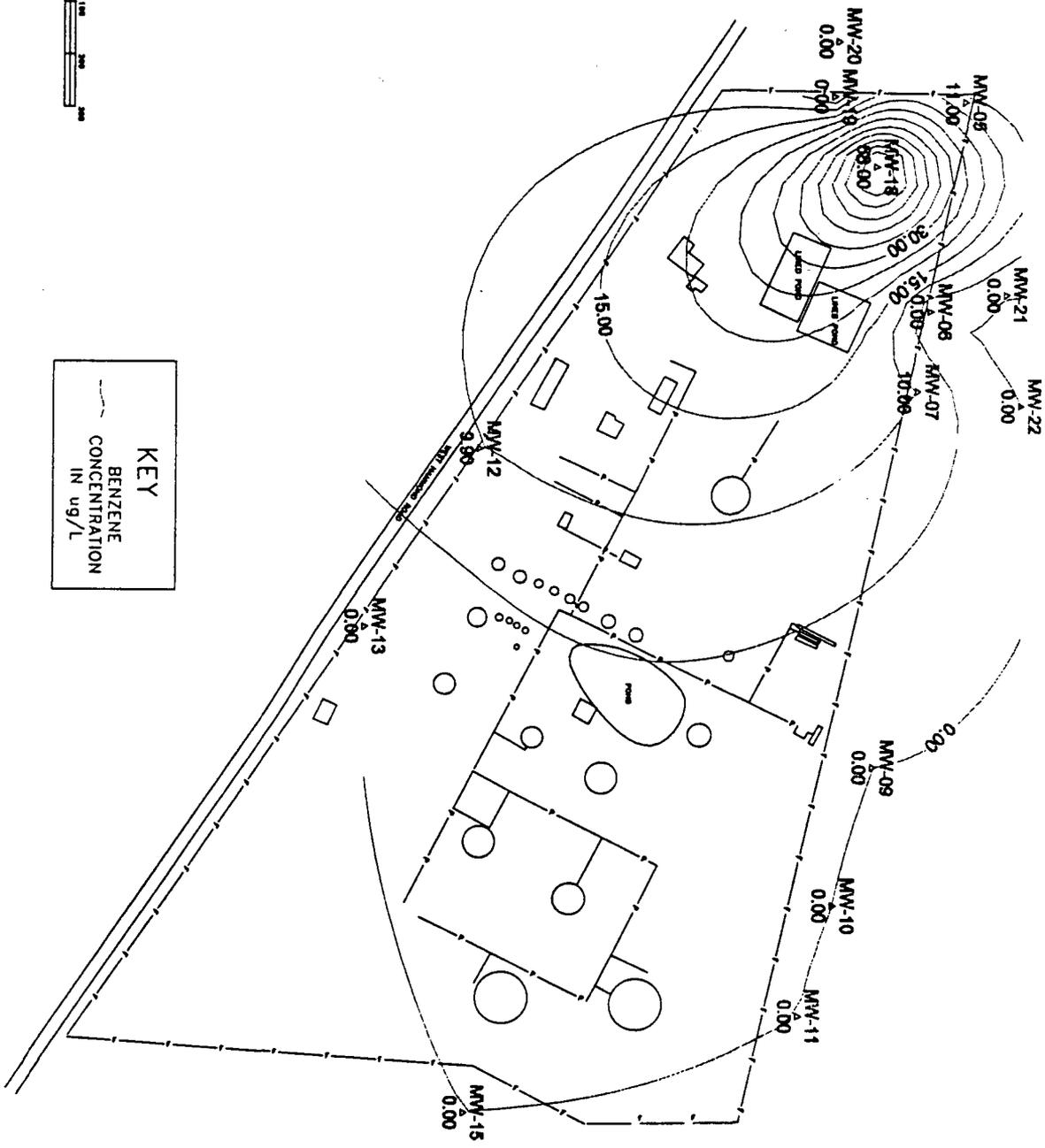


710 EAST 20TH STREET, SUITE 400
 FARMINGTON, NEW MEXICO 87401
 PHONE 505-327-4885
 FAX 505-564-3804

Appendix B



KEY
 BENZENE
 CONCENTRATION
 IN ug/L



THRIFTWAY REFINERY
 626 RD 5500
 BLOOMFIELD, NM

DRAWN BY: K. SINKS

FIGURE 2A BENZENE
 CONCENTRATION MAP

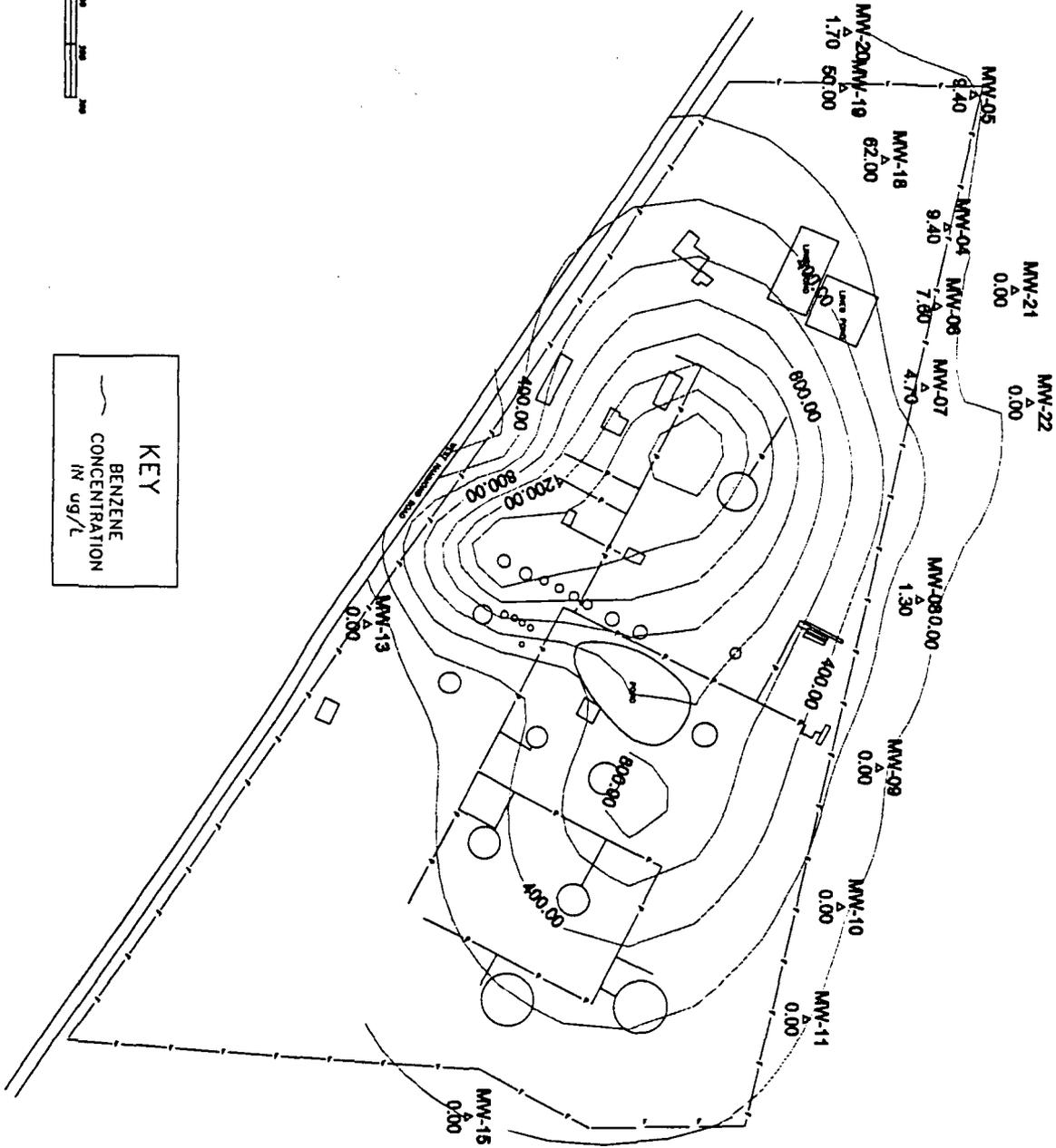
APRIL 3, 2000



710 EAST 20TH STREET, SUITE 400
 FARMINGTON, NEW MEXICO 87401
 PHONE 505-327-4885
 FAX 505-584-3604



KEY
 BENZENE
 CONCENTRATION
 IN ug/L



THRIFTWAY REFINERY
 626 RD 5500
 BLOOMFIELD, NM

8167_00000002

DRAWN BY: K. SINKS

FIGURE 2B
 BENZENE
 CONCENTRATION
 MAP

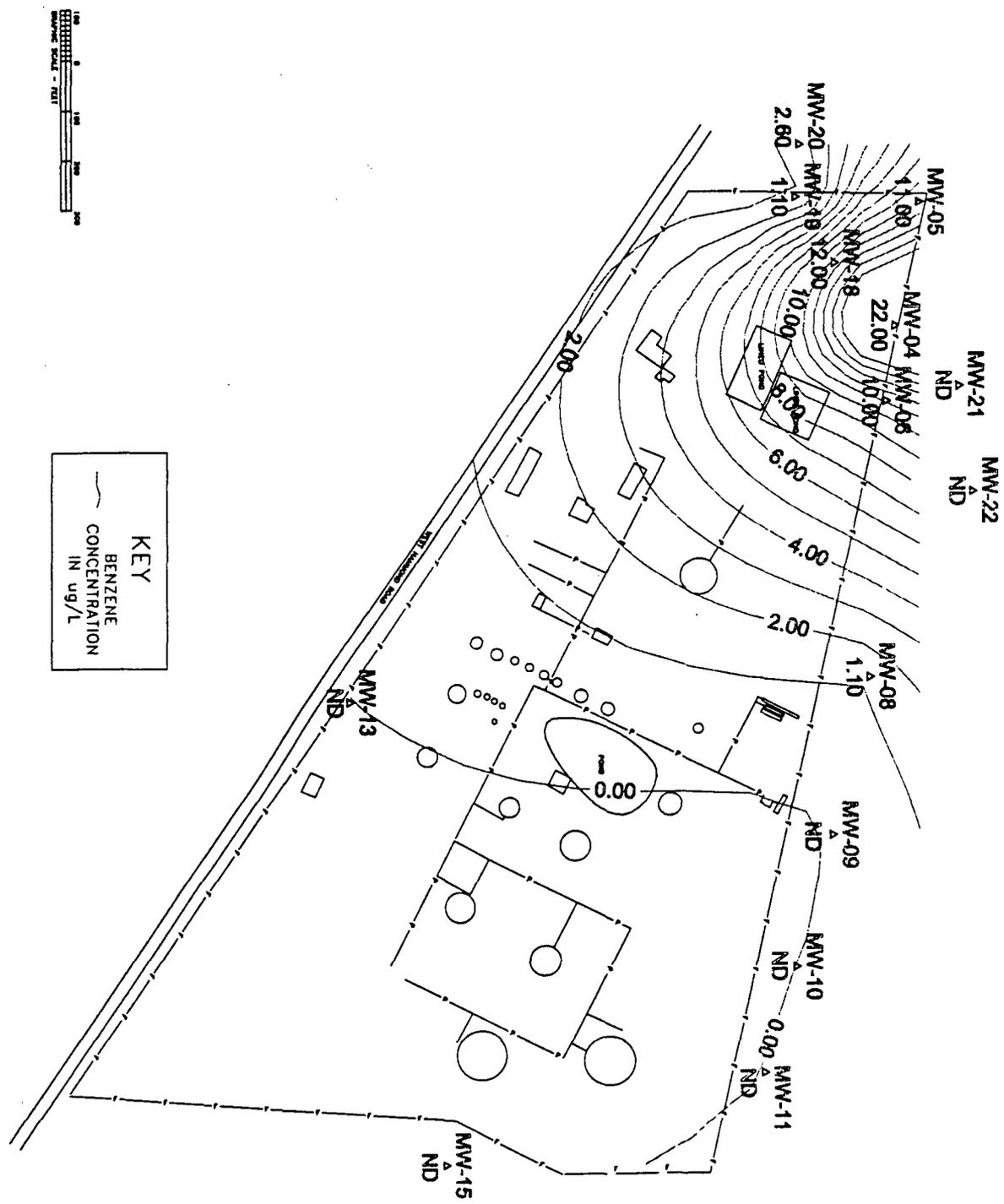
JUNE 8, 2000



710 EAST 20TH STREET, SUITE 400
 FARMINGTON, NEW MEXICO 87401

PHONE 505-327-4865

FAX 505-364-3604

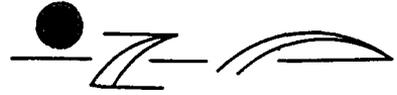


THRIFTWAY REFINERY
626 RD 5500
BLOOMFIELD, NM

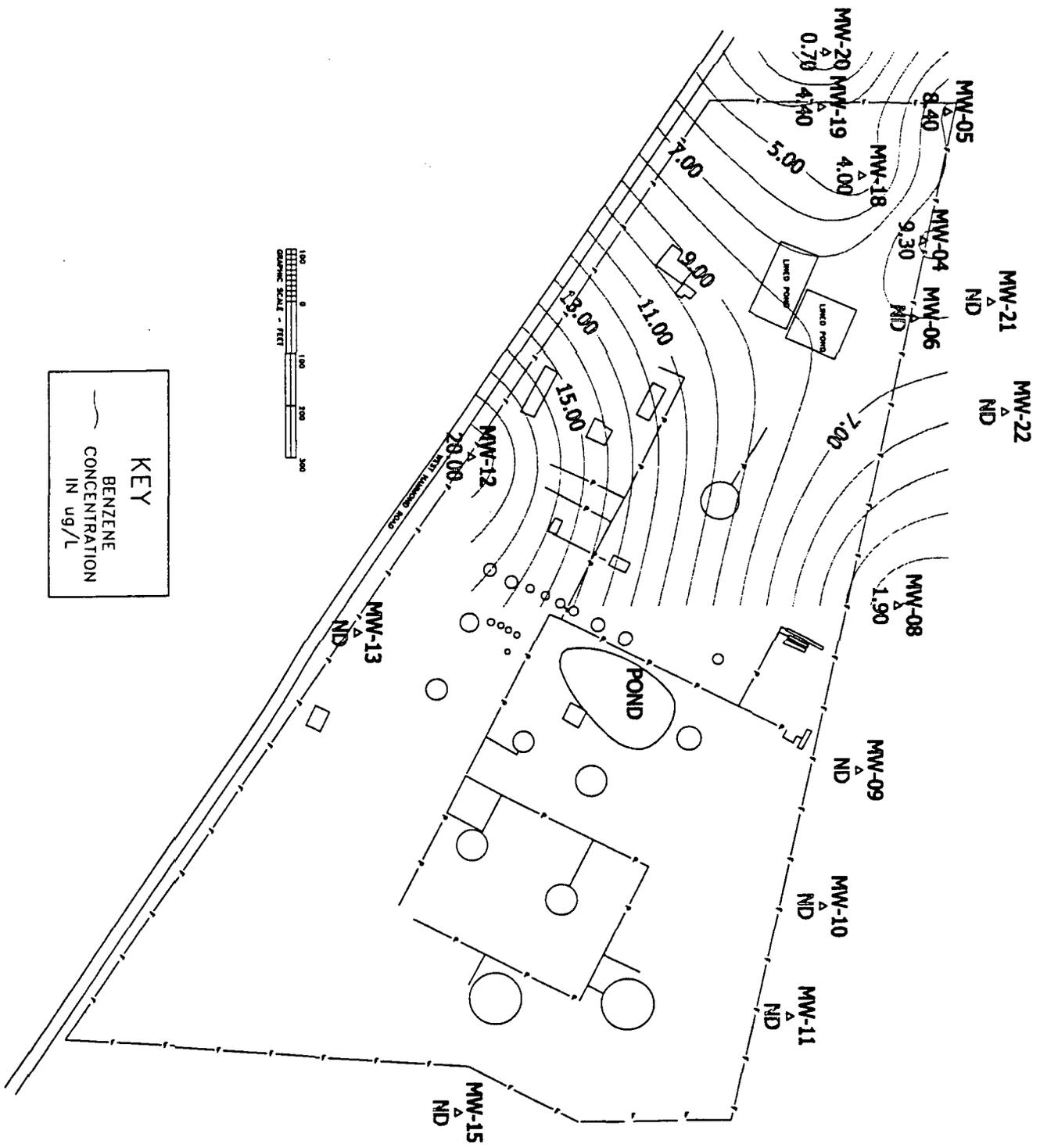
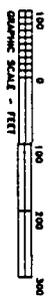
DRAWN BY: K. SINKS
FIGURE 2C
BENZENE CONCENTRATION
MAP
SEPTEMBER 5, 2000

BioTech
REMEDIATION

710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
PHONE 505-327-4885
FAX 505-564-3604

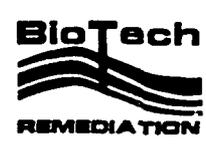


KEY
 ~~~~~  
 BENZENE  
 CONCENTRATION  
 IN ug/L



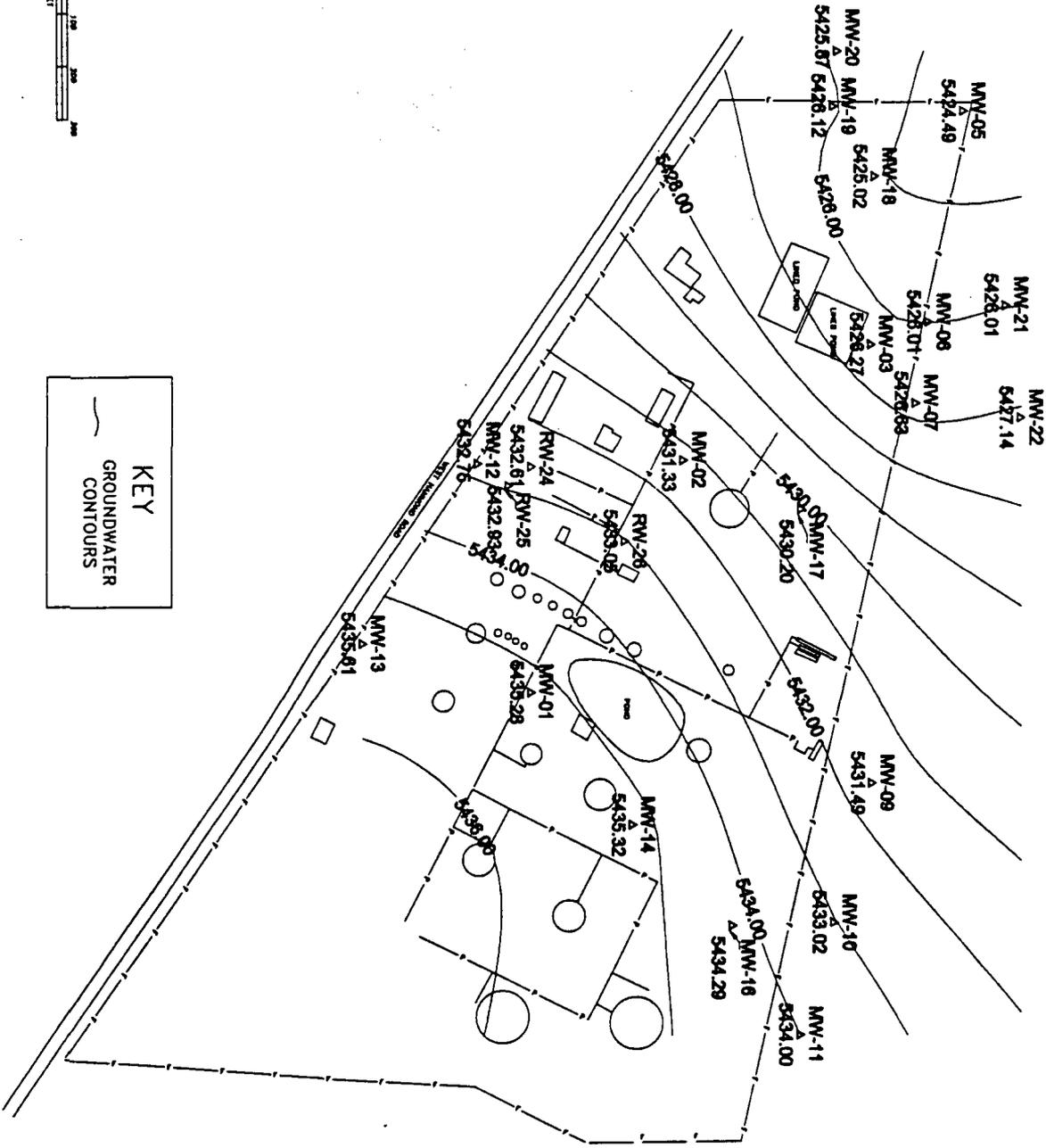
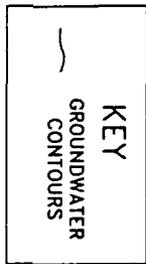
THRIFTWAY REFINERY  
 626 RD 5500  
 BLOOMFIELD, NM

DRAWN BY: K. SINKS  
 FIGURE 2D  
 BENZENE CONCENTRATION  
 MAP  
 DECEMBER 11, 200D



710 EAST 20TH STREET, SUITE 400  
 FARMINGTON, NEW MEXICO 87401  
 PHONE 505-327-4985  
 FAX 505-564-3604

Appendix C



THRIFTWAY REFINERY  
626 RD 5500  
BLOOMFIELD, NM

8170-0403000R

DRAWN BY: K. SINKS

FIGURE 1A  
WATER LEVEL  
CONTOUR MAP

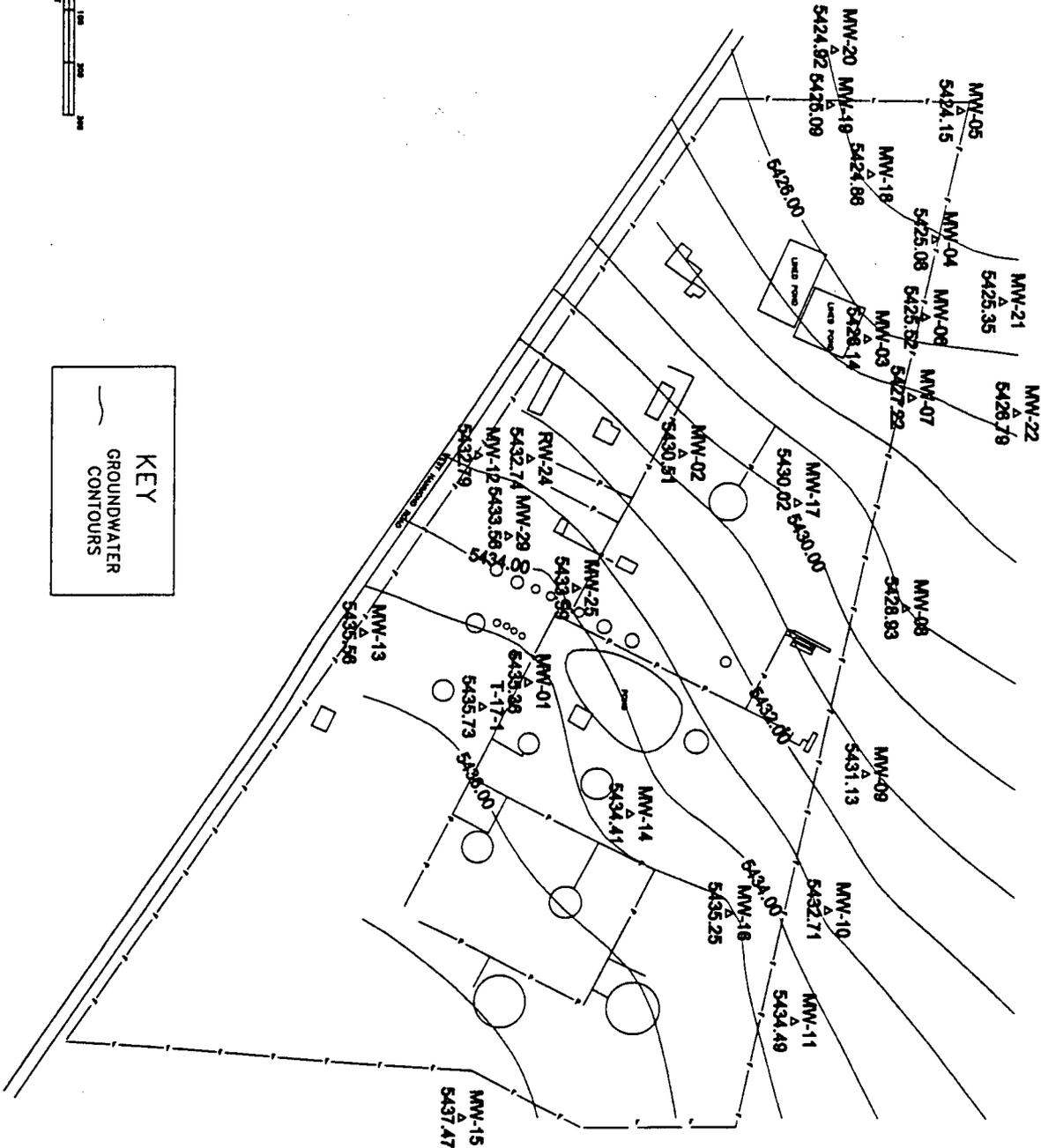
APRIL 3, 2000



710 EAST 20TH STREET, SUITE 400  
FARMINGTON, NEW MEXICO 87401  
PHONE 505-327-4985  
FAX 505-564-3604



KEY  
GROUNDWATER  
CONTOURS



THRIFTWAY REFINERY  
626 RD 5500  
BLOOMFIELD, NM

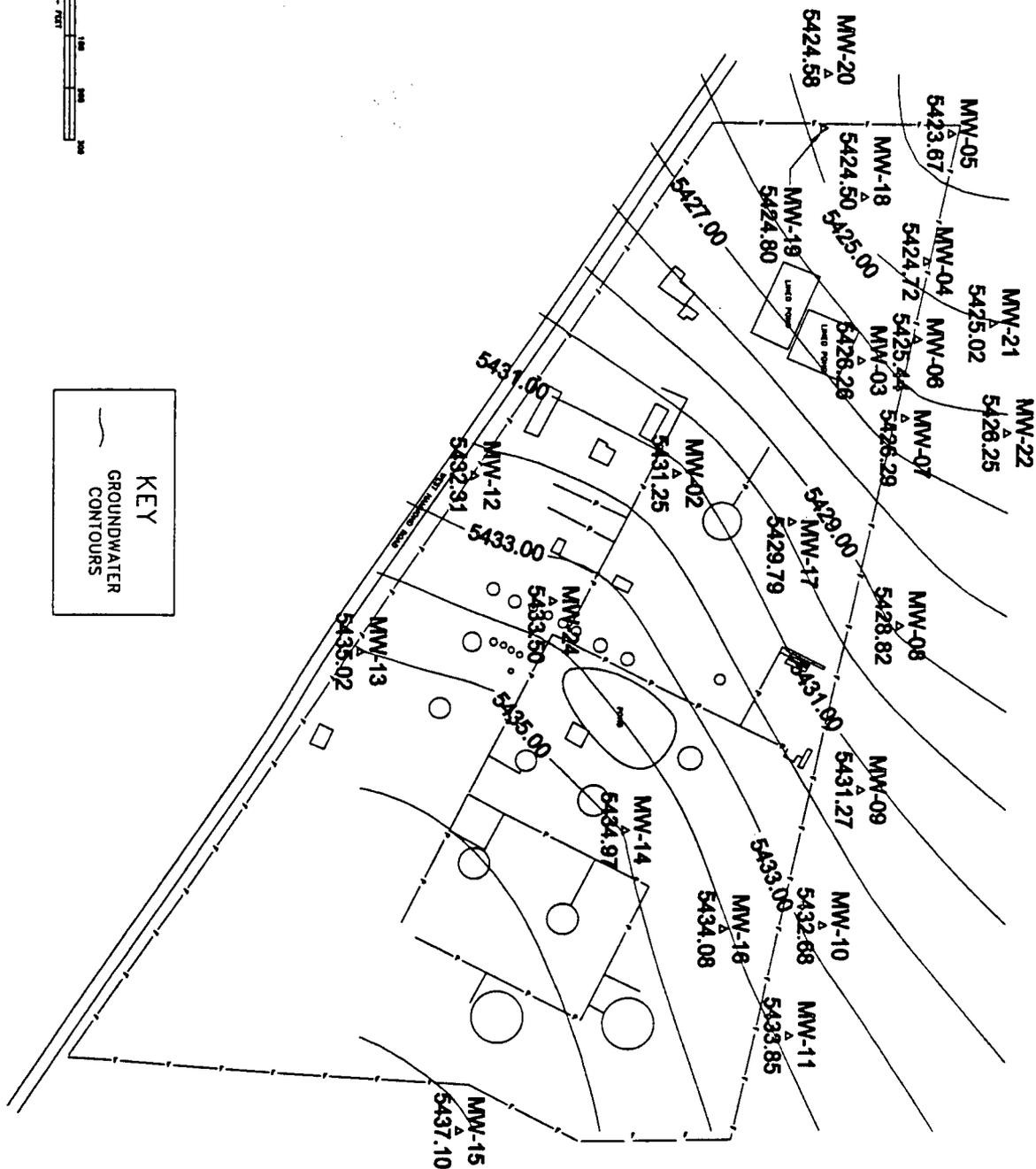
DRAWN BY: K. SINKS  
FIGURE 1B  
WATER LEVEL  
CONTOUR MAP  
JUNE 8, 2000



710 EAST 20TH STREET, SUITE 400  
FARMINGTON, NEW MEXICO 87401  
PHONE 505-327-4865  
FAX 505-564-3604



KEY  
 GROUNDWATER  
 CONTOURS



THRIFTWAY REFINERY  
 626 RD 5500  
 BLOOMFIELD, NM

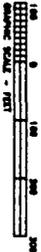
DRAWN BY: K. SINKS

FIGURE 1C  
 WATER LEVEL  
 CONTOUR MAP

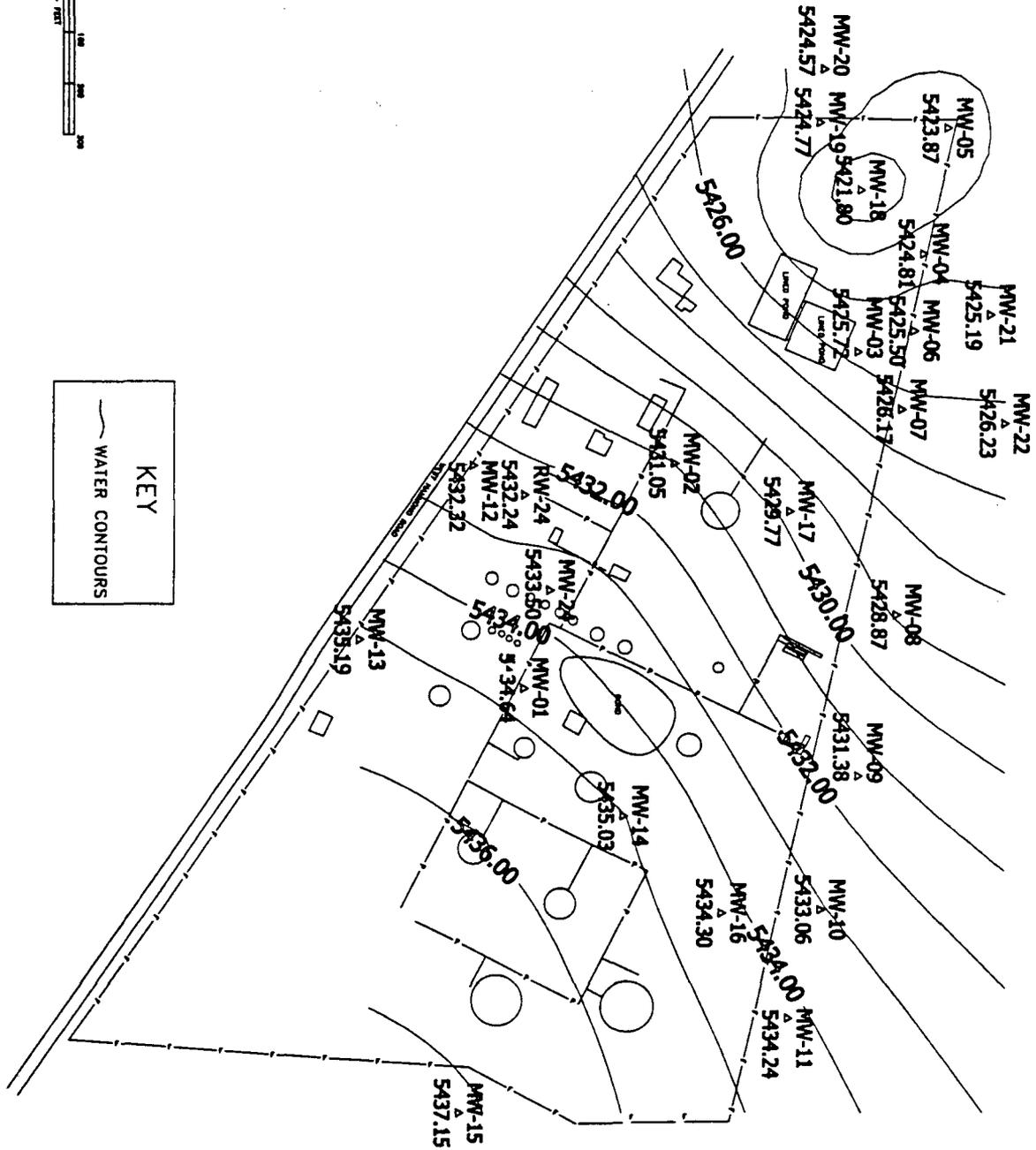
SEPTEMBER 7, 2000



710 EAST 20TH STREET, SUITE 400  
 FARMINGTON, NEW MEXICO 87401  
 PHONE 505-327-4865  
 FAX 505-564-3604



KEY  
 — WATER CONTOURS



THRIFTWAY REFINERY  
 626 RD 5500  
 BLOOMFIELD, NM

010/121100WL

DRAWN BY: K. SINKS  
 FIGURE 1D  
 WATER LEVEL CONTOUR  
 MAP  
 DECEMBER 11, 2000



710 EAST 20TH STREET, SUITE 400  
 FARMINGTON, NEW MEXICO 87401  
 PHONE 505-327-4963  
 FAX 505-564-3604

ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

I hereby acknowledge receipt of check No. 6299 dated 11/19/01  
or cash received on \_\_\_\_\_ in the amount of \$ 50<sup>00</sup>  
from BIO TECH REMEDIATION  
for ~~STATE~~ STATE/THURSDAY BLOOMINGDALE GW-055  
Submitted by: DAVID PRIZE Date: 12/10/01  
Submitted to ASD by: [Signature] Date: \_\_\_\_\_  
Received in ASD by: \_\_\_\_\_ Date: \_\_\_\_\_  
Filing Fee  New Facility \_\_\_\_\_ Renewal   
Modification \_\_\_\_\_ Other \_\_\_\_\_  
Organization Code 521.07 Applicable FY 2001

To be deposited in the Water Quality Management Fund.

Full Payment \_\_\_\_\_ or Annual Increment \_\_\_\_\_

BIOTECH REMEDIATION INC.  
710 E 20TH STREET  
FARMINGTON, NM 87401  
(505) 326-5571

WELLS FARGO BANK  
95-219/1070

6299

DATE  
11/19/2001

AMOUNT  
\$50.00

PAY

Fifty Dollars And 00 Cents

TO THE  
ORDER  
OF

NM Oil Conservation Division

[Signature]

GW-055

AUTHORIZED SIGNATURE

⑈006299⑈ ⑆107002192⑆9810153641⑈



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON  
Governor  
Jennifer A. Salisbury  
Cabinet Secretary

September 26, 2001

Lori Wrotenbery  
Director  
Oil Conservation Division

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. 5357 7591**

Ms. Terry Griffin  
Thriftway Marketing Corporation  
710 East 20th Street  
Farmington, NM, 87401

Re: Discharge Plan GW-055 Renewal  
Thriftway Marketing Corporation-Formal Bloomfield Refinery

Dear Ms. Griffin:

The New Mexico Oil Conservation Division (OCD) conducted a discharge plan inspection on June 29, 2001 for the above captioned facility. Per your request, the results of the inspection is enclosed and OCD requires Thriftway Marketing Corporation to address the following issues before discharge plan renewal:

1. Below-grade sumps were noted to contain oily waste (see pictures #3,4 and #10).
2. The old land farm located on the north side of the property (see pictures #5).
3. The on-site producing well water tank was full and requires emptying (see pictures #6 and #7).
4. Tank # 184 was leaking (see pictures 12 and 13) and valve seals on tank #14 were leaking. Tank #19 was noted to have oily trash around it.
5. Please demonstrate the integrity of the wastewater ponds. (See picture #9).

OCD may require additional actions to be taken along with additional operating conditions in the discharge plan. Also, Thriftway Marketing Corporation is hereby required to submit a completed discharge plan for OCD review by November 26, 2001.

If you have any questions please do not hesitate to contact me at 505-476-3487.

Sincerely,

Wayne Price-Pet. Engr. Spec.  
cc: OCD Aztec Office

Attachments-1

**Price, Wayne**

---

**From:** Terry Griffin [terry@redmesa.com]  
**Sent:** Tuesday, September 25, 2001 12:49 PM  
**To:** Wayne Price  
**Subject:** Discharge Plan GW-055, Thriftway Marketing Corp., Bloomfield  
Wayne,

This is a follow-up to our telephone conversation earlier today. BioTech Remediation, Inc., on behalf of Thriftway will provide the OCD with a written proposal within 60-days. The proposal will address several options/technologies for removal of all potential sources for subsurface contamination at the refinery. With this extension of time, the proposal is due November 26, 2001.

I would also like to request a written followup to OCD's site visit of June 29, 2001, specifically any house keeping requirements, necessary repairs, etc.

If you have any questions, or need additional information, or this does not meet with your understanding, please contact me as soon as possible.

Thanks, Terry

9/26/01

## Price, Wayne

---

**From:** Price, Wayne  
**Sent:** Saturday, August 25, 2001 11:33 AM  
**To:** Price, Wayne; 'terry@redmesa.com'  
**Cc:** Foust, Denny  
**Subject:** RE: Discharge Plan GW-055 Thriftway Marketing Corporation-Formal Bloomfield Refinery

Dear Ms. Griffin:

The OCD is in the process of evaluating the discharge plan for the above captioned facility. After reviewing your situation with the OCD staff it has been determined that Thriftway has the following two options:

1. Permit the site as an active refinery with a condition that Thriftway provide a closure bond approved by OCD; or
2. Re-new the facility as a discharge plan (abatement/remediation @fee \$2600.00) with a condition that Thriftway would supply for OCD approval a closure plan and schedule for the entire site.

Please feel free to call me 476-3487 or Roger Anderson 476-3490 to discuss this issue. Please respond within 10 days.

Thank You!

-----Original Message-----

**From:** Price, Wayne  
**Sent:** Friday, August 17, 2001 3:04 PM  
**To:** 'terry@redmesa.com'  
**Subject:** Closure Plan

Dear Ms. Griffin:

WQCC regulations require closure of all permitted facilities after cessation of operations. If the facility has not been closed then the discharge plan permit shall remain active. See WQCC regulations 20 nmac 6.2.3107 A.(11)

Price, Wayne

---

**From:** Terry Griffin [terry@redmesa.com]

**Sent:** Tuesday, September 11, 2001 2:03 PM

**To:** Wayne Price

**Cc:** Denny Foust

**Subject:** Disposal of Light Crude/Diesel -- Thriftway Refinery, Bloomfield

GL-055

Wayne,

We have contacted Safety Kleen to removed the Light Crude/Diesel from the Thriftway Bloomfield Refinery. The removal of this product will begin later this week or early next week.

Thanks,

Terry

9/12/01

**Price, Wayne**

---

**From:** Price, Wayne  
**Sent:** Wednesday, August 01, 2001 11:48 AM  
**To:** 'terry@redmesa.com'  
**Cc:** Anderson, Roger; Olson, William  
**Subject:** Thriftway Refinery GW-055 Discharge Plan Renewal

Attention: Terry Griffin:

Dear Terry:

Pursuant to our telephone conversation today OCD understands that you wish to renew the Discharge Plan as an active refinery with a DP fee of \$8400 for a period of five years. OCD will be sending your DP approval with conditions to be signed and returned to OCD.

Thank you, if you have any questions please do not hesitate to contact me concerning this issue.

# OCD ENVIRONMENTAL BUREAU

## SITE INSPECTION SHEET

DATE: 6/29/01 Time: 10:14 AM

Type of Facility: Refinery  Gas Plant  Compressor St.  Brine St.  Oilfield Service Co.   
Surface Waste Mgt. Facility  E&P Site  Crude Oil Pump Station   
Other  \_\_\_\_\_

Discharge Plan: No  Yes  DP# 55

FACILITY NAME: THRIFTWAY REFINERY

PHYSICAL LOCATION: 628 COUNTY ROAD 5500

Legal: QTR \_\_\_\_\_ QTR \_\_\_\_\_ Sec \_\_\_\_\_ TS \_\_\_\_\_ R \_\_\_\_\_ County SAN JUAN

OWNER/OPERATOR (NAME) THRIFTWAY MARKETING CORP

Contact Person: TERRY GRIFFIN Tele:# \_\_\_\_\_

MAILING

ADDRESS: 710 E 20th ST FARMINGTON State NM ZIP 87401

Owner/Operator Rep's: \_\_\_\_\_

OCD INSPECTORS: W PRICE

1. **Drum Storage:** All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.

2. **Process Areas:** All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.

NORTH REMEDIATION SOIL AREA - pic # 5

pic # 6 - BURIED TANK pic # 7 SIGN PRODUCING WELL WEST SIDE OF REFINERY

3. **Above Ground Tanks:** All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.

NORTH 50K BBL TK - PIC # 4 SUMP + SLUDGE  
PIC # 12 + 13 ACTIVE TANK # 184 LEAKING LOOKING WEST (18)?  
TANK # 2 SUMP HAS SLUDGE REMAINING PIC # 3  
EAST TANK FARM - E. MOST TK 50K BBL

4. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.

5. Labeling: All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.

6. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

OLD PLANT WASTE WATER PONDS - PIC # 8<sup>9</sup> LOOKING NORTH  
OLD SUMP HAS OIL IN IT - PIC # 9/10

7. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years thereafter, or prior to discharge plan renewal. The permittee may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.

8. Onsite/Offsite Waste Disposal and Storage Practices: Are all wastes properly characterized and disposed of correctly? Does the facility have an EPA hazardous waste number? Yes  No

ARE ALL WASTE CHARACTERIZED AND DISPOSED OF PROPERLY? YES  NO  IF NO DETAIL BELOW.

9. Class V Wells: Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. All Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Closure of Class V wells must be in accordance with a plan approved by the Division's Santa Fe Office. The OCD allows industry to submit closure plans which are protective of human health, the environment and groundwater as defined by the WQCC, and are cost effective. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.

ANY CLASS V WELLS NO  YES  IF YES DESCRIBE BELOW! Undetermined

10. Housekeeping: All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.

11. Spill Reporting: All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the proper OCD District Office.

12. Does the facility have any other potential environmental concerns/issues?

PIC # 11 RW-24 - SOUTH SIAB - MUDRAE POSITIVELY  
ON-GOING GROUNDWATER CONTAMINATION  
PIC # 8 AIR STRIPPER

13. Does the facility have any other environmental permits - i.e. SPCC, Stormwater Plan, etc.?

14. ANY WATER WELLS ON SITE? NO  YES  IF YES, HOW IS IT BEING USED?

Miscellaneous Comments:

DEMU COMMENTS: • TK # 14 HALF BBL PORTABLE CATCHMENT WITH OIL • VALVE SEALS LEAKING W-NW SIDE  
• TK 19 SOAKED GLOVES, ETC.

Number of Photos taken at this site: PIC # 1 - LOOKING WEST

attachments-

# 2 - 4 NORTH

OCD Inspection by Wayne Price June 29, 2001 10 am  
Thriftway Refinery- Bloomfield NM GW-55  
Page 1



Pic #1 - Entrance area looking west



Pic #4- Far north 50000 bbl tank sump and sludge.



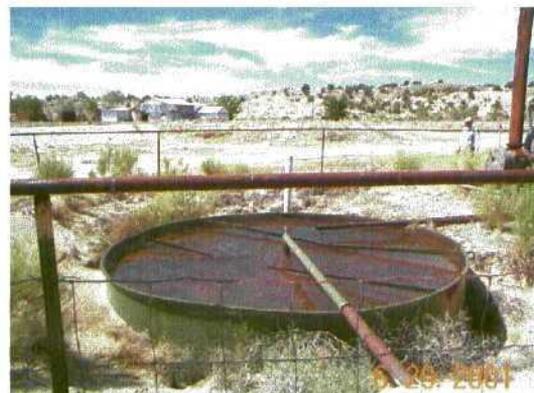
Pic #2 - Entrance Area Looking North.



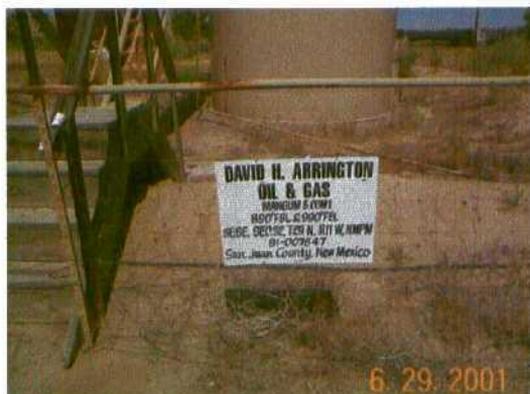
Pic #5- North side of plant old landfarm area.



Pic #3- 50,000 bbl storage tanks have sludge remaining in sumps.



Pic #6- Buried produced water tank for on-site producing well.



Pic #7- On-site producing well



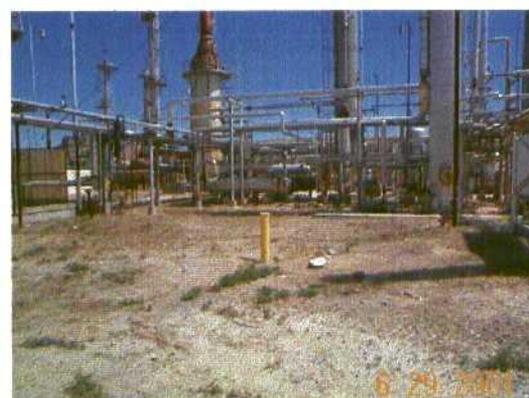
Pic #8- Far west side of plant area- Groundwater stripper tower.



Pic #9- Old plant waste water ponds and possible leak detectors.



Pic #10 - Old plant main wastewater drain sump- Sump was noted to have fresh oil in it.



Pic #11- Recovery well (RW-24)



Pic #12- Tank # 184 (or 18?). This tank was observed to have hydrocarbon product leaking from a valve and possibly under the tank.



Pic #13- same as 12- Looking west.

Price, Wayne

---

**From:** Price, Wayne  
**Sent:** Tuesday, April 10, 2001 8:37 AM  
**To:** 'Terry Griffin'  
**Subject:** RE: Thriftway Refinery GW-055

Yes! New Fees were effective on Jan 15, 2001.

-----  
**From:** Terry Griffin[SMTP:terry@redmesa.com]  
**Sent:** Tuesday, April 10, 2001 8:49 AM  
**To:** Price, Wayne  
**Subject:** Re: Thriftway Refinery GW-055

I am not sure that I follow you??? We already have a remediation plan in effect -- and have for 10+ years. Are these new fees?

Terry

----- Original Message -----

**From:** "Price, Wayne" <WPrice@state.nm.us>  
**To:** <terry@redmesa.com>  
**Sent:** Tuesday, April 10, 2001 8:26 AM  
**Subject:** Thriftway Refinery GW-055

> Dear Terry:

>

> Please review the following options concerning how OCD permits the site.

>

> 1. The discharge plan will consist of a remediation plan (abatement)

**Price, Wayne**

---

**From:** Price, Wayne  
**Sent:** Tuesday, April 10, 2001 8:26 AM  
**To:** 'terry@redmesa.com'  
**Subject:** Thriftway Refinery GW-055

Dear Terry:

Please review the following options concerning how OCD permits the site.

1. The discharge plan will consist of a remediation plan (abatement) for groundwater contamination. This plan will include a refinery Abatement 5 year period.
2. Permit as a refinery with no de-commission plan. Cost \$8400 for total cost \$11,000. 5 year period.
3. Permit as a remediation site (\$2600) including a refinery de-storage tanks & pumps. Total \$3800.
4. Permit as #1 above, Giant takes over the crude oil tanks & pump Discharge plan for crude oil pump station (\$1200) and be r
5. Other??

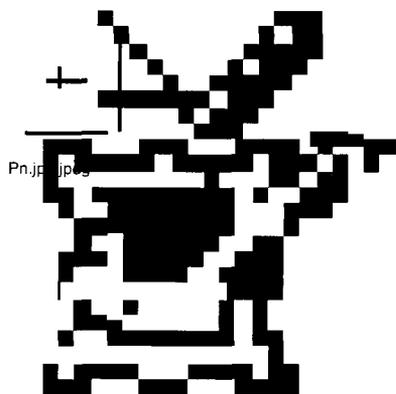
**Price, Wayne**

---

**From:** Price, Wayne  
**Sent:** Monday, April 09, 2001 4:22 PM  
**To:** 'terry@redmesa.com'  
**Subject:** Public Notice for Thriftway Refinery

Dear Terry:

Please send an addition \$50 the new filing fee is \$100.00



**NOTICE OF PUBLICATION**

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION**

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan applications has been submitted to the Director of the Oil Conservation Division, 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-55) - Thriftway Marketing Corporation, Ms. Terry Griffin, (505)-327-4965, 710 East 20th Street, Farmington, NM, 87401, has submitted a Discharge Plan Renewal Application for the former Bloomfield Refinery located in the SE/4, Section 32, and SW/2 SW/4, Section 33, Township 29 North, Range 11 West, and NE/4 NE/4, Section 9, Township 28 North, Range 11 West, NMPM, San Juan County, New Mexico. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth from 5 to 30 feet with a total dissolved solids concentration of approximately 4,300 mg/L. The discharge plan consists of a leak, spill and stormwater contingency plan, soil and groundwater remediation, sampling and monitoring program to be conducted until the groundwater meets standards as contained in 20 NMAC 6.2.3103 of the New Mexico Water Quality Control Commission (WQCC) Regulations.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 2nd day of April, 2001.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



for LORI WROTENBERY, Director

S E A L

**NOTICE OF PUBLICATION**

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION**

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan applications has been submitted to the Director of the Oil Conservation Division, 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-55) - Thriftway Marketing Corporation, Ms. Terry Griffin, (505)-327-4965, 710 East 20th Street, Farmington, NM, 87401, has submitted a Discharge Plan Renewal Application for the former Bloomfield Refinery located in the SE/4, Section 32, and SW/2 SW/4, Section 33, Township 29 North, Range 11 West, and NE/4 NE/4, Section 9, Township 28 North, Range 11 West, NMPM, San Juan County, New Mexico. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth from 5 to 30 feet with a total dissolved solids concentration of approximately 4,300 mg/L. The discharge plan consists of a leak, spill and stormwater contingency plan, soil and groundwater remediation, sampling and monitoring program to be conducted until the groundwater meets standards as contained in 20 NMAC 6.2.3103 of the New Mexico Water Quality Control Commission (WQCC) Regulations.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 2nd day of April, 2001.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



*for* LORI WROTENBERY, Director

S E A L

ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

I hereby acknowledge receipt of check No. 5915 dated 2/09/2001  
or cash received on \_\_\_\_\_ in the amount of \$ 50<sup>00</sup>  
from BIOTECH REMEDIATION  
for THREEWAY REFINERY GW-055-  
Submitted by: WAYNE PRICE (Family Name) Date: 2/16/01 (DP No.)  
Submitted to ASD by: [Signature] Date: 2/16/01  
Received in ASD by: \_\_\_\_\_ Date: \_\_\_\_\_

Filing Fee  New Facility \_\_\_\_\_ Renewal \_\_\_\_\_  
Modification \_\_\_\_\_ Other \_\_\_\_\_  
(Specify)

Organization Code 521.07 Applicable FY 2001

To be deposited in the Water Quality Management Fund.  
Full Payment \_\_\_\_\_ or Annual Increment \_\_\_\_\_

BIOTECH REMEDIATION INC.  
710 E. 20TH STREET  
FARMINGTON, NM 87401  
(505) 326-5571

FIRST NATIONAL BANK  
FARMINGTON, NEW MEXICO  
95-54/1022

5915

DATE  
02/09/2001

AMOUNT  
\$50.00

PAY Fifty Dollars And 00 Cents

TO THE ORDER OF NM Oil Conservation Division

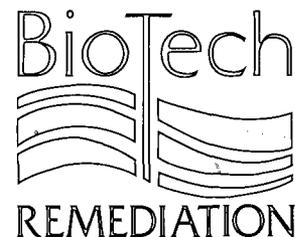
[Signature]  
R. J. Dally MP

⑈005915⑈ ⑆102200546⑆ 010153641⑈

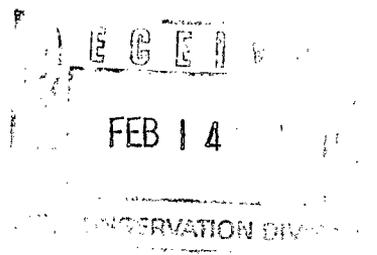
| VENDOR I.D. | NAME                      | PAYMENT NUMBER    | CHECK DATE |
|-------------|---------------------------|-------------------|------------|
| 19191       | NM Oil Conservation Divis | 00000000000000610 | 02/09/2001 |

| OUR VOUCHER NUMBER | YOUR VOUCHER NUMBER | DATE       | AMOUNT  | AMOUNT PAID | DISCOUNT | WRITE-OFF | NET     |
|--------------------|---------------------|------------|---------|-------------|----------|-----------|---------|
| 00000000000000742  | PERMIT FEE GW-055   | 02/08/2001 | \$50.00 | \$50.00     | \$0.00   | \$0.00    | \$50.00 |
|                    |                     |            | \$50.00 | \$50.00     | \$0.00   | \$0.00    | \$50.00 |

COMMENT



February 7, 2001



710 E. 20th Street, Suite 400  
Farmington, New Mexico 87401  
Off: (505) 327-4965  
Fax: (505) 564-3604

State of New Mexico  
Oil Conservation Division  
Mr. Wayne Price  
Hydrologist  
2040 S. Pacheco  
Santa Fe, New Mexico 87505

Re: Groundwater Renewal Permit Application for the Thriftway Refinery located at  
626 Road 5500 in Bloomfield, New Mexico.

Dear Mr. Price:

Enclosed is Groundwater Renewal Permit Application for the Thriftway Refinery located  
at 626 Road 5500 in Bloomfield, New Mexico. The application answers the questions in  
the order presented in the attached DISCHARGE PLAN APPLICATION FOR SERVICE  
COMPANIES, GAS PLANTS, REFINERIES, COMPRESSOR, AND CRUDE OIL  
PUMP STATIONS.

BioTech submits this application on behalf of Thriftway Refining. If you have any  
questions or comments please call me at (505) 327-4965.

Respectfully,

  
Terry Griffin  
Project Administrator

TG/ks

Attachments

CC: Mr. Denny Foust, OCD Aztec District Office

810\Groundwater Renewal Permit 2001

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  
1220 S. St. Francis Dr., Santa Fe, NM 87504

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87504

Revised January 24, 2001

Submit Original  
Plus 1 Copy  
to Santa Fe  
1 Copy to Appropriate  
District Office

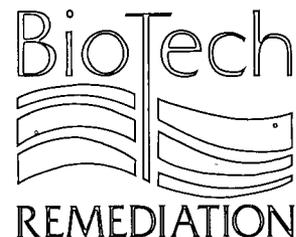
**DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS,  
REFINERIES, COMPRESSOR, GEOTHERMAL FACILITIES  
AND CRUDE OIL PUMP STATIONS**

(Refer to the OCD Guidelines for assistance in completing the application)

New       Renewal       Modification

1. Type: Discharge Plan #GW-055
2. Operator: Thriftway Refinery  
Address: 710 East 20th Street Farmington, New Mexico 87401  
Contact Person: Terry Griffin Phone: 505-327-4965
3. Location: SEE ATTACHED /4 Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
Submit large scale topographic map showing exact location.
4. Attach the name, telephone number and address of the landowner of the facility site.
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
6. Attach a description of all materials stored or used at the facility.
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
11. Attach a contingency plan for reporting and clean-up of spills or releases.
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
14. CERTIFICATION I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Ken Sinks Title: Project Manager  
Signature:  Date: 02-07-01



THRIFTWAY REFINERY GROUNDWATER  
DISCHARGE PLAN RENEWAL GW-055  
710 EAST 20<sup>TH</sup> STREET  
FARMINGTON, NEW MEXICO 87401

710 E. 20th Street, Suite 400  
Farmington, New Mexico 87401  
Off: (505) 327-4965  
Fax: (505) 564-3604

*Prepared for the*

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
2040 South Pacheco  
Santa Fe, New Mexico 87505

*Prepared by*

BIOTECH REMEDIATION, INC.  
710 E. 20<sup>th</sup> STREET, SUITE 400  
FARMINGTON, NEW MEXICO 87401

January 15, 2001

Prepared by:

A handwritten signature in black ink, appearing to read "Ken Sinks", is written over a solid horizontal line.

Ken Sinks  
Project Manager

810\Groundwater Renewal Permit 2001

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS,  
REFINERIES, COMPRESSOR, AND CRUDE OIL PUMP STATIONS

This application is for the renewal of an existing Groundwater Discharge Plan.

1. Type: **Discharge Plan # GW-055**
2. Operator: **Thriftway Refinery**  
Address: **710 East 20<sup>th</sup> Street, Farmington, New Mexico 87401**  
Contact person: **Terry Griffin** Phone: **505-327-4965**
3. Location: **Thriftway Refinery**  
**626 RD. 5500**  
**Bloomfield, New Mexico 87413**

**Refinery property located in SE/4 Sec. 32 SW/2 SW/4 Sec. 33 Township 29N Range 11 W and 7.35 acres in the N.E./4 NE/4 Sec. 9 Township 28 North Range 11 West N.M. P.M., San Juan County, New Mexico. The attached copy of the Horn Canyon, N. Mex., topographical map has a paste up of the refinery showing its location as described above (See Attachment A).**

4. Attach the name, telephone number and address of the landowner of the facility site.

**Thriftway Refinery**  
**710 East 20<sup>th</sup> Street**  
**Farmington, NM 87401**  
**505-327-4965**  
**Contact – Terry Griffin**

5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.

**The accompanying site plan (Figure 1) shows the existing fence lines, dike locations and other land marks at the refinery.**

**This facility is a small oil refinery, which in the past processed light sweet San Juan Basin crude oil. The facility hasn't operated as a refinery for several years but remains semi-active as a crude oil storage facility that is currently leased to Giant Industries.**

6. Attach a description of all materials stored or used at the facility.

**Process materials stored consist of Crude Oil, when Giant Industries is preparing to enter a turnaround, although, this has not occurred in several years; otherwise the tankage is empty.**

**Chemicals used: Consist of 22 BE hydrochloric acid. This is used to control the pH of the water in the Air Stripper.**

7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of wastewater must be included.

**This is a zero discharge facility. There are no solid wastes produced and no process waste water discharged.**

**All of the storm water lines from the process area are blind flanged or cemented off. This was done to reduce the amount of rainwater going to the evaporation ponds. Any rainfall falling onto the process area backs up onto the process pads and evaporates.**

8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.

**There are no solid wastes produced and no process waste water discharged.**

9. Attach a description of current liquid and solid waste collection/treatment/disposal systems.

**There are no changes currently in the planning stages for the system.**

10. Attach a routine inspection and maintenance plan to ensure permit compliance.

**In Attachment B, there is the daily log sheet for inspection of the air stripper.**

**Although there is no direct mention in the log sheet, the technician checks the stripper as defined in the log sheet then drives around the perimeter of the refinery and checks the transfer line from the stripper building to the fire water pond to insure there are no leaks surfacing.**

**The technician also checks the buildings to insure they are secure and the fence line for evidence of damage from vandalism or erosion.**

**Any irregularities are noted on the log sheet and the supervisor over that area is notified.**

11. Attach a contingency plan for reporting and cleanup of spills or releases.

**See the SPCC plan in Attachment D for all contingency plans.**

12. Attach geological/hydro-geological information for the facility. Depth to and quality of ground water must be included.

**Water fluctuations over time are recorded in the Annual Year-End Report Tables - See Attachment E – Table 1. This table gives the reader a good database for depth to water.**

**Water quality is measured and different parameters tested for. Table 2 gives BTEX and MTBE information on selected monitor wells. Table 3 gives laboratory results for major cations and anions, Table 4 gives the values for Polynuclear Aromatic Hydrocarbons, Table 5 gives the metals results. Table 2,**

3, 4, and 5 can be found in Attachment F.

The hydrologic features of the site are unique. Kutz Wash borders the refinery site to the north of the property line. This wash is normally dry and runs only with storm runoff. Kutz Wash discharges into the San Juan River approximately 1½ miles Northwest of the refinery property. Attached as Figure 1D is a copy of the latest groundwater contour map and Figure 2D is of the latest ground water analysis. The groundwater slopes to the northwest.

Thriftway used to have two (2) shallow water wells on the refinery property. These wells produced such poor quality water that the water could only be used to charge the fire water reserve pond. The high TDS and Sulfide content rendered the water unusable for process or domestic use.

The well located south of the LPG storage tanks has been plugged and is no longer in service. The well near the boiler house is still tied into the firewater pond. The well has not been used for over 10 years. Thriftway drilled the two-(2) wells to 350 feet. The Ojo Alamo is the top aquifer at the site. The Ojo Alamo is a sandstone aquifer.

The water going to the firewater reserve pond now comes from the groundwater air stripper facility. This system operates to capture all water from the refinery subsurface flow.

The water is air stripped to insure it meets NMWQCC standards. The water is monitored several times a week to insure the stripper is operating properly. The effluent from the stripper is sampled monthly for BTEX and MTBE.

Site soils are reported as silty light brown fine to medium grain sands. This sand extends to at least 14 feet, which is the depth of observation pits dug by Envirotech, Inc., during the original site investigation.

13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

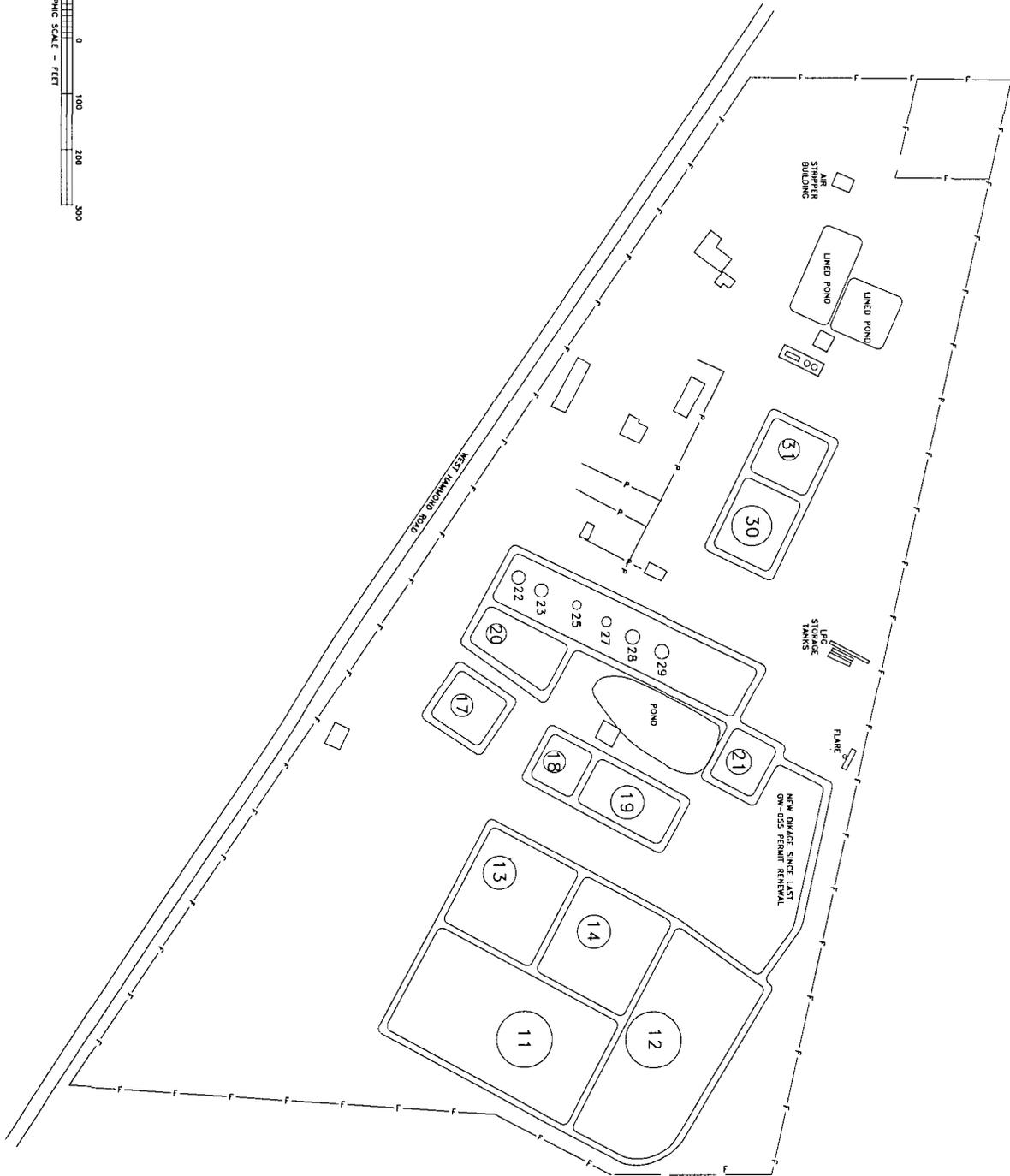
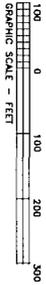
The facility is currently semi-active as a crude oil storage facility. Crude oil has not been stored at the facility for several years, although the lease is currently held by Giant Industries.

There is no facility closure plan for this site.

No other information has been requested by the OCD. The facility is in compliance with all known directives from the OCD.

14. Certification I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

See Application



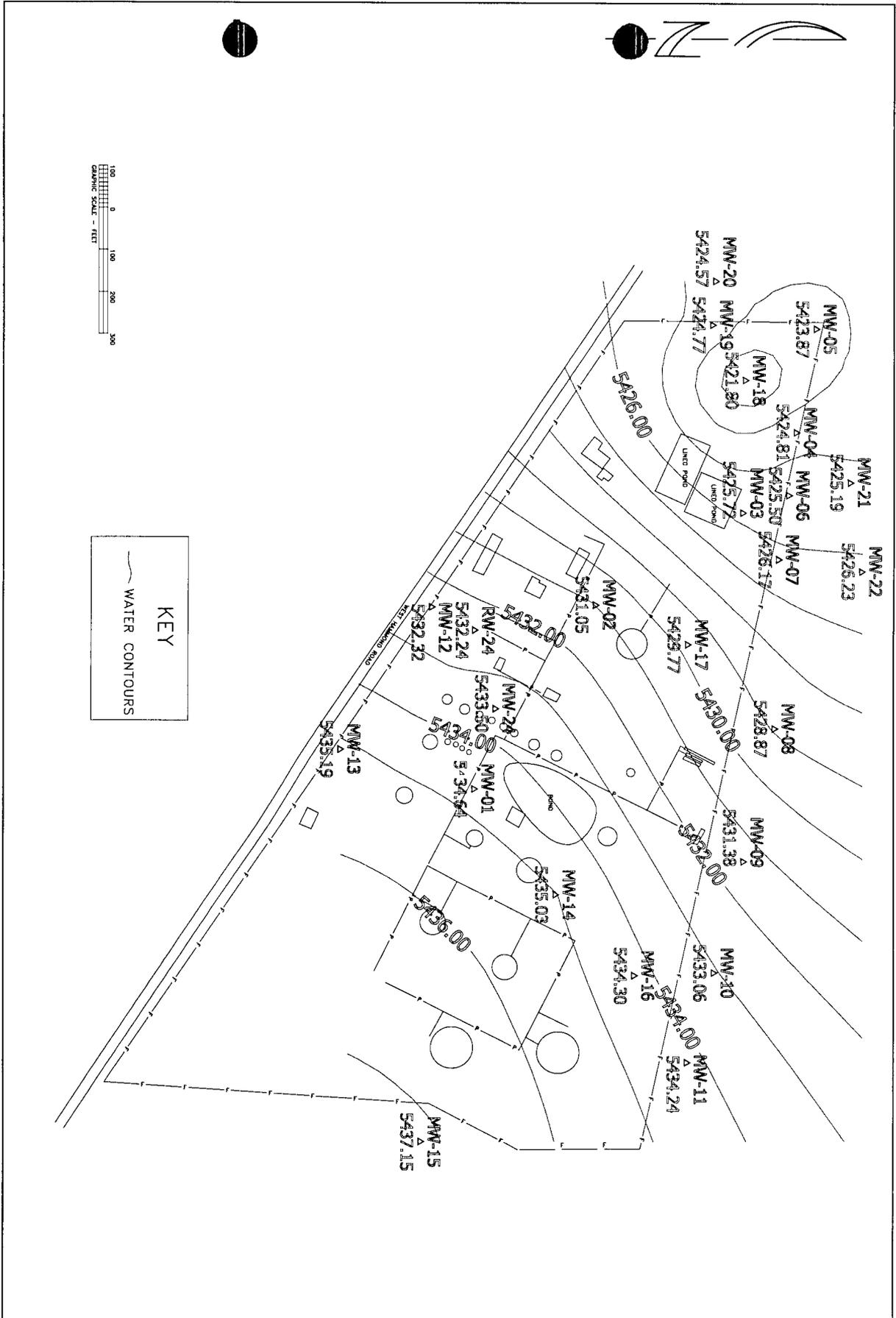
THRIFTWAY REFINERY  
626 RD 5500  
BLOOMFIELD, NM

810 SITEPLAN

DRAWN BY: K. SINKS  
FIGURE 1  
SITE PLAN  
JANUARY 5, 2001



710 EAST 20TH STREET, SUITE 400  
FARMINGTON, NEW MEXICO 87401  
PHONE 505-327-4965  
FAX 505-564-3604



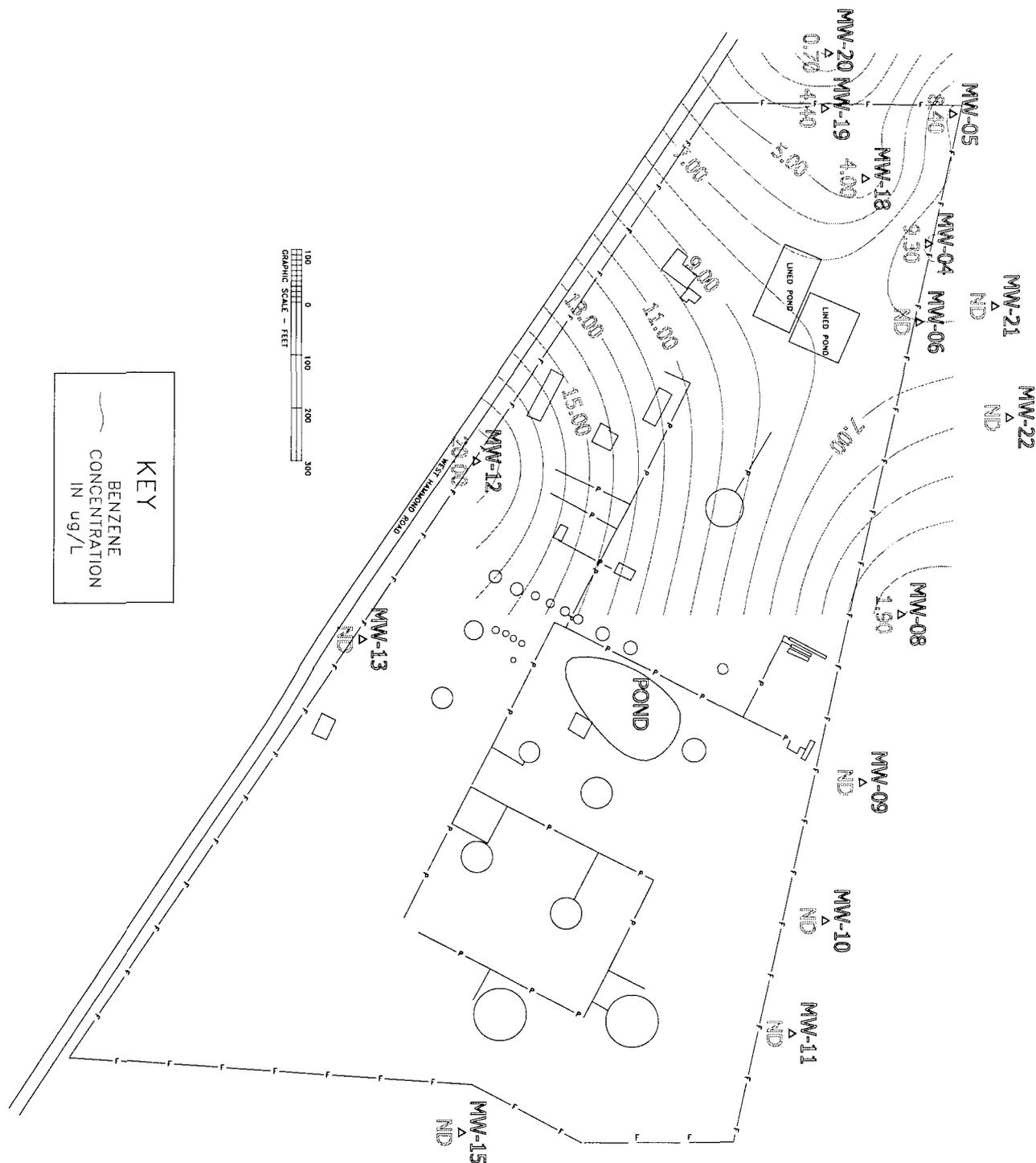
THRIFTWAY REFINERY  
 626 RD 5500  
 BLOOMFIELD, NM

810\121100WL

DRAWN BY: K. SINKS  
 FIGURE 1D  
 WATER LEVEL CONTOUR  
 MAP  
 DECEMBER 11, 2000



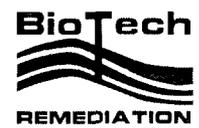
710 EAST 20TH STREET, SUITE 400  
 FARMINGTON, NEW MEXICO 87401  
 PHONE 505-327-4965  
 FAX 505-564-3604



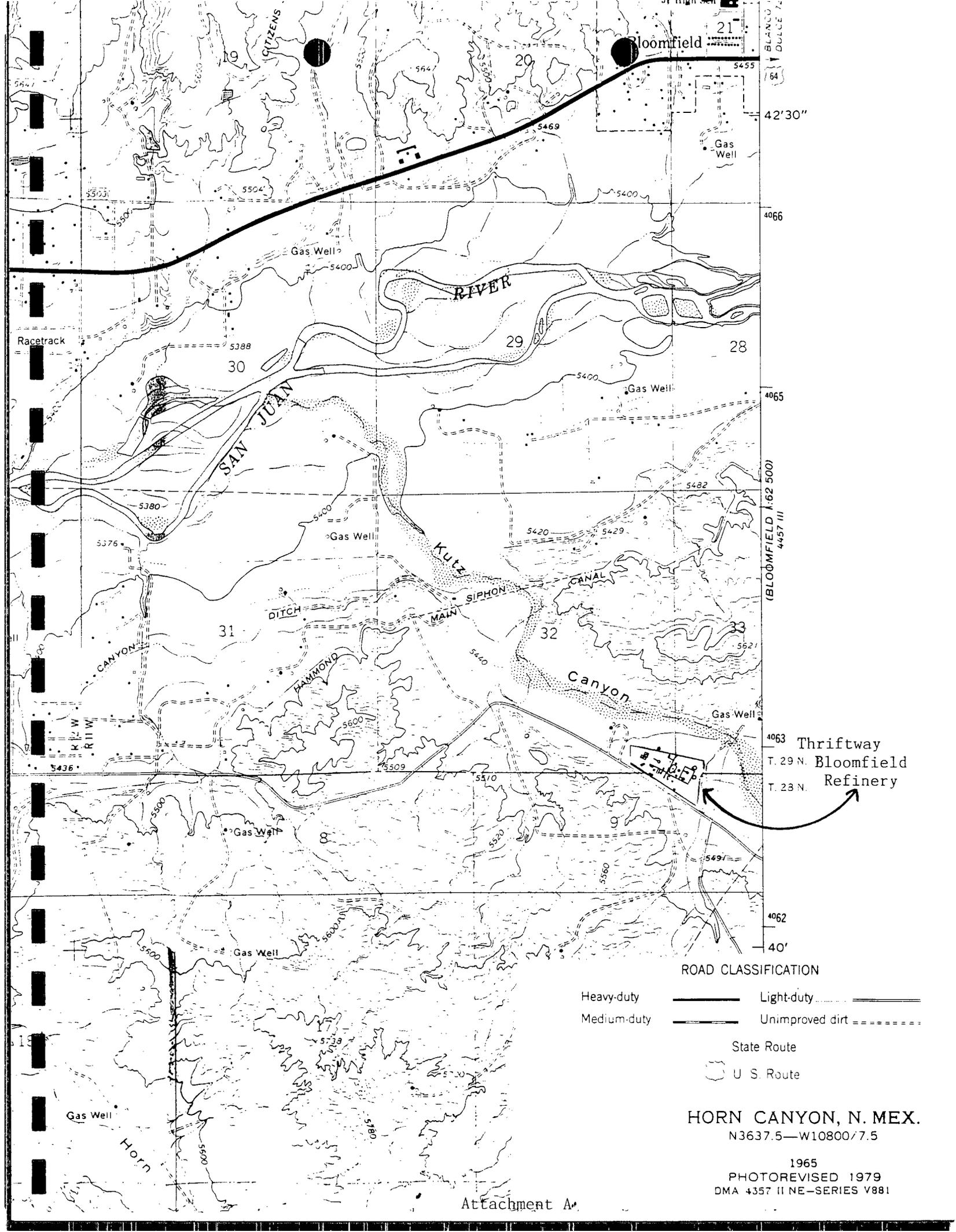
THRIFTWAY REFINERY  
 626 RD 5500  
 BLOOMFIELD, NM

810\121101bz

DRAWN BY: K. SINKS  
 FIGURE 2D  
 BENZENE CONCENTRATION  
 MAP  
 DECEMBER 11, 2001



710 EAST 20TH STREET, SUITE 400  
 FARMINGTON, NEW MEXICO 87401  
 PHONE 505-327-4965  
 FAX 505-564-3604



ROAD CLASSIFICATION

- Heavy-duty —————
- Medium-duty - - - - -
- Light-duty .....=
- Unimproved dirt =====
- State Route
- U. S. Route

**HORN CANYON, N. MEX.**  
 N3637.5—W10800/7.5

1965  
 PHOTOREVISED 1979  
 DMA 4357 II NE—SERIES V881

(BLOOMFIELD K. 62 500)  
 4457 III

4063 Thriftway  
 T. 29 N. Bloomfield  
 T. 23 N. Refinery

4062  
 40'

4066

42'30"

BLANCO  
 DULCE 72

Bloomfield

RIVER

SAN JUAN

KUTZ

Canyon

DITCH

HAMMOND

MAIN SIPHON

CANAL

Racetrack

W  
 R I I W

Gas Well

Horn

Gas Well

Gas Well

Gas Well

THANKS

Gas Well

Gas Well

Gas Well

Gas Well

Gas Well

30

29

28

31

32

33

21

20

19

CITIZENS

564

5469

5455

5504

5400

5503

5501

5388

5400

5376

5400

5420

5429

5482

5440

5621

5600

5509

5570

5500

5500

5360

5497

5500

5500

5600

5480

5739

5530



**THRIFTWAY REFINERY  
DAILY MONITORING SHEET  
FOR AIR STRIPPER FLOWS**

| Initials | DATE     | TIME | pH  | BLOWER<br>" H <sub>2</sub> O | FLOW TO<br>INJ. SYS.<br>READING | UST LIQ.<br>DEPTH<br>INCHES | ACID<br>PUMP<br>SETTING | ELECT.<br>METER<br>HOURS | PROD.<br>DEPTH<br>FEET | PUMP<br>DISCHG.<br>PRESS | SMP ?      | GAL.<br>OIL<br>REC. | GPM  |
|----------|----------|------|-----|------------------------------|---------------------------------|-----------------------------|-------------------------|--------------------------|------------------------|--------------------------|------------|---------------------|------|
| KS       | 12-20-00 | 1147 | 0.4 | 17.5                         |                                 |                             | 82sec                   | System overhauled        |                        |                          | Looks good |                     |      |
|          |          |      |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
|          |          |      |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
| MS       | 12-21-00 | 0825 | 4.4 | 18.0                         | 3422.97                         | 48.5                        | "                       | 74758                    | -                      | 20psi                    |            | -                   | 6+   |
| MS       | 12-22-00 | 0820 | 4.4 | 18.0                         | 3481.55                         | 53.5                        | "                       | 74826                    | -                      | 20psi                    |            | -                   | 6+   |
| MS       | 12-26-00 | 1033 | 5.4 | 18.5                         | 3723.95                         | 48.5                        | "                       | 75141                    | 0.8'                   | 20psi                    |            | -                   | 6+   |
| KS       | 12-27-00 | 1712 | 4.4 | 18.0                         | 3793.0L                         | 49.5                        | 80sec                   | 75232                    | NM                     | 22psi                    | NO         | none                | 6+   |
|          |          |      |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
|          |          |      |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
|          |          |      |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
| KS       | 12-28-00 | 1848 | 8.0 | 18.0                         | 3861.78                         | 49.0                        | 80sec                   | 75312                    | NM                     |                          | NO         | -                   | 6+   |
| KS       | 12-29-00 | 1035 | 7.0 | 18.5                         | 3913.07                         | 50.5                        | 90sec                   | 75373                    | NM                     | 18                       | NO         | -                   | 5.5+ |
|          |          |      |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
|          |          |      |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
|          |          |      |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
| MS       | 1-02-01  | 0824 |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
| MS       | 1-03-01  | 1536 |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
|          |          |      |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
| MS       | 1-5-01   | 1638 | 4.4 | 18.0                         | 4315.46                         | 49"                         | 90sec                   | 75666                    | -                      | 20psi                    |            | -                   | 6+   |
| MS       | 1-8-01   | 0734 | 5.4 | 19.0                         | 4481.07                         | 49.5"                       | 90sec                   | 76018                    | 0.8'                   | 20psi                    |            | -                   | 6+   |
|          |          |      |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
|          |          |      |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |
|          |          |      |     |                              |                                 |                             |                         |                          |                        |                          |            |                     |      |

For End of 2000 use 415367 on flow to inj system.

**TABLE 6  
THRIFTWAY REFINERY AIR STRIPPER  
2000 ON-STREAM RECORD**

| MONTH     | DAYS IN MONTH | DAYS ON-LINE | ENDING 160455 | GALLONS PROCESSED | AVERAGE PER DAY | ON-STREAM FACTOR | COMMENTS                                                                                                                                                                                                                                               |
|-----------|---------------|--------------|---------------|-------------------|-----------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JANUARY   | 31            | 28.5         | 52229         | 212,684           | 7,463           | 91.94%           | Piping from the lift pump was corroded and allowed oil to enter the air stripper. New piping was installed, the system cleaned and brought back on line. <b>Total lost time 2.5 days.</b>                                                              |
| FEBRUARY  | 29            | 23.5         | 202918        | 150,689           | 6,412           | 81.03%           | Electrical problems due to moisture in the air stripper building. The motor control switch and the 1/3 hp transfer pump motor were replaced. The water leaks at the transfer pump and the stripper lid were repaired. <b>Total lost time 5.5 days.</b> |
| MARCH     | 31            | 28           | 342667        | 139,749           | 4,991           | 90.32%           | The system operated very well all month except for a minor float switch repair.                                                                                                                                                                        |
| APRIL     | 30            | 29           | 483208        | 140,541           | 4,846           | 96.67%           | Inland trucking pulled <b>800 gallons of product</b> from the UST. The stripper picked up oil from UST before removal of product. The stripper was properly cleaned. <b>Total lost time 1 day.</b>                                                     |
| MAY       | 31            | 28           | 7608          | 157,594           | 5,628           | 90.32%           | Internal damage of baffles were repaired on May 26, 2000. The water meter failed on May 26th. A temporary flow meter was used until a new flow meter was ordered. <b>Total lost time 3 days.</b>                                                       |
| JUNE      | 30            | 24.5         | 175609        | 168,001           | 6,857           | 81.67%           | Air stripper tank leak noted at the SW corner. The leaks were repaired. <b>Total lost time 5.5 days.</b>                                                                                                                                               |
| JULY      | 31            | 30.5         | 352609        | 177,000           | 5,803           | 98.39%           | The system operated relatively trouble free. Minor leaks around the lid of the stripper were repaired and the building was cleaned and disinfected. <b>Total lost time 0.5 days.</b>                                                                   |
| AUGUST    | 31            | 31           | 533,257       | 180,648           | 5,827           | 100.00%          | A reconditioned flow meter was installed on August 1, 2000. Approximately 9" of product (1,000 gallons) was removed from the UST on August 7, 2000. <b>No Down Time</b>                                                                                |
| SEPTEMBER | 30            | 23           | 882050        | 348,793           | 15,165          | 76.67%           | The unit was shutdown September 5, 2000 due to corrosion of the discharge pipe from the UST sump pump. The system was placed back on line September 12, 2000. On September 29, 2000 the sump pump was replaced. <b>Total lost time 7 days.</b>         |
| OCTOBER   | 31            | 21           | 21333         | 139,283           | 6,633           | 67.74%           | The acid injection is now being tracked using time of injection/(ten minute cycle) instead of the numerical dial setting. Transfer pump failure on 10/20/2000. Stripper back on line 10/30/2000. <b>Total lost time 10 days.</b>                       |
| NOVEMBER  | 30            | 30           | 222110        | 200,777           | 6,693           | 100.00%          | New pump is operating with a pinched discharge to help prevent pump cavitation. <b>No Down Time.</b>                                                                                                                                                   |
| DECEMBER  | 31            | 31           | 415367        | 193,257           | 6,234           | 100.00%          | The stripper was acidized. <b>No Down Time.</b>                                                                                                                                                                                                        |

THE AVERAGE ON STREAM FACTOR  
FOR 2000 WAS 89.62%

TOTAL GALLONS OF WATER PROCESSED IN 2000  
WAS: 2,209,016

Dimensions of the UST are 8' Dia. And 27' long.



**SPILL PREVENTION CONTROL  
AND COUNTERMEASURE PLAN**

710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
~~Field Office: (505) 630-3366~~  
~~Fax: (505) 630-0850~~

Telephone (505) 327-4965  
Facsimile (505) 564-3604

**FACILITY:**  
**THRIFTWAY COMPANY**  
**BLOOMFILED REFINERY**  
**626 COUNTY ROAD 5500**  
**BLOOMFIELD, SAN JUAN COUNTY, NEW MEXICO**

**OWNER:**  
**THRIFTWAY COMPANY**  
**710 E. 20<sup>th</sup> Street**  
**Farmington, NM 87401**

**SEPTEMBER 20, 1998**

**PREPARED BY:**  
**BioTech Remediation, Inc.**  
**710 East 20<sup>th</sup> Street, Suite 400**  
**Farmington, New Mexico**

810/spcc/1998

## I. CERTIFICATION INFORMATION

- A. **FACILITY:** Bloomfield Refinery, Bloomfield, New Mexico
- B. **TYPE OF FACILITY:** Petroleum Refinery. Currently, the process area of the refinery is not in operation, but some of the facility storage tanks, the waste water treatment system and the unload/load locations are in use. The storage tanks and associated unload/load locations are used by Giant Industries for crude oil storage, and the wastewater system is used by Thriftway for stormwater collection and evaporation. Although not in full operation, the most current facility Spill Prevention Control and Countermeasure (SPCC) Plan was prepared and is presented as if the refinery were in full operation.

The Bloomfield Refinery is a crude oil refinery that can process light, sweet San Juan Basin crude oil. Principle processes include crude oil fractionation, naphtha reformation, heavy oil hydrocracking, light naphtha stabilization and C3/C4 fractionation.

Light sweet crude oil can be received from the surrounding oil fields of the San Juan Basin. This crude oil is routed to the Crude Fractionating Plant where it is heated and distilled into light gasoline, heavy gasoline, diesel and fuel oil fractions. The light gasoline is routed to a stabilizer tower and then to storage for subsequent blending. Heavy gasoline is routed to the reformer where it is contacted with platinum catalyst under controlled heat, temperature and pressure conditions.

The reformer causes the long chain paraffins to be catalytically rearranged into cyclic and branched chained hydrocarbons with higher octane characteristics. The reformer product (reformatted) is blended with light gasoline etc., to create gasoline which meets New Mexico State octane requirements.

The fuel oil fraction from the crude unit is routed to the hydrocracking unit and contacted with a cobalt/nickel catalyst where it is fractured or "cracked" into gasoline or diesel range hydrocarbons. A small stream of heavy fuel oil is not "cracked" and is withdrawn as residual fuel oil.

- C. **FACILITY LOCATION:** 626 County Road 5500, Bloomfield, San Juan County, New Mexico

Legal description of facility is SE/4 Section 32, and SW/2, SW/4 Section 33, T29N, R11W and 7.35 acres in the NE/4, NE/4, Section 9, T28N, R11W, NMPM, San Juan County, New Mexico.

**D. NAME AND ADDRESS OF OWNER:**

Thriftway Company  
710 20<sup>th</sup> Street  
Farmington, NM 87401

**E. FACILITY DESCRIPTION:**

The accompanying **Topographic Map** and **Site Plans** indicate the property boundaries, existing fence lines, pit locations, bermed areas, tank locations and groundwater monitoring well locations. Discharge locations, storage facilities, disposal facilities, processing facilities and other relevant areas, including drum storage, have also been noted.

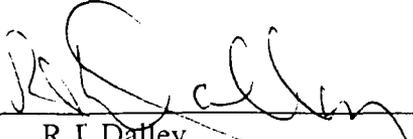
**F. DESIGNATED PERSON RESPONSIBLE FOR SPILL PREVENTION:**

Ross Kennemer  
BioTech Remediation, Inc.  
710 East 20<sup>th</sup> Street, Suite 400  
Farmington, NM 87401  
Phone (505) 327-4965 Fax (505) 564-3604

**G. SPILL HISTORY:** Based on available records, this facility has experienced five spill events.

1. August, 1992 – An unknown quantity of tank bottoms and water was spilled near tank #30.
2. June 4, 1993 - 10,000 gallons of finished gasoline (premium unleaded) was released from the water draw on the finished gasoline tank.
3. November, 1996 – 3,000 gallons of gasoline, diesel, and contaminated water originating from a product recovery system were spilled when a valve on the transport tanker in which the mixture was being stored froze and burst.
4. November, 1995 – approximately 250 gallons of gasoline, diesel, crude oil and water originating from the product recovery system were spilt when a relief valve on an oil water separator malfunctioned.
5. September 12, 1997 – approximately 50 gallons of gasoline, diesel, crude oil, and water originating from a product recovery system were spilled when the UST in which the mixture was being stored flooded with rainwater.

H. **Management Approval:** Management extends Full Approval at a level with authority to commit the necessary resources.

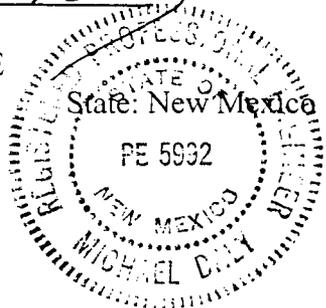
  
R.J. Dalley  
Thriftway Company

I. **CERTIFICATION:** I hereby certify that I am personally familiar with the facility. To the best of my knowledge and belief, this SPCC plan has been prepared in accordance with good engineering practices and pursuant to the provisions of 40 CFR-112.

SIGNATURE 

Name: Michael Daly, PE  
Registration No.: PE-5992

Date: 9-25-98



II. SPCC RESPONSE ACTION LIST

**FACILITY MANAGERS**

Ken Sinks  
Day 505-327-4965

**SPCC COORDINATOR**

Ross Kennemer  
Day 505-327-4965  
Night 505-564-2281

**BLOOMFIELD FIRE  
DEPARTMENT**

Emergency Number 911 or  
505-334-6622

**STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION**

505-827-7131

**STATE OF NEW MEXICO  
ENVIRONMET DEPATMENT**

505-827-2791

**USEPA REGION VI**

1-800-887-6063 or  
1-214-665-7101

**NATIONAL RESPONSE  
CENTER**

1-800-424-8802

**SPCC CONTACT**

Ross Kennemer  
505-327-4965

### III. SPCC PLAN

The location and positioning of this facility is such that if a spill were to occur, the product that had been spilled could possibly reach navigable waters of the United States. Potential spill scenarios and estimated direction of flow are provided below.

| SOURCE                                  | PRODUCT                                             | QUANTITY<br>(gallons) | FLOW<br>DIRECTION |
|-----------------------------------------|-----------------------------------------------------|-----------------------|-------------------|
| Storage Tanks,<br>Vessels, Process Area | Crude Fractions, Gasoline,<br>Diesel, Process Water | -                     | North             |
| Pipelines                               | Crude Fractions, Gasoline,<br>Diesel, Process Water | -                     | North             |

#### A. POTENTIAL FAILURES

1. **TANKS** A failure resulting in a spill could occur from the following:

- Structure seam failure
- Structure fitting failure
- Valve failure
- Structure foundation failure
- Corrosion
- Destructive vandalism
- Periodic water draw-off

2. **PROCESS AREA** A failure resulting in a spill could occur from the following:

- Structure seam failure
- Structure fitting failure
- Valve failure
- Structure foundation failure
- Corrosion
- Destructive vandalism
- Operator error

3. **WASTE WATER  
TREATMENT  
AREA**

A failure resulting in a spill could occur from the following:

- Structure seam failure
- Structure fitting failure
- Valve failure
- Structure foundation failure
- Destructive vandalism
- Operator error

3. **TRANSPORT  
UNLOADING  
AREA**

A failure resulting in a spill could occur from the following:

- Structure seam failure
- Structure fitting failure
- Valve failure
- Structure foundation failure
- Destructive vandalism
- Operator error

B. **SOURCES, QUANTITIES AND QUALITIES OF EFFLUENT AND WASTE SOLIDS**

1. **SOURCES AND QUANTITIES**

a. **SEPARATORS AND STORAGE TANKS (Produced Water)**

Crude oil is received by the refinery containing less than 10% bottom sediment and water. The water separates from the crude oil in the storage tank and is drawn-off as shown in **Sheet A-4**, entitled "**WATER DRAIN SPILL CONTAINMENT SYSTEM**".

The produced water is transported from the receiving tank via vacuum truck to the waste water evaporation pond. The separators in the process area separate the produced water and condensed steam from the hydrocarbon stream. The water is trucked to the waste water separator tank at the evaporation containment lagoons. This stream has averaged 350 gallons per day and has been high in total dissolved solids (TDS),

sodium chloride (NaCl) and hydrocarbons.

**b. Boilers**

The refinery utilizes two small boilers, 100hp and 40hp, to provide steam for stripping, heat tracing, etc. Boiler blow down is routed to the containment lagoons for evaporation. The stream has been estimated to be approximately 125 gallons per day and high in TDS. A phosphate-based boiler treatment compound has been used to prevent boiler system corrosion.

**c. Engine Cooling Waters**

The refinery does not generate engine cooling waters.

**d. Cooling Tower**

A 450 ton per day capacity Marley updraft cooling tower provides process cooling waters for plant operation. Small amounts of biocide and phosphates are used to inhibit corrosion. A small stream is purged to prevent high TDS. This stream has averaged 600 to 800 gallons per day and is high in TDS.

**e. Sewage (No Co-Mingling)**

The refinery has three restroom facilities. Each facility is served by a separate septic tank and leach field. There is no co-mingling of this sewage with other outfall streams.

**f. Other Sources**

Process floor drainage and miscellaneous cleaning activities have contributed an estimated 50 to 100 gallons per day to the process drain system. These wastes can contain hydrocarbons.

**2. QUALITY CHARACTERISTICS OF CO-MINGLED WASTE STREAMS**

All waste water effluent streams are co-mingled within the plant. Waste streams are routed through the process drain system and through an oil/water separator to the evaporation lagoons. The evaporation lagoons are double lined and equipped with leak detection devices to prevent contact with the groundwater. Analysis of the co-mingled stream was performed in 1990 and is included in the appendices. The

samples were collected from the commingled stream and transported to the InterMountain Laboratory facility in Farmington, New Mexico, for analysis as indicated on the accompanying Chain of Custody. Each sample was delivered to the laboratory within two hours of sampling. The stream met WQCC standards for a non-hazardous classification. PCB, pesticide and radioactive element analyses were not performed because PCBs, pesticides and radioactive elements above natural background levels have never been introduced into the refinery.

## C. **TRANSFER AND STORAGE OF PROCESS FLUIDS AND EFFLUENTS**

### 1. **Effluent Flow Schematics**

The Process Oil Collection System is shown on the **Site Plans and Process Oil Collection System Sheet, A-2**. This system is used to prevent hydrocarbon spills during sampling of the process streams or purging of process vessels. Hydrocarbons generated during this process are transported to the crude tank via vacuum truck.

The final source of effluent is the produced water that is entrained in the incoming crude oil or is entrained in the refinery products. Entrained water which breaks out of hydrocarbon fluids upon standing in storage tanks is suppressed by mixers installed on the tanks.

Each crude tank is equipped with a water draw located near the tank bottom. The water is drawn manually and is routed to an underground cement vault or an externally lined steel tank. Any water drawn is then transported via vacuum truck to the oil/water separator prior to being discharged to the waste water evaporation lagoons.

Produced water and/or other fluids collected from the spill collection pad basins around the storage tanks are picked up with a vacuum truck and transported to the oil/water separator prior to the water being released into the evaporation lagoons.

### 2. **Potential Discharge To Surface Or Subsurface**

Fluids which are collected in the steel and cement collection tanks are removed via vacuum truck and transferred to either the oil/water separator or to the crude storage tank.

Except for drain piping, all piping is located above ground on pipe racks where any leak would be immediately visible.

Process areas and load/unload areas are located within concrete pad and berm areas.

While operating, plant personnel inspected the process and storage areas of the refinery on a daily basis. If a leak were to be present it would be noted and immediately addressed.

### **3. UNDERGROUND PIPE LINES**

The only underground pipe lines present at the refinery are those associated with wastewater and spill collection systems. Construction of these lines consist of schedule 40 standard butt weld steel pipe, laid in a sand bed.

The process oil collection system was originally installed in 1980 and was partially replaced with the installation of a steel collection tank in March, 1990.

The current process water system collects all water within the process area. The floor drains are routed directly to the oil/water separator.

### **IV. SPILL/LEAK PREVENTION and SOLID WASTE DISPOSAL**

Any spill that may occur in the process unit would drain to the collection basins and would then be routed to the oil/water separator. Skimmed oil would be routed back to the crude oil tank for reprocessing, and the water is air stripped and then discharged to the double-lined evaporation lagoons.

#### **A. Off-Process Area Spill/Leaks**

Potential spill/leak areas consist of the product transfer lines and storage tanks. Each storage tank is bermed, and process and loading areas are located on curbed concrete pads and are well drained.

When in operation, personnel are assigned to continuously inspect the storage tanks and associated piping. Upon notice of a leak/spill, appropriate actions would immediately be taken to ensure that no further leak/spill would occur, and the problem would be corrected.

If such a leak/spill were greater than 25 gallons, the OCD would be notified within 24 hours or by the next business day.

## V. EFFLUENT DISPOSAL

### A. On-Site Operations

#### 1. On-Site Facilities

Fluids are collected from the process area through a system of catch basins located in the process unit floors. Following catchment, fluids are routed to the oil/water separator where separated oil is transferred back to the crude storage tank.

Produced water separated from the storage tanks is routed to the influent of the oil/water separator where it is co-mingled with the process water stream.

Underflow effluent water is routed to a double-lined evaporation lagoon system, as indicated on the **Process Water System Layout Sheet A-1**.

The lagoons are sized with an engineering safety factor of two and consist of a primary liner of 35 mil polyester reinforced XR-5 resin which is resistant to both hydrocarbons and damage from the sun. The secondary liner consist of 35 mil oil resistant PVC. The liners are separated with 100 mil oil resistant Geotextile felt liners which provide an easy transport of any liquid to the leak detection laterals.

The containment berms route storm runoff away from the lagoons. The inside slope of the berm sides is 1:2 and the outside is 1:3. The lagoon has a total elevation of six-foot and is operated with a minimum of two-foot freeboard.

The lagoon system design is indicated in the **Lagoon Profile Sheet A-3** and the **Process Oil Collection System Sheet A-2**.

No other method of disposal is undertaken at the refinery site.

#### 2. Other Discharge(s) to Groundwater

This plan has been developed to allow positive containment of both hydrocarbons and operational effluents and to prevent any discharge to contact the groundwater.

Groundwater north of the lagoon system has been impacted by hydrocarbons. A pump and treat remediation system has been installed to contain the contamination and to prevent off-site migration. A free phase product recovery program has been implemented and is active. Attached is the latest Annual Groundwater Monitoring Report. This report summarizes the residual groundwater contamination present at the subject site to date.

### **3. Off Site Disposal**

No off site disposal of effluent or sludge has occurred.

## **B. PROPOSED MODIFICATIONS**

There are no proposed modifications.

## **VI. SITE CHARACTERISTICS**

### **A. Hydrologic Features**

The Kutz Canyon Wash borders the discharge site on the north proper boundary. The wash drains to the northwest, feeding the San Juan River which is approximately 1.9 miles down gradient of the site. The Kutz wash is ephemeral and runs only during occasions of excessive storm runoff. An additional small arroyo, on the east property boundary, drains north to the Kutz Wash.

The Ojo Alamo is the uppermost aquifer at the site. Groundwater quality studies conducted at the discharge site report the groundwater contains high TDS and sulfides, rendering the water useless for process or domestic purposes.

### **B. Geologic Description of Discharge Site**

The discharge site is situated in the San Juan Basin of the Colorado Plateau. The basin is a structural depression containing deep Tertiary fill, covering rocks of the Late Cretaceous age. The local geomorphology is generally classified as alluvial fan and flood plains in the San Juan River drainage. Site soils consist of silty light brown fine to medium grain sands extending to at least 14-feet below the ground surface.

### **C. Flood Protection**

The Kutz Wash serves as a channel for storm runoff. Any flood waters would be routed away from the discharge site via the wash.

All storage tanks are diked and the evaporation lagoons are bermed.

## VII. SPCC PLAN IMPLEMENTATION

1. **Facility Personnel Training-** When operating, all facility personnel will be briefed on the SPCC plan and will be expected to be familiar with spill prevention practices. Currently, the SPCC Coordinator, SPCC Contact, and Facility Managers are familiar with the SPCC plan and visit the facility on a regular basis. In the event a spill does occur, facility personnel will be aware of the necessary actions to be taken and what contacts must be made. The manager of the facility will discuss the contents of the SPCC Plan with other facility employees on a frequent basis. The manager of the facility is responsible for and expected to train other facility employees in spill prevention practices. Annual briefings are scheduled to refresh employee awareness of spill prevention and clean up.
2. **Spill Response -** In the event of a spill:
  - a. Take immediate action to contain the spill, utilizing sorbent material or earthen berms.
  - b. The SPCC Coordinator will immediately notify the following:
    - Fire Department 911 or (505) 334-6622
    - EPA (24 hours) (800) 887-6063
    - State Environ. Dept. (505) 827-2782
  - c. The SPCC Coordinator will notify the owner, once the contacts listed above are made.
  - d. In the event that the spill exceeds the capabilities of facility personnel present at the scene, additional personnel will be dispatched.
8. **Amendments-** This SPCC Plan will be amended in the event of a change facility design. A review of the SPCC Plan will be conducted at least every three years. Minor changes shall be attached to the original plan.
9. **Facility Records-** When operating, the following records are maintained at the facility or will be provided upon request:
  - a. Pollution Prevention Plan
  - b. Spill Event Record
  - c. SPCC Plan and Review Record
  - d. Groundwater Discharge Plan

**VII. ADDITIONAL INFORMATION**

This SPCC Plan is designed to prevent spills at the facility, and if unpreventable, to properly contain the spill. The Thriftway Refinery is a zero discharge facility.

TABLE 1  
THRIFTWAY REFINERY  
SUMMARY OF GROUNDWATER MONITOR DATA

| Well #               | Date     | TOC elev | A/O   | O/W   | Product | Prod Elev | ater Elev | df WL Ele | Accum Pro | Deg. C | pH   | DO mg/l | Seimen/m | TDS  | ORP | NTU's | % Salinity | Purged | DEPTH |    |
|----------------------|----------|----------|-------|-------|---------|-----------|-----------|-----------|-----------|--------|------|---------|----------|------|-----|-------|------------|--------|-------|----|
| 8" rec well<br>MW-01 | 09/23/98 | NM       | NM    | NM    | NM      | NM        | NM        | NM        | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 10/07/96 | 5449.08  | 15.68 | 15.68 | 0.00    | 5433.40   | 5433.40   | 5433.40   | 1.66      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 12/31/96 | 5449.08  | 15.62 | 15.62 | 0.00    | 5433.46   | 5433.46   | 5433.46   | 1.66      | NM     | NM   | 1.90    | 4.73     | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 03/19/97 | 5449.08  | 15.65 | 15.65 | 0.00    | 5433.43   | 5433.43   | 5433.43   | 1.66      | NM     | NM   | NM      | 4.70     | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 06/18/97 | 5449.08  | 15.37 | 15.37 | 0.00    | 5433.71   | 5433.71   | 5433.71   | 1.66      | NM     | NM   | 0.18    | 4.67     | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 09/24/97 | 5449.08  | 15.08 | 15.08 | 0.00    | 5434.00   | 5434.00   | 5434.00   | 1.66      | NM     | NM   | 0.06    | 4.59     | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 12/23/97 | 5449.08  | 15.08 | 15.08 | 0.00    | 5434.00   | 5434.00   | 5434.00   | 1.66      | NM     | NM   | NM      | 4.63     | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 04/08/98 | 5449.08  | 14.72 | 14.72 | 0.00    | 5434.36   | 5434.36   | 5434.36   | 1.66      | NM     | NM   | 0.11    | 4.62     | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 06/24/98 | 5449.08  | 14.97 | 14.97 | 0.00    | 5434.11   | 5434.11   | 5434.11   | 1.66      | NM     | 7.35 | 0.22    | 4.99     | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 09/23/98 | 5449.08  | 15.52 | 15.52 | 0.00    | 5433.56   | 5433.56   | 5433.56   | 1.66      | 16.6   | 7.10 | 0.18    | 4.53     | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 12/30/98 | 5449.08  | 15.00 | 15.00 | 0.00    | 5434.08   | 5434.08   | 5434.08   | 1.66      | 15.0   | 7.10 | 0.28    | 4.99     | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 04/14/99 | 5449.08  | 14.75 | 14.75 | 0.00    | 5434.33   | 5434.33   | 5434.33   | 1.66      | 15.0   | 7.00 | 0.42    | 4.46     | 2.24 | NM  | NM    | NM         | NM     | NM    |    |
|                      | 06/03/99 | 5449.08  | 14.39 | 14.39 | 0.00    | 5434.69   | 5434.69   | 5434.69   | 1.66      | 15.5   | 7.20 | 0.20    | 4.30     | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 09/09/99 | 5449.08  | 14.37 | 14.37 | 0.00    | 5434.71   | 5434.71   | 5434.71   | 1.66      | NM     | 7.60 | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
|                      | 12/30/99 | 5449.08  | 14.23 | 14.23 | 0.00    | 5434.85   | 5434.85   | 5434.85   | 1.66      | NM     | 7.00 | NM      | NM       | NM   | NM  | NM    | NM         | NM     | 3.50  | NM |
|                      | 04/05/00 | 5449.08  | 13.80 | 13.80 | 0.00    | 5435.28   | 5435.28   | 5435.28   | 1.66      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 06/08/00             | 5449.08  | 13.72    | 13.72 | 0.00  | 5435.36 | 5435.36   | 5435.36   | 1.66      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/07/00             | 5449.08  | 14.47    | 14.47 | 0.00  | 5434.61 | 5434.61   | 5434.61   | 1.66      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/11/00             | 5449.08  | 14.44    | 14.44 | 0.00  | 5434.64 | 5434.64   | 5434.64   | 1.66      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 10/09/96             | 5442.65  | 12.16    | 13.50 | 1.34  | 5430.49 | 5429.15   | 5430.09   | 0.20      | 15.0      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/30/96             | 5442.65  | 12.35    | 12.54 | 0.19  | 5430.30 | 5430.11   | 5430.24   | 0.35      | 15.0      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 03/17/97             | 5442.65  | 12.18    | 12.37 | 0.19  | 5430.47 | 5430.28   | 5430.41   | 0.37      | 15.0      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/18/97             | 5442.65  | 12.11    | 12.14 | 0.03  | 5430.54 | 5430.51   | 5430.53   | 0.43      | 15.0      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/24/97             | 5442.65  | 11.86    | 11.98 | 0.12  | 5430.79 | 5430.67   | 5430.75   | 0.43      | 15.0      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/18/97             | 5442.65  | 11.64    | 11.69 | 0.05  | 5431.01 | 5430.96   | 5431.00   | 0.43      | 15.0      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/29/98             | 5442.65  | 11.75    | 11.77 | 0.02  | 5430.90 | 5430.88   | 5430.89   | 0.44      | 15.0      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/22/98             | 5442.65  | 11.74    | 11.78 | 0.04  | 5430.91 | 5430.87   | 5430.90   | 0.45      | 15.0      | 7.35   | NM   | 3.48    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/23/98             | 5442.65  | 12.04    | 12.04 | 0.00  | 5430.61 | 5430.61   | 5430.61   | 0.45      | 16.8      | 7.00   | 0.15 | 3.32    | NM       | NM   | NM  | NM    | NM         | NM     |       |    |
| 12/30/98             | 5442.65  | 11.60    | 11.61 | 0.01  | 5431.05 | 5431.04   | 5431.05   | 0.45      | 16.8      | 7.00   | 0.15 | 3.32    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/14/99             | 5442.65  | 11.59    | 11.60 | 0.01  | 5431.06 | 5431.05   | 5431.06   | 0.45      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/03/99             | 5442.65  | 11.54    | 11.54 | 0.00  | 5431.11 | 5431.11   | 5431.11   | 0.45      | NM        | 7.60   | NM   | 3.00    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/09/99             | 5442.65  | 11.31    | 11.32 | 0.01  | 5431.34 | 5431.33   | 5431.34   | 0.45      | NM        | 7.00   | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/30/99             | 5442.65  | 11.40    | 11.40 | 0.00  | 5431.25 | 5431.25   | 5431.25   | 0.45      | NM        | 7.00   | NM   | NM      | NM       | NM   | NM  | NM    | NM         | 4.75   | NM    |    |
| 04/05/00             | 5442.65  | 11.32    | 11.32 | 0.00  | 5431.33 | 5431.33   | 5431.33   | 0.45      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/16/00             | 5442.65  | 12.14    | 12.14 | 0.00  | 5430.51 | 5430.51   | 5430.51   | 0.45      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/07/00             | 5442.65  | 11.40    | 11.40 | 0.00  | 5431.25 | 5431.25   | 5431.25   | 0.45      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/11/00             | 5442.65  | 11.60    | 11.60 | 0.00  | 5431.05 | 5431.05   | 5431.05   | 0.45      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 10/09/96             | 5431.43  | 5.17     | 5.17  | 0.00  | 5426.26 | 5426.26   | 5426.26   | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/31/96             | 5431.43  | 4.60     | 4.72  | 0.12  | 5426.83 | 5426.71   | 5426.79   | 0.01      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 03/17/97             | 5431.43  | 3.44     | 3.44  | 0.00  | 5427.99 | 5427.99   | 5427.99   | 0.01      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/18/97             | 5431.43  | 3.38     | 3.38  | 0.00  | 5428.05 | 5428.05   | 5428.05   | 0.01      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/29/97             | 5431.43  | 5.15     | 5.18  | 0.03  | 5426.28 | 5426.25   | 5426.27   | 0.02      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/18/97             | 5431.43  | 3.42     | 3.42  | 0.00  | 5428.01 | 5428.01   | 5428.01   | 0.02      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/29/98             | 5431.43  | 4.47     | 4.47  | 0.00  | 5426.96 | 5426.96   | 5426.96   | 0.02      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/24/98             | 5431.43  | 4.30     | 4.30  | 0.00  | 5427.13 | 5427.13   | 5427.13   | 0.02      | NM        | 7.16   | 0.09 | 6.08    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/22/98             | 5431.43  | NM       | NM    | NM    | NM      | NM        | NM        | NM        | 0.02      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/30/98             | 5431.43  | 3.57     | 3.57  | 0.00  | 5427.86 | 5427.86   | 5427.86   | 0.02      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |

**TABLE 1**  
**THRIFTWAY REFINERY**  
**SUMMARY OF GROUNDWATER MONITOR DATA**

| Well #                                                                         | Date     | TOC elev | A/O  | O/W  | Product | Prod Elev | ater Ele | dj WL Ele | Accum Pro | Deg. C | pH   | DO mg/l | Seimen/m | TDS  | ORP | NTU's | % Salinity | Purged | DEPTH |    |
|--------------------------------------------------------------------------------|----------|----------|------|------|---------|-----------|----------|-----------|-----------|--------|------|---------|----------|------|-----|-------|------------|--------|-------|----|
| MW-04                                                                          | 04/13/99 | 5431.43  | 5.08 | 5.08 | 0.00    | 5426.35   | 5426.35  | 5426.35   | 0.02      | 12.1   | 7.10 | 0.37    | 4.63     | 2.37 | NM  | NM    | NM         | NM     | NM    |    |
|                                                                                | 06/03/99 | 5431.43  | NM   | NM   | NM      | NM        | NM       | NM        | 0.02      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 04/05/00 | 5431.43  | 5.16 | 5.16 | 0.00    | 5426.27   | 5426.27  | 5426.27   | 0.02      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 06/08/00 | 5431.43  | 5.29 | 5.29 | 0.00    | 5426.14   | 5426.14  | 5426.14   | 0.02      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 09/07/00 | 5431.43  | 5.16 | 5.20 | 0.04    | 5426.27   | 5426.23  | 5426.26   | 0.02      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 12/11/00 | 5431.43  | 5.42 | 5.71 | 0.29    | 5426.01   | 5425.72  | 5425.92   | 0.02      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 12/31/96 | 5430.12  | 5.18 | 5.18 | 0.00    | 5424.94   | 5424.94  | 5424.94   | 0.00      | NM     | NM   | 2.70    | 4.27     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 03/19/97 | 5430.12  | 4.29 | 4.29 | 0.00    | 5425.83   | 5425.83  | 5425.83   | 0.00      | NM     | NM   | NM      | 4.45     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 06/17/97 | 5430.12  | 4.08 | 4.08 | 0.00    | 5426.04   | 5426.04  | 5426.04   | 0.00      | NM     | NM   | 0.08    | 5.15     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 09/24/97 | 5430.12  | 4.19 | 4.19 | 0.00    | 5425.93   | 5425.93  | 5425.93   | 0.00      | NM     | NM   | 0.19    | 4.17     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 12/22/97 | 5430.12  | 4.31 | 4.31 | 0.00    | 5425.81   | 5425.81  | 5425.81   | 0.00      | NM     | NM   | 0.13    | 3.26     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 04/29/98 |          |      |      |         |           |          |           |           |        |      |         |          |      |     |       |            |        |       |    |
| WELL DESTROYED                                                                 |          |          |      |      |         |           |          |           |           |        |      |         |          |      |     |       |            |        |       |    |
| WELL LOCATED IT WILL BE SAMPLED THE NEXT QUARTERLY SAMPLING EVENT IN JUNE 2000 |          |          |      |      |         |           |          |           |           |        |      |         |          |      |     |       |            |        |       |    |
| MW-05                                                                          | 04/17/00 |          |      |      |         |           |          |           |           |        |      |         |          |      |     |       |            |        |       |    |
|                                                                                | 06/08/00 | 5430.12  | 5.04 | 5.04 | 0.00    | 5425.08   | 5425.08  | 5425.08   | 0.00      | 15.7   | NM   | 0.09    | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 09/05/00 | 5430.12  | 5.40 | 5.40 | 0.00    | 5424.72   | 5424.72  | 5424.72   | 0.00      | 20.6   | NM   | 0.25    | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 12/06/00 | 5430.12  | 5.31 | 5.31 | 0.00    | 5424.81   | 5424.81  | 5424.81   | 0.00      | 20.6   | NM   | 0.25    | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 10/09/96 | 5428.97  | 5.55 | 5.55 | 0.00    | 5423.42   | 5423.42  | 5423.42   | 0.00      | NM     | NM   | NM      | 3.26     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 12/31/96 | 5428.97  | 5.19 | 5.19 | 0.00    | 5423.78   | 5423.78  | 5423.78   | 0.00      | NM     | NM   | 1.90    | 3.26     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 03/19/97 | 5428.97  | 4.63 | 4.63 | 0.00    | 5424.34   | 5424.34  | 5424.34   | 0.00      | NM     | NM   | NM      | 3.26     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 06/17/97 | 5428.97  | 4.41 | 4.41 | 0.00    | 5424.56   | 5424.56  | 5424.56   | 0.00      | NM     | NM   | 0.30    | 3.26     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 09/24/97 | 5428.97  | 3.77 | 3.77 | 0.00    | 5425.20   | 5425.20  | 5425.20   | 0.00      | NM     | NM   | 0.09    | 3.26     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 12/19/97 | 5428.97  | 4.37 | 4.37 | 0.00    | 5424.60   | 5424.60  | 5424.60   | 0.00      | NM     | NM   | 0.06    | 3.26     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 04/12/98 | 5428.97  | 4.47 | 4.47 | 0.00    | 5424.50   | 5424.50  | 5424.50   | 0.00      | NM     | NM   | 0.07    | 3.26     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                                                | 06/24/98 | 5428.97  | 4.78 | 4.78 | 0.00    | 5424.19   | 5424.19  | 5424.19   | 0.00      | NM     | 8.56 | 0.09    | 3.26     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 09/24/98                                                                       | 5428.97  | 5.22     | 5.22 | 0.00 | 5423.75 | 5423.75   | 5423.75  | 0.00      | 19.9      | 8.00   | 0.09 | 3.26    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/29/98                                                                       | 5428.97  | 4.11     | 4.11 | 0.00 | 5424.86 | 5424.86   | 5424.86  | 0.00      | 13.4      | 8.10   | 0.12 | 3.26    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/12/99                                                                       | 5428.97  | 4.19     | 4.19 | 0.00 | 5424.78 | 5424.78   | 5424.78  | 0.00      | 12.9      | 8.20   | 0.10 | 5.63    | 2.83     | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/02/99                                                                       | 5428.97  | 4.45     | 4.45 | 0.00 | 5424.52 | 5424.52   | 5424.52  | 0.00      | 13.6      | 8.20   | 0.13 | 1.00    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/08/99                                                                       | 5428.97  | 4.52     | 4.52 | 0.00 | 5424.45 | 5424.45   | 5424.45  | 0.00      | 13.5      | 8.00   | 0.27 | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/29/99                                                                       | 5428.97  | 4.82     | 4.82 | 0.00 | 5424.15 | 5424.15   | 5424.15  | 0.00      | 11.4      | NM     | 0.40 | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/03/00                                                                       | 5428.97  | 4.48     | 4.48 | 0.00 | 5424.49 | 5424.49   | 5424.49  | 0.00      | 14.5      | 8.60   | 0.08 | 1.40    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/08/00                                                                       | 5428.97  | 4.82     | 4.82 | 0.00 | 5424.15 | 5424.15   | 5424.15  | 0.00      | 17.3      | NM     | 0.17 | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/05/00                                                                       | 5428.97  | 5.30     | 5.30 | 0.00 | 5423.67 | 5423.67   | 5423.67  | 0.00      | 17.3      | NM     | 0.17 | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/06/00                                                                       | 5428.97  | 5.10     | 5.10 | 0.00 | 5423.87 | 5423.87   | 5423.87  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 10/09/96                                                                       | 5430.70  | 5.28     | 5.28 | 0.00 | 5425.42 | 5425.42   | 5425.42  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/31/96                                                                       | 5430.70  | 4.65     | 4.65 | 0.00 | 5426.05 | 5426.05   | 5426.05  | 0.00      | NM        | NM     | 4.70 | 4.07    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 03/19/97                                                                       | 5430.70  | 3.65     | 3.65 | 0.00 | 5427.05 | 5427.05   | 5427.05  | 0.00      | NM        | NM     | 1.71 | 4.25    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/17/97                                                                       | 5430.70  | 3.62     | 3.62 | 0.00 | 5427.08 | 5427.08   | 5427.08  | 0.00      | NM        | NM     | 0.21 | 4.10    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/24/97                                                                       | 5430.70  | 4.58     | 4.58 | 0.00 | 5426.12 | 5426.12   | 5426.12  | 0.00      | NM        | NM     | 0.14 | 4.10    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/19/97                                                                       | 5430.70  | 4.23     | 4.23 | 0.00 | 5426.47 | 5426.47   | 5426.47  | 0.00      | NM        | NM     | 0.14 | 3.87    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/27/98                                                                       | 5430.70  | 1.14     | 1.14 | 0.00 | 5429.56 | 5429.56   | 5429.56  | 0.00      | NM        | NM     | 0.12 | 3.99    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/24/98                                                                       | 5430.70  | 4.53     | 4.53 | 0.00 | 5426.17 | 5426.17   | 5426.17  | 0.00      | 18.8      | 7.30   | 0.19 | 3.84    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/22/98                                                                       | 5430.70  | 4.55     | 4.55 | 0.00 | 5426.15 | 5426.15   | 5426.15  | 0.00      | 13.5      | 7.60   | 0.62 | 3.65    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/30/98                                                                       | 5430.70  | 3.72     | 3.72 | 0.00 | 5426.98 | 5426.98   | 5426.98  | 0.00      | 12.6      | 7.60   | 0.35 | 3.60    | 1.81     | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/13/99                                                                       | 5430.70  | 4.67     | 4.67 | 0.00 | 5426.03 | 5426.03   | 5426.03  | 0.00      | 13.9      | 7.80   | 0.12 | 3.30    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/03/99                                                                       | 5430.70  | 4.92     | 4.92 | 0.00 | 5425.78 | 5425.78   | 5425.78  | 0.00      | NM        | 7.60   | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/09/99                                                                       | 5430.70  | 4.62     | 4.62 | 0.00 | 5426.08 | 5426.08   | 5426.08  | 0.00      | NM        | 7.60   | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |

TABLE 1  
THRIFTWAY REFINERY  
SUMMARY OF GROUNDWATER MONITOR DATA

| Well #                                                    | Date     | TOC elev  | A/O  | O/W  | Product | Prod Elev | ater Ele | dj WL Ele | Accum Pro | Deg. C | pH   | DO mg/l | Seimen/m | TDS  | ORP | NTU's | % Salinity | Purged | DEPTH |    |
|-----------------------------------------------------------|----------|-----------|------|------|---------|-----------|----------|-----------|-----------|--------|------|---------|----------|------|-----|-------|------------|--------|-------|----|
| MW-07                                                     | 12/29/99 | 5430.70   | 5.09 | 5.09 | 0.00    | 5425.61   | 5425.61  | 5425.61   | 0.00      | 13.2   | 7.10 | 2.07    | NM       | NM   | NM  | NM    | NM         | 5.75   | NM    |    |
|                                                           | 04/03/00 | 5430.70   | 4.69 | 4.69 | 0.00    | 5426.01   | 5426.01  | 5426.01   | 0.00      | 12.3   | NM   | 1.04    | NM       | NM   | NM  | NM    | NM         | 4.50   | NM    |    |
|                                                           | 06/08/00 | 5430.70   | 5.18 | 5.18 | 0.00    | 5425.52   | 5425.52  | 5425.52   | 0.00      | 15.1   | 7.60 | 0.21    | 3.60     | NM   | NM  | NM    | NM         | 4.50   | NM    |    |
|                                                           | 09/05/00 | 5430.70   | 5.26 | 5.26 | 0.00    | 5425.44   | 5425.44  | 5425.44   | 0.00      | 20.1   | NM   | 0.25    | NM       | NM   | NM  | NM    | NM         | 3.50   | NM    |    |
|                                                           | 12/06/00 | 5430.70   | 5.20 | 5.20 | 0.00    | 5425.50   | 5425.50  | 5425.50   | 0.00      | 20.1   | NM   | 0.25    | NM       | NM   | NM  | NM    | NM         | 6.50   | NM    |    |
|                                                           | 10/07/96 | 5434.34   | 8.59 | 8.50 | 0.21    | 5426.05   | 5425.84  | 5425.99   | 0.27      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                           | 12/30/96 | 5434.34   | 7.54 | 7.54 | 0.00    | 5426.80   | 5426.80  | 5426.80   | 0.27      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                           | 03/19/97 | 5434.34   | 6.55 | 6.55 | 0.00    | 5427.79   | 5427.79  | 5427.79   | 0.27      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                           | 06/18/97 | 5434.34   | 6.47 | 6.47 | 0.00    | 5427.87   | 5427.87  | 5427.87   | 0.27      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|                                                           | 09/29/97 | 5434.34   | 8.01 | 8.01 | 0.00    | 5426.33   | 5426.33  | 5426.33   | 0.27      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 12/18/97                                                  | 5434.34  | 6.61      | 6.61 | 0.00 | 5427.73 | 5427.73   | 5427.73  | 0.27      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/29/98                                                  | 5434.34  | 7.65      | 7.65 | 0.00 | 5426.69 | 5426.69   | 5426.69  | 0.27      | NM        | NM     | 0.01 | 4.70    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/24/98                                                  | 5434.34  | 7.54      | 7.54 | 0.00 | 5426.80 | 5426.80   | 5426.80  | 0.27      | NM        | 7.51   | 0.14 | 4.77    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/23/98                                                  | 5434.34  | 7.52      | 7.53 | 0.01 | 5426.82 | 5426.81   | 5426.82  | 0.27      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/30/98                                                  | 5434.34  | 6.57      | 6.57 | 0.00 | 5427.77 | 5427.77   | 5427.77  | 0.27      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/14/99                                                  | 5434.34  | 7.98      | 7.98 | 0.00 | 5426.36 | 5426.36   | 5426.36  | 0.27      | NM        | 7.40   | NM   | 5.22    | NM       | 2.63 | NM  | NM    | NM         | NM     | NM    |    |
| 06/03/99                                                  | 5434.34  | 8.05      | 8.07 | 0.02 | 5426.29 | 5426.27   | 5426.28  | 0.28      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/09/99                                                  | 5434.34  | 8.03      | 8.08 | 0.05 | 5426.31 | 5426.26   | 5426.30  | 0.30      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | 2.50   | NM    |    |
| 12/30/99                                                  | 5434.34  | 8.05      | 8.05 | 0.00 | 5426.29 | 5426.29   | 5426.29  | 0.30      | NM        | NM     | 7.10 | NM      | NM       | NM   | NM  | NM    | NM         | 5.00   | NM    |    |
| 04/05/00                                                  | 5434.34  | 7.71      | 7.71 | 0.00 | 5426.63 | 5426.63   | 5426.63  | 0.30      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | 5.00   | NM    |    |
| 06/08/00                                                  | 5435.28  | 8.06      | 8.06 | 0.00 | 5427.22 | 5427.22   | 5427.22  | 0.30      | 15.0      | 7.50   | 0.09 | 5.50    | NM       | NM   | NM  | NM    | NM         | 5.00   | NM    |    |
| 09/07/00                                                  | 5435.28  | 8.99      | 8.99 | 0.00 | 5426.29 | 5426.29   | 5426.29  | 0.30      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/11/00                                                  | 5435.28  | 9.11      | 9.11 | 0.00 | 5426.17 | 5426.17   | 5426.17  | 0.30      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 10/08/96                                                  | 5432.09  | Silted in |      |      | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/31/96                                                  | 5432.09  | 3.14      | 3.14 | 0.00 | 5428.95 | 5428.95   | 5428.95  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 03/18/97                                                  | 5432.09  | 2.93      | 2.93 | 0.00 | 5429.16 | 5429.16   | 5429.16  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/16/97                                                  | 5432.09  | 3.00      | 3.00 | 0.00 | 5429.09 | 5429.09   | 5429.09  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/25/97                                                  | 5432.09  | 2.68      | 2.68 | 0.00 | 5429.41 | 5429.41   | 5429.41  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/22/97                                                  | 5432.09  | 3.15      | 3.15 | 0.00 | 5428.94 | 5428.94   | 5428.94  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/28/98                                                  | 5432.09  | 3.27      | 3.27 | 0.00 | 5428.82 | 5428.82   | 5428.82  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/23/98                                                  | 5432.09  | DRY       | DRY  | NM   | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/22/98                                                  | 5432.09  | DRY       | DRY  | NM   | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/29/98                                                  | 5432.09  | SILTED IN |      |      | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| WELL CLEANED. IT WILL BE SAMPLED IN JUNE 2000. TOC RAISED |          |           |      |      |         |           |          |           |           |        |      |         |          |      |     |       |            |        |       |    |
| 04/17/00                                                  |          |           |      |      |         | 5428.93   | 5428.93  | 5428.93   | 0.00      | 12.8   | 7.40 | 0.07    | 5.00     | NM   | NM  | NM    | NM         | 6.00   | NM    |    |
| 06/08/00                                                  | 5433.04  | 4.11      | 4.11 | 0.00 | 5428.82 | 5428.82   | 5428.82  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | 2.00   | NM    |    |
| 09/06/00                                                  | 5433.04  | 4.22      | 4.22 | 0.00 | 5428.87 | 5428.87   | 5428.87  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | 4.50   | NM    |    |
| 12/07/00                                                  | 5433.04  | 4.17      | 4.17 | 0.00 | 5428.87 | 5428.87   | 5428.87  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | 4.50   | NM    |    |
| 10/08/96                                                  | 5435.19  | 4.25      | 4.25 | 0.00 | 5430.94 | 5430.94   | 5430.94  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/31/96                                                  | 5435.19  | 4.10      | 4.10 | 0.00 | 5431.09 | 5431.09   | 5431.09  | 0.00      | NM        | NM     | NM   | 6.40    | 7.51     | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 03/18/97                                                  | 5435.19  | 4.17      | 4.17 | 0.00 | 5431.02 | 5431.02   | 5431.02  | 0.00      | NM        | NM     | NM   | 1.85    | 7.27     | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/16/97                                                  | 5435.19  | 4.27      | 4.27 | 0.00 | 5430.92 | 5430.92   | 5430.92  | 0.00      | NM        | NM     | NM   | 1.85    | 7.45     | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/25/97                                                  | 5435.19  | 3.68      | 3.68 | 0.00 | 5431.51 | 5431.51   | 5431.51  | 0.00      | NM        | NM     | 2.02 | 8.49    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/22/97                                                  | 5435.19  | 4.05      | 4.05 | 0.00 | 5431.14 | 5431.14   | 5431.14  | 0.00      | NM        | NM     | 1.00 | 7.15    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/28/98                                                  | 5435.19  | 4.28      | 4.28 | 0.00 | 5430.91 | 5430.91   | 5430.91  | 0.00      | NM        | NM     | 0.88 | 7.45    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/23/98                                                  | 5435.19  | 4.53      | 4.53 | 0.00 | 5430.66 | 5430.66   | 5430.66  | 0.00      | NM        | NM     | 0.19 | 7.32    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/22/98                                                  | 5435.19  | 4.55      | 4.55 | 0.00 | 5430.64 | 5430.64   | 5430.64  | 0.00      | 17.1      | 7.40   | 0.18 | 7.15    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/29/98                                                  | 5435.19  | 3.75      | 3.75 | 0.00 | 5431.44 | 5431.44   | 5431.44  | 0.00      | 11.9      | 7.60   | 4.45 | 7.84    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |

TABLE 1  
THRIFTWAY REFINERY  
SUMMARY OF GROUNDWATER MONITOR DATA

| Well #   | Date     | TOC elev | A/O   | O/W  | Product | Prod Elev | ater Ele | djWL Ele | Accum Pro | Deg. C | pH    | DO mg/l | Seimen/m | TDS  | ORP | NTU's | % Salinity | Purged | DEPTH |    |
|----------|----------|----------|-------|------|---------|-----------|----------|----------|-----------|--------|-------|---------|----------|------|-----|-------|------------|--------|-------|----|
| MW-10    | 04/12/99 | 5435.19  | 3.94  | 3.94 | 0.00    | 5431.25   | 5431.25  | 5431.25  | 0.00      | 10.8   | 7.70  | 0.20    | 7.37     | 3.36 | NM  | NM    | NM         | NM     | NM    |    |
|          | 06/02/99 | 5435.19  | 4.05  | 4.05 | 0.00    | 5431.14   | 5431.14  | 5431.14  | 0.00      | 13.1   | 7.80  | 0.30    | 6.60     | NM   | NM  | NM    | NM         | NM     | NM    |    |
|          | 09/07/99 | 5435.19  | 4.10  | 4.10 | 0.00    | 5431.09   | 5431.09  | 5431.09  | 0.00      | 16.6   | 7.20  | 0.37    | 4.67     | 2.34 | NM  | NM    | NM         | NM     | NM    |    |
|          | 12/28/99 | 5435.19  | 3.77  | 3.77 | 0.00    | 5431.42   | 5431.42  | 5431.42  | 0.00      | NM     | 7.30  | NM      | NM       | NM   | NM  | NM    | NM         | NM     | 4.25  | NM |
|          | 04/04/00 | 5435.19  | 3.70  | 3.70 | 0.00    | 5431.49   | 5431.49  | 5431.49  | 0.00      | 10.7   | NM    | 3.08    | NM       | NM   | NM  | NM    | NM         | NM     | 3.75  | NM |
|          | 06/08/00 | 5436.69  | 5.56  | 5.56 | 0.00    | 5431.13   | 5431.13  | 5431.13  | 0.00      | 13.2   | 7.60  | 0.16    | 7.40     | NM   | NM  | NM    | NM         | NM     | 3.50  | NM |
|          | 09/05/00 | 5436.69  | 5.42  | 5.42 | 0.00    | 5431.27   | 5431.27  | 5431.27  | 0.00      | 17.5   | NM    | 0.28    | NM       | NM   | NM  | NM    | NM         | NM     | 2.00  | NM |
|          | 12/07/00 | 5436.69  | 5.31  | 5.31 | 0.00    | 5431.38   | 5431.38  | 5431.38  | 0.00      | 17.5   | NM    | 0.28    | NM       | NM   | NM  | NM    | NM         | NM     | 5.00  | NM |
|          | 10/08/96 | 5436.56  | 4.21  | 4.21 | 0.00    | 5432.35   | 5432.35  | 5432.35  | 0.00      | NM     | NM    | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|          | 12/31/96 | 5436.56  | 4.01  | 4.01 | 0.00    | 5432.55   | 5432.55  | 5432.55  | 0.00      | NM     | NM    | 3.90    | NM       | 7.48 | NM  | NM    | NM         | NM     | NM    | NM |
|          | 03/18/97 | 5436.56  | 4.09  | 4.09 | 0.00    | 5432.47   | 5432.47  | 5432.47  | 0.00      | NM     | NM    | NM      | 7.46     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
|          | 06/16/97 | 5436.56  | 4.10  | 4.10 | 0.00    | 5432.46   | 5432.46  | 5432.46  | 0.00      | NM     | NM    | 0.69    | 7.45     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 09/25/97 | 5436.56  | 3.81     | 3.81  | 0.00 | 5432.75 | 5432.75   | 5432.75  | 0.00     | NM        | NM     | 11.15 | 7.41    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/22/97 | 5436.56  | 3.98     | 3.98  | 0.00 | 5432.58 | 5432.58   | 5432.58  | 0.00     | NM        | NM     | 0.61  | 7.17    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/28/98 | 5436.56  | 4.24     | 4.24  | 0.00 | 5432.32 | 5432.32   | 5432.32  | 0.00     | NM        | NM     | 0.22  | 7.34    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/23/98 | 5436.56  | 4.49     | 4.49  | 0.00 | 5432.07 | 5432.07   | 5432.07  | 0.00     | NM        | 7.48   | 0.16  | 7.24    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/22/98 | 5436.56  | 4.54     | 4.54  | 0.00 | 5432.02 | 5432.02   | 5432.02  | 0.00     | 17.4      | 7.40   | 0.16  | 7.15    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/29/98 | 5436.56  | 3.84     | 3.84  | 0.00 | 5432.72 | 5432.72   | 5432.72  | 0.00     | 13.2      | 7.50   | 0.40  | 7.44    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 04/12/99 | 5436.56  | 3.90     | 3.90  | 0.00 | 5432.66 | 5432.66   | 5432.66  | 0.00     | 11.0      | 7.40   | 0.60  | 7.06    | 3.50     | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 06/02/99 | 5436.56  | 3.98     | 3.98  | 0.00 | 5432.58 | 5432.58   | 5432.58  | 0.00     | 12.3      | 7.60   | 0.30  | 6.60    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 09/07/99 | 5436.56  | 3.90     | 3.90  | 0.00 | 5432.66 | 5432.66   | 5432.66  | 0.00     | 16.9      | 7.20   | 0.26  | 6.61    | 3.31     | NM   | NM  | NM    | NM         | NM     | NM    |    |
| 12/28/99 | 5436.56  | 3.57     | 3.57  | 0.00 | 5432.99 | 5432.99   | 5432.99  | 0.00     | NM        | 7.10   | NM    | NM      | NM       | NM   | NM  | NM    | NM         | NM     | 3.75  | NM |
| 04/03/00 | 5436.56  | 3.54     | 3.54  | 0.00 | 5433.02 | 5433.02   | 5433.02  | 0.00     | 10.4      | NM     | 1.16  | NM      | NM       | NM   | NM  | NM    | NM         | NM     | 2.50  | NM |
| 06/08/00 | 5437.78  | 5.07     | 5.07  | 0.00 | 5432.71 | 5432.71   | 5432.71  | 0.00     | 13.3      | 7.70   | 0.11  | 7.30    | NM       | NM   | NM  | NM    | NM         | NM     | 5.50  | NM |
| 09/05/00 | 5437.78  | 5.10     | 5.10  | 0.00 | 5432.68 | 5432.68   | 5432.68  | 0.00     | 19.1      | NM     | 0.27  | NM      | NM       | NM   | NM  | NM    | NM         | NM     | 2.00  | NM |
| 12/07/00 | 5437.78  | 4.72     | 4.72  | 0.00 | 5433.06 | 5433.06   | 5433.06  | 0.00     | 19.1      | NM     | 0.27  | NM      | NM       | NM   | NM  | NM    | NM         | NM     | 3.00  | NM |
| 10/08/96 | 5438.65  | 5.27     | 5.27  | 0.00 | 5433.38 | 5433.38   | 5433.38  | 0.00     | NM        | NM     | NM    | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 12/31/96 | 5438.65  | 5.02     | 5.02  | 0.00 | 5433.63 | 5433.63   | 5433.63  | 0.00     | NM        | NM     | NM    | NM      | 6.97     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 03/18/97 | 5438.65  | 5.01     | 5.01  | 0.00 | 5433.64 | 5433.64   | 5433.64  | 0.00     | NM        | NM     | NM    | NM      | 6.87     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 06/16/97 | 5438.65  | 5.05     | 5.05  | 0.00 | 5433.60 | 5433.60   | 5433.60  | 0.00     | NM        | NM     | NM    | NM      | 6.90     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 09/25/97 | 5438.65  | 4.96     | 4.96  | 0.00 | 5433.69 | 5433.69   | 5433.69  | 0.00     | NM        | NM     | NM    | NM      | 6.89     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 12/22/97 | 5438.65  | 4.91     | 4.91  | 0.00 | 5433.74 | 5433.74   | 5433.74  | 0.00     | NM        | NM     | 0.30  | NM      | 6.90     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 04/28/98 | 5438.65  | 4.97     | 4.97  | 0.00 | 5433.68 | 5433.68   | 5433.68  | 0.00     | NM        | NM     | 0.26  | NM      | 6.90     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 06/23/98 | 5438.65  | 5.23     | 5.23  | 0.00 | 5433.42 | 5433.42   | 5433.42  | 0.00     | NM        | 7.73   | 0.28  | 6.73    | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 09/22/98 | 5438.65  | 5.37     | 5.37  | 0.00 | 5433.28 | 5433.28   | 5433.28  | 0.00     | 16.0      | 7.40   | 0.18  | 6.76    | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 12/29/98 | 5438.65  | 4.83     | 4.83  | 0.00 | 5433.82 | 5433.82   | 5433.82  | 0.00     | 12.7      | 7.50   | 0.31  | 6.70    | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 04/12/99 | 5438.65  | 4.83     | 4.83  | 0.00 | 5433.82 | 5433.82   | 5433.82  | 0.00     | 11.3      | 7.70   | 0.17  | 6.68    | 3.35     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 06/02/99 | 5438.65  | 4.82     | 4.82  | 0.00 | 5433.83 | 5433.83   | 5433.83  | 0.00     | 12.5      | 7.20   | 0.32  | 6.10    | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 09/07/99 | 5438.65  | 4.99     | 4.99  | 0.00 | 5433.66 | 5433.66   | 5433.66  | 0.00     | 16.0      | 7.30   | 0.32  | 6.32    | 3.16     | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 12/28/99 | 5438.65  | 4.42     | 4.42  | 0.00 | 5434.23 | 5434.23   | 5434.23  | 0.00     | NM        | 7.30   | NM    | NM      | NM       | NM   | NM  | NM    | NM         | NM     | 5.00  | NM |
| 04/03/00 | 5438.65  | 4.65     | 4.65  | 0.00 | 5434.00 | 5434.00   | 5434.00  | 0.00     | 11.3      | NM     | 0.13  | NM      | NM       | NM   | NM  | NM    | NM         | NM     | 5.25  | NM |
| 06/08/00 | 5439.67  | 5.18     | 5.18  | 0.00 | 5434.49 | 5434.49   | 5434.49  | 0.00     | 13.3      | 7.70   | 0.18  | 6.50    | NM       | NM   | NM  | NM    | NM         | NM     | 4.50  | NM |
| 09/06/00 | 5439.67  | 5.82     | 5.82  | 0.00 | 5433.85 | 5433.85   | 5433.85  | 0.00     | 16.1      | NM     | 0.22  | NM      | NM       | NM   | NM  | NM    | NM         | NM     | 2.00  | NM |
| 12/07/00 | 5439.67  | 5.43     | 5.43  | 0.00 | 5434.24 | 5434.24   | 5434.24  | 0.00     | 16.1      | NM     | 0.22  | NM      | NM       | NM   | NM  | NM    | NM         | NM     | 3.00  | NM |
| 10/07/96 | 5446.09  | 14.15    | 15.62 | 1.47 | 5431.94 | 5430.47   | 5431.50  | 28.74    | NM        | NM     | NM    | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 12/30/96 | 5446.09  | 14.20    | 15.60 | 1.40 | 5431.89 | 5430.49   | 5431.47  | 29.94    | NM        | NM     | NM    | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |
| 03/17/97 | 5446.09  | 14.14    | 15.39 | 1.25 | 5431.95 | 5430.70   | 5431.58  | 29.56    | NM        | NM     | NM    | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |

TABLE 1  
THRIFTWAY REFINERY  
SUMMARY OF GROUNDWATER MONITOR DATA

| Well #   | Date     | TOC elev | A/O   | OMW   | Product | Prod Elev | ater Ele | dJWL Ele | Accum Pro | Deg. C | pH   | DO mg/l | Seimen/m | TDS | ORP | NTU's | % Salinity | Purged | DEPTH |
|----------|----------|----------|-------|-------|---------|-----------|----------|----------|-----------|--------|------|---------|----------|-----|-----|-------|------------|--------|-------|
| MW-13    | 06/18/97 | 5446.09  | 14.23 | 14.98 | 0.75    | 5431.86   | 5431.11  | 5431.64  | 30.53     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 09/29/97 | 5446.09  | 13.98 | 14.53 | 0.55    | 5432.11   | 5431.56  | 5431.95  | 30.74     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 12/18/97 | 5446.09  | 13.87 | 14.39 | 0.52    | 5432.22   | 5431.70  | 5432.06  | 30.98     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 04/29/98 | 5446.09  | 13.73 | 14.15 | 0.42    | 5432.36   | 5431.94  | 5432.23  | 31.20     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 06/22/98 | 5446.09  | 13.89 | 14.21 | 0.32    | 5432.20   | 5431.88  | 5432.10  | 31.77     | NM     | 7.01 | NM      | 7.06     | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 09/23/98 | 5446.09  | 14.18 | 15.22 | 1.04    | 5431.91   | 5430.87  | 5431.60  | 31.99     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 12/31/98 | 5446.09  | 13.94 | 14.43 | 0.49    | 5432.15   | 5431.66  | 5432.00  | 32.18     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 04/14/99 | 5446.09  | 13.78 | 13.94 | 0.16    | 5432.31   | 5432.15  | 5432.26  | 32.18     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 06/04/99 | 5446.09  | 13.68 | 13.88 | 0.20    | 5432.41   | 5432.21  | 5432.35  | 32.22     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 09/09/99 | 5446.09  | 13.65 | 13.83 | 0.18    | 5432.44   | 5432.26  | 5432.39  | 32.25     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 12/30/99 | 5446.09  | 13.49 | 13.77 | 0.28    | 5432.60   | 5432.32  | 5432.52  | 32.25     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | 0.00  |
|          | 04/05/00 | 5446.09  | 13.23 | 13.59 | 0.36    | 5432.86   | 5432.50  | 5432.75  | 32.29     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | 1.50  |
|          | 06/07/00 | 5446.09  | 13.22 | 13.49 | 0.27    | 5432.87   | 5432.60  | 5432.79  | 32.29     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 09/07/00 | 5446.09  | 13.73 | 13.90 | 0.17    | 5432.36   | 5432.19  | 5432.31  | 32.31     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 12/08/00 | 5446.09  | 13.72 | 13.77 | 0.05    | 5432.37   | 5432.32  | 5432.36  | 32.32     | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | 5     |
|          | 10/08/96 | 5452.12  | 18.11 | 18.11 | 0.00    | 5434.01   | 5434.01  | 5434.01  | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 12/30/96 | 5452.12  | 18.04 | 18.04 | 0.00    | 5434.08   | 5434.08  | 5434.08  | 0.00      | NM     | NM   | NM      | 5.20     | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 03/18/97 | 5452.12  | 17.98 | 17.98 | 0.00    | 5434.14   | 5434.14  | 5434.14  | 0.00      | NM     | NM   | NM      | 6.14     | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 06/16/97 | 5452.12  | 17.93 | 17.93 | 0.00    | 5434.19   | 5434.19  | 5434.19  | 0.00      | NM     | NM   | NM      | 6.35     | NM  | NM  | NM    | NM         | NM     | NM    |
| 09/23/97 | 5452.12  | 17.81    | 17.81 | 0.00  | 5434.31 | 5434.31   | 5434.31  | 0.00     | NM        | NM     | NM   | 6.26    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/19/97 | 5452.12  | 17.48    | 17.48 | 0.00  | 5434.64 | 5434.64   | 5434.64  | 0.00     | NM        | NM     | NM   | 6.25    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 04/24/98 | 5452.12  | 17.22    | 17.22 | 0.00  | 5434.90 | 5434.90   | 5434.90  | 0.00     | NM        | NM     | NM   | 6.26    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/23/98 | 5452.12  | 17.48    | 17.48 | 0.00  | 5434.64 | 5434.64   | 5434.64  | 0.00     | NM        | NM     | 7.27 | 0.19    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/24/98 | 5452.12  | 17.92    | 17.92 | 0.00  | 5434.20 | 5434.20   | 5434.20  | 0.00     | NM        | 15.9   | 7.10 | 0.28    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/29/98 | 5452.12  | 17.52    | 17.52 | 0.00  | 5434.60 | 5434.60   | 5434.60  | 0.00     | NM        | 15.7   | 6.90 | 0.22    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 04/12/99 | 5452.12  | 17.24    | 17.24 | 0.00  | 5434.88 | 5434.88   | 5434.88  | 0.00     | NM        | 15.1   | 7.00 | 0.25    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/02/99 | 5452.12  | 17.11    | 17.11 | 0.00  | 5435.01 | 5435.01   | 5435.01  | 0.00     | NM        | 15.5   | 7.10 | 0.22    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/07/99 | 5452.12  | 17.12    | 17.12 | 0.00  | 5435.00 | 5435.00   | 5435.00  | 0.00     | NM        | 15.4   | 7.10 | 0.30    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/28/99 | 5452.12  | 16.83    | 16.83 | 0.00  | 5435.29 | 5435.29   | 5435.29  | 0.00     | NM        | NM     | 7.20 | NM      | NM       | NM  | NM  | NM    | NM         | 5.00   |       |
| 04/03/00 | 5452.12  | 16.51    | 16.51 | 0.00  | 5435.61 | 5435.61   | 5435.61  | 0.00     | NM        | 15.3   | NM   | 0.49    | NM       | NM  | NM  | NM    | NM         | 5.50   |       |
| 06/08/00 | 5452.12  | 16.56    | 16.56 | 0.00  | 5435.56 | 5435.56   | 5435.56  | 0.00     | NM        | 15.6   | 7.40 | 0.45    | NM       | NM  | NM  | NM    | NM         | 6.00   |       |
| 09/05/00 | 5452.12  | 17.10    | 17.10 | 0.00  | 5435.02 | 5435.02   | 5435.02  | 0.00     | NM        | 16.0   | NM   | 0.50    | NM       | NM  | NM  | NM    | NM         | 3.50   |       |
| 12/07/00 | 5452.12  | 16.93    | 16.93 | 0.00  | 5435.19 | 5435.19   | 5435.19  | 0.00     | NM        | 16.0   | NM   | 0.50    | NM       | NM  | NM  | NM    | NM         | 5.50   |       |
| 10/07/96 | 5446.93  | 13.05    | 13.05 | 0.00  | 5433.88 | 5433.88   | 5433.88  | 3.10     | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/30/96 | 5446.93  | 12.97    | 12.97 | 0.00  | 5433.96 | 5433.96   | 5433.96  | 3.10     | NM        | NM     | NM   | 1.60    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 03/17/97 | 5446.93  | 12.73    | 13.50 | 0.77  | 5434.20 | 5433.43   | 5433.97  | 3.26     | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/18/97 | 5446.93  | 12.67    | 13.09 | 0.42  | 5434.26 | 5433.84   | 5434.13  | 3.58     | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/29/97 | 5446.93  | 12.46    | 12.63 | 0.17  | 5434.47 | 5434.30   | 5434.42  | 3.59     | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/18/97 | 5446.93  | 12.42    | 12.45 | 0.03  | 5434.51 | 5434.48   | 5434.50  | 3.59     | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 04/28/98 | 5446.93  | 12.24    | 12.24 | 0.00  | 5434.69 | 5434.69   | 5434.69  | 3.59     | NM        | NM     | NM   | 0.07    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/24/98 | 5446.93  | 12.37    | 12.37 | 0.00  | 5434.56 | 5434.56   | 5434.56  | 3.59     | NM        | NM     | 7.25 | 0.08    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/23/98 | 5446.93  | 12.78    | 12.78 | 0.00  | 5434.15 | 5434.15   | 5434.15  | 3.59     | NM        | 16.5   | 6.90 | 0.12    | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/30/98 | 5446.93  | 12.48    | 12.66 | 0.18  | 5434.45 | 5434.27   | 5434.40  | 3.66     | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 04/14/99 | 5446.93  | 12.14    | 12.24 | 0.10  | 5434.79 | 5434.69   | 5434.76  | 3.78     | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/03/99 | 5446.93  | 12.02    | 12.06 | 0.04  | 5434.91 | 5434.87   | 5434.90  | 3.78     | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/09/99 | 5446.93  | 11.96    | 11.98 | 0.02  | 5434.97 | 5434.95   | 5434.96  | 3.78     | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/30/99 | 5446.93  | 11.87    | 11.87 | 0.00  | 5435.06 | 5435.06   | 5435.06  | 3.78     | NM        | NM     | 7.20 | NM      | NM       | NM  | NM  | NM    | NM         | 5.25   |       |

TABLE 1  
THRIFTWAY REFINERY  
SUMMARY OF GROUNDWATER MONITOR DATA

| Well #   | Date                                     | TOC elev | A/O   | OW    | Product | Prod Elev | ater Ele | dj WL Ele | Accum Pro | Deg. C | pH | DO mg/l | Seimen/m | TDS  | ORP | NTU's | % Salinity | Purged | DEPTH |    |    |    |
|----------|------------------------------------------|----------|-------|-------|---------|-----------|----------|-----------|-----------|--------|----|---------|----------|------|-----|-------|------------|--------|-------|----|----|----|
| MW-15    | 04/05/00                                 | 5446.93  | 11.61 | 11.61 | 0.00    | 5435.32   | 5435.32  | 5435.32   | 3.78      | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM |    |    |
|          | 06/08/00                                 | 5446.93  | 12.52 | 12.52 | 0.00    | 5434.41   | 5434.41  | 5434.41   | 3.78      | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
|          | 09/07/00                                 | 5446.93  | 11.96 | 11.96 | 0.00    | 5434.97   | 5434.97  | 5434.97   | 3.78      | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
|          | 12/11/00                                 | 5446.93  | 11.90 | 11.90 | 0.00    | 5435.03   | 5435.03  | 5435.03   | 3.78      | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
|          | 10/08/96                                 | 5449.51  | 13.86 | 13.86 | 0.00    | 5435.65   | 5435.65  | 5435.65   | 0.00      | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
|          | 12/30/96                                 | 5449.51  | 13.72 | 13.72 | 0.00    | 5435.79   | 5435.79  | 5435.79   | 0.00      | NM     | NM | NM      | 6.80     | 4.85 | NM  | NM    | NM         | NM     | NM    | NM | NM | NM |
|          | 03/18/97                                 | 5449.51  | 13.49 | 13.49 | 0.00    | 5436.02   | 5436.02  | 5436.02   | 0.00      | NM     | NM | NM      | 1.71     | 4.81 | NM  | NM    | NM         | NM     | NM    | NM | NM | NM |
|          | 06/17/97                                 | 5449.51  | 13.28 | 13.28 | 0.00    | 5436.23   | 5436.23  | 5436.23   | 0.00      | NM     | NM | NM      | 1.71     | 4.89 | NM  | NM    | NM         | NM     | NM    | NM | NM | NM |
|          | 09/26/97                                 | 5449.51  | 12.67 | 12.67 | 0.00    | 5436.84   | 5436.84  | 5436.84   | 0.00      | NM     | NM | NM      | 0.55     | 5.05 | NM  | NM    | NM         | NM     | NM    | NM | NM | NM |
|          | 12/22/97                                 | 5449.51  | 12.98 | 12.98 | 0.00    | 5436.53   | 5436.53  | 5436.53   | 0.00      | NM     | NM | NM      | 1.10     | 5.00 | NM  | NM    | NM         | NM     | NM    | NM | NM | NM |
|          | 04/24/98                                 | 5449.51  | 12.73 | 12.73 | 0.00    | 5436.78   | 5436.78  | 5436.78   | 0.00      | NM     | NM | NM      | 2.39     | 4.92 | NM  | NM    | NM         | NM     | NM    | NM | NM | NM |
|          | 06/23/98                                 | 5449.51  | 12.94 | 12.94 | 0.00    | 5436.57   | 5436.57  | 5436.57   | 0.00      | NM     | NM | NM      | 0.93     | 4.50 | NM  | NM    | NM         | NM     | NM    | NM | NM | NM |
| 09/24/98 | 5449.51                                  | 13.34    | 13.34 | 0.00  | 5436.17 | 5436.17   | 5436.17  | 0.00      | NM        | NM     | NM | 0.15    | 4.43     | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 12/28/98 | 5449.51                                  | 12.83    | 12.83 | 0.00  | 5436.68 | 5436.68   | 5436.68  | 0.00      | NM        | NM     | NM | 1.50    | 4.80     | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 04/12/99 | 5449.51                                  | 12.50    | 12.50 | 0.00  | 5437.01 | 5437.01   | 5437.01  | 0.00      | NM        | NM     | NM | 2.00    | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 06/02/99 | 5449.51                                  | 12.51    | 12.51 | 0.00  | 5437.00 | 5437.00   | 5437.00  | 0.00      | NM        | NM     | NM | 0.48    | 2.31     | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 09/07/99 | 5449.51                                  | 12.41    | 12.41 | 0.00  | 5437.10 | 5437.10   | 5437.10  | 0.00      | NM        | NM     | NM | 0.46    | 4.61     | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 12/28/99 | 5449.51                                  | 12.30    | 12.30 | 0.00  | 5437.21 | 5437.21   | 5437.21  | 0.00      | NM        | NM     | NM | 0.25    | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 04/04/00 | TOP OF WELL DESTROYED, NEEDS RESURVEYING |          |       |       |         |           |          |           |           |        |    |         |          |      |     |       |            |        |       |    |    |    |
| 06/08/00 | 5449.28                                  | 11.81    | 11.81 | 0.00  | 5437.47 | 5437.47   | 5437.47  | 0.00      | NM        | NM     | NM | 0.30    | 5.70     | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 09/08/00 | 5449.28                                  | 12.18    | 12.18 | 0.00  | 5437.10 | 5437.10   | 5437.10  | 0.00      | NM        | NM     | NM | 0.30    | 5.70     | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 12/08/00 | 5449.28                                  | 12.13    | 12.13 | 0.00  | 5437.15 | 5437.15   | 5437.15  | 0.00      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 10/08/96 | 5442.63                                  | 9.33     | 9.33  | 0.00  | 5433.30 | 5433.30   | 5433.30  | 0.00      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 12/30/96 | 5442.63                                  | 9.07     | 9.07  | 0.00  | 5433.56 | 5433.56   | 5433.56  | 0.00      | NM        | NM     | NM | 3.80    | 7.51     | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 03/19/97 | 5442.63                                  | 8.98     | 8.98  | 0.00  | 5433.65 | 5433.65   | 5433.65  | 0.00      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 06/18/97 | 5442.63                                  | 8.91     | 8.91  | 0.00  | 5433.72 | 5433.72   | 5433.72  | 0.00      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 09/29/97 | 5442.63                                  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 12/22/97 | 5442.63                                  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 04/29/98 | 5442.63                                  | 8.77     | 8.77  | 0.00  | 5433.86 | 5433.86   | 5433.86  | 0.00      | NM        | NM     | NM | 0.20    | 7.19     | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 06/24/98 | 5442.63                                  | 8.97     | 8.97  | 0.00  | 5433.66 | 5433.66   | 5433.66  | 0.00      | NM        | NM     | NM | 0.20    | 7.19     | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 09/23/98 | 5442.63                                  | 9.87     | 9.87  | 0.00  | 5432.76 | 5432.76   | 5432.76  | 0.00      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 12/28/98 | 5442.63                                  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 04/13/99 | 5442.63                                  | 8.61     | 8.61  | 0.00  | 5434.02 | 5434.02   | 5434.02  | 0.00      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 06/02/99 | 5442.63                                  | 8.58     | 8.58  | 0.00  | 5434.05 | 5434.05   | 5434.05  | 0.00      | NM        | NM     | NM | 0.20    | 6.60     | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 09/09/99 | 5442.63                                  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 04/05/00 | 5442.63                                  | 8.34     | 8.34  | 0.00  | 5434.29 | 5434.29   | 5434.29  | 0.00      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 06/08/00 | 5442.63                                  | 7.38     | 7.38  | 0.00  | 5435.25 | 5435.25   | 5435.25  | 0.00      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 09/07/00 | 5442.63                                  | 8.55     | 8.55  | 0.00  | 5434.08 | 5434.08   | 5434.08  | 0.00      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 12/11/00 | 5442.63                                  | 8.33     | 8.33  | 0.00  | 5434.30 | 5434.30   | 5434.30  | 0.00      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 10/07/96 | 5435.57                                  | 5.98     | 6.09  | 0.11  | 5429.59 | 5429.48   | 5429.56  | 5.44      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 12/30/96 | 5435.57                                  | 5.91     | 6.30  | 0.39  | 5429.66 | 5429.27   | 5429.54  | 5.91      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 03/19/97 | 5435.57                                  | 5.63     | 5.67  | 0.04  | 5429.94 | 5429.90   | 5429.93  | 5.92      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 06/18/97 | 5435.57                                  | 5.59     | 5.59  | 0.00  | 5429.98 | 5429.98   | 5429.98  | 5.92      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 09/29/97 | 5435.57                                  | 5.53     | 5.82  | 0.29  | 5430.04 | 5429.75   | 5429.95  | 5.92      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 12/18/97 | 5435.57                                  | 5.54     | 5.78  | 0.24  | 5430.03 | 5429.79   | 5429.96  | 6.05      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 04/29/98 | 5435.57                                  | 5.50     | 5.99  | 0.49  | 5430.07 | 5429.58   | 5429.92  | 6.36      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |
| 06/24/98 | 5435.57                                  | 5.60     | 6.51  | 0.91  | 5429.97 | 5429.06   | 5429.70  | 7.62      | NM        | NM     | NM | NM      | NM       | NM   | NM  | NM    | NM         | NM     | NM    | NM | NM |    |

**TABLE 1  
THRIFTWAY REFINERY  
SUMMARY OF GROUNDWATER MONITOR DATA**

| Well #   | Date     | TOC elev | A/O  | OM   | Product | Prod Elev | ater Elev | dj WL Ele | Accum Pro | Deg. C | pH | DO mg/l | Seimen/m | TDS | ORP | NTU's | % Salinity | Purged DEPTH |    |    |    |
|----------|----------|----------|------|------|---------|-----------|-----------|-----------|-----------|--------|----|---------|----------|-----|-----|-------|------------|--------------|----|----|----|
| MW-18    | 09/23/98 | 5435.57  | 5.74 | 6.68 | 0.94    | 5429.83   | 5428.89   | 5429.55   | 8.62      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM |    |    |
|          | 12/28/98 | 5435.57  | 5.39 | 5.71 | 0.32    | 5430.18   | 5429.86   | 5430.08   | 8.78      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
|          | 04/14/99 | 5435.57  | 5.52 | 6.00 | 0.48    | 5430.05   | 5429.57   | 5429.91   | 9.97      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
|          | 06/04/99 | 5435.57  | 5.49 | 6.19 | 0.70    | 5430.08   | 5429.38   | 5429.87   | 11.03     | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
|          | 09/09/99 | 5435.57  | 5.38 | 5.97 | 0.59    | 5430.19   | 5429.60   | 5430.01   | 11.74     | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
|          | 12/30/99 | 5435.57  | 5.53 | 5.86 | 0.33    | 5430.04   | 5429.71   | 5429.94   | 11.74     | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM | NM |
|          | 04/05/00 | 5435.57  | 5.36 | 5.40 | 0.04    | 5430.21   | 5430.17   | 5430.20   | 11.74     | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM | NM |
|          | 06/16/00 | 5435.57  | 5.45 | 5.79 | 0.34    | 5430.12   | 5429.78   | 5430.02   | 11.74     | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM | NM |
|          | 09/07/00 | 5435.57  | 5.68 | 6.00 | 0.32    | 5429.89   | 5429.57   | 5429.79   | 11.83     | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM | NM |
|          | 12/08/00 | 5435.57  | 5.73 | 5.80 | 0.07    | 5429.84   | 5429.77   | 5429.82   | 11.83     | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM | NM |
|          | 10/09/96 | 5429.10  | 4.24 | 4.24 | 0.00    | 5424.86   | 5424.86   | 5424.86   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM | NM |
|          | 12/30/96 | 5429.10  | 4.06 | 4.06 | 0.00    | 5425.04   | 5425.04   | 5425.04   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM | NM |
|          | 03/19/97 | 5429.10  | 3.26 | 3.26 | 0.00    | 5425.84   | 5425.84   | 5425.84   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM | NM |
|          | 06/18/97 | 5429.10  | 3.00 | 3.00 | 0.00    | 5426.10   | 5426.10   | 5426.10   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM | NM |
|          | 09/24/97 | 5429.10  | 2.50 | 2.50 | 0.00    | 5426.60   | 5426.60   | 5426.60   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM | NM |
|          | 12/23/97 | 5429.10  | 3.29 | 3.29 | 0.00    | 5425.81   | 5425.81   | 5425.81   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM | NM |
| 04/28/98 | 5429.10  | 3.42     | 3.42 | 0.00 | 5425.68 | 5425.68   | 5425.68   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 06/24/98 | 5429.10  | 3.72     | 3.72 | 0.00 | 5425.38 | 5425.38   | 5425.38   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 09/23/98 | 5429.10  | 3.94     | 3.94 | 0.00 | 5425.16 | 5425.16   | 5425.16   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 12/29/98 | 5429.10  | 3.19     | 3.19 | 0.00 | 5425.91 | 5425.91   | 5425.91   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 04/13/99 | 5429.10  | 3.68     | 3.68 | 0.00 | 5425.42 | 5425.42   | 5425.42   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 06/03/99 | 5429.10  | 3.97     | 3.97 | 0.00 | 5425.13 | 5425.13   | 5425.13   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 09/09/99 | 5429.10  | 3.81     | 3.81 | 0.00 | 5425.29 | 5425.29   | 5425.29   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 12/29/99 | 5429.10  | 4.39     | 4.39 | 0.00 | 5424.71 | 5424.71   | 5424.71   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 04/05/00 | 5429.10  | 4.08     | 4.08 | 0.00 | 5425.02 | 5425.02   | 5425.02   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 06/08/00 | 5429.10  | 4.24     | 4.24 | 0.00 | 5424.86 | 5424.86   | 5424.86   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 09/09/00 | 5429.10  | 4.60     | 4.60 | 0.00 | 5424.50 | 5424.50   | 5424.50   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 12/06/00 | 5429.10  | 7.30     | 7.30 | 0.00 | 5421.80 | 5421.80   | 5421.80   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 10/09/96 | 5428.69  | 3.70     | 3.70 | 0.00 | 5424.99 | 5424.99   | 5424.99   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 12/30/96 | 5428.69  | 3.77     | 3.77 | 0.00 | 5424.92 | 5424.92   | 5424.92   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 03/19/97 | 5428.69  | 3.32     | 3.32 | 0.00 | 5425.37 | 5425.37   | 5425.37   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 06/17/97 | 5428.69  | 3.12     | 3.12 | 0.00 | 5425.57 | 5425.57   | 5425.57   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 09/26/97 | 5428.69  | 2.36     | 2.36 | 0.00 | 5426.33 | 5426.33   | 5426.33   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 12/23/97 | 5428.69  | 2.91     | 2.91 | 0.00 | 5425.78 | 5425.78   | 5425.78   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 04/28/98 | 5428.69  | 2.99     | 2.99 | 0.00 | 5425.70 | 5425.70   | 5425.70   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 06/23/98 | 5428.69  | 3.38     | 3.38 | 0.00 | 5425.31 | 5425.31   | 5425.31   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 09/22/98 | 5428.69  | 3.57     | 3.57 | 0.00 | 5425.12 | 5425.12   | 5425.12   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 12/29/98 | 5428.69  | 3.19     | 3.19 | 0.00 | 5425.50 | 5425.50   | 5425.50   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 04/13/99 | 5428.69  | 3.08     | 3.08 | 0.00 | 5425.61 | 5425.61   | 5425.61   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 06/03/99 | 5428.69  | 3.24     | 3.24 | 0.00 | 5425.45 | 5425.45   | 5425.45   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 09/09/99 | 5428.69  | 3.01     | 3.01 | 0.00 | 5425.68 | 5425.68   | 5425.68   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 12/29/99 | 5428.69  | 3.47     | 3.47 | 0.00 | 5425.22 | 5425.22   | 5425.22   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 04/04/00 | 5428.69  | 2.57     | 2.57 | 0.00 | 5426.12 | 5426.12   | 5426.12   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 06/08/00 | 5428.69  | 3.60     | 3.60 | 0.00 | 5425.09 | 5425.09   | 5425.09   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 09/06/00 | 5428.69  | 3.89     | 3.89 | 0.00 | 5424.80 | 5424.80   | 5424.80   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 12/06/00 | 5428.69  | 3.92     | 3.92 | 0.00 | 5424.77 | 5424.77   | 5424.77   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |
| 10/08/96 | 5430.36  | 5.72     | 5.72 | 0.00 | 5424.64 | 5424.64   | 5424.64   | 0.00      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM           | NM | NM |    |

TABLE 1  
THRIFTWAY REFINERY  
SUMMARY OF GROUNDWATER MONITOR DATA

| Well #   | Date     | TOC elev | A/O  | OW   | Product | Prod Elev | ater Ele | djWL Ele | Accum Pro | Deg. C | pH   | DO mg/l | Seimen/m | TDS  | ORP | NTU's | % Salinity | Purged | DEPTH |
|----------|----------|----------|------|------|---------|-----------|----------|----------|-----------|--------|------|---------|----------|------|-----|-------|------------|--------|-------|
| MW-21    | 12/31/96 | 5430.36  | 5.74 | 5.74 | 0.00    | 5424.62   | 5424.62  | 5424.62  | 0.00      | NM     | NM   | 0.90    | 5.33     | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 03/18/97 | 5430.36  | 5.39 | 5.39 | 0.00    | 5424.97   | 5424.97  | 5424.97  | 0.00      | NM     | NM   | NM      | 6.26     | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 06/16/97 | 5430.36  | 5.21 | 5.21 | 0.00    | 5425.15   | 5425.15  | 5425.15  | 0.00      | NM     | NM   | 0.26    | 5.73     | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 09/24/97 | 5430.36  | 4.41 | 4.41 | 0.00    | 5425.95   | 5425.95  | 5425.95  | 0.00      | NM     | NM   | 0.27    | 3.50     | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 12/22/97 | 5430.36  | 4.90 | 4.90 | 0.00    | 5425.46   | 5425.46  | 5425.46  | 0.00      | NM     | NM   | 0.22    | 6.52     | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 04/27/98 | 5430.36  | 5.02 | 5.02 | 0.00    | 5425.34   | 5425.34  | 5425.34  | 0.00      | NM     | NM   | 0.31    | 6.54     | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 06/23/98 | 5430.36  | 5.35 | 5.35 | 0.00    | 5425.01   | 5425.01  | 5425.01  | 0.00      | NM     | 7.18 | 0.08    | 6.54     | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 09/22/98 | 5430.36  | 5.67 | 5.67 | 0.00    | 5424.69   | 5424.69  | 5424.69  | 0.00      | NM     | 7.00 | 0.15    | 5.64     | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 12/28/98 | 5430.36  | 5.02 | 5.02 | 0.00    | 5425.34   | 5425.34  | 5425.34  | 0.00      | 8.4    | 7.00 | 0.10    | 5.29     | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 04/12/99 | 5430.36  | 5.02 | 5.02 | 0.00    | 5425.34   | 5425.34  | 5425.34  | 0.00      | 11.0   | 7.30 | 0.03    | 7.74     | 3.90 | NM  | NM    | NM         | NM     | NM    |
|          | 06/02/99 | 5430.36  | 5.19 | 5.19 | 0.00    | 5425.17   | 5425.17  | 5425.17  | 0.00      | NM     | 7.30 | NM      | 3.00     | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 09/08/99 | 5430.36  | 4.90 | 4.90 | 0.00    | 5425.46   | 5425.46  | 5425.46  | 0.00      | NM     | 7.10 | NM      | 1.85     | 0.92 | NM  | NM    | NM         | NM     | NM    |
|          | 12/29/99 | 5430.36  | 5.36 | 5.36 | 0.00    | 5425.00   | 5425.00  | 5425.00  | 0.00      | 10.3   | 7.10 | 0.15    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 04/04/00 | 5430.36  | 4.49 | 4.49 | 0.00    | 5425.87   | 5425.87  | 5425.87  | 0.00      | 9.0    | 7.10 | 0.29    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 06/08/00 | 5430.45  | 5.53 | 5.53 | 0.00    | 5424.92   | 5424.92  | 5424.92  | 0.00      | 12.9   | 7.40 | 0.12    | 5.70     | NM   | NM  | NM    | NM         | NM     | NM    |
|          | 09/06/00 | 5430.45  | 5.87 | 5.87 | 0.00    | 5424.58   | 5424.58  | 5424.58  | 0.00      | 18.1   | NM   | 0.12    | NM       | NM   | NM  | NM    | NM         | NM     | NM    |
| 12/08/00 | 5430.45  | 5.88     | 5.88 | 0.00 | 5424.57 | 5424.57   | 5424.57  | 0.00     | 18.1      | NM     | 0.12 | NM      | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 12/31/96 | 5428.62  | 3.56     | 3.56 | 0.00 | 5425.06 | 5425.06   | 5425.06  | 0.00     | NM        | NM     | 1.20 | 5.07    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 03/18/97 | 5428.62  | 2.76     | 2.76 | 0.00 | 5425.86 | 5425.86   | 5425.86  | 0.00     | NM        | NM     | 0.00 | 6.27    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 06/17/97 | 5428.62  | 2.93     | 2.93 | 0.00 | 5425.69 | 5425.69   | 5425.69  | 0.00     | NM        | NM     | 0.23 | 7.50    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 09/25/97 | 5428.62  | 3.03     | 3.03 | 0.00 | 5425.59 | 5425.59   | 5425.59  | 0.00     | NM        | NM     | 0.09 | 6.05    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 12/22/97 | 5428.62  | 3.07     | 3.07 | 0.00 | 5425.55 | 5425.55   | 5425.55  | 0.00     | NM        | NM     | 0.40 | 4.96    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 04/27/98 | 5428.62  | 3.16     | 3.16 | 0.00 | 5425.46 | 5425.46   | 5425.46  | 0.00     | NM        | NM     | 0.07 | 5.40    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 06/23/98 | 5428.62  | 3.72     | 3.72 | 0.00 | 5424.90 | 5424.90   | 5424.90  | 0.00     | NM        | 7.06   | 0.07 | 4.79    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 09/24/98 | 5428.62  | 3.81     | 3.81 | 0.00 | 5424.81 | 5424.81   | 5424.81  | 0.00     | 20.0      | 7.10   | 0.15 | 4.43    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 12/28/98 | 5428.62  | 2.66     | 2.66 | 0.00 | 5425.96 | 5425.96   | 5425.96  | 0.00     | 8.1       | 7.00   | 0.31 | 7.19    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 04/12/99 | 5428.62  | 2.90     | 2.90 | 0.00 | 5425.72 | 5425.72   | 5425.72  | 0.00     | 11.0      | 7.10   | 0.25 | 7.04    | 3.55     | NM   | NM  | NM    | NM         | NM     |       |
| 06/02/99 | 5428.62  | 3.24     | 3.24 | 0.00 | 5425.38 | 5425.38   | 5425.38  | 0.00     | 14.0      | 7.10   | 0.09 | 5.10    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 09/08/99 | 5428.62  | 3.18     | 3.18 | 0.00 | 5425.44 | 5425.44   | 5425.44  | 0.00     | 19.7      | 6.70   | 0.24 | 6.76    | 3.38     | NM   | NM  | NM    | NM         | NM     |       |
| 12/29/99 | 5428.62  | 3.30     | 3.30 | 0.00 | 5425.32 | 5425.32   | 5425.32  | 0.00     | 9.0       | 6.70   | 0.16 | 6.76    | 3.75     | NM   | NM  | NM    | NM         | NM     |       |
| 04/04/00 | 5428.62  | 2.61     | 2.61 | 0.00 | 5426.01 | 5426.01   | 5426.01  | 0.00     | 9.6       | NM     | 0.08 | NM      | 5.00     | NM   | NM  | NM    | NM         | NM     |       |
| 06/08/00 | 5428.62  | 3.27     | 3.27 | 0.00 | 5425.35 | 5425.35   | 5425.35  | 0.00     | 17.5      | 7.30   | 0.07 | 9.10    | 3.00     | NM   | NM  | NM    | NM         | NM     |       |
| 09/06/00 | 5428.62  | 3.60     | 3.60 | 0.00 | 5425.02 | 5425.02   | 5425.02  | 0.00     | 21.3      | NM     | 0.28 | NM      | 1.00     | NM   | NM  | NM    | NM         | NM     |       |
| 12/08/00 | 5428.62  | 3.43     | 3.43 | 0.00 | 5425.19 | 5425.19   | 5425.19  | 0.00     | 21.3      | NM     | 0.28 | NM      | 3.00     | NM   | NM  | NM    | NM         | NM     |       |
| 10/08/96 | 5430.75  | 5.35     | 5.35 | 0.00 | 5425.40 | 5425.40   | 5425.40  | 0.00     | NM        | NM     | NM   | NM      | 3.00     | NM   | NM  | NM    | NM         | NM     |       |
| 12/31/96 | 5430.75  | 4.64     | 4.64 | 0.00 | 5426.11 | 5426.11   | 5426.11  | 0.00     | NM        | NM     | 1.80 | 6.66    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 03/18/97 | 5430.75  | 3.88     | 3.88 | 0.00 | 5426.87 | 5426.87   | 5426.87  | 0.00     | NM        | NM     | 1.54 | 6.49    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 06/16/97 | 5430.75  | 4.15     | 4.15 | 0.00 | 5426.60 | 5426.60   | 5426.60  | 0.00     | NM        | NM     | 0.21 | 7.25    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 09/26/97 | 5430.75  | 4.36     | 4.36 | 0.00 | 5426.39 | 5426.39   | 5426.39  | 0.00     | NM        | NM     | 0.32 | 7.97    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 12/22/97 | 5430.75  | 4.25     | 4.25 | 0.00 | 5426.50 | 5426.50   | 5426.50  | 0.00     | NM        | NM     | 1.27 | 8.69    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 04/27/98 | 5430.75  | 4.31     | 4.31 | 0.00 | 5426.44 | 5426.44   | 5426.44  | 0.00     | NM        | NM     | 1.54 | 8.91    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 06/23/98 | 5430.75  | 4.97     | 4.97 | 0.00 | 5425.78 | 5425.78   | 5425.78  | 0.00     | NM        | 7.26   | 0.27 | 9.06    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 09/24/98 | 5430.75  | 5.03     | 5.03 | 0.00 | 5425.72 | 5425.72   | 5425.72  | 0.00     | 19.4      | 7.10   | 0.11 | 8.46    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 12/28/98 | 5430.75  | 3.83     | 3.83 | 0.00 | 5426.92 | 5426.92   | 5426.92  | 0.00     | 8.1       | 7.60   | 0.84 | 9.16    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 04/12/99 | 5430.75  | 4.31     | 4.31 | 0.00 | 5426.44 | 5426.44   | 5426.44  | 0.00     | 10.2      | 7.30   | 0.22 | 10.55   | 5.30     | NM   | NM  | NM    | NM         | NM     |       |
| 06/02/99 | 5430.75  | 4.53     | 4.53 | 0.00 | 5426.22 | 5426.22   | 5426.22  | 0.00     | 13.4      | 6.90   | 0.20 | 6.90    | NM       | NM   | NM  | NM    | NM         | NM     |       |
| 09/08/99 | 5430.75  | 4.28     | 4.28 | 0.00 | 5426.47 | 5426.47   | 5426.47  | 0.00     | 18.7      | 7.20   | 0.33 | 12.63   | 6.31     | NM   | NM  | NM    | NM         | NM     |       |

TABLE 1  
THRIFTWAY REFINERY  
SUMMARY OF GROUNDWATER MONITOR DATA

| Well #   | Date     | TOC elev | A/O   | OW    | Product | Prod Elev | ater Ele | dj VL Ele | Accum Pro | Deg. C | pH   | DO mg/l | Seimen/m | TDS | ORP | NTU's | % Salinity | Purged | DEPTH |    |
|----------|----------|----------|-------|-------|---------|-----------|----------|-----------|-----------|--------|------|---------|----------|-----|-----|-------|------------|--------|-------|----|
| MW-23    | 12/29/99 | 5430.75  | 4.12  | 4.12  | 0.00    | 5426.63   | 5426.63  | 5426.63   | 0.00      | 10.0   | 6.80 | 0.41    | NM       | NM  | NM  | NM    | NM         | 3.00   | NM    |    |
|          | 04/04/00 | 5430.75  | 3.61  | 3.61  | 0.00    | 5427.14   | 5427.14  | 5427.14   | 0.00      | 9.3    | NM   | 0.39    | NM       | NM  | NM  | NM    | NM         | 5.00   | NM    |    |
|          | 06/08/00 | 5430.75  | 3.96  | 3.96  | 0.00    | 5426.79   | 5426.79  | 5426.79   | 0.00      | 13.7   | 7.70 | 0.08    | 5.60     | NM  | NM  | NM    | NM         | 2.75   | NM    |    |
|          | 09/06/00 | 5430.75  | 4.50  | 4.50  | 0.00    | 5426.25   | 5426.25  | 5426.25   | 0.00      | 18.9   | NM   | 0.15    | NM       | NM  | NM  | NM    | NM         | 2.00   | NM    |    |
|          | 12/08/00 | 5430.75  | 4.52  | 4.52  | 0.00    | 5426.23   | 5426.23  | 5426.23   | 0.00      | 18.9   | NM   | 0.15    | NM       | NM  | NM  | NM    | NM         | 2.50   | NM    |    |
|          | 10/07/96 | 5448.32  | DRY   | DRY   | NM      | NM        | NM       | NM        | 0.89      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
|          | 12/31/96 | 5448.32  | DRY   | DRY   | NM      | NM        | NM       | NM        | 0.89      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
|          | 03/19/97 | 5448.32  | DRY   | DRY   | NM      | NM        | NM       | NM        | 0.89      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
|          | 06/18/97 | 5448.32  | NM    | NM    | NM      | NM        | NM       | NM        | 0.89      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
|          | 09/29/97 | 5448.32  | NM    | NM    | NM      | NM        | NM       | NM        | 0.89      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
|          | 12/18/97 | 5448.32  | NM    | NM    | NM      | NM        | NM       | NM        | 0.89      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
|          | 04/27/98 | 5448.32  | NM    | NM    | NM      | NM        | NM       | NM        | 0.89      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
| 06/25/98 | 5448.32  | DRY      | DRY   | NM    | NM      | NM        | NM       | 0.89      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/24/98 | 5448.32  | DRY      | DRY   | NM    | NM      | NM        | NM       | 0.89      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/31/98 | 5448.32  | DRY      | DRY   | NM    | NM      | NM        | NM       | 0.89      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 04/14/99 | 5448.32  | DRY      | DRY   | NM    | NM      | NM        | NM       | 0.89      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/04/99 | 5448.32  | DRY      | DRY   | NM    | NM      | NM        | NM       | 0.89      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/09/99 | 5448.32  | DRY      | DRY   | NM    | NM      | NM        | NM       | 0.89      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/09/99 | 5448.32  | NM       | NM    | NM    | NM      | NM        | NM       | 0.89      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 05/14/00 | 5448.32  | DRY      | DRY   | NM    | NM      | NM        | NM       | 0.89      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/16/00 | 5449.34  | DRY      | DRY   | NM    | DRY     | DRY       | DRY      | DRY       | 0.89      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/07/00 | 5449.34  | DRY      | DRY   | NM    | DRY     | DRY       | DRY      | DRY       | 0.89      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/11/00 | 5449.34  | DRY      | DRY   | NM    | DRY     | DRY       | DRY      | DRY       | 0.89      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/31/96 | 5447.53  | 15.00    | 15.00 | 15.00 | 0.00    | 5432.53   | 5432.53  | 5432.53   | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 03/19/97 | 5447.53  | 15.01    | 15.01 | 15.01 | 0.00    | 5432.52   | 5432.52  | 5432.52   | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/18/97 | 5447.53  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/29/97 | 5447.53  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/18/97 | 5447.53  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 04/29/98 | 5447.53  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/25/98 | 5447.53  | 14.40    | 14.40 | 14.40 | 0.00    | 5433.13   | 5433.13  | 5433.13   | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/24/98 | 5447.53  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/31/98 | 5447.53  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 04/14/99 | 5447.53  | DRY      | DRY   | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/04/99 | 5447.53  | 13.96    | 13.96 | 13.96 | 0.00    | 5433.57   | 5433.57  | 5433.57   | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/09/99 | 5447.53  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 05/14/00 | 5447.53  | 13.40    | 13.40 | 13.40 | 0.00    | 5434.13   | 5434.13  | 5434.13   | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/16/00 | 5449.23  | 15.09    | 15.09 | 15.09 | 0.00    | 5434.14   | 5434.14  | 5434.14   | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/07/00 | 5449.23  | 15.73    | 15.73 | 15.73 | 0.00    | 5433.50   | 5433.50  | 5433.50   | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/11/00 | 5449.23  | 15.73    | 15.73 | 15.73 | 0.00    | 5433.50   | 5433.50  | 5433.50   | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 10/07/96 | 5447.62  | 14.70    | 14.70 | 14.70 | 0.00    | 5432.92   | 5432.92  | 5432.92   | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/31/96 | 5447.62  | DRY      | DRY   | DRY   | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 03/19/97 | 5447.62  | DRY      | DRY   | DRY   | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/18/97 | 5447.62  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/29/97 | 5447.62  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/18/97 | 5447.62  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 04/29/98 | 5447.62  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/25/98 | 5447.62  | 14.92    | 14.92 | 14.92 | 0.00    | 5432.70   | 5432.70  | 5432.70   | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/24/98 | 5447.62  | NM       | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |

TABLE 1  
THRIFTWAY REFINERY  
SUMMARY OF GROUNDWATER MONITOR DATA

| Well #   | Date     | TOC elev | A/O          | O/W   | Product | Prod Elev | ater Ele | df WL Ele | Accum Pro | Deg. C | pH | DO mg/l | Seimen/m | TDS | ORP | NTU's | % Salinity | Purged | DEPTH |    |
|----------|----------|----------|--------------|-------|---------|-----------|----------|-----------|-----------|--------|----|---------|----------|-----|-----|-------|------------|--------|-------|----|
| MW-26    | 12/31/98 | 5447.62  | NM           | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 04/14/99 | 5447.62  | 14.81        | 14.81 | 0.00    | 5432.81   | 5432.81  | 5432.81   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 06/04/99 | 5447.62  | 14.73        | 14.73 | 0.00    | 5432.89   | 5432.89  | 5432.89   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 05/14/00 | 5447.62  | 14.18        | 14.18 | 0.00    | 5433.44   | 5433.44  | 5433.44   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 06/16/00 | 5448.74  | 15.15        | 15.15 | 0.00    | 5433.59   | 5433.59  | 5433.59   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 09/07/00 | 5448.74  | 15.07        | 15.07 | 0.00    | 5433.67   | 5433.67  | 5433.67   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 12/11/00 | 5448.74  | 15.11        | 15.11 | 0.00    | 5433.63   | 5433.63  | 5433.63   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 10/07/96 | 5447.26  | DRY          | DRY   | NM      | NM        | NM       | NM        | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
|          | 12/31/96 | 5447.26  | WELL COVERED |       |         |           |          |           |           |        |    |         |          |     |     |       |            |        |       |    |
|          | MW-27    | 10/07/96 | 5448.04      | DRY   | DRY     | NM        | NM       | NM        | NM        | 8.44   | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
| 12/31/96 |          | 5448.04  | DRY          | DRY   | NM      | NM        | NM       | NM        | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 03/19/97 |          | 5448.04  | DRY          | DRY   | NM      | NM        | NM       | NM        | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/18/97 |          | 5448.04  | NM           | NM    | NM      | NM        | NM       | NM        | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/29/97 |          | 5448.04  | NM           | NM    | NM      | NM        | NM       | NM        | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/18/97 |          | 5448.04  | NM           | NM    | NM      | NM        | NM       | NM        | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 04/29/98 |          | 5448.04  | NM           | NM    | NM      | NM        | NM       | NM        | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/25/98 |          | 5448.04  | NM           | NM    | NM      | NM        | NM       | NM        | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/24/98 |          | 5448.04  | DRY          | DRY   | NM      | NM        | NM       | NM        | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/31/98 |          | 5448.04  | DRY          | DRY   | NM      | NM        | NM       | NM        | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| MW-28    | 05/14/00 | 5448.04  | 14.02        | 14.02 | 0.00    | 5434.02   | 5434.02  | 5434.02   | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 06/16/00 | 5449.01  | DRY          | DRY   | DRY     | DRY       | DRY      | DRY       | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 09/07/00 | 5449.01  | DRY          | DRY   | DRY     | DRY       | DRY      | DRY       | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 12/11/00 | 5449.01  | DRY          | DRY   | DRY     | DRY       | DRY      | DRY       | 8.44      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 10/07/96 | 5448.06  | 14.98        | 14.98 | 0.00    | 5433.08   | 5433.08  | 5433.08   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 12/31/96 | 5448.06  | 14.97        | 14.97 | 0.00    | 5433.09   | 5433.09  | 5433.09   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 03/19/97 | 5448.06  | 14.96        | 14.96 | 0.00    | 5433.10   | 5433.10  | 5433.10   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 06/18/97 | 5448.06  | NM           | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 09/29/97 | 5448.06  | NM           | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 12/18/97 | 5448.06  | NM           | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| MW-29    | 04/28/98 | 5448.06  | 14.74        | 14.74 | 0.00    | 5433.32   | 5433.32  | 5433.32   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 06/24/98 | 5448.06  | 14.87        | 14.87 | 0.00    | 5433.19   | 5433.19  | 5433.19   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 09/24/98 | 5448.06  | NM           | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 12/31/98 | 5448.06  | NM           | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 04/14/99 | 5448.06  | 14.76        | 14.76 | 0.00    | 5433.30   | 5433.30  | 5433.30   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 06/04/99 | 5448.06  | 14.55        | 14.55 | 0.00    | 5433.51   | 5433.51  | 5433.51   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 06/16/00 | 5449.07  | 15.02        | 15.02 | 0.55    | 5434.05   | 5433.50  | 5433.89   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 09/07/00 | 5449.07  | 15.53        | 15.92 | 0.39    | 5433.54   | 5433.15  | 5433.42   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 12/11/00 | 5449.07  | 15.53        | 15.76 | 0.23    | 5433.54   | 5433.31  | 5433.47   | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 10/07/96 | 5446.90  | 14.59        | 14.82 | 0.23    | 5432.31   | 5432.08  | 5432.24   | 7.10      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/31/96 | 5446.90  | 14.65    | 14.78        | 0.13  | 5432.25 | 5432.12   | 5432.21  | 7.11      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |    |
| 03/17/97 | 5446.90  | 14.61    | 14.69        | 0.08  | 5432.29 | 5432.21   | 5432.27  | 7.11      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |    |
| 06/18/97 | 5446.90  | 14.50    | 14.52        | 0.02  | 5432.40 | 5432.38   | 5432.39  | 7.13      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |    |
| 09/29/97 | 5446.90  | 14.36    | 14.40        | 0.04  | 5432.54 | 5432.50   | 5432.53  | 7.14      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |    |
| 12/18/97 | 5446.90  | 14.36    | 14.40        | 0.04  | 5432.54 | 5432.50   | 5432.53  | 7.14      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |    |
| 04/29/98 | 5446.90  | NM       | NM           | NM    | NM      | NM        | NM       | NM        | 7.14      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/24/98 | 5446.90  | 14.09    | 14.09        | 0.00  | 5432.81 | 5432.81   | 5432.81  | 7.14      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |    |
| 09/24/98 | 5446.90  | 14.09    | 14.09        | 0.00  | 5432.81 | 5432.81   | 5432.81  | 7.14      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |    |

**TABLE 1**  
**THRIFTWAY REFINERY**  
**SUMMARY OF GROUNDWATER MONITOR DATA**

| Well #   | Date     | TOC elev | A/O   | OW    | Product | Prod Elev | ater Ele | dj WL Ele | Accum Pro | Deg. C | pH | DO mg/l | Stamen/m | TDS | ORP | NTU's | % Salinity | Purged | DEPTH |
|----------|----------|----------|-------|-------|---------|-----------|----------|-----------|-----------|--------|----|---------|----------|-----|-----|-------|------------|--------|-------|
| POND     | 12/31/98 | 5446.90  | NM    | NM    | NM      | NM        | NM       | NM        | 7.14      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 04/14/99 | 5446.90  | 14.00 | 14.00 | 0.00    | 5432.90   | 5432.90  | 5432.90   | 7.14      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 06/04/99 | 5446.90  | 13.84 | 13.84 | 0.00    | 5433.06   | 5433.06  | 5433.06   | 7.14      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 06/16/00 | 5447.94  | 14.38 | 14.38 | 0.00    | 5433.56   | 5433.56  | 5433.56   | 7.14      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 09/07/00 | 5447.94  | 14.87 | 14.87 | 0.00    | 5433.07   | 5433.07  | 5433.07   | 7.14      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 12/11/00 | 5447.94  | 14.91 | 14.91 | 0.00    | 5433.03   | 5433.03  | 5433.03   | 7.14      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 06/02/99 |          | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 09/09/99 |          | NM    | NM    | NM      | NM        | NM       | NM        | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 10/07/96 | 5445.72  | 13.87 | 15.34 | 1.47    | 5431.85   | 5430.38  | 5431.41   | 103.52    | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|          | 12/30/96 | 5445.72  | 13.94 | 15.34 | 1.40    | 5431.78   | 5430.38  | 5431.36   | 104.07    | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
| 03/17/97 | 5445.72  | 13.90    | 14.94 | 1.04  | 5431.82 | 5430.78   | 5431.51  | 104.21    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/18/97 | 5445.72  | 13.77    | 14.52 | 0.75  | 5431.95 | 5431.20   | 5431.73  | 104.75    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/29/97 | 5445.72  | 13.73    | 14.25 | 0.52  | 5431.99 | 5431.47   | 5431.83  | 104.81    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/18/97 | 5445.72  | 13.72    | 14.21 | 0.49  | 5432.00 | 5431.51   | 5431.85  | 104.92    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 04/29/98 | 5445.72  | 13.55    | 13.75 | 0.20  | 5432.17 | 5431.97   | 5432.11  | 104.99    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/22/98 | 5445.72  | 13.63    | 14.04 | 0.41  | 5432.09 | 5431.68   | 5431.97  | 105.03    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/23/98 | 5445.72  | 13.88    | 14.88 | 1.00  | 5431.84 | 5430.84   | 5431.54  | 105.16    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/31/98 | 5445.72  | 13.80    | 14.42 | 0.62  | 5431.92 | 5431.30   | 5431.73  | 105.26    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 04/14/99 | 5445.72  | 13.63    | 13.83 | 0.20  | 5432.09 | 5431.89   | 5432.03  | 105.26    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/04/99 | 5445.72  | 13.45    | 13.57 | 0.12  | 5432.27 | 5432.15   | 5432.23  | 105.28    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/09/99 | 5445.72  | 13.37    | 13.43 | 0.06  | 5432.35 | 5432.29   | 5432.33  | 105.28    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 04/05/00 | 5445.72  | 13.11    | 13.11 | 0.00  | 5432.61 | 5432.61   | 5432.61  | 105.28    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/16/00 | 5447.73  | 14.99    | 14.99 | 0.00  | 5432.74 | 5432.74   | 5432.74  | 105.28    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/07/00 | 5447.73  | 15.46    | 15.46 | 0.00  | 5432.27 | 5432.27   | 5432.27  | 105.28    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/11/00 | 5447.73  | 15.49    | 15.49 | 0.00  | 5432.24 | 5432.24   | 5432.24  | 105.28    | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 10/07/96 | 5446.67  | 14.84    | 15.01 | 0.17  | 5431.83 | 5431.66   | 5431.78  | 49.26     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/30/96 | 5446.67  | 14.89    | 15.02 | 0.13  | 5431.78 | 5431.65   | 5431.74  | 49.28     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 03/17/97 | 5446.67  | 14.77    | 15.02 | 0.25  | 5431.90 | 5431.65   | 5431.83  | 14.30     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/18/97 | 5446.67  | 14.50    | 15.29 | 0.79  | 5432.17 | 5431.38   | 5431.93  | 49.54     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/29/97 | 5446.67  | 14.48    | 14.97 | 0.48  | 5432.18 | 5431.70   | 5432.04  | 49.60     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/18/97 | 5446.67  | 14.39    | 14.54 | 0.15  | 5432.28 | 5432.13   | 5432.24  | 49.69     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 04/29/98 | 5446.67  | 13.25    | 13.25 | 0.00  | 5433.42 | 5433.42   | 5433.42  | 49.69     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/22/98 | 5446.67  | 14.36    | 14.38 | 0.02  | 5432.31 | 5432.29   | 5432.30  | 49.78     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/23/98 | 5446.67  | 14.66    | 15.42 | 0.76  | 5432.01 | 5431.25   | 5431.78  | 49.78     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/31/98 | 5446.67  | 14.44    | 14.86 | 0.42  | 5432.23 | 5431.81   | 5432.10  | 49.93     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 04/14/99 | 5446.67  | 14.28    | 14.31 | 0.03  | 5432.39 | 5432.36   | 5432.38  | 49.93     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/04/99 | 5446.67  | 14.16    | 14.18 | 0.02  | 5432.51 | 5432.49   | 5432.50  | 49.93     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/09/99 | 5446.67  | 13.10    | 13.11 | 0.01  | 5433.57 | 5433.56   | 5433.57  | 49.93     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 04/05/00 | 5446.67  | 13.74    | 13.75 | 0.01  | 5432.93 | 5432.92   | 5432.93  | 49.93     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/16/00 | 5448.68  | 15.69    | 15.69 | 0.00  | 5432.99 | 5432.99   | 5432.99  | 49.93     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/07/00 | 5448.68  | 16.17    | 16.17 | 0.00  | 5432.51 | 5432.51   | 5432.51  | 49.93     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/11/00 | 5448.68  | 16.16    | 16.16 | 0.00  | 5432.52 | 5432.52   | 5432.52  | 49.93     | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/30/96 | 5443.98  | 12.97    | 13.70 | 0.73  | 5431.01 | 5430.28   | 5430.79  | 0.70      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 03/17/97 | 5443.98  | 12.00    | 12.56 | 0.56  | 5431.98 | 5431.42   | 5431.81  | 0.87      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 06/18/97 | 5443.98  | 11.60    | 12.35 | 0.75  | 5432.38 | 5431.63   | 5432.16  | 2.44      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 09/29/97 | 5443.98  | 11.64    | 11.77 | 0.13  | 5432.34 | 5432.21   | 5432.30  | 2.45      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |
| 12/18/97 | 5443.98  | 11.63    | 11.64 | 0.01  | 5432.35 | 5432.34   | 5432.35  | 2.45      | NM        | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     |       |

**TABLE 1  
THRIFTWAY REFINERY  
SUMMARY OF GROUNDWATER MONITOR DATA**

| Well #   | Date     | TOC elev       | A/O   | OW    | Product | Prod Elev | ater Ele | dj WL Ele | Accum Pro | Deg. C | pH   | DO mg/l | Seimen/m | TDS | ORP | NTU's | % Salinity | Purged | DEPTH |    |
|----------|----------|----------------|-------|-------|---------|-----------|----------|-----------|-----------|--------|------|---------|----------|-----|-----|-------|------------|--------|-------|----|
| T-17-1   | 04/29/98 | 5443.98        | 11.47 | 11.47 | 0.00    | 5432.51   | 5432.51  | 5432.51   | 2.45      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 06/22/98 | 5443.98        | 11.59 | 11.59 | 0.00    | 5432.39   | 5432.39  | 5432.39   | 2.45      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 09/24/98 | 5443.98        | NM    | NM    | NM      | NM        | NM       | NM        | 2.45      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 12/31/98 | 5443.98        | 11.65 | 11.75 | 0.10    | 5432.33   | 5432.23  | 5432.30   | 2.53      | NM     | NM   | NM      | 3.80     | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 04/14/99 | 5443.98        | 11.50 | 11.50 | 0.00    | 5432.48   | 5432.48  | 5432.48   | 2.53      | NM     | 6.90 | NM      | 3.80     | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 06/03/99 | 5443.98        | 11.29 | 11.29 | 0.00    | 5432.69   | 5432.69  | 5432.69   | 2.53      | NM     | 6.90 | NM      | 3.80     | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 09/09/99 | 5443.98        | NM    | NM    | NM      | NM        | NM       | NM        | 2.53      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 04/05/00 | 5443.98        | 10.93 | 10.93 | 0.00    | 5433.05   | 5433.05  | 5433.05   | 2.53      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
|          | 06/08/00 | NM             | NM    | NM    | NM      | NM        | NM       | NM        | 2.53      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
|          | 09/07/00 |                | 13.73 | 14.33 | 0.60    |           |          |           | 3.09      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
|          | 12/11/00 |                | 13.78 | 14.38 | 0.60    |           |          |           | 3.09      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
|          | 10/10/96 | 5452.41        | 18.05 | 18.11 | 0.06    | 5434.36   | 5434.30  | 5434.34   | 6.40      | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    | NM |
| 12/30/96 | 5452.41  | DRY            | DRY   | NM    | NM      | NM        | NM       | 6.40      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 03/19/97 | 5452.41  | DRY            | DRY   | NM    | NM      | NM        | NM       | 6.40      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/18/97 | 5452.41  | DRY            | DRY   | NM    | NM      | NM        | NM       | 6.40      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/29/97 | 5452.41  | NM             | NM    | NM    | NM      | NM        | NM       | 6.40      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/18/97 | 5452.41  | NM             | NM    | NM    | NM      | NM        | NM       | 6.40      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 04/29/98 | 5452.41  | NM             | NM    | NM    | NM      | NM        | NM       | 6.40      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/25/98 | 5452.41  | 17.52          | 17.94 | 0.42  | 5434.89 | 5434.47   | 5434.76  | 6.40      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/24/98 | 5452.41  | NM             | NM    | NM    | NM      | NM        | NM       | 6.40      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/31/98 | 5452.41  | NM             | NM    | NM    | NM      | NM        | NM       | 6.40      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 04/14/99 | 5452.41  | 16.35          | 16.35 | 0.00  | 5436.06 | 5436.06   | 5436.06  | 6.40      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/03/99 | 5452.41  | 17.30          | 17.34 | 0.04  | 5435.11 | 5435.07   | 5435.10  | 6.41      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/09/99 | 5452.41  | NM             | NM    | NM    | NM      | NM        | NM       | 6.41      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/16/00 | 5452.41  | 16.68          | 16.68 | 0.00  | 5435.73 | 5435.73   | 5435.73  | 6.41      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/07/00 | 5452.41  | 17.25          | 17.25 | 0.00  | 5435.16 | 5435.16   | 5435.16  | 6.41      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/11/00 | 5452.41  | 17.20          | 17.20 | 0.00  | 5435.21 | 5435.21   | 5435.21  | 6.41      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 10/10/96 | 5453.51  | 17.35          | 17.35 | 0.00  | 5436.16 | 5436.16   | 5436.16  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/30/96 | 5453.51  | NM             | NM    | NM    | NM      | NM        | NM       | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 03/19/97 | 5453.51  | 19.74          | 19.74 | 0.00  | 5433.77 | 5433.77   | 5433.77  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/18/97 | 5453.51  | NM             | NM    | NM    | NM      | NM        | NM       | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/29/97 | 5453.51  | NM             | NM    | NM    | NM      | NM        | NM       | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/18/97 | 5453.51  | NM             | NM    | NM    | NM      | NM        | NM       | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 04/29/98 | 5453.51  | NM             | NM    | NM    | NM      | NM        | NM       | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/16/00 | 5453.51  | WELL DESTROYED |       |       |         |           |          |           |           |        |      |         |          |     |     |       |            |        |       |    |
| 10/10/96 | 5450.98  | 19.85          | 19.90 | 0.05  | 5431.13 | 5431.08   | 5431.12  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/30/96 | 5450.98  | 17.16          | 17.16 | 0.00  | 5433.82 | 5433.82   | 5433.82  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 03/19/97 | 5450.98  | 17.20          | 17.20 | 0.00  | 5433.78 | 5433.78   | 5433.78  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/18/97 | 5450.98  | 17.38          | 17.38 | 0.00  | 5433.60 | 5433.60   | 5433.60  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/29/97 | 5450.98  | NM             | NM    | NM    | NM      | NM        | NM       | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/18/97 | 5450.98  | NM             | NM    | NM    | NM      | NM        | NM       | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 04/29/98 | 5450.98  | NM             | NM    | NM    | NM      | NM        | NM       | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/25/98 | 5450.98  | 16.39          | 16.39 | 0.00  | 5434.59 | 5434.59   | 5434.59  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 09/24/98 | 5450.98  | NM             | NM    | NM    | NM      | NM        | NM       | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 12/31/98 | 5450.98  | 16.70          | 16.70 | 0.00  | 5434.28 | 5434.28   | 5434.28  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 04/14/99 | 5450.98  | NM             | NM    | NM    | NM      | NM        | NM       | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |
| 06/03/99 | 5450.98  | 16.10          | 16.10 | 0.00  | 5434.88 | 5434.88   | 5434.88  | 0.00      | NM        | NM     | NM   | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |    |

**TABLE 1  
THRIFTWAY REFINERY  
SUMMARY OF GROUNDWATER MONITOR DATA**

| Well # | Date     | TOC elev                          | A/O                              | OW | Product | Prod Elev | Water Ele | dj WL Ele | Accum Pro | Deg. C | pH | DO mg/l | Seimen/m | TDS | ORP | NTU's | % Salinity | Purged | DEPTH |
|--------|----------|-----------------------------------|----------------------------------|----|---------|-----------|-----------|-----------|-----------|--------|----|---------|----------|-----|-----|-------|------------|--------|-------|
|        | 09/09/99 | 5450.98                           | NM                               | NM | NM      | NM        | NM        | NM        | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|        | 06/16/00 | 5450.98                           | NM                               | NM | NM      | NM        | NM        | NM        | 0.00      | NM     | NM | NM      | NM       | NM  | NM  | NM    | NM         | NM     | NM    |
|        | 09/07/00 | 5452.41                           | Well is covered need relocating. |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        |          |                                   |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
| UST    | 04/21/95 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 06/16/95 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 08/25/95 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 11/12/95 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 03/05/96 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 06/04/96 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 10/10/96 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 12/30/96 | NO GALLONS RECOVERED THIS QUARTER |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 03/19/97 | NO GALLONS RECOVERED THIS QUARTER |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 06/18/97 | NO GALLONS RECOVERED THIS QUARTER |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 07/09/97 | NO GALLONS RECOVERED THIS QUARTER |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 10/01/97 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 12/18/97 | NO GALLONS RECOVERED THIS QUARTER |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
| UST    | 04/29/98 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 06/25/98 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 09/24/98 | NO GALLONS RECOVERED THIS QUARTER |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 12/31/98 | NO GALLONS RECOVERED THIS QUARTER |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 04/12/99 | NO GALLONS RECOVERED THIS QUARTER |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 06/03/99 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 09/09/99 | NO GALLONS RECOVERED THIS QUARTER |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 12/30/99 | NO GALLONS RECOVERED THIS QUARTER |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 04/05/00 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 06/08/00 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 09/07/00 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 12/12/00 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        | 01/17/01 | GALLONS RECOVERED THIS QUARTER    |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        |          |                                   |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |
|        |          |                                   |                                  |    |         |           |           |           |           |        |    |         |          |     |     |       |            |        |       |

NOTE: NM SIGNIFIES NOT MEASURED  
TOTAL PRODUCT RECOVERED TO 9174.35 GALLONS

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well #   | Well A # | Date     | MTBE | Benzene                           | Toluene | Ethylbenzene | Xylenes |
|----------|----------|----------|------|-----------------------------------|---------|--------------|---------|
| EFFLUENT | EFFLUENT | 06/22/94 |      | SYSTEM SHUT DOWN                  |         |              |         |
|          | EFFLUENT | 09/20/94 | ND   | 9.3                               | 0.9     | ND           | 0.7     |
|          | EFFLUENT | 01/20/95 | NS   | NS                                | NS      | NS           | NS      |
|          | EFFLUENT | 04/12/95 | 7.5  | 97.5                              | 363.0   | 278.0        | 2638.0  |
|          | EFFLUENT | 11/12/95 | 3.2  | 33.9                              | 12.3    | 8.9          | 48.1    |
|          | EFFLUENT | 03/05/96 | 7.0  | 50.0                              | 21.2    | 7.1          | 43.4    |
|          | EFFLUENT | 06/04/96 | 3.5  | 2.4                               | 0.7     | 0.9          | 3.8     |
|          | EFFLUENT | 07/18/96 | 7.4  | 62.6                              | 43.7    | 13.1         | 88.9    |
|          | EFFLUENT | 10/09/96 | 1.2  | 3.7                               | ND      | 1.4          | 4.4     |
|          | EFFLUENT | 12/31/96 |      | SYSTEM SHUT DOWN                  |         |              |         |
|          | EFFLUENT | 03/20/97 |      | AIR STRIPPER MODIFIED             |         |              |         |
|          | EFFLUENT | 03/24/97 | NM   | 3.4                               | 1.9     | 0.9          | 2.7     |
|          | EFFLUENT | 03/28/97 | NM   | 18.7                              | 10.5    | 5.3          | 16.0    |
|          | EFFLUENT | 04/02/97 | NM   | 5.4                               | 2.6     | 1.4          | 4.8     |
|          | EFFLUENT | 04/03/97 | NM   | ND                                | ND      | ND           | ND      |
|          | EFFLUENT | 04/04/97 | NM   | ND                                | ND      | ND           | 0.1     |
|          | EFFLUENT | 04/10/97 | NM   | 0.5                               | 0.3     | 0.2          | 1.2     |
|          | EFFLUENT | 04/18/97 | 4.8  | 4.0                               | 0.4     | 0.4          | 1.2     |
|          | EFFLUENT | 05/30/97 |      | LARGER BLOWER INSTALLED           |         |              |         |
|          | EFFLUENT | 06/09/97 | NM   | ND                                | ND      | 0.5          | 0.5     |
|          | EFFLUENT | 06/27/97 | NM   | ND                                | 0.2     | 0.2          | 0.4     |
|          | EFFLUENT | 07/25/97 | NM   | ND                                | ND      | ND           | ND      |
|          | EFFLUENT | 07/31/97 | NM   | ND                                | ND      | ND           | ND      |
|          | EFFLUENT | 09/03/97 | NM   | 0.8                               | 0.5     | 1.1          | 6.2     |
|          | EFFLUENT | 12/22/97 | NM   | 122.6                             | 97.2    | 44.5         | 131.9   |
| EFFLUENT | EFFLUENT | 02/09/98 | 5.9  | 77.5                              | 115.5   | 47.1         | 134.1   |
|          | EFFLUENT | 02/19/98 | 10.0 | 110.0                             | 110.0   | 46.0         | 171.0   |
|          | EFFLUENT | 02/20/98 | 5.6  | 83.0                              | 96.0    | 46.0         | 209.0   |
|          | EFFLUENT | 02/23/98 | 13.0 | 200.0                             | 160.0   | 81.0         | 289.0   |
|          | EFFLUENT | 03/03/98 | 30.0 | 220.0                             | 140.0   | 84.0         | 243.0   |
|          | EFFLUENT | 03/04/98 | 22.0 | 200.0                             | 140.0   | 80.0         | 247.0   |
|          | EFFLUENT | 03/05/98 | 17.0 | 130.0                             | 94.0    | 56.0         | 176.0   |
|          | EFFLUENT | 03/05/98 |      | SYSTEM SHUT DOWN FOR CLEANING     |         |              |         |
|          | EFFLUENT | 04/24/98 | 54.0 | 310.0                             | 410.0   | 230.0        | 970.0   |
|          | EFFLUENT | 04/28/98 | 42.0 | 770.0                             | 350.0   | 280.0        | 580.0   |
|          | EFFLUENT | 04/28/98 |      | SYSTEM SHUT DOWN FOR TRAY REPAIRS |         |              |         |
|          | EFFLUENT | 06/11/98 |      | 117.0                             |         |              |         |
|          | EFFLUENT | 06/12/98 |      | 270.0                             |         |              |         |
|          | EFFLUENT | 06/15/98 |      | 200.0                             |         |              |         |
|          | EFFLUENT | 06/17/98 |      | NEW STRIPPER INSTALLATION         |         |              |         |
|          | EFFLUENT | 06/24/98 |      | NEW STRIPPER INSTALLATION         |         |              |         |
|          | EFFLUENT | 09/24/98 | 6.2  | 2.6                               | 1.6     | ND           | 2.7     |
|          | EFFLUENT | 10/21/98 | ND   | 2.6                               | 1.6     | ND           | 2.7     |

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well #       | Well A #     | Date     | MTBE                                                | Benzene | Toluene | Ethylbenzene | Xylenes |  |
|--------------|--------------|----------|-----------------------------------------------------|---------|---------|--------------|---------|--|
|              | EFFLUENT     | 11/16/98 | ND                                                  | ND      | ND      | ND           | 2.0     |  |
|              | EFFLUENT     | 12/31/98 | 71.0                                                | 9.6     | 7.7     | 5.8          | 21.4    |  |
| EFFLUENT     | EFFLUENT     | 02/16/99 | 4.8                                                 | 1.0     | 2.6     | 2.3          | 8.2     |  |
|              | EFFLUENT     | 03/02/99 | 12.0                                                | 2.2     | 1.5     | 1.9          | 6.0     |  |
|              | EFFLUENT     | 03/05/99 | 13.0                                                | 2.0     | 1.3     | 1.9          | 5.5     |  |
|              | EFFLUENT     | 03/12/99 | 5.7                                                 | 1.0     | 1.9     | 1.5          | 7.0     |  |
|              | EFFLUENT     | 03/19/99 | 4.8                                                 | 1.6     | 1.4     | 1.4          | 5.4     |  |
|              | EFFLUENT     | 03/26/99 | 14.0                                                | 2.1     | 1.1     | 0.6          | 6.6     |  |
|              | EFFLUENT     | 04/13/99 | 34.0                                                | 50.0    | 130.0   | 14.0         | 81.0    |  |
|              | EFFLUENT     | 05/04/99 | 16.0                                                | 0.7     | 3.6     | 1.0          | 4.0     |  |
|              | EFFLUENT     | 06/02/99 | 21.0                                                | 2.3     | 3.8     | 2.3          | 10.4    |  |
|              | EFFLUENT     | 07/07/99 | 14.0                                                | 1.9     | 5.4     | 0.6          | 3.5     |  |
|              | EFFLUENT     | 08/09/99 | ND                                                  | ND      | 1.0     | ND           | 1.2     |  |
|              | EFFLUENT     | 09/02/99 | ND                                                  | 0.9     | 2.6     | 1.1          | 4.7     |  |
|              | EFFLUENT     | 09/09/99 | ND                                                  | 1.8     | 9.6     | 2.6          | 12.1    |  |
|              | EFFLUENT     | 10/04/99 | ND                                                  | 2.8     | 2.5     | 1.3          | 5.7     |  |
|              | EFFLUENT     | 11/01/99 | 2.9                                                 | 2.6     | 1.9     | 2.1          | 10.3    |  |
|              | EFFLUENT     | 12/17/99 | 11.0                                                | 5.5     | 7.2     | 3.5          | 17.0    |  |
|              | EFFLUENT     | 12/28/99 | 6.8                                                 | 1.9     | 2.6     | 2.1          | 9.5     |  |
|              | EFFLUENT     | 02/08/00 | 8.7                                                 | 3.3     | 1.3     | 1.3          | 5.7     |  |
|              | EFFLUENT     | 04/03/00 | 20.0                                                | 6.2     | 1.8     | 2.6          | 11.4    |  |
|              | EFFLUENT     | 04/17/00 | 22.0                                                | 19.0    | 4.2     | 9.0          | 40.3    |  |
|              | EFFLUENT     | 05/08/00 | 460.0                                               | 3100.0  | 3200.0  | 660.0        | 2840.0  |  |
|              | EFFLUENT     | 05/08/00 | System shut down for cleaning oil found in outlet   |         |         |              |         |  |
|              | EFFLUENT     | 05/22/00 | 39.0                                                | 26.0    | 19.0    | 6.4          | 32.0    |  |
|              | EFFLUENT     | 05/22/00 | System shut down for cleaning found broken baffels. |         |         |              |         |  |
|              | EFFLUENT     | 05/26/00 | System shut down for repairs.                       |         |         |              |         |  |
|              | EFFLUENT     | 05/31/00 | 4.1                                                 | 1.7     | ND      | 1.2          | 2.8     |  |
|              | EFFLUENT     | 06/05/00 | 10.0                                                | 3.0     | 2.1     | 0.7          | 4.4     |  |
|              | EFFLUENT     | 06/29/00 | 2.9                                                 | 1.5     | 1.8     | ND           | 3.4     |  |
|              | EFFLUENT     | 08/03/00 | 16.0                                                | 0.8     | 0.6     | ND           | 1.6     |  |
|              | EFFLUENT     | 09/14/00 | ND                                                  | ND      | ND      | ND           | 1.7     |  |
|              | EFFLUENT     | 10/09/00 | 22.0                                                | 0.7     | ND      | ND           | 1.5     |  |
|              | EFFLUENT     | 11/08/00 | 12.0                                                | 6.1     | 1.9     | 4.1          | 17.5    |  |
|              | EFFLUENT     | 12/07/00 | 31.0                                                | 6.1     | ND      | ND           | 1.5     |  |
| EFFLUENT DUP | EFFLUENT DUP | 02/09/98 | 5.9                                                 | 77.5    | 97.2    | 44.5         | 131.9   |  |
| EFFLUENT DUP | EFFLUENT DUP | 02/16/99 | ND                                                  | 0.6     | 2.2     | 0.8          | 3.6     |  |
| INFLUENT     | INFLUENT     | 06/22/94 | SYSTEM SHUT DOWN                                    |         |         |              |         |  |
|              | INFLUENT     | 09/20/94 | 50.0                                                | 9670.0  | 754.0   | 158.0        | 633.0   |  |
|              | INFLUENT     | 01/20/95 | NS                                                  | NS      | NS      | NS           | NS      |  |
|              | INFLUENT     | 04/12/95 | 24.5                                                | 2060.0  | 987.0   | 246.0        | 1689.0  |  |
|              | INFLUENT     | 03/05/96 | 155.0                                               | 6990.0  | 3570.0  | 1300.0       | 6680.0  |  |
|              | INFLUENT     | 06/04/96 | 95.0                                                | 4607.7  | 1794.7  | 523.8        | 2254.0  |  |

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well # | Well A # | Date     | MTBE                       | Benzene          | Toluene | Ethylbenzene | Xylenes |  |
|--------|----------|----------|----------------------------|------------------|---------|--------------|---------|--|
|        | INFLUENT | 10/09/96 | 13.2                       | 3116.0           | 1332.2  | 504.2        | 1588.0  |  |
|        | INFLUENT | 12/31/96 |                            | SYSTEM SHUT DOWN |         |              |         |  |
|        | INFLUENT | 03/24/97 | NM                         | 2110.0           | 1011.0  | 47.0         | 1279.0  |  |
|        | INFLUENT | 03/28/97 | NM                         | 1827.0           | 850.0   | 40.6         | 1146.0  |  |
|        | INFLUENT | 04/02/97 | NM                         | 1436.0           | 650.0   | 361.0        | 1279.0  |  |
|        | INFLUENT | 07/31/97 | NM                         | 4641.0           | 4939.0  | 1128.0       | 4708.0  |  |
|        | INFLUENT | 09/24/97 | NM                         | 1600.0           | 923.0   | 660.0        | 1529.0  |  |
|        | INFLUENT | 12/22/97 | NM                         | 2078.0           | 1610.0  | 729.0        | 2053.0  |  |
|        | INFLUENT | 02/09/98 | 37.0                       | 1761.0           | 2542.0  | 963.0        | 461.0   |  |
|        | INFLUENT | 06/23/98 |                            | SYSTEM SHUT DOWN |         |              |         |  |
|        | INFLUENT | 12/31/98 | 440.0                      | 1200.0           | 860.0   | 760.0        | 1800.0  |  |
|        | INFLUENT | 02/16/99 | 40.0                       | 120.0            | 270.0   | 230.0        | 1000.0  |  |
|        | INFLUENT | 03/02/99 | 100.0                      | 650.0            | 250.0   | 470.0        | 890.0   |  |
|        | INFLUENT | 03/05/99 | 120.0                      | 760.0            | 280.0   | 530.0        | 1000.0  |  |
|        | INFLUENT | 03/12/99 | 140.0                      | 370.0            | 370.0   | 440.0        | 1520.0  |  |
|        | INFLUENT | 03/19/99 | 170.0                      | 1100.0           | 460.0   | 750.0        | 1760.0  |  |
|        | INFLUENT | 03/26/99 | 140.0                      | 980.0            | 430.0   | 710.0        | 1900.0  |  |
|        | INFLUENT | 04/13/99 | ND                         | 6400.0           | 16000.0 | 1600.0       | 6800.0  |  |
|        | INFLUENT | 05/04/99 | 190.0                      | 1200.0           | 2700.0  | 860.0        | 2720.0  |  |
|        | INFLUENT | 06/02/99 | 200.0                      | 1200.0           | 1800.0  | 900.0        | 3190.0  |  |
|        | INFLUENT | 07/07/99 | 960.0                      | 2600.0           | 6700.0  | 1000.0       | 3230.0  |  |
|        | INFLUENT | 08/09/99 | 150.0                      | 840.0            | 1800.0  | 670.0        | 1740.0  |  |
|        | INFLUENT | 09/02/99 | 350.0                      | 1300.0           | 2500.0  | 720.0        | 2080.0  |  |
|        | INFLUENT | 09/09/99 | 360.0                      | 1800.0           | 5900.0  | 1200.0       | 5000.0  |  |
|        | INFLUENT | 10/04/99 | 370.0                      | 2000.0           | 1600.0  | 820.0        | 2960.0  |  |
|        | INFLUENT | 11/01/99 | 270.0                      | 1800.0           | 1000.0  | 790.0        | 3300.0  |  |
|        | INFLUENT | 12/17/99 | 220.0                      | 1500.0           | 1700.0  | 820.0        | 3560.0  |  |
|        | INFLUENT | 12/28/99 | 230.0                      | 1500.0           | 1300.0  | 800.0        | 3400.0  |  |
|        | INFLUENT | 02/08/00 | 190.0                      | 1800.0           | 540.0   | 640.0        | 2230.0  |  |
|        | INFLUENT | 04/03/00 | 250.0                      | 1900.0           | 410.0   | 660.0        | 2530.0  |  |
|        | INFLUENT | 04/17/00 | 230.0                      | 2100.0           | 440.0   | 660.0        | 2440.0  |  |
|        | INFLUENT | 05/22/00 | 220.0                      | 2400.0           | 1800.0  | 600.0        | 2460.0  |  |
|        | INFLUENT | 05/31/00 | 100.0                      | 1200.0           | 500.0   | 530.0        | 1180.0  |  |
|        | INFLUENT | 06/05/00 | 260.0                      | 2400.0           | 2400.0  | 680.0        | 2640.0  |  |
|        | INFLUENT | 06/29/00 | 190.0                      | 2200.0           | 2300.0  | 760.0        | 2980.0  |  |
|        | INFLUENT | 08/03/00 | ND                         | 1600.0           | 740.0   | 610.0        | 1870.0  |  |
|        | INFLUENT | 09/14/00 | 140.0                      | 1100.0           | 290.0   | 530.0        | 1460.0  |  |
|        | INFLUENT | 10/09/00 | 210.0                      | 1600.0           | 280.0   | 610.0        | 2220.0  |  |
|        | INFLUENT | 11/08/00 | 180.0                      | 840.0            | 170.0   | 520.0        | 1790.0  |  |
|        | INFLUENT | 12/07/00 | 1400.0                     | 1700.0           | 890.0   | 560.0        | 2220.0  |  |
| MW-01  | MW-01    | 03/05/96 | FREE PRODUCT FOUND IN WELL |                  |         |              |         |  |
|        | MW-01    | 05/31/96 | FREE PRODUCT FOUND IN WELL |                  |         |              |         |  |
|        | MW-01    | 10/07/96 | 244.6                      | 255.1            | 10.9    | 36.5         | 192.8   |  |

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well #    | Well A #  | Date     | MTBE                       | Benzene | Toluene | Ethylbenzene | Xylenes |  |
|-----------|-----------|----------|----------------------------|---------|---------|--------------|---------|--|
|           | MW-01     | 12/31/96 | 219.6                      | 164.0   | 5.3     | 9.8          | 176.6   |  |
|           | MW-01     | 03/19/97 | NM                         | 45.6    | 1.3     | 5.1          | 39.8    |  |
|           | MW-01     | 06/18/97 | NM                         | 26.7    | 0.7     | 3.8          | 39.7    |  |
|           | MW-01     | 09/24/97 | NM                         | 134.9   | 5.9     | 15.8         | 94.7    |  |
|           | MW-01     | 12/23/97 | NM                         | 58.7    | 1.6     | 4.9          | 94.7    |  |
|           | MW-01     | 04/28/98 | 79.0                       | 58.0    | 2.8     | 4.9          | 21.1    |  |
|           | MW-01     | 06/24/98 | 59.0                       | 14.0    | ND      | 1.4          | 1.8     |  |
|           | MW-01     | 09/23/98 | 71.0                       | 15.0    | ND      | 1.8          | ND      |  |
|           | MW-01     | 12/30/98 | 120.0                      | 120.0   | 1.4     | 7.5          | 25.0    |  |
|           | MW-01     | 04/14/99 | 140.0                      | 190.0   | 0.8     | 5.3          | 4.4     |  |
|           | MW-01     | 06/03/99 | 78.0                       | 29.0    | ND      | 1.1          | ND      |  |
|           | MW-01     | 09/09/99 | 73.0                       | 560.0   | 1.0     | 21.0         | 6.7     |  |
|           | MW-01     | 12/30/99 | 46.0                       | 320.0   | ND      | 18.0         | 5.2     |  |
| MW-01 DUP | MW-01 DUP | 06/03/99 | 80.0                       | 27.0    | ND      | 1.0          | ND      |  |
| MW-02     | MW-02     | 03/05/96 | 664.0                      | 3120.0  | 53.5    | 484.0        | 519.8   |  |
|           | MW-02     | 10/09/96 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|           | MW-02     | 12/31/96 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|           | MW-02     | 03/19/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|           | MW-02     | 06/17/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|           | MW-02     | 09/24/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|           | MW-02     | 12/23/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|           | MW-02     | 04/28/98 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|           | MW-02     | 06/22/98 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|           | MW-02     | 09/23/98 | 150.0                      | 2000.0  | 40.0    | 610.0        | 1120.0  |  |
|           | MW-02     | 12/30/98 | Product                    | Product | Product | Product      | Product |  |
|           | MW-02     | 04/14/99 | Product                    | Product | Product | Product      | Product |  |
|           | MW-02     | 06/03/99 | 160.0                      | 2000.0  | 31.0    | 650.0        | 1070.0  |  |
|           | MW-02     | 09/09/99 | Product                    | Product | Product | Product      | Product |  |
|           | MW-02     | 12/30/99 | 110.0                      | 1900.0  | 5.6     | 620.0        | 670.0   |  |
| MW-2 DUP  | MW-02 DUP | 09/23/98 | 160.0                      | 2000.0  | 42.0    | 630.0        | 1280.0  |  |
| MW-03     | MW-03     | 03/05/96 | 298.0                      | 117.0   | 5.9     | 28.2         | 16.9    |  |
|           | MW-03     | 06/04/96 | NOT SAMPLED                |         |         |              |         |  |
|           | MW-03     | 10/09/96 | 224.7                      | 41.7    | 4.0     | 5.8          | 4.3     |  |
|           | MW-03     | 12/31/96 | NS                         | NS      | NS      | NS           | NS      |  |
|           | MW-03     | 03/19/97 | NS                         | NS      | NS      | NS           | NS      |  |
|           | MW-03     | 06/17/97 | NS                         | NS      | NS      | NS           | NS      |  |
|           | MW-03     | 09/24/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|           | MW-03     | 12/23/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|           | MW-03     | 04/28/98 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|           | MW-03     | 06/24/98 | 200.0                      | 120.0   | ND      | 8.2          | ND      |  |
|           | MW-03     | 09/22/98 | NS                         | NS      | NS      | NS           | NS      |  |
|           | MW-03     | 12/30/98 | NS                         | NS      | NS      | NS           | NS      |  |
|           | MW-03     | 04/13/99 | 180.0                      | 170.0   | 1.4     | 23.0         | 4.2     |  |

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well #    | Well A #  | Date     | MTBE                              | Benzene | Toluene | Ethylbenzene | Xylenes |  |
|-----------|-----------|----------|-----------------------------------|---------|---------|--------------|---------|--|
|           | MW-03     | 06/03/99 | NS                                | NS      | NS      | NS           | NS      |  |
| MW-04     | MW-04     | 03/05/96 | 31.5                              | 50.0    | 5.6     | ND           | 8.3     |  |
|           | MW-04     | 06/04/96 | 35.0                              | 1.0     | 3.3     | 3.3          | 7.0     |  |
|           | MW-04     | 10/09/96 | 33.0                              | 0.9     | 2.1     | 2.2          | 1.2     |  |
|           | MW-04     | 12/31/96 | 27.0                              | 3.5     | 1.4     | 1.7          | 1.6     |  |
|           | MW-04     | 03/19/97 | NM                                | 21.7    | 0.5     | 2.6          | 2.3     |  |
|           | MW-04     | 06/17/97 | NM                                | 8.4     | 1.6     | 2.2          | 1.4     |  |
|           | MW-04     | 09/24/97 | NM                                | 3.7     | 3.0     | 5.1          | 2.0     |  |
|           | MW-04     | 12/22/97 | NM                                | 3.8     | 3.1     | 3.0          | 1.3     |  |
|           | MW-04     | 04/28/98 | WELL BURIED BY AZTEC WELL SERVICE |         |         |              |         |  |
|           | MW-04     | 06/05/00 | 20.0                              | 9.4     | ND      | 2.7          | ND      |  |
|           | MW-04     | 09/05/00 | 20.0                              | 22.0    | ND      | 3.6          | 0.6     |  |
|           | MW-04     | 12/06/00 | 36.0                              | 9.3     | ND      | ND           | ND      |  |
| MW-05     | MW-05     | 03/05/96 | 52.9                              | 2.0     | 0.4     | 0.6          | 1.2     |  |
|           | MW-05     | 06/04/96 | 47.2                              | 0.3     | ND      | 0.2          | ND      |  |
|           | MW-05     | 10/09/96 | 48.6                              | 0.6     | ND      | ND           | ND      |  |
|           | MW-05     | 12/31/96 | 47.9                              | 4.8     | ND      | 0.2          | 1.1     |  |
|           | MW-05     | 03/19/97 | NM                                | 5.8     | ND      | 0.4          | 0.2     |  |
|           | MW-05     | 06/17/97 | NM                                | 6.7     | 0.3     | 0.5          | 0.2     |  |
|           | MW-05     | 09/24/97 | NM                                | 9.6     | 9.6     | 9.6          | 9.6     |  |
|           | MW-05     | 12/19/97 | NM                                | 8.6     | 0.3     | 0.4          | ND      |  |
|           | MW-05     | 04/27/98 | 56.0                              | 9.2     | ND      | ND           | ND      |  |
|           | MW-05     | 06/24/98 | 56.0                              | 10.0    | ND      | 0.6          | ND      |  |
|           | MW-05     | 09/21/98 | 56.0                              | 11.0    | ND      | ND           | ND      |  |
|           | MW-05     | 12/29/98 | 52.0                              | 12.0    | ND      | 0.7          | ND      |  |
|           | MW-05     | 04/12/99 | 43.0                              | 6.7     | ND      | 0.5          | ND      |  |
|           | MW-05     | 06/02/99 | 56.0                              | 12.0    | ND      | 0.8          | ND      |  |
|           | MW-05     | 09/08/99 | 54.0                              | 12.0    | 0.5     | ND           | ND      |  |
|           | MW-05     | 12/29/99 | 49.0                              | 10.0    | ND      | 0.6          | ND      |  |
|           | MW-05     | 04/03/00 | 51.0                              | 11.0    | ND      | 0.6          | ND      |  |
|           | MW-05     | 06/05/00 | 46.0                              | 9.4     | ND      | ND           | ND      |  |
|           | MW-05     | 09/05/00 | 59.0                              | 11.0    | ND      | 0.6          | ND      |  |
|           | MW-05     | 12/06/00 | 44.0                              | 8.4     | ND      | ND           | ND      |  |
| MW-05 DUP | MW-05 DUP | 06/02/99 | 57.0                              | 13.0    | ND      | 0.7          | ND      |  |
|           | MW-05 DUP | 12/29/99 | 49.0                              | 10.0    | ND      | 0.6          | ND      |  |
|           | MW-05 DUP | 06/07/00 | 35.0                              | 6.5     | ND      | ND           | ND      |  |
| MW-06     | MW-06     | 03/05/96 | 0.9                               | 0.2     | ND      | ND           | ND      |  |
|           | MW-06     | 06/04/96 | 8.3                               | 1.0     | 2.5     | 0.2          | 0.8     |  |
|           | MW-06     | 10/09/96 | 33.5                              | 1.9     | 3.7     | 3.2          | 1.3     |  |
|           | MW-06     | 12/31/96 | 0.9                               | 0.3     | 5.4     | 0.9          | 1.1     |  |
|           | MW-06     | 03/19/97 | NM                                | 0.6     | 0.8     | 0.8          | 4.0     |  |
|           | MW-06     | 06/17/97 | NM                                | 19.1    | 3.3     | 2.4          | 0.3     |  |
|           | MW-06     | 09/24/97 | NM                                | 20.3    | 6.2     | 4.5          | 1.9     |  |

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well #    | Well A #  | Date     | MTBE                              | Benzene | Toluene | Ethylbenzene | Xylenes |  |  |
|-----------|-----------|----------|-----------------------------------|---------|---------|--------------|---------|--|--|
|           | MW-06     | 12/23/97 | NM                                | ND      | ND      | ND           | ND      |  |  |
|           | MW-06     | 04/27/98 | 3.7                               | 6.3     | 0.6     | ND           | ND      |  |  |
|           | MW-06     | 06/24/98 | 36.0                              | 20.0    | 4.8     | 3.3          | ND      |  |  |
|           | MW-06     | 09/22/98 | 47.0                              | 8.5     | 1.8     | 4.5          | 3.6     |  |  |
|           | MW-06     | 12/30/98 | 2.8                               | ND      | ND      | ND           | ND      |  |  |
|           | MW-06     | 04/13/99 | 4.4                               | 5.6     | ND      | ND           | ND      |  |  |
|           | MW-06     | 06/03/99 | 47.0                              | 29.0    | 0.5     | 2.9          | 1.2     |  |  |
|           | MW-06     | 09/09/99 | 64.0                              | 24.0    | 0.8     | 4.3          | 1.9     |  |  |
|           | MW-06     | 12/29/99 | 1.3                               | ND      | ND      | ND           | ND      |  |  |
|           | MW-06     | 04/03/00 | 1.6                               | ND      | ND      | ND           | ND      |  |  |
|           | MW-06     | 06/06/00 | 33.0                              | 7.6     | ND      | 1.9          | ND      |  |  |
|           | MW-06     | 09/05/00 | 59.0                              | 10.0    | ND      | 2.7          | 1.9     |  |  |
|           | MW-06     | 12/06/00 | 1.8                               | ND      | ND      | ND           | ND      |  |  |
| MW-07     | MW-07     | 03/05/96 | FREE PRODUCT FOUND IN WELL        |         |         |              |         |  |  |
|           | MW-07     | 05/31/96 | FREE PRODUCT FOUND IN WELL        |         |         |              |         |  |  |
|           | MW-07     | 10/09/96 | FREE PRODUCT FOUND IN WELL        |         |         |              |         |  |  |
|           | MW-07     | 12/31/96 | FREE PRODUCT FOUND IN WELL        |         |         |              |         |  |  |
|           | MW-07     | 03/19/97 | NOT SAMPLED                       |         |         |              |         |  |  |
|           | MW-07     | 06/17/97 | NOT SAMPLED                       |         |         |              |         |  |  |
|           | MW-07     | 09/24/97 | NOT SAMPLED                       |         |         |              |         |  |  |
|           | MW-07     | 12/23/97 | NOT SAMPLED                       |         |         |              |         |  |  |
|           | MW-07     | 04/28/98 | NOT SAMPLED                       |         |         |              |         |  |  |
|           | MW-07     | 06/24/98 | 190.0                             | 240.0   | 1.1     | 444.0        | 97.4    |  |  |
|           | MW-07     | 09/24/98 | Sheen                             | Sheen   | Sheen   | Sheen        | Sheen   |  |  |
|           | MW-07     | 12/30/98 | Sheen                             | Sheen   | Sheen   | Sheen        | Sheen   |  |  |
|           | MW-07     | 04/14/99 | 260.0                             | 30.0    | 6.8     | 24.0         | 162.0   |  |  |
|           | MW-07     | 06/03/99 | Product                           | Product | Product | Product      | Product |  |  |
|           | MW-07     | 09/09/99 | Product                           | Product | Product | Product      | Product |  |  |
|           | MW-07     | 12/30/99 | 300.0                             | 9.3     | ND      | 16.0         | 101.7   |  |  |
|           | MW-07     | 04/05/00 | 320.0                             | 10.0    | ND      | 7.2          | 44.9    |  |  |
|           | MW-07     | 06/06/00 | 310.0                             | 4.7     | ND      | 7.9          | 28.0    |  |  |
|           | MW-07     | 12/06/00 | NOT SAMPLED                       |         |         |              |         |  |  |
| MW-07 DUP | MW-07 DUP | 12/30/99 | 300.0                             | 13.0    | ND      | 22.0         | 162.0   |  |  |
| MW-08     | MW-08     | 03/05/96 |                                   | DRY     |         |              |         |  |  |
|           | MW-08     | 06/03/96 | SILTED IN TO 3.8 FEET BELOW GRADE |         |         |              |         |  |  |
|           | MW-08     | 10/09/96 | SILTED IN TO 3.8 FEET BELOW GRADE |         |         |              |         |  |  |
|           | MW-08     | 12/31/96 | 35.8                              | ND      | ND      | ND           | ND      |  |  |
|           | MW-08     | 03/18/97 | NM                                | NM      | NM      | NM           | NM      |  |  |
|           | MW-08     | 06/16/97 | SILTED IN TO 3.6 FEET BELOW GRADE |         |         |              |         |  |  |
|           | MW-08     | 09/25/97 | NM                                | ND      | ND      | ND           | ND      |  |  |
|           | MW-08     | 12/22/97 | NM                                | 1.2     | ND      | ND           | ND      |  |  |
|           | MW-08     | 04/28/98 | 42.0                              | 3.6     | 0.6     | 0.6          | ND      |  |  |
|           | MW-08     | 06/23/98 |                                   | DRY     |         |              |         |  |  |

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well #    | Well A #  | Date     | MTBE                              | Benzene | Toluene | Ethylbenzene | Xylenes |  |
|-----------|-----------|----------|-----------------------------------|---------|---------|--------------|---------|--|
|           | MW-08     | 09/22/98 |                                   | DRY     |         |              |         |  |
|           | MW-08     | 12/29/98 | SILTED IN TO 1.5 FEET BELOW GRADE |         |         |              |         |  |
|           | MW-08     | 06/06/00 | 190.0                             | 1.3     | ND      | ND           | ND      |  |
|           | MW-08     | 09/06/00 | 250.0                             | 1.1     | ND      | ND           | ND      |  |
|           | MW-08     | 12/07/00 | 240.0                             | 1.9     | ND      | ND           | ND      |  |
| MW-09     | MW-09     | 03/05/96 | 16.8                              | 0.8     | 0.3     | 1.1          | 1.3     |  |
|           | MW-09     | 06/03/96 | 15.8                              | 0.4     | ND      | ND           | ND      |  |
|           | MW-09     | 10/09/96 | 16.5                              | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 12/31/96 | 7.2                               | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 03/18/97 | NM                                | ND      | ND      | ND           | 0.3     |  |
|           | MW-09     | 06/16/97 | NM                                | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 09/25/97 | NM                                | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 12/22/97 | NM                                | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 04/28/98 | ND                                | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 06/23/98 | 11.0                              | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 09/22/98 | 19.0                              | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 12/29/98 | 3.8                               | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 04/12/99 | 3.0                               | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 06/02/99 | 4.0                               | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 09/07/99 | 18.0                              | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 12/28/99 | 14.0                              | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 04/04/00 | 5.3                               | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 06/06/00 | 5.6                               | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 09/05/00 | 9.0                               | ND      | ND      | ND           | ND      |  |
|           | MW-09     | 12/07/00 | ND                                | ND      | ND      | ND           | ND      |  |
| MW-09 DUP | MW-09 DUP | 06/07/00 | 6.9                               | ND      | ND      | ND           | ND      |  |
| MW-10     | MW-10     | 03/05/96 | ND                                | 1.0     | ND      | 0.9          | 0.4     |  |
|           | MW-10     | 06/03/96 | ND                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 10/09/96 | ND                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 12/31/96 | ND                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 03/18/97 | NM                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 06/16/97 | NM                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 09/25/97 | NM                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 12/22/97 | NM                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 04/28/98 | ND                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 06/23/98 | ND                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 09/22/98 | ND                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 12/29/98 | ND                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 04/12/99 | ND                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 06/02/99 | ND                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 09/07/99 | ND                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 12/28/99 | ND                                | ND      | ND      | ND           | ND      |  |
|           | MW-10     | 04/03/00 | ND                                | ND      | ND      | ND           | ND      |  |

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well # | Well A # | Date     | MTBE                       | Benzene | Toluene | Ethylbenzene | Xylenes |  |
|--------|----------|----------|----------------------------|---------|---------|--------------|---------|--|
|        | MW-10    | 06/06/00 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-10    | 09/05/00 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-10    | 12/07/00 | ND                         | ND      | ND      | ND           | ND      |  |
| MW-11  | MW-11    | 03/05/96 | ND                         | ND      | ND      | ND           | 0.3     |  |
|        | MW-11    | 06/03/96 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 10/09/96 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 12/31/96 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 03/18/97 | NM                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 06/16/97 | NM                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 09/25/97 | NM                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 12/22/97 | NM                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 04/28/98 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 06/23/98 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 09/22/98 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 12/29/98 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 04/12/99 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 06/02/99 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 09/07/99 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 12/28/99 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 04/03/00 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 06/06/00 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 09/06/00 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-11    | 12/07/00 | ND                         | ND      | ND      | ND           | ND      |  |
| MW-12  | MW-12    | 03/05/96 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|        | MW-12    | 05/31/96 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|        | MW-12    | 10/09/96 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|        | MW-12    | 12/31/96 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|        | MW-12    | 03/18/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|        | MW-12    | 06/18/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|        | MW-12    | 09/25/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|        | MW-12    | 12/22/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|        | MW-12    | 04/28/98 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|        | MW-12    | 06/24/98 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|        | MW-12    | 09/23/98 | Product                    | Product | Product | Product      | Product |  |
|        | MW-12    | 12/30/98 | Product                    | Product | Product | Product      | Product |  |
|        | MW-12    | 04/12/99 | Product                    | Product | Product | Product      | Product |  |
|        | MW-12    | 06/02/99 | Product                    | Product | Product | Product      | Product |  |
|        | MW-12    | 04/05/00 | 180.0                      | 9.9     | 0.6     | 50.0         | 114.5   |  |
|        | MW-12    | 12/08/00 | 150.0                      | 20.0    | 1.0     | 35.0         | 72.4    |  |
| MW-13  | MW-13    | 03/05/96 | ND                         | ND      | ND      | ND           | 0.5     |  |
|        | MW-13    | 06/04/96 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 10/09/96 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 12/30/96 | ND                         | ND      | ND      | ND           | ND      |  |

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well # | Well A # | Date     | MTBE                       | Benzene | Toluene | Ethylbenzene | Xylenes |  |
|--------|----------|----------|----------------------------|---------|---------|--------------|---------|--|
|        | MW-13    | 03/18/97 | NM                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 06/16/97 | NM                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 09/23/97 | NM                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 12/19/97 | NM                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 04/24/98 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 06/23/98 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 09/21/98 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 12/29/98 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 04/12/99 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 06/02/99 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 09/07/99 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 12/28/99 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 04/03/00 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 06/05/00 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 09/05/00 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-13    | 12/07/00 | ND                         | ND      | ND      | ND           | ND      |  |
| MW-14  | MW-14    | 03/05/96 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|        | MW-14    | 05/31/96 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |
|        | MW-14    | 10/09/96 | 103.7                      | 7698.8  | 361.7   | 2107.7       | 2917.8  |  |
|        | MW-14    | 12/30/96 | 94.8                       | 6673.5  | 179.4   | 857.3        | 940.5   |  |
|        | MW-14    | 03/19/97 | NOT SAMPLED                |         |         |              |         |  |
|        | MW-14    | 06/18/97 | NOT SAMPLED                |         |         |              |         |  |
|        | MW-14    | 09/23/97 | NOT SAMPLED                |         |         |              |         |  |
|        | MW-14    | 12/19/97 | NOT SAMPLED                |         |         |              |         |  |
|        | MW-14    | 04/28/98 | 69.0                       | 2900.0  | 800.0   | 1100.0       | 1940.0  |  |
|        | MW-14    | 06/24/98 | 89.0                       | 2000.0  | 150.0   | 1100.0       | 360.0   |  |
|        | MW-14    | 09/23/98 | 87.0                       | 950.0   | 91.0    | 780.0        | 256.0   |  |
|        | MW-14    | 12/30/98 | Product                    | Product | Product | Product      | Product |  |
|        | MW-14    | 04/12/99 | Product                    | Product | Product | Product      | Product |  |
|        | MW-14    | 06/02/99 | Product                    | Product | Product | Product      | Product |  |
|        | MW-14    | 09/09/99 | Product                    | Product | Product | Product      | Product |  |
|        | MW-14    | 12/30/99 | 85.0                       | 780.0   | 470.0   | 1600.0       | 1660.0  |  |
| MW-15  | MW-15    | 03/05/96 | ND                         | 1.6     | 0.4     | 3.8          | 3.5     |  |
|        | MW-15    | 06/03/96 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-15    | 10/09/96 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-15    | 12/30/96 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-15    | 03/18/97 | NM                         | ND      | ND      | ND           | ND      |  |
|        | MW-15    | 06/17/97 | NM                         | ND      | ND      | ND           | ND      |  |
|        | MW-15    | 09/26/97 | NM                         | ND      | ND      | ND           | ND      |  |
|        | MW-15    | 12/22/97 | NM                         | ND      | ND      | ND           | ND      |  |
|        | MW-15    | 04/24/98 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-15    | 06/23/98 | ND                         | ND      | ND      | ND           | ND      |  |
|        | MW-15    | 09/21/98 | ND                         | ND      | ND      | ND           | ND      |  |

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well #    | Well A #  | Date     | MTBE                       | Benzene | Toluene | Ethylbenzene | Xylenes |  |  |
|-----------|-----------|----------|----------------------------|---------|---------|--------------|---------|--|--|
|           | MW-15     | 12/28/98 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-15     | 04/12/99 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-15     | 06/02/99 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-15     | 09/07/99 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-15     | 12/28/99 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-15     | 04/04/00 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-15     | 06/07/00 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-15     | 09/06/00 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-15     | 12/08/00 | ND                         | ND      | ND      | ND           | ND      |  |  |
| MW-16     | MW-16     | 03/05/96 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-16     | 06/04/96 | NOT SAMPLED                |         |         |              |         |  |  |
|           | MW-16     | 10/09/96 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-16     | 12/30/96 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-16     | 03/19/97 | NOT SAMPLED                |         |         |              |         |  |  |
|           | MW-16     | 06/18/97 | NOT SAMPLED                |         |         |              |         |  |  |
|           | MW-16     | 09/23/97 | NOT SAMPLED                |         |         |              |         |  |  |
|           | MW-16     | 12/19/97 | NOT SAMPLED                |         |         |              |         |  |  |
|           | MW-16     | 06/24/98 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-16     | 09/23/98 | NS                         | NS      | NS      | NS           | NS      |  |  |
|           | MW-16     | 12/30/98 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-16     | 04/12/99 | NS                         | NS      | NS      | NS           | NS      |  |  |
|           | MW-16     | 06/03/99 | ND                         | ND      | ND      | ND           | ND      |  |  |
|           | MW-16     | 09/09/99 | NS                         | NS      | NS      | NS           | NS      |  |  |
|           | MW-16     | 12/30/99 | NS                         | NS      | NS      | NS           | NS      |  |  |
| MW-16 DUP | MW-16 DUP | 12/30/98 | ND                         | ND      | ND      | ND           | ND      |  |  |
| MW-17     | MW-17     | 03/05/96 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |  |
|           | MW-17     | 06/04/96 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |  |
|           | MW-17     | 10/09/96 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |  |
|           | MW-17     | 12/30/96 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |  |
|           | MW-17     | 03/18/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |  |
|           | MW-17     | 06/18/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |  |
|           | MW-17     | 09/23/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |  |
|           | MW-17     | 12/22/97 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |  |
|           | MW-17     | 04/28/98 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |  |
|           | MW-17     | 06/23/98 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |  |
|           | MW-17     | 09/23/98 | FREE PRODUCT FOUND IN WELL |         |         |              |         |  |  |
|           | MW-17     | 12/29/98 | Product                    | Product | Product | Product      | Product |  |  |
|           | MW-17     | 04/12/99 | Product                    | Product | Product | Product      | Product |  |  |
|           | MW-17     | 06/03/99 | Product                    | Product | Product | Product      | Product |  |  |
|           | MW-17     | 09/09/99 | Product                    | Product | Product | Product      | Product |  |  |
|           | MW-17     | 12/30/99 | Product                    | Product | Product | Product      | Product |  |  |
|           | MW-17     | 04/05/00 | Product                    | Product | Product | Product      | Product |  |  |
|           | MW-17     | 06/16/00 | Product                    | Product | Product | Product      | Product |  |  |

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well #    | Well A #  | Date     | MTBE  | Benzene | Toluene | Ethylbenzene | Xylenes |
|-----------|-----------|----------|-------|---------|---------|--------------|---------|
| MW-18     | MW-18     | 03/05/96 | 53.0  | 6.8     | 2.4     | 1.8          | 14.1    |
|           | MW-18     | 06/04/96 | 36.8  | 136.4   | 2.5     | 6.6          | 4.7     |
|           | MW-18     | 10/09/96 | 31.9  | 60.1    | 1.1     | 1.5          | 0.7     |
|           | MW-18     | 12/31/96 | 43.1  | 176.0   | 1.9     | 1.3          | 0.7     |
|           | MW-18     | 03/19/97 | NM    | 150.9   | 2.4     | 0.6          | 2.1     |
|           | MW-18     | 06/18/97 | NM    | 34.0    | 2.1     | 1.2          | 0.2     |
|           | MW-18     | 09/24/97 | NM    | 33.2    | 2.3     | 3.4          | 1.4     |
|           | MW-18     | 12/23/97 | NM    | 63.8    | 1.2     | 4.2          | 0.8     |
|           | MW-18     | 04/28/98 | 56.0  | 68.0    | 3.9     | 6.8          | 2.2     |
|           | MW-18     | 06/24/98 | 60.0  | 150.0   | 0.8     | 13.0         | 2.1     |
|           | MW-18     | 09/22/98 | 74.0  | 76.0    | 3.6     | 12.0         | 2.5     |
|           | MW-18     | 12/29/98 | 56.0  | 31.0    | 1.2     | 5.1          | 1.0     |
|           | MW-18     | 04/13/99 | 35.0  | 27.0    | 0.6     | 3.1          | ND      |
|           | MW-18     | 06/03/99 | 80.0  | 36.0    | 0.9     | 4.2          | 1.2     |
|           | MW-18     | 09/09/99 | 10.0  | 12.0    | ND      | 2.3          | ND      |
|           | MW-18     | 12/29/99 | 42.0  | 30.0    | 0.5     | 2.6          | ND      |
|           | MW-18     | 04/05/00 | 41.0  | 68.0    | 0.7     | 4.2          | 1.2     |
|           | MW-18     | 06/07/00 | 69.0  | 62.0    | ND      | 6.7          | ND      |
|           | MW-18     | 09/06/00 | 18.0  | 12.0    | 0.6     | 0.5          | ND      |
|           | MW-18     | 12/06/00 | 16.0  | 4.0     | ND      | ND           | ND      |
| MW-18 DUP | MW-18 DUP | 09/09/99 | 10.0  | 13.0    | ND      | 2.5          | ND      |
| MW-19     | MW-19     | 03/05/96 | 80.6  | 6.1     | 2.8     | 24.9         | 55.3    |
|           | MW-19     | 06/04/96 | 80.5  | 15.3    | 2.8     | 92.9         | 150.5   |
|           | MW-19     | 10/09/96 | 11.1  | 1.4     | 3.0     | 39.5         | 58.0    |
|           | MW-19     | 12/30/96 | 65.7  | 17.9    | 3.5     | 43.0         | 62.5    |
|           | MW-19     | 03/19/97 | NM    | 24.6    | 4.1     | 164.1        | 352.2   |
|           | MW-19     | 06/17/97 | NM    | 8.1     | 2.4     | 96.7         | 160.5   |
|           | MW-19     | 09/26/97 | NM    | 0.8     | 1.8     | 11.7         | 11.0    |
|           | MW-19     | 12/23/97 | NM    | 36.9    | 3.8     | 244.0        | 357.4   |
|           | MW-19     | 04/28/98 | 98.0  | 44.0    | 3.4     | 190.0        | 280.8   |
|           | MW-19     | 06/23/98 | 130.0 | 60.0    | 7.0     | 280.0        | 341.9   |
|           | MW-19     | 09/22/98 | 46.0  | 13.0    | 2.2     | 31.0         | 4.0     |
|           | MW-19     | 12/29/98 | 37.0  | 14.0    | ND      | 43.0         | 23.0    |
|           | MW-19     | 04/13/99 | 36.0  | 0.7     | ND      | 1.7          | ND      |
|           | MW-19     | 06/03/99 | 45.0  | 7.6     | 0.9     | 35.0         | 16.2    |
|           | MW-19     | 09/09/99 | 1.7   | ND      | ND      | 0.6          | ND      |
|           | MW-19     | 12/29/99 | 170.0 | 39.0    | 0.5     | 110.0        | 55.0    |
|           | MW-19     | 04/04/00 | ND    | ND      | ND      | 1.2          | 1.7     |
|           | MW-19     | 06/06/00 | 200.0 | 50.0    | ND      | 83.0         | 24.0    |
|           | MW-19     | 09/06/00 | 74.0  | 1.1     | ND      | 1.8          | ND      |
|           | MW-19     | 12/06/00 | 110.0 | 4.4     | ND      | 10.0         | 6.3     |
| MW-20     | MW-20     | 03/05/96 | 133.4 | 3.6     | 16.8    | 3.3          | 21.8    |
|           | MW-20     | 06/03/96 | 106.3 | 11.4    | 3.8     | 0.8          | 1.4     |

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well #    | Well A #  | Date     | MTBE  | Benzene | Toluene | Ethylbenzene | Xylenes |
|-----------|-----------|----------|-------|---------|---------|--------------|---------|
|           | MW-20     | 10/09/96 | 73.3  | 2.5     | 11.5    | 7.5          | 4.4     |
|           | MW-20     | 12/31/96 | 53.3  | 2.7     | 14.3    | 9.5          | 5.7     |
|           | MW-20     | 03/18/97 | NM    | 2.3     | 2.2     | 4.4          | 3.2     |
|           | MW-20     | 06/16/97 | NM    | 1.4     | 4.4     | 4.0          | 4.2     |
|           | MW-20     | 09/24/97 | NM    | 1.7     | 4.5     | 3.8          | 2.4     |
|           | MW-20     | 12/22/97 | NM    | 4.5     | 6.7     | 9.3          | 6.8     |
|           | MW-20     | 04/27/98 | 83.0  | 6.8     | 9.4     | 18.0         | 20.1    |
|           | MW-20     | 06/23/98 | 91.0  | 4.8     | 7.5     | 7.0          | 3.6     |
|           | MW-20     | 09/22/98 | 60.0  | 2.6     | ND      | 5.8          | ND      |
|           | MW-20     | 12/28/98 | 71.0  | 4.0     | ND      | 1.7          | ND      |
|           | MW-20     | 04/12/99 | 80.0  | 7.8     | ND      | 2.4          | 1.9     |
|           | MW-20     | 06/02/99 | 86.0  | 5.8     | 4.7     | 3.7          | ND      |
|           | MW-20     | 09/08/99 | 20.0  | 1.1     | ND      | ND           | ND      |
|           | MW-20     | 12/29/99 | 95.0  | 5.7     | ND      | 2.5          | ND      |
|           | MW-20     | 04/04/00 | 12.0  | ND      | ND      | ND           | ND      |
|           | MW-20     | 06/07/00 | 120.0 | 1.7     | ND      | 1.9          | 1.1     |
|           | MW-20     | 09/06/00 | 59.0  | 2.6     | ND      | 16.0         | 7.6     |
|           | MW-20     | 12/08/00 | 120.0 | 0.7     | ND      | ND           | ND      |
| DUPLICATE | MW-20     | 12/08/00 | 110.0 | 0.6     | ND      | ND           | ND      |
| MW-21     | MW-21     | 03/05/96 | 82.0  | 6.0     | 2.0     | 29.3         | 6.1     |
|           | MW-21     | 06/03/96 | 82.1  | 0.4     | 0.3     | 1.1          | 0.9     |
|           | MW-21     | 10/09/96 | 46.0  | 0.7     | ND      | 0.5          | 0.3     |
|           | MW-21     | 12/31/96 | 51.3  | ND      | ND      | 0.5          | 0.2     |
|           | MW-21     | 03/18/97 | NM    | 0.3     | ND      | 0.4          | ND      |
|           | MW-21     | 06/17/97 | NM    | ND      | ND      | 0.2          | ND      |
|           | MW-21     | 09/25/97 | NM    | ND      | 0.4     | 0.9          | 0.4     |
|           | MW-21     | 12/22/97 | NM    | 1.3     | 1.5     | 2.4          | 0.8     |
|           | MW-21     | 04/27/98 | 49.0  | 2.1     | 1.4     | ND           | ND      |
|           | MW-21     | 06/23/98 | 80.0  | ND      | ND      | 1.8          | 0.5     |
|           | MW-21     | 09/21/98 | 91.0  | ND      | ND      | ND           | ND      |
|           | MW-21     | 12/28/98 | 81.0  | ND      | ND      | 1.1          | ND      |
|           | MW-21     | 04/12/99 | 92.0  | ND      | ND      | ND           | ND      |
|           | MW-21     | 06/02/99 | 120.0 | 2.6     | ND      | 0.6          | ND      |
|           | MW-21     | 09/08/99 | 100.0 | ND      | ND      | ND           | ND      |
|           | MW-21     | 12/29/99 | 64.0  | ND      | ND      | ND           | ND      |
|           | MW-21     | 04/04/00 | 44.0  | ND      | ND      | ND           | ND      |
|           | MW-21     | 06/06/00 | 37.0  | ND      | ND      | ND           | ND      |
|           | MW-21     | 09/06/00 | 36.0  | ND      | ND      | ND           | ND      |
|           | MW-21     | 12/08/00 | 32.0  | ND      | ND      | ND           | ND      |
| MW-21 DUP | MW-21 DUP | 09/08/99 | 98.0  | ND      | ND      | ND           | ND      |
|           | MW-21 DUP | 04/04/00 | 45.0  | ND      | ND      | ND           | ND      |
| MW-22     | MW-22     | 03/05/96 | 36.7  | ND      | ND      | 0.2          | 0.4     |
|           | MW-22     | 06/03/96 | 25.3  | ND      | ND      | ND           | 0.4     |

**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well # | Well A # | Date     | MTBE | Benzene | Toluene | Ethylbenzene | Xylenes |
|--------|----------|----------|------|---------|---------|--------------|---------|
|        | MW-22    | 10/09/96 | 22.9 | ND      | ND      | ND           | ND      |
|        | MW-22    | 12/31/96 | 22.1 | ND      | ND      | ND           | ND      |
|        | MW-22    | 03/18/97 | NM   | ND      | ND      | ND           | ND      |
|        | MW-22    | 06/16/97 | NM   | ND      | ND      | ND           | ND      |
|        | MW-22    | 09/26/97 | NM   | ND      | ND      | ND           | ND      |
|        | MW-22    | 12/22/97 | NM   | ND      | ND      | ND           | ND      |
|        | MW-22    | 04/27/98 | 18.0 | ND      | ND      | ND           | ND      |
|        | MW-22    | 06/23/98 | 24.0 | ND      | ND      | ND           | ND      |
|        | MW-22    | 09/21/98 | 28.0 | ND      | ND      | ND           | ND      |
|        | MW-22    | 12/28/98 | 28.0 | ND      | ND      | ND           | ND      |
|        | MW-22    | 04/12/99 | 27.0 | ND      | ND      | ND           | ND      |
|        | MW-22    | 06/02/99 | 29.0 | ND      | ND      | ND           | ND      |
|        | MW-22    | 09/08/99 | 24.0 | ND      | ND      | ND           | ND      |
|        | MW-22    | 12/29/99 | 19.0 | ND      | ND      | ND           | ND      |
|        | MW-22    | 04/04/00 | 10.0 | ND      | ND      | ND           | ND      |
|        | MW-22    | 06/06/00 | 4.9  | ND      | ND      | ND           | ND      |
|        | MW-22    | 09/06/00 | 5.3  | ND      | ND      | ND           | ND      |
|        | MW-22    | 12/08/00 | 5.4  | ND      | ND      | ND           | ND      |
| MW-23  | MW-23    | 03/05/96 | DRY  | DRY     | DRY     | DRY          | DRY     |
|        | MW-23    | 06/04/96 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 10/09/96 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 12/31/96 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 03/18/97 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 06/18/97 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 09/25/97 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 12/19/97 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 04/27/98 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 06/23/98 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 09/22/98 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 12/30/98 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 06/02/99 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 06/08/99 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 05/14/00 | NS   | NS      | NS      | NS           | NS      |
|        | MW-23    | 12/07/00 | NS   | NS      | NS      | NS           | NS      |
| MW-24  | MW-24    | 10/09/96 | 25.6 | 231.7   | 144.1   | 122.5        | 988.8   |
|        | MW-24    | 12/31/96 | NS   | NS      | NS      | NS           | NS      |
|        | MW-24    | 03/18/97 | NS   | NS      | NS      | NS           | NS      |
|        | MW-24    | 06/18/97 | NS   | NS      | NS      | NS           | NS      |
|        | MW-24    | 09/25/97 | NS   | NS      | NS      | NS           | NS      |
|        | MW-24    | 12/19/97 | NS   | NS      | NS      | NS           | NS      |
|        | MW-24    | 04/27/98 | NS   | NS      | NS      | NS           | NS      |
|        | MW-24    | 06/25/98 | 84.0 | 640.0   | 65.0    | 130.0        | 820.0   |
|        | MW-24    | 09/22/98 | NS   | NS      | NS      | NS           | NS      |



**TABLE 2**  
**SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS**  
**THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO**  
**(concentrations in ug/L)**

| Well # | Well A # | Date | MTBE | Benzene | Toluene | Ethylbenzene | Xylenes |
|--------|----------|------|------|---------|---------|--------------|---------|
|        |          |      |      |         |         |              |         |
|        |          |      |      |         |         |              |         |
|        |          |      |      |         |         |              |         |

NOTE: NM SIGNIFIES NOT MEASURED  
NS SIGNIFIES NOT SAMPLED

TABLE 3  
SUMMARY OF LABORATORY ANALYSIS DATA  
MAJOR CATIONS AND ANIONS, TDS AND pH  
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO  
(concentrations in mg/L)

| Well No.  | Location  | Date     | Calcium                             | Potassium | Magnesium | Sodium | HCO <sub>3</sub> as CaCO <sub>3</sub> |           |           | OH as CaCO <sub>3</sub> |           |         | TOTAL Alkalinity | Chloride | Specific Conductance | TOTAL Hardness | pH    | Dried at 180 C |     | Calculated |
|-----------|-----------|----------|-------------------------------------|-----------|-----------|--------|---------------------------------------|-----------|-----------|-------------------------|-----------|---------|------------------|----------|----------------------|----------------|-------|----------------|-----|------------|
|           |           |          |                                     |           |           |        | Bicarbonate                           | Carbonate | Hydroxide | Hydroxide               | Carbonate | Sulfate |                  |          |                      |                |       | TDS            | TDS |            |
| EFFLUENT  | EFFLUENT  | 12/22/97 | 274                                 | 6.60      | 31.6      | 732    | 278                                   | <1        | <1        | 278                     | 648.0     | 4,470   | 814              | 7.57     | 1,401                | 3,416          | 3,371 |                |     |            |
|           | EFFLUENT  | 12/31/98 | 220                                 | 8.60      | 48.0      | 780    | 730                                   | NS        | NS        | 730                     | 110.0     | 3,800   | NS               | 7.98     | 1,600                | 3,500          | NS    |                |     |            |
|           | EFFLUENT  | 12/28/99 | 320                                 | 8.50      | 45.0      | 815    | 130                                   | ND        | ND        | 130                     | 680.0     | 4,870   | NS               | 7.97     | 1,500                | 3,620          | 3,490 |                |     |            |
|           | EFFLUENT  | 04/03/00 | 270                                 | 6.00      | 48.0      | 830    | 640                                   | ND        | ND        | 640                     | 320.0     | 4,420   | 880              | 8.79     | 1,530                | 3,370          | 3,400 |                |     |            |
|           | EFFLUENT  | 06/05/00 | 750                                 | 8.70      | 47.0      | 810    | ND                                    | ND        | ND        | ND                      | 3,810.0   | 7,300   | 2,070            | 3.03     | 1,420                | 5,060          | 6,880 |                |     |            |
|           | EFFLUENT  | 09/13/00 | 160                                 | 8.80      | 42.0      | 700    | 680                                   | ND        | ND        | 680                     | 200.0     | 2,600   | 590              | 7.89     | 1,320                | 2,980          | 2,840 |                |     |            |
|           | EFFLUENT  | 12/07/00 | 240                                 | 6.30      | 48.0      | 880    | 680                                   | ND        | ND        | 680                     | 300.0     | 3,240   | 787              | 8.04     | 1,460                | 3,400          | 3,350 |                |     |            |
|           | INFLUENT  | 12/22/97 | 272                                 | 6.60      | 31.2      | 728    | 86                                    | <1        | <1        | 86                      | 766.0     | 4,530   | 808              | 5.47     | 1,414                | 3,410          | 3,304 |                |     |            |
|           | INFLUENT  | 12/31/98 | 240                                 | 8.70      | 47.0      | 790    | 800                                   | NS        | NS        | 800                     | 110.0     | 3,700   | NS               | 7.14     | 1,600                | 3,600          | NS    |                |     |            |
| INFLUENT  | 12/28/99  | 310      | 8.50                                | 45.0      | 775       | 890    | ND                                    | ND        | 890       | 160.0                   | 4,380     | NS      | 7.19             | 1,520    | 3,480                | 3,700          |       |                |     |            |
| INFLUENT  | 04/03/00  | 320      | 6.00                                | 49.0      | 810       | 930    | ND                                    | ND        | 930       | 170.0                   | 4,360     | 1,000   | 7.27             | 1,500    | 3,430                | 3,470          |       |                |     |            |
| INFLUENT  | 06/05/00  | 320      | 8.80                                | 46.0      | 810       | 970    | ND                                    | ND        | 970       | 160.0                   | 4,400     | 1,000   | 7.26             | 1,500    | 3,440                | 3,430          |       |                |     |            |
| INFLUENT  | 09/13/00  | 320      | 8.45                                | 43.0      | 780       | 1000   | ND                                    | ND        | 1,000     | 170.0                   | 3,100     | 980     | 7.18             | 1,320    | 3,370                | 3,260          |       |                |     |            |
| INFLUENT  | 12/07/00  | 310      | 6.10                                | 48.0      | 790       | 960    | ND                                    | ND        | 960       | 200.0                   | 3,080     | 981     | 7.20             | 1,460    | 3,500                | 3,390          |       |                |     |            |
| MW-01     | MW-01     | 03/19/97 | 482                                 | 5.50      | 44.0      | 646    | 336                                   | <1        | <1        | 336                     | 47.6      | 4,470   | 1,385            | 7.05     | 2,518                | 4,166          | 4,079 |                |     |            |
|           | MW-01     | 12/23/97 | 458                                 | 5.20      | 34.0      | 645    | 289                                   | <1        | <1        | 1,284                   | 47.2      | 4,290   | 1,284            | 7.06     | 2,495                | 4,024          | 3,973 |                |     |            |
|           | MW-01     | 12/30/98 | 370                                 | 5.60      | 52.0      | 64     | 290                                   | NS        | NS        | 3,800                   | 39.0      | 4,000   | 3,800            | 7.04     | 2,400                | 3,800          | NS    |                |     |            |
|           | MW-01     | 12/30/99 | 460                                 | 5.60      | 47.0      | 578    | 290                                   | ND        | ND        | 290                     | 32.0      | 4,050   | NS               | 7.16     | 2,250                | 3,640          | 3,670 |                |     |            |
| MW-02     | MW-02     | 12/30/99 | 46                                  | 4.80      | 14.0      | 800    | 1700                                  | ND        | ND        | 1,700                   | 130.0     | 3,300   | NS               | 7.21     | 33                   | 2,290          | 2,050 |                |     |            |
|           | MW-04     | 03/19/97 | 199                                 | 8.60      | 19.6      | 866    | 863                                   | <1        | <1        | 863                     | 196.0     | 4,250   | 578              | 7.31     | 1,332                | 3,276          | 3,484 |                |     |            |
| MW-04     | MW-04     | 12/22/97 | 96                                  | 6.70      | 31.0      | 648    | 914                                   | <1        | <1        | 367                     | 116.0     | 3,270   | 367              | 7.29     | 875                  | 2,458          | 2,687 |                |     |            |
|           | MW-04     | 12/30/98 | Well destroyed                      |           |           |        |                                       |           |           |                         |           |         |                  |          |                      |                |       |                |     |            |
| MW-05     | MW-04     | 06/07/00 | NS                                  | NS        | NS        | NS     | NS                                    | NS        | NS        | 120.0                   | NS        | NS      | NS               | NS       | NS                   | NS             | NS    |                |     |            |
|           | MW-04     | 12/06/00 | 180                                 | 6.50      | 23.0      | 660    | 880                                   | ND        | ND        | 880                     | 150.0     | 2,700   | 539              | 7.26     | 1,160                | 2,870          | 2,710 |                |     |            |
|           | MW-05     | 03/19/97 | 44                                  | 7.50      | 10.6      | 1,282  | 864                                   | 2.66      | <1        | 867                     | 478.0     | 5,610   | 153              | 8.33     | 1,518                | 4,022          | 4,204 |                |     |            |
|           | MW-05     | 12/19/97 | 37                                  | 7.00      | 7.2       | 1,325  | 868                                   | <1        | <1        | 868                     | 385.0     | 5,690   | 123              | 8.39     | 1,798                | 4,132          | 4,428 |                |     |            |
|           | MW-05     | 12/29/98 | 120                                 | 11.00     | 34.0      | 1,600  | 750                                   | NS        | NS        | 750                     | 240.0     | 6,400   | NS               | 7.83     | 2,700                | 5,500          | NS    |                |     |            |
| MW-05 DUP | MW-05     | 12/29/99 | 160                                 | 10.50     | 30.0      | 1,110  | 740                                   | ND        | ND        | 740                     | 140.0     | 5,100   | NS               | 7.79     | 1,970                | 3,990          | 4,170 |                |     |            |
|           | MW-05     | 06/07/00 | NS                                  | NS        | NS        | NS     | NS                                    | NS        | NS        | 120.0                   | NS        | NS      | NS               | NS       | NS                   | NS             | NS    |                |     |            |
|           | MW-05     | 12/06/00 | 40                                  | 5.60      | 14.0      | 1,180  | 820                                   | ND        | ND        | 820                     | 200.0     | 3,940   | 157              | 8.02     | 1,730                | 3,680          | 3,670 |                |     |            |
|           | MW-05     | 12/29/99 | 160                                 | 10.20     | 31.0      | 1,100  | 730                                   | ND        | ND        | 730                     | 140.0     | 5,090   | NS               | 7.74     | 2,000                | 3,980          | 4,170 |                |     |            |
|           | MW-06     | 03/19/97 | 192                                 | 9.20      | 25.0      | 793    | 691                                   | <1        | <1        | 691                     | 100.5     | 4,010   | 582              | 7.79     | 1,495                | 3,142          | 3,306 |                |     |            |
|           | MW-06     | 12/23/97 | 106                                 | 7.50      | 15.5      | 762    | 772                                   | <1        | <1        | 762                     | 94.4      | 3,730   | 329              | 7.69     | 1,314                | 2,744          | 3,071 |                |     |            |
| MW-06     | MW-06     | 12/30/98 | 88                                  | 8.40      | 27.0      | 740    | 760                                   | NS        | NS        | 760                     | 94.0      | 3,200   | NS               | 7.60     | 1,000                | 2,800          | NS    |                |     |            |
|           | MW-06     | 12/29/99 | 140                                 | 9.20      | 26.0      | 784    | 800                                   | ND        | ND        | 800                     | 100.0     | 3,670   | NS               | 7.63     | 1,160                | 2,740          | 3,020 |                |     |            |
|           | MW-06     | 06/07/00 | NS                                  | NS        | NS        | NS     | NS                                    | NS        | NS        | 73.0                    | NS        | NS      | NS               | NS       | NS                   | NS             | NS    |                |     |            |
|           | MW-06     | 12/06/00 | 170                                 | 6.70      | 27.0      | 730    | 850                                   | ND        | ND        | 850                     | 76.0      | 2,660   | 540              | 7.56     | 1,270                | 2,890          | 2,790 |                |     |            |
|           | MW-07     | 12/30/99 | 290                                 | 11.40     | 36.0      | 990    | 510                                   | ND        | ND        | 510                     | 52.0      | 5,090   | NS               | 7.31     | 2,480                | 4,250          | 4,370 |                |     |            |
|           | MW-07 DUP | 12/30/99 | 290                                 | 10.80     | 36.0      | 980    | 510                                   | ND        | ND        | 510                     | 42.0      | 5,060   | NS               | 7.25     | 2,440                | 4,200          | 4,300 |                |     |            |
| MW-08     | MW-08     | 12/22/97 | INSUFFICIENT SAMPLE FOR THESE TESTS |           |           |        |                                       |           |           |                         |           |         |                  |          |                      |                |       |                |     |            |
|           | MW-08     | 12/29/98 | WELL SILLED IN                      |           |           |        |                                       |           |           |                         |           |         |                  |          |                      |                |       |                |     |            |
| MW-09     | MW-08     | 06/07/00 | NS                                  | NS        | NS        | NS     | NS                                    | NS        | NS        | 68.0                    | NS        | NS      | NS               | NS       | NS                   | NS             | NS    |                |     |            |
|           | MW-08     | 12/07/00 | 400                                 | 7.20      | 54.0      | 740    | 580                                   | ND        | ND        | 580                     | 98.0      | 3,190   | 1,220            | 7.15     | 2,170                | 3,950          | 3,820 |                |     |            |
|           | MW-09     | 03/18/97 | 395                                 | 9.40      | 28.4      | 1,528  | 330                                   | <1        | <1        | 330                     | 89.5      | 7,020   | 1,161            | 7.62     | 3,761                | 6,164          | 6,155 |                |     |            |
|           | MW-09     | 12/22/97 | 326                                 | 6.40      | 28.4      | 1,510  | 365                                   | <1        | <1        | 365                     | 65.1      | 7,040   | 931              | 7.71     | 3,936                | 6,398          | 6,237 |                |     |            |
|           | MW-09     | 12/29/98 | 320                                 | 7.80      | 66.0      | 1,700  | 370                                   | ND        | NS        | 370                     | 54.0      | 6,200   | NS               | 7.51     | 4,100                | 6,600          | NS    |                |     |            |

TABLE 3  
SUMMARY OF LABORATORY ANALYSIS DATA  
MAJOR CATIONS AND ANIONS, TDS AND pH  
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO  
(concentrations in mg/L)

| Well No. | Location | Date     | Calcium | Potassium | Magnesium | Sodium | HCO <sub>3</sub> as CaCO <sub>3</sub> |           | TOTAL Alkalinity | Chloride | Conductivity @ 25° C |                         | TOTAL Hardness | pH    | Sulfate | TDS   | Calculated TDS |
|----------|----------|----------|---------|-----------|-----------|--------|---------------------------------------|-----------|------------------|----------|----------------------|-------------------------|----------------|-------|---------|-------|----------------|
|          |          |          |         |           |           |        | Bicarbonate                           | Carbonate |                  |          | Hydroxide            | OH as CaCO <sub>3</sub> |                |       |         |       |                |
| MW-10    | MW-09    | 12/28/99 | 380     | 7.80      | 54.0      | 1,430  | 400                                   | ND        | 400              | 53.0     | 6,860                | NS                      | 7.42           | 3,740 | 6,050   | 6,060 |                |
|          | MW-09    | 06/07/00 | NS      | NS        | NS        | NS     | NS                                    | ND        | NS               | 46.0     | NS                   | NS                      | NS             | NS    | NS      | NS    |                |
|          | MW-09    | 12/07/00 | 360     | 5.20      | 62.0      | 1,400  | 340                                   | ND        | 340              | 56.0     | 4,660                | 1,160                   | 7.67           | 3,860 | 6,090   | 5,950 |                |
|          | MW-10    | 03/18/97 | 365     | 10.60     | 36.6      | 1,522  | 313                                   | <1        | 313              | 52.4     | 7,190                | 1,062                   | 7.40           | 3,868 | 6,062   | 6,168 |                |
|          | MW-10    | 12/22/97 | 318     | 6.30      | 19.5      | 1,455  | 326                                   | <1        | 326              | 50.6     | 6,740                | 874                     | 7.45           | 3,747 | 5,970   | 5,922 |                |
| MW-11    | MW-10    | 12/29/98 | 290     | 8.20      | 50.0      | 1,600  | 320                                   | NS        | 320              | 54.0     | 6,300                | NS                      | 7.39           | 3,900 | 6,200   | NS    |                |
|          | MW-10    | 12/28/99 | 370     | 9.10      | 46.0      | 1,360  | 310                                   | ND        | 310              | 56.0     | 6,600                | NS                      | 7.29           | 3,640 | 5,840   | 5,800 |                |
|          | MW-10    | 06/07/00 | NS      | NS        | NS        | NS     | NS                                    | ND        | NS               | 72.0     | NS                   | NS                      | NS             | NS    | NS      | NS    |                |
|          | MW-10    | 12/07/00 | 340     | 5.20      | 56.0      | 1,240  | 300                                   | ND        | 300              | 98.0     | 4,580                | 1,070                   | 7.50           | 3,660 | 5,690   | 5,480 |                |
|          | MW-11    | 03/18/97 | 421     | 15.00     | 36.4      | 1,315  | 244                                   | <1        | 244              | 29.4     | 6,670                | 1,201                   | 7.41           | 3,875 | 5,900   | 5,936 |                |
| MW-12    | MW-11    | 12/22/97 | 420     | 11.00     | 19.5      | 1,290  | 241                                   | <1        | 241              | 17.8     | 6,470                | 1,129                   | 7.41           | 3,902 | 6,018   | 5,901 |                |
|          | MW-11    | 12/29/98 | 350     | 14.00     | 42.0      | 1,300  | 230                                   | NS        | 230              | 20.0     | 5,600                | NS                      | 7.30           | 3,600 | 5,600   | NS    |                |
|          | MW-11    | 12/28/99 | 420     | 12.60     | 38.0      | 1,230  | 230                                   | ND        | 230              | 24.0     | 6,270                | NS                      | 7.32           | 3,630 | 5,650   | 5,590 |                |
|          | MW-11    | 06/07/00 | NS      | NS        | NS        | NS     | NS                                    | NS        | NS               | 26.0     | NS                   | NS                      | NS             | NS    | NS      | NS    |                |
|          | MW-11    | 12/07/00 | 390     | 8.20      | 34.0      | 1,080  | 230                                   | ND        | 230              | 38.0     | 4,370                | 1,120                   | 7.43           | 3,400 | 5,290   | 5,100 |                |
| MW-13    | MW-12    | 12/08/00 | 380     | 5.70      | 78.0      | 1,480  | 1,140                                 | ND        | 1,140            | 360.0    | 6,100                | 1,260                   | 6.59           | 3,380 | 6,280   | 6,360 |                |
|          | MW-13    | 03/18/97 | 432     | 11.40     | 41.8      | 1,126  | 288                                   | <1        | 288              | 119.0    | 6,210                | 1,251                   | 7.28           | 3,378 | 5,488   | 5,396 |                |
|          | MW-13    | 12/19/97 | 416     | 7.90      | 31.0      | 1,155  | 300                                   | <1        | 300              | 125.0    | 5,980                | 1,166                   | 7.28           | 3,437 | 5,456   | 5,472 |                |
|          | MW-13    | 12/29/98 | 360     | 9.60      | 56.0      | 1,200  | 270                                   | NS        | 270              | 110.0    | 5,500                | NS                      | 7.20           | 3,200 | 5,200   | NS    |                |
|          | MW-13    | 12/28/99 | 450     | 10.30     | 59.0      | 1,160  | 260                                   | ND        | 260              | 78.0     | 5,950                | NS                      | 7.02           | 3,500 | 5,520   | 5,520 |                |
| MW-14    | MW-13    | 06/07/00 | NS      | NS        | NS        | NS     | NS                                    | NS        | NS               | 93.0     | NS                   | NS                      | NS             | NS    | NS      | NS    |                |
|          | MW-13    | 12/07/00 | 420     | 7.20      | 59.0      | 1,140  | 530                                   | ND        | 530              | 69.0     | 4,080                | 1,290                   | 6.74           | 3,460 | 5,540   | 5,470 |                |
|          | MW-14    | 12/30/99 | 440     | 6.80      | 51.0      | 808    | 530                                   | ND        | 530              | 29.0     | 5,020                | NS                      | 6.92           | 2,610 | 4,400   | 4,480 |                |
|          | MW-15    | 03/18/97 | 381     | 8.80      | 36.8      | 776    | 200                                   | <1        | 200              | 48.1     | 4,610                | 1,103                   | 7.60           | 2,568 | 4,066   | 4,019 |                |
|          | MW-15    | 12/22/97 | 375     | 6.80      | 21.4      | 825    | 204                                   | <1        | 204              | 78.5     | 4,640                | 1,025                   | 7.62           | 2,696 | 4,258   | 4,207 |                |
| MW-15    | MW-15    | 12/29/98 | 390     | 8.60      | 44.0      | 840    | 180                                   | NS        | 180              | 140.0    | 4,800                | NS                      | 7.38           | 2,600 | 4,200   | NS    |                |
|          | MW-15    | 12/28/99 | 440     | 6.00      | 64.0      | 1,300  | 220                                   | ND        | 220              | 130.0    | 6,630                | NS                      | 7.39           | 3,740 | 6,010   | 5,900 |                |
|          | MW-15    | 06/07/00 | NS      | NS        | NS        | NS     | NS                                    | NS        | NS               | 160.0    | NS                   | NS                      | NS             | NS    | NS      | NS    |                |
|          | MW-15    | 12/08/00 | 410     | 4.20      | 59.0      | 1,220  | 220                                   | ND        | 220              | 200.0    | 4,510                | 1,270                   | 7.33           | 3,530 | 5,840   | 5,560 |                |
|          | MW-18    | 03/19/97 | 198     | 9.10      | 25.8      | 882    | 757                                   | <1        | 757              | 91.3     | 4,470                | 601                     | 7.28           | 1,720 | 3,532   | 3,683 |                |
| MW-18    | MW-18    | 12/23/97 | 93      | 4.90      | 10.6      | 565    | 597                                   | <1        | 597              | 65.0     | 2,830                | 276                     | 7.59           | 928   | 2,008   | 2,263 |                |
|          | MW-18    | 12/29/98 | 76      | 4.60      | 14.0      | 430    | 500                                   | ND        | 500              | 73.0     | 2,100                | NS                      | 7.40           | 620   | 1,700   | NS    |                |
|          | MW-18    | 12/29/99 | 140     | 9.10      | 26.0      | 734    | 920                                   | ND        | 920              | 82.0     | 3,630                | NS                      | 7.03           | 1,080 | 2,700   | 3,000 |                |
|          | MW-18    | 06/07/00 | NS      | NS        | NS        | NS     | NS                                    | NS        | NS               | 110.0    | NS                   | NS                      | NS             | NS    | NS      | NS    |                |
|          | MW-18    | 12/06/00 | 55      | 6.10      | 12.0      | 620    | 710                                   | ND        | 710              | 97.0     | 1,920                | 186                     | 7.53           | 500   | 1,650   | 1,620 |                |
| MW-19    | MW-19    | 03/19/97 | 196     | 6.00      | 45.8      | 1,335  | 995                                   | <1        | 995              | 273.0    | 6,060                | 678                     | 7.63           | 2,390 | 4,850   | 5,241 |                |
|          | MW-19    | 12/23/97 | 118     | 4.60      | 30.6      | 1,215  | 1,228                                 | <1        | 1,228            | 264.0    | 5,560                | 421                     | 7.41           | 1,880 | 4,238   | 4,740 |                |
|          | MW-19    | 12/29/98 | 82      | 3.40      | 24.0      | 470    | 540                                   | <1        | 540              | 66.0     | 2,200                | NS                      | 7.68           | 680   | 1,800   | NS    |                |
|          | MW-19    | 12/29/99 | 260     | 9.20      | 59.0      | 960    | 1,130                                 | ND        | 1,130            | 130.0    | 4,950                | NS                      | 7.48           | 1,760 | 3,880   | 4,310 |                |
|          | MW-19    | 06/07/00 | NS      | NS        | NS        | NS     | NS                                    | NS        | NS               | 230.0    | NS                   | NS                      | NS             | NS    | NS      | NS    |                |
| MW-20    | MW-19    | 12/06/00 | 420     | 7.80      | 96.0      | 1,180  | 840                                   | ND        | 840              | 170.0    | 3,930                | 1,430                   | 7.32           | 3,060 | 5,480   | 5,450 |                |
|          | MW-20    | 03/18/97 | 464     | 8.10      | 52.4      | 989    | 836                                   | <1        | 836              | 115.0    | 5,590                | 1,374                   | 7.00           | 2,649 | 4,892   | 5,094 |                |
|          | MW-20    | 12/22/97 | 500     | 6.30      | 42.6      | 1,060  | 756                                   | <1        | 756              | 222.0    | 5,860                | 1,424                   | 7.02           | 2,796 | 5,218   | 5,383 |                |
|          | MW-20    | 12/28/98 | 370     | 8.10      | 66.0      | 970    | 670                                   | NS        | 670              | 150.0    | 4,900                | NS                      | 6.98           | 2,500 | 4,700   | NS    |                |
|          | MW-20    | 12/29/99 | 530     | 10.40     | 79.0      | 1,180  | 900                                   | ND        | 900              | 210.0    | 6,650                | NS                      | 7.07           | 3,150 | 5,870   | 6,060 |                |
| MW-20    | 06/07/00 | NS       | NS      | NS        | NS        | NS     | NS                                    | NS        | 130.0            | NS       | NS                   | NS                      | NS             | NS    | NS      |       |                |







Jennifer A. Salisbury  
CABINET SECRETARY

Oil Conservation Div.  
Environmental Bureau  
2040 S. Pacheco  
Santa Fe, NM 87505

Memorandum of Meeting or Conversation

Telephone  left message  
Personal \_\_\_\_\_  
E-Mail \_\_\_\_\_  
FAX:  505-564-3604

~~11/2/00 2:01 PM~~ 12/19/00 2:30 PM

Originating Party: Wayne Price-OCD

Other Parties: Terry Griffin-Project Administrator

Subject: Discharge Plan Renewal Notice for the following Facilities:

|         |                    |         |              |
|---------|--------------------|---------|--------------|
| GW- 055 | Thriftway Refinery | expires | May 09, 2001 |
| GW-___  | Name               | expires |              |
| GW-___  | Name               | expires |              |
| GW-___  | Name               | expires |              |

WQCC 3106.F. If the holder of an approved discharge plan submits an application for discharge plan renewal at least 120 days before the discharge plan expires, and the discharger is not in violation of the approved discharge plan on the date of its expiration, then the existing approved discharge plan for the same activity shall not expire until the application for renewal has been approved or disapproved. A discharge plan continued under this provision remains fully effective and enforceable. An application for discharge plan renewal must include and adequately address all of the information necessary for evaluation of a new discharge plan. Previously submitted materials may be included by reference provided they are current, readily available to the secretary and sufficiently identified to be retrieved. [12-1-95]

**Discussion:** Discussed WQCC 3106F and gave notice to submit Discharge Plan renewal application with \$50.00 filing fee for the above listed facilities.

**Conclusions or Agreements:**

Signed: Wayne Price

**OIL CONSERVATION DIVISION**

**2040 South Pacheco  
Santa Fe, NM 87505  
(505) 827-7133  
Fax: (505) 827-8177**



**(PLEASE DELIVER THIS FAX)**

**To:** TERRY GRIFFIN - BIO TECH

**From:** OCD -

**Date:** 12/12/00

**Number of Pages (Includes Cover Sheet)** 2

**Message:** \_\_\_\_\_

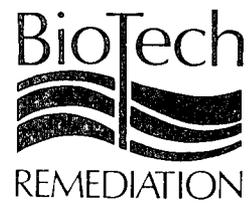
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**If you have any trouble receiving this, please call:  
(505) 827-7133**



SEP 22 1998

710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
Field Office: (505) 622-2265  
Fax: (505) 622-9850

Telephone (505) 327-4965  
Facsimile (505) 564-3604

September 21, 1998

Mr. Mark Ashley, Geologist  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505

**RE: Fire Water Pond Sediment Sampling and Analysis GW-55 Bloomfield Refinery, Thriftway Company**

Dear Mr. Ashley:

Pursuant to your letter of January 7, 1998, soil sediments within the fire water pond were sampled on July 13, 1998. BioTech Remediation, Inc. (BioTech), had originally planned to collect the samples at an earlier date, but due to the presence of water in the pond, the samples could not be collected until mid-summer when the pond had dried out. The following sections detail the method of sample collection, sample analyses, and equipment decontamination utilized during the pond sampling.

#### SAMPLE COLLECTION

Soil samples were collected from six discreet locations within the pond (see Figure 1). At each sampling location, a clean shovel was used to remove soils to a depth of approximately 1 ft. below the surface. Samples were then collected and placed in sample jars, packing each jar to allow no headspace. Following collection, each vile was properly labeled, logged onto a chain-of-custody record and placed within an insulated cooler containing ice.

#### SAMPLE ANALYSES

Following collection, the samples were transported to On-Site Technologies Laboratory located in Farmington, New Mexico, where they were relinquished. Samples were analyzed for total petroleum hydrocarbons (TPH) per method E418.1; diesel and gasoline range organics (DRO and GRO) per method SW8015; semivolatile organics per method SW 8270; benzene, toluene, ethylbenzene, and xylene (BTEX) and methyl tert-butyl ether (MTBE) per method SW8020A; total RCRA metals per method SW6010A; and corrosivity per method SW9045B.

## ANALYSES RESULTS

Results of the pond sediment sampling indicated the presence of hydrocarbon contaminants, which exceed maximum concentration levels (MCLs) from sample location #6. Detected concentrations appear to be associated with heavier hydrocarbons. No BTEX or GRO were detected. Concentrations of barium at or slightly exceeding the MCL were detected at all sampling locations. Concentrations of other analyzed contaminants were non-detect or below their respective MCL. Results of the laboratory analyses are summarized in Tables 1 through 3, which are attached. Laboratory reports, QA/QC data and chain-of-custody record are also provided.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the six discreet sediment samples collected from the fire water pond, there does not appear to be any significant contaminant impact except for the area from which sample #6 was collected. Hydrocarbon concentrations well above the MCL were detected in this area and should be addressed through a remedial method.

BioTech proposes to excavate the impacted soils and dispose of them at the Envirotech, Inc. landfarm. Soil samples will be collected from the excavation and field and laboratory analyzed. Excavation will continue until field samples indicate hydrocarbon concentrations that are less than the MCL. Laboratory samples will then be collected for confirmation. The excavation will be backfilled with clean fill dirt; however, no backfilling will occur prior to the receipt of satisfactory laboratory analysis results.

In summary, it appears that the detected contaminants are limited to a small area of the fire water pond and could easily be removed. If any additional information is needed regarding the pond sampling or in considering the proposed excavation, please call me or Ms. Terry Griffin, Project Administrator, at (505) 327-4965.

Respectfully,

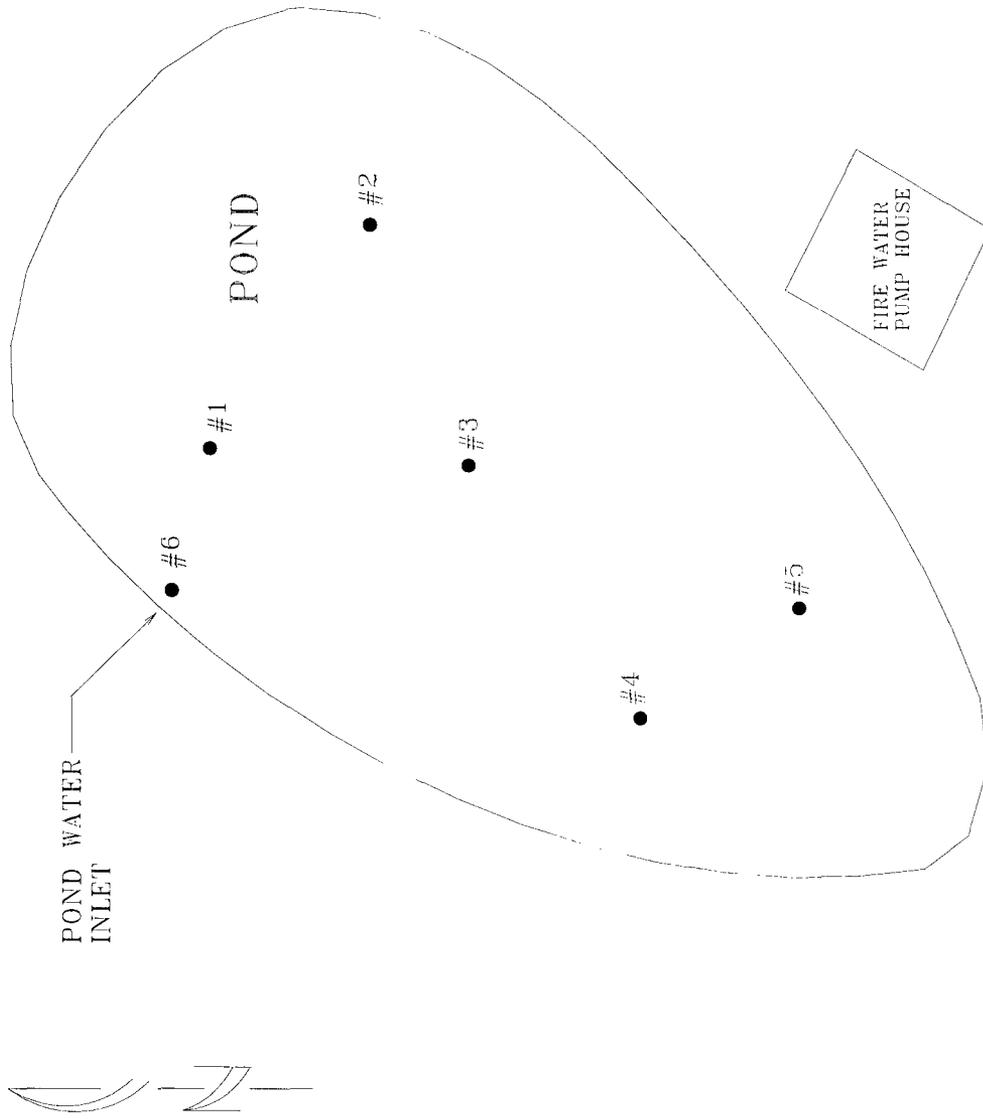


Ross Kennemer  
Project Manager

810/fvpsamrep

attachments: Figure 1.  
Tables 1 through 3  
Laboratory Reports

cc: OCD Aztec District Office w/ attachments



**KEY**  
 ● #2 SAMPLE POINT

710 EAST 20TH STREET, SUITE 400  
 FARMINGTON, NEW MEXICO 87401  
 OFFICE: (505) 327-4965  
 FAX: (505) 564-3604



SCIENTIST: R. KENNERMER  
 DRAWN BY: K. SINKS  
 FIGURE 1 POND SAMPLE POINTS  
 APRIL 25, 1996

THRIFTWAY REFINERY  
 626 COUNTY ROAD 5500  
 BLOOMFIELD, NEW MEXICO  
 810\PNDSAMPL.SKD

**TABLE 1  
FIRE WATER POND SEDIMENT SAMPLES  
HYDROCARBONS**

| Sample Number | Date     | TPH, T/R (mg/kg) | DRO (mg/kg) | GRO (mg/kg) | MTBE (ug/kg) | Benzene (ug/kg) | Toluene (ug/kg) | Ethylbenzene (ug/kg) | Total Xylene (ug/kg) |
|---------------|----------|------------------|-------------|-------------|--------------|-----------------|-----------------|----------------------|----------------------|
| 1             | 07/13/98 | 49               | ND          | ND          | ND           | ND              | ND              | ND                   | ND                   |
| 2             | 07/13/98 | ND               | ND          | ND          | ND           | ND              | ND              | ND                   | ND                   |
| 3             | 07/13/98 | 31               | ND          | ND          | ND           | ND              | ND              | ND                   | ND                   |
| 4             | 07/13/98 | 67               | ND          | ND          | ND           | ND              | ND              | ND                   | ND                   |
| 5             | 07/13/98 | ND               | ND          | ND          | ND           | ND              | ND              | ND                   | ND                   |
| 6             | 07/13/98 | 2900             | 260         | ND          | ND           | ND              | ND              | ND                   | ND                   |

**TABLE 2  
FIRE WATER POND SEDIMENT SAMPLES  
METALS and pH**

| Sample Number | Date     | Arsenic mg/kg | Barium mg/kg | Cadmium mg/kg | Chromium mg/kg | Lead mg/kg | Selenium mg/kg | Silver mg/kg | Mercury mg/kg | pH std. Units |
|---------------|----------|---------------|--------------|---------------|----------------|------------|----------------|--------------|---------------|---------------|
| 1             | 07/13/98 | U             | 99.6         | U             | 5.42           | U          | U              | U            | U             | 7.24          |
| 2             | 07/13/98 | U             | 100          | U             | 4 B            | U          | U              | U            | U             | 7.38          |
| 3             | 07/13/98 | U             | 87           | U             | 3 B            | U          | U              | 2.82         | U             | 7.07          |
| 4             | 07/13/98 | U             | 108          | U             | 4 B            | U          | U              | U            | U             | 8.33          |
| 5             | 07/13/98 | U             | 88.3         | U             | 4 B            | 6 B        | U              | 0.6 B        | U             | 8             |
| 6             | 07/13/98 | U             | 100          | U             | 5.07           | 6 B        | U              | U            | 0.088 B       | 7.95          |

**Notes:** TPH, T/R Analyzed per EPA 418.1  
DRO (Diesel Range Organics) Analyzed per SW8015  
GRO (Gasoline Range Organics) Analyzed per SW8015  
BTEX/MTBE Analyzed per SW8020A  
Metals Analyzed per SW846 6010A  
pH Analyzed per SW846 9045C

ND - Not Detected  
U - ND at Method Detection Limit  
J - Detected Below Limit of Quantification  
B - Detected Below Limit of Quantification,  
but above the method detection limit

810/pondsedsam

TABLE 3.  
FIRE WATER POND SEDIMENT SAMPLES  
SEMI-VOLATILES (ug/L)

| SAMPLE NUMBER | DATE     | Acenaphthene | Acenaphthylene | Anthracene | Benzidine | Benz(a)anthracene | Benzo(a)pyrene | Benzo(b)fluoranthene | Benzo(ghi)perylene | Benzo(k)fluoranthene | bis(2-Chloroethoxy)methane | bis(2-Chloroethyl)ether | bis(2-Chloroisopropyl)ether | bis(2-Ethylhexyl)phthalate | 4-BromophenyI-phenyl ether | Butylbenzyl phthalate | 2-Chloronaphthalene | 4-ChlorophenyI-phenyl ether |   |   |
|---------------|----------|--------------|----------------|------------|-----------|-------------------|----------------|----------------------|--------------------|----------------------|----------------------------|-------------------------|-----------------------------|----------------------------|----------------------------|-----------------------|---------------------|-----------------------------|---|---|
| 1             | 07/14/98 | U            | U              | U          | U         | U                 | U              | U                    | U                  | U                    | U                          | U                       | U                           | U                          | U                          | U                     | U                   | U                           | U |   |
| 2             | 07/14/98 | U            | U              | U          | U         | U                 | U              | U                    | U                  | U                    | U                          | U                       | 165 J                       | U                          | U                          | U                     | U                   | U                           | U | U |
| 3             | 07/14/98 | U            | U              | U          | U         | U                 | U              | U                    | U                  | U                    | U                          | U                       | U                           | U                          | U                          | U                     | U                   | U                           | U | U |
| 4             | 07/14/98 | U            | U              | U          | U         | U                 | U              | U                    | U                  | U                    | U                          | U                       | U                           | U                          | U                          | U                     | U                   | U                           | U | U |
| 5             | 07/14/98 | U            | U              | U          | U         | U                 | U              | U                    | U                  | U                    | U                          | U                       | U                           | U                          | U                          | U                     | U                   | U                           | U | U |
| 6             | 07/14/98 | U            | U              | U          | U         | 371 J             | 350 J          | 176 J                | U                  | U                    | U                          | U                       | U                           | U                          | U                          | U                     | U                   | U                           | U | U |

U - Not detected at the Method Detection Limit.

J - Compound Detected below the limit of Quantification.

B - Detected, below limit of quantification but above the method detection limit.





BioTech Remediation, Inc.  
710 E. 20<sup>th</sup> Street, Suite 400  
Farmington, NM 87401  
505-327-4965

.....  
**facsimile transmittal**

**To:** Will Olsen & Denny Foust      **Fax:** 505-827-8177 & 334-6170

---

**From:** Ken Sinks      **Date:** 11/30/00

---

**Re:** Annual Sampling      **Pages:** 1

---

**CC:**

---

Urgent       For Review       Please Comment       Please Reply       Please Recycle

---

.....  
**Notes:** This is to notify you of the upcoming Annual Sampling and Monitoring events in December, 2000.

During the week of December 4 – 8, 2000 I will be conducting the annual sampling and monitoring at the Thriftway Refinery – Site 810 in Bloomfield, NM.

On December 11, 2000 I will be conducting the annual sampling and monitoring of the Thomas #1 well located at the Clayton Farm in Bloomfield, NM.

File:\810\Fax Coversheet December 2000 Sampling

.....

710 East 20<sup>th</sup> Street, Suite 400  
Farmington, NM 87401  
Office: 505-327-4965  
Fax: 505-564-3604

**BioTech Remediation Inc.**

# Fax

**To:** Mr. Will Olsen / Denny Foust      **From:** Ken Sinks

---

**Fax:** 505-827-8177 / 505-334-6170      **Pages:** 1

---

**Phone:** 505-827-7154      **Date:** 08/28/00

---

**Re:** Sampling of the Thriftway Refinery      **CC:**

**Urgent**     **For Review**     **Please Comment**     **Please Reply**     **Please Recycle**

---

**Thriftway Refinery:** The quarterly sampling of the Thriftway Refinery will begin Tuesday September 5, 2000.

File:Refinery\Fax Coversheet September 2000 Sampling

---

OFF: (505) 325-5667



LAB: (505) 325-1556

August 13, 1998

Terry Griffin  
BioTech Remediation, Inc.  
710 E. 20th, Suite 400  
Farmington, NM 87401  
TEL: (505) 632-3365  
FAX (505) 632-0030



RE: Thriftway Refinery

Order No.: 9807036

Dear Terry Griffin,

On Site Technologies, LTD. received 6 samples on 7/14/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

- BTEX (SW8020A)
- CORROSIVITY by pH (SW9045B)
- Diesel Range Organics (SW8015)
- Gasoline Range Organics (SW8015)
- ICP METALS-RCRA, Total (SW6010A)
- SEMIVOLATILE ORGANICS (SW8270A)
- TPH, T/R Soil (E418.1)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

  
David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

**On Site Technologies, LTD.**

Date: 13-Aug-98

---

**CLIENT:** BioTech Remediation, Inc.

**Project:** Thriftway Refinery

**Lab Order:** 9807036

**CASE NARRATIVE**

---

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.



**ANALYTICAL REPORT**

Date: 13-Aug-98

|                    |                           |                            |                    |
|--------------------|---------------------------|----------------------------|--------------------|
| <b>Client:</b>     | BioTech Remediation, Inc. | <b>Client Sample Info:</b> | Fire Water Pond    |
| <b>Work Order:</b> | 9807036                   | <b>Client Sample ID:</b>   | Sample #1          |
| <b>Lab ID:</b>     | 9807036-01A               | <b>Matrix:</b>             | SOIL               |
| <b>Project:</b>    | Thriftway Refinery        | <b>Collection Date:</b>    | 7/13/98 3:00:00 PM |
|                    |                           | <b>COC Record:</b>         | 5177               |

| Parameter                      | Result | PQL            | Qual | Units | DF | Date Analyzed |
|--------------------------------|--------|----------------|------|-------|----|---------------|
| <b>TPH, T/R SOIL</b>           |        | <b>E418.1</b>  |      |       |    | Analyst: HR   |
| Petroleum Hydrocarbons, T/R    | 49     | 24             |      | mg/Kg | 1  | 7/21/98       |
| <b>DIESEL RANGE ORGANICS</b>   |        | <b>SW8015</b>  |      |       |    | Analyst: HR   |
| T/R Hydrocarbons: C10-C28      | ND     | 25             |      | mg/Kg | 1  | 7/20/98       |
| <b>GASOLINE RANGE ORGANICS</b> |        | <b>SW8015</b>  |      |       |    | Analyst: DC   |
| T/R Hydrocarbons: C6-C10       | ND     | 0.18           |      | mg/Kg | 1  | 7/21/98       |
| <b>BTEX</b>                    |        | <b>SW8020A</b> |      |       |    | Analyst: DC   |
| Methyl tert-Butyl Ether        | ND     | 10             |      | µg/Kg | 1  | 7/16/98       |
| Benzene                        | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |
| Toluene                        | ND     | 2              |      | µg/Kg | 1  | 7/16/98       |
| Ethylbenzene                   | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |
| m,p-Xylene                     | ND     | 2              |      | µg/Kg | 1  | 7/16/98       |
| o-Xylene                       | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |

**Qualifiers:**

|                                                         |                                                     |
|---------------------------------------------------------|-----------------------------------------------------|
| PQL - Practical Quantitation Limit                      | S - Spike Recovery outside accepted recovery limits |
| ND - Not Detected at Practical Quantitation Limit       | R - RPD outside accepted recovery limits            |
| J - Analyte detected below Practical Quantitation Limit | E - Value above quantitation range                  |
| B - Analyte detected in the associated Method Blank     | Surr: - Surrogate                                   |



**ANALYTICAL REPORT**

Date: 13-Aug-98

|                                                |                                            |
|------------------------------------------------|--------------------------------------------|
| <b>Client:</b> BioTech Remediation, Inc.       | <b>Client Sample Info:</b> Fire Water Pond |
| <b>Work Order:</b> 9807036                     | <b>Client Sample ID:</b> Sample #2         |
| <b>Lab ID:</b> 9807036-02A <b>Matrix:</b> SOIL | <b>Collection Date:</b> 7/13/98 3:28:00 PM |
| <b>Project:</b> Thriftway Refinery             | <b>COC Record:</b> 5177                    |

| Parameter                      | Result | PQL            | Qual | Units | DF | Date Analyzed |
|--------------------------------|--------|----------------|------|-------|----|---------------|
| <b>TPH, T/R SOIL</b>           |        | <b>E418.1</b>  |      |       |    | Analyst: HR   |
| Petroleum Hydrocarbons, T/R    | ND     | 24             |      | mg/Kg | 1  | 7/21/98       |
| <b>DIESEL RANGE ORGANICS</b>   |        | <b>SW8015</b>  |      |       |    | Analyst: HR   |
| T/R Hydrocarbons: C10-C28      | ND     | 25             |      | mg/Kg | 1  | 7/20/98       |
| <b>GASOLINE RANGE ORGANICS</b> |        | <b>SW8015</b>  |      |       |    | Analyst: DC   |
| T/R Hydrocarbons: C6-C10       | ND     | 0.18           |      | mg/Kg | 1  | 7/21/98       |
| <b>BTEX</b>                    |        | <b>SW8020A</b> |      |       |    | Analyst: DC   |
| Methyl tert-Butyl Ether        | ND     | 10             |      | µg/Kg | 1  | 7/16/98       |
| Benzene                        | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |
| Toluene                        | ND     | 2              |      | µg/Kg | 1  | 7/16/98       |
| Ethylbenzene                   | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |
| m,p-Xylene                     | ND     | 2              |      | µg/Kg | 1  | 7/16/98       |
| o-Xylene                       | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |

|                    |                                                         |                                                     |
|--------------------|---------------------------------------------------------|-----------------------------------------------------|
| <b>Qualifiers:</b> | PQL - Practical Quantitation Limit                      | S - Spike Recovery outside accepted recovery limits |
|                    | ND - Not Detected at Practical Quantitation Limit       | R - RPD outside accepted recovery limits            |
|                    | J - Analyte detected below Practical Quantitation Limit | E - Value above quantitation range                  |
|                    | B - Analyte detected in the associated Method Blank     | Surr: - Surrogate                                   |



**ANALYTICAL REPORT**

Date: 13-Aug-98

|                    |                           |                            |                    |
|--------------------|---------------------------|----------------------------|--------------------|
| <b>Client:</b>     | BioTech Remediation, Inc. | <b>Client Sample Info:</b> | Fire Water Pond    |
| <b>Work Order:</b> | 9807036                   | <b>Client Sample ID:</b>   | Sample #3          |
| <b>Lab ID:</b>     | 9807036-03A               | <b>Matrix:</b>             | SOIL               |
| <b>Project:</b>    | Thriftway Refinery        | <b>Collection Date:</b>    | 7/13/98 3:45:00 PM |
|                    |                           | <b>COC Record:</b>         | 5177               |

| Parameter                      | Result | PQL            | Qual | Units | DF | Date Analyzed |
|--------------------------------|--------|----------------|------|-------|----|---------------|
| <b>TPH, T/R SOIL</b>           |        | <b>E418.1</b>  |      |       |    | Analyst: HR   |
| Petroleum Hydrocarbons, T/R    | 31     | 26             |      | mg/Kg | 1  | 7/21/98       |
| <b>DIESEL RANGE ORGANICS</b>   |        | <b>SW8015</b>  |      |       |    | Analyst: HR   |
| T/R Hydrocarbons: C10-C28      | ND     | 25             |      | mg/Kg | 1  | 7/21/98       |
| <b>GASOLINE RANGE ORGANICS</b> |        | <b>SW8015</b>  |      |       |    | Analyst: DC   |
| T/R Hydrocarbons: C6-C10       | ND     | 0.18           |      | mg/Kg | 1  | 7/21/98       |
| <b>BTEX</b>                    |        | <b>SW8020A</b> |      |       |    | Analyst: DC   |
| Methyl tert-Butyl Ether        | ND     | 10             |      | µg/Kg | 1  | 7/16/98       |
| Benzene                        | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |
| Toluene                        | ND     | 2              |      | µg/Kg | 1  | 7/16/98       |
| Ethylbenzene                   | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |
| m,p-Xylene                     | ND     | 2              |      | µg/Kg | 1  | 7/16/98       |
| o-Xylene                       | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |

**Qualifiers:**

|                                                         |                                                     |
|---------------------------------------------------------|-----------------------------------------------------|
| PQL - Practical Quantitation Limit                      | S - Spike Recovery outside accepted recovery limits |
| ND - Not Detected at Practical Quantitation Limit       | R - RPD outside accepted recovery limits            |
| J - Analyte detected below Practical Quantitation Limit | E - Value above quantitation range                  |
| B - Analyte detected in the associated Method Blank     | Sur: - Surrogate                                    |

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

**Date:** 13-Aug-98

|                                                |                                            |
|------------------------------------------------|--------------------------------------------|
| <b>Client:</b> BioTech Remediation, Inc.       | <b>Client Sample Info:</b> Fire Water Pond |
| <b>Work Order:</b> 9807036                     | <b>Client Sample ID:</b> Sample #4         |
| <b>Lab ID:</b> 9807036-04A <b>Matrix:</b> SOIL | <b>Collection Date:</b> 7/13/98 4:12:00 PM |
| <b>Project:</b> Thriftway Refinery             | <b>COC Record:</b> 5177                    |

| Parameter                      | Result | PQL            | Qual | Units | DF | Date Analyzed |
|--------------------------------|--------|----------------|------|-------|----|---------------|
| <b>TPH, T/R SOIL</b>           |        | <b>E418.1</b>  |      |       |    | Analyst: HR   |
| Petroleum Hydrocarbons, T/R    | 67     | 24             |      | mg/Kg | 1  | 7/21/98       |
| <b>DIESEL RANGE ORGANICS</b>   |        | <b>SW8015</b>  |      |       |    | Analyst: HR   |
| T/R Hydrocarbons: C10-C28      | ND     | 25             |      | mg/Kg | 1  | 7/21/98       |
| <b>GASOLINE RANGE ORGANICS</b> |        | <b>SW8015</b>  |      |       |    | Analyst: DC   |
| T/R Hydrocarbons: C6-C10       | ND     | 0.18           |      | mg/Kg | 1  | 7/21/98       |
| <b>BTEX</b>                    |        | <b>SW8020A</b> |      |       |    | Analyst: DC   |
| Methyl tert-Butyl Ether        | ND     | 10             |      | µg/Kg | 1  | 7/16/98       |
| Benzene                        | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |
| Toluene                        | ND     | 2              |      | µg/Kg | 1  | 7/16/98       |
| Ethylbenzene                   | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |
| m,p-Xylene                     | ND     | 2              |      | µg/Kg | 1  | 7/16/98       |
| o-Xylene                       | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |

**Qualifiers:**

|                                                         |                                                     |
|---------------------------------------------------------|-----------------------------------------------------|
| PQL - Practical Quantitation Limit                      | S - Spike Recovery outside accepted recovery limits |
| ND - Not Detected at Practical Quantitation Limit       | R - RPD outside accepted recovery limits            |
| J - Analyte detected below Practical Quantitation Limit | E - Value above quantitation range                  |
| B - Analyte detected in the associated Method Blank     | Surr: - Surrogate                                   |

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

**Date:** 13-Aug-98

|                                                |                                            |
|------------------------------------------------|--------------------------------------------|
| <b>Client:</b> BioTech Remediation, Inc.       | <b>Client Sample Info:</b> Fire Water Pond |
| <b>Work Order:</b> 9807036                     | <b>Client Sample ID:</b> Sample #5         |
| <b>Lab ID:</b> 9807036-05A <b>Matrix:</b> SOIL | <b>Collection Date:</b> 7/13/98 4:30:00 PM |
| <b>Project:</b> Thriftway Refinery             | <b>COC Record:</b> 5177                    |

| Parameter                      | Result | PQL            | Qual | Units | DF | Date Analyzed |
|--------------------------------|--------|----------------|------|-------|----|---------------|
| <b>TPH, T/R SOIL</b>           |        | <b>E418.1</b>  |      |       |    | Analyst: HR   |
| Petroleum Hydrocarbons, T/R    | ND     | 24             |      | mg/Kg | 1  | 7/21/98       |
| <b>DIESEL RANGE ORGANICS</b>   |        | <b>SW8015</b>  |      |       |    | Analyst: HR   |
| T/R Hydrocarbons: C10-C28      | ND     | 25             |      | mg/Kg | 1  | 7/21/98       |
| <b>GASOLINE RANGE ORGANICS</b> |        | <b>SW8015</b>  |      |       |    | Analyst: DC   |
| T/R Hydrocarbons: C6-C10       | ND     | 0.18           |      | mg/Kg | 1  | 7/21/98       |
| <b>BTEX</b>                    |        | <b>SW8020A</b> |      |       |    | Analyst: DC   |
| Methyl tert-Butyl Ether        | ND     | 10             |      | µg/Kg | 1  | 7/16/98       |
| Benzene                        | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |
| Toluene                        | ND     | 2              |      | µg/Kg | 1  | 7/16/98       |
| Ethylbenzene                   | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |
| m,p-Xylene                     | ND     | 2              |      | µg/Kg | 1  | 7/16/98       |
| o-Xylene                       | ND     | 1              |      | µg/Kg | 1  | 7/16/98       |

|                    |                                                         |                                                     |
|--------------------|---------------------------------------------------------|-----------------------------------------------------|
| <b>Qualifiers:</b> | PQL - Practical Quantitation Limit                      | S - Spike Recovery outside accepted recovery limits |
|                    | ND - Not Detected at Practical Quantitation Limit       | R - RPD outside accepted recovery limits            |
|                    | J - Analyte detected below Practical Quantitation Limit | E - Value above quantitation range                  |
|                    | B - Analyte detected in the associated Method Blank     | Surr: - Surrogate                                   |





On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.  
Work Order: 9807036  
Project: Thriftway Refinery

QC SUMMARY REPORT  
Sample Duplicate

|                             |              |                       |              |                       |                    |          |           |             |       |          |      |
|-----------------------------|--------------|-----------------------|--------------|-----------------------|--------------------|----------|-----------|-------------|-------|----------|------|
| Sample ID: 9807036-01AD     | Batch ID: 34 | Test Code: E418.1     | Units: mg/Kg | Analysis Date 7/21/98 | Prep Date: 7/21/98 |          |           |             |       |          |      |
| Client ID: Sample #1        | 9807036      | Run ID: TPH 1_980721B |              | SeqNo: 4799           |                    |          |           |             |       |          |      |
| Analyte                     | Result       | PQL                   | SPK value    | SPK Ref Val           | %REC               | LowLimit | HighLimit | RPD Ref Val | %RPD  | RPDLimit | Qual |
| Petroleum Hydrocarbons, T/R | 44.12        | 24                    | 0            | 0                     | 0.0%               | 0        | 0         | 49.02       | 10.5% | 16       |      |

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.  
Work Order: 9807036  
Project: Thriftway Refinery

QC SUMMARY REPORT  
Sample Matrix Spike

|                             |              |                       |              |                        |                    |          |           |             |      |          |      |
|-----------------------------|--------------|-----------------------|--------------|------------------------|--------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: 9807036-03AMS    | Batch ID: 34 | Test Code: E418.1     | Units: mg/Kg | Analysis Date: 7/21/98 | Prep Date: 7/21/98 |          |           |             |      |          |      |
| Client ID: Sample #3        | 9807036      | Run ID: TPH 1_980721B |              | SeqNo: 4800            |                    |          |           |             |      |          |      |
| Analyte                     | Result       | PQL                   | SPK value    | SPK Ref Val            | %REC               | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Petroleum Hydrocarbons, T/R | 872.5        | 24                    | 852.9        | 31                     | 98.7%              | 80       | 120       |             |      |          |      |

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



**On Site Technologies, LTD.**

**CLIENT:** BioTech Remediation, Inc.  
**Work Order:** 9807036  
**Project:** Thriftway Refinery

**Date:** 13-Aug-98

**QC SUMMARY REPORT**  
 Continuing Calibration Verification Standard

| Sample ID:                  | Batch ID: | Test Code: | E418.1        | Units:                                                                       | mg/Kg                                                               | Analysis Date: | 7/21/98                     | Prep Date: |
|-----------------------------|-----------|------------|---------------|------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------|-----------------------------|------------|
| Client ID:                  | Run ID:   | 9807036    | TPH 1_980721B | SeqNo:                                                                       | 4791                                                                | HighLimit      | RPD Ref Val                 | %RPD       |
| Analyte                     | Result    | PQL        | SPK value     | SPK Ref Val                                                                  | %REC                                                                | LowLimit       | RPDLimit                    | Qual       |
| Petroleum Hydrocarbons, T/R | 136       | 25         | 130           | 0                                                                            | 104.6%                                                              | 80             | 120                         |            |
| Sample ID:                  | Batch ID: | Test Code: | E418.1        | Units:                                                                       | mg/Kg <td>Analysis Date:</td> <td>7/21/98 <td>Prep Date:</td> </td> | Analysis Date: | 7/21/98 <td>Prep Date:</td> | Prep Date: |
| Client ID:                  | Run ID:   | 9807036    | TPH 1_980721B | SeqNo:                                                                       | 4801 <td>HighLimit</td> <td>RPD Ref Val <td>%RPD</td> </td>         | HighLimit      | RPD Ref Val <td>%RPD</td>   | %RPD       |
| Analyte                     | Result    | PQL        | SPK value     | SPK Ref Val <td>%REC <td>LowLimit</td> <td>RPDLimit <td>Qual</td> </td></td> | %REC <td>LowLimit</td> <td>RPDLimit <td>Qual</td> </td>             | LowLimit       | RPDLimit <td>Qual</td>      | Qual       |
| Petroleum Hydrocarbons, T/R | 135       | 25         | 130           | 0                                                                            | 103.8%                                                              | 80             | 120                         |            |

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank  
 1 of 1

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.

QC SUMMARY REPORT

Work Order: 9807036

Method Blank

Project: Thriftway Refinery

Sample ID: MB1      Batch ID: GC-2\_980720      Test Code: SW8015      Units: mg/Kg      Analysis Date 7/20/98      Prep Date: 7/20/98

Client ID: 9807036      Run ID: GC-2\_980720A      SeqNo: 4802

| Analyte                   | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---------------------------|--------|-----|-----------|-------------|------|----------|-----------|-------------|------|----------|------|
| T/R Hydrocarbons: C10-C28 | ND     |     |           |             |      |          |           |             |      |          |      |

**Qualifiers:**      ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limits      B - Analyte detected in the associated Method Blank

                         J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits

**On Site Technologies, LTD.**

Date: 13-Aug-98

**CLIENT:** BioTech Remediation, Inc.  
**Work Order:** 9807036  
**Project:** Thriftway Refinery

**QC SUMMARY REPORT**  
 Sample Duplicate

Sample ID: 9807040-04AD    Batch ID: GC-2\_980720    Test Code: SW8015    Units: mg/Kg    Analysis Date 7/21/98    Prep Date: 7/21/98  
 Client ID: 9807036    Run ID: GC-2\_980720A    SeqNo: 4826

| Analyte                   | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD  | RPDLimit | Qual |
|---------------------------|--------|-----|-----------|-------------|------|----------|-----------|-------------|-------|----------|------|
| T/R Hydrocarbons: C10-C28 | 56.56  | 25  | 0         | 0           | 0.0% | 0        | 0         | 50.26       | 11.8% | 15       |      |

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.  
Work Order: 9807036  
Project: Thriftway Refinery

QC SUMMARY REPORT  
Sample Matrix Spike

|                           |                       |                   |              |                       |                    |          |           |             |      |          |      |
|---------------------------|-----------------------|-------------------|--------------|-----------------------|--------------------|----------|-----------|-------------|------|----------|------|
| Sample ID: 9807041-03AMS  | Batch ID: GC-2_980720 | Test Code: SW8015 | Units: mg/Kg | Analysis Date 7/21/98 | Prep Date: 7/21/98 |          |           |             |      |          |      |
| Client ID: 9807036        | Run ID: GC-2_980720A  | SeqNo: 4825       |              |                       |                    |          |           |             |      |          |      |
| Analyte                   | Result                | PQL               | SPK value    | SPK Ref Val           | %REC               | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| T/R Hydrocarbons: C10-C28 | 434.3                 | 25                | 502          | 0                     | 86.5%              | 70       | 130       |             |      |          |      |

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

| Sample ID: LCS Soil       | Batch ID: GC-2_980720 | Test Code: SW8015 | Units: mg/Kg | Analysis Date 7/20/98 | Prep Date: 7/20/98 |          |           |             |      |          |      |
|---------------------------|-----------------------|-------------------|--------------|-----------------------|--------------------|----------|-----------|-------------|------|----------|------|
| Client ID: 9807036        | Run ID: GC-2_980720A  |                   |              | SeqNo: 4804           |                    |          |           |             |      |          |      |
| Analyte                   | Result                | PQL               | SPK value    | SPK Ref Val           | %REC               | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| T/R Hydrocarbons: C10-C28 | 452.1                 | 25                | 502          | 0                     | 90.1%              | 70       | 130       |             |      |          |      |

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**On Site Technologies, LTD.**

**Date:** 13-Aug-98

**CLIENT:** BioTech Remediation, Inc.  
**Work Order:** 9807036  
**Project:** Thriftway Refinery

**QC SUMMARY REPORT**  
 Continuing Calibration Verification Standard

|                               |                              |                          |                     |                               |            |          |           |             |      |          |      |
|-------------------------------|------------------------------|--------------------------|---------------------|-------------------------------|------------|----------|-----------|-------------|------|----------|------|
| Sample ID: <b>CCV1 QC0602</b> | Batch ID: <b>GC-2_980720</b> | Test Code: <b>SW8015</b> | Units: <b>mg/Kg</b> | Analysis Date: <b>7/20/98</b> | Prep Date: |          |           |             |      |          |      |
| Client ID:                    | Run ID: <b>9807036</b>       | SeqNo: <b>4803</b>       |                     |                               |            |          |           |             |      |          |      |
| Analyte                       | Result                       | PQL                      | SPK value           | SPK Ref Val                   | %REC       | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| T/R Hydrocarbons: C10-C28     | 531.4                        | 25                       | 502                 | 0                             | 105.9%     | 85       | 115       |             |      |          |      |

|                               |                              |                          |                     |                               |            |          |           |             |      |          |      |
|-------------------------------|------------------------------|--------------------------|---------------------|-------------------------------|------------|----------|-----------|-------------|------|----------|------|
| Sample ID: <b>CCV2 QC0602</b> | Batch ID: <b>GC-2_980720</b> | Test Code: <b>SW8015</b> | Units: <b>mg/Kg</b> | Analysis Date: <b>7/20/98</b> | Prep Date: |          |           |             |      |          |      |
| Client ID:                    | Run ID: <b>9807036</b>       | SeqNo: <b>4827</b>       |                     |                               |            |          |           |             |      |          |      |
| Analyte                       | Result                       | PQL                      | SPK value           | SPK Ref Val                   | %REC       | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| T/R Hydrocarbons: C10-C28     | 516.2                        | 25                       | 502                 | 0                             | 102.8%     | 85       | 115       |             |      |          |      |

|                               |                              |                          |                     |                               |            |          |           |             |      |          |      |
|-------------------------------|------------------------------|--------------------------|---------------------|-------------------------------|------------|----------|-----------|-------------|------|----------|------|
| Sample ID: <b>CCV3 QC0602</b> | Batch ID: <b>GC-2_980720</b> | Test Code: <b>SW8015</b> | Units: <b>mg/Kg</b> | Analysis Date: <b>7/21/98</b> | Prep Date: |          |           |             |      |          |      |
| Client ID:                    | Run ID: <b>9807036</b>       | SeqNo: <b>4828</b>       |                     |                               |            |          |           |             |      |          |      |
| Analyte                       | Result                       | PQL                      | SPK value           | SPK Ref Val                   | %REC       | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| T/R Hydrocarbons: C10-C28     | 545.6                        | 25                       | 502                 | 0                             | 108.7%     | 85       | 115       |             |      |          |      |

|                               |                              |                          |                     |                               |            |          |           |             |      |          |      |
|-------------------------------|------------------------------|--------------------------|---------------------|-------------------------------|------------|----------|-----------|-------------|------|----------|------|
| Sample ID: <b>CCV4 QC0602</b> | Batch ID: <b>GC-2_980720</b> | Test Code: <b>SW8015</b> | Units: <b>mg/Kg</b> | Analysis Date: <b>7/21/98</b> | Prep Date: |          |           |             |      |          |      |
| Client ID:                    | Run ID: <b>9807036</b>       | SeqNo: <b>4829</b>       |                     |                               |            |          |           |             |      |          |      |
| Analyte                       | Result                       | PQL                      | SPK value           | SPK Ref Val                   | %REC       | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| T/R Hydrocarbons: C10-C28     | 547.8                        | 25                       | 502                 | 0                             | 109.1%     | 85       | 115       |             |      |          |      |

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank



On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.  
Work Order: 9807036  
Project: Thriftway Refinery

QC SUMMARY REPORT  
Sample Matrix Spike

| Sample ID: 9807036-02AMS  | Batch ID: GC-1_980721 | Test Code: SW8015 | Units: mg/Kg | Analysis Date 7/21/98 | Prep Date: 7/21/98 |          |           |             |      |          |      |
|---------------------------|-----------------------|-------------------|--------------|-----------------------|--------------------|----------|-----------|-------------|------|----------|------|
| Client ID: Sample #2      | Run ID: GC-1_980721A  | SeqNo: 4844       |              |                       |                    |          |           |             |      |          |      |
| Analyte                   | Result                | PQL               | SPK value    | SPK Ref Val           | %REC               | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| T/R Hydrocarbons: C6-C10  | 1.7                   | 0.18              | 1.801        | 0                     | 94.4%              | 52       | 123       |             |      |          |      |
| Sample ID: 9807036-02AMSD | Batch ID: GC-1_980721 | Test Code: SW8015 | Units: mg/Kg | Analysis Date 7/21/98 | Prep Date: 7/21/98 |          |           |             |      |          |      |
| Client ID: Sample #2      | Run ID: GC-1_980721A  | SeqNo: 4845       |              |                       |                    |          |           |             |      |          |      |
| Analyte                   | Result                | PQL               | SPK value    | SPK Ref Val           | %REC               | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| T/R Hydrocarbons: C6-C10  | 1.665                 | 0.18              | 1.801        | 0                     | 92.5%              | 52       | 123       | 1.7         | 2.0% | 14       |      |

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS Soil Batch ID: GC-1\_980721 Test Code: SW8015 Units: mg/Kg Analysis Date 7/21/98 Prep Date: 7/21/98

Client ID: 9807036 Run ID: GC-1\_980721A SeqNo: 4832

| Analyte                  | Result | PQL  | SPK value | SPK Ref Val | %REC   | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|--------------------------|--------|------|-----------|-------------|--------|----------|-----------|-------------|------|----------|------|
| T/R Hydrocarbons: C6-C10 | 2.007  | 0.18 | 1.801     | 0.0718      | 107.5% | 52       | 123       |             |      |          |      |

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below: quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**On Site Technologies, LTD.**

Date: 13-Aug-98

**CLIENT:** BioTech Remediation, Inc.  
**Work Order:** 9807036  
**Project:** Thriftway Refinery

**QC SUMMARY REPORT**  
 Continuing Calibration Verification Standard

| Sample ID: | CCV1 QC0593 | Batch ID: | GC-1_980721  | Test Code:  | SW8015 | Units:   | mg/Kg     | Analysis Date | 7/21/98 | Prep Date: |      |
|------------|-------------|-----------|--------------|-------------|--------|----------|-----------|---------------|---------|------------|------|
| Client ID: | 9807036     | Run ID:   | GC-1_980721A | SeqNo:      | 4831   |          |           |               |         |            |      |
| Analyte    | Result      | PQL       | SPK value    | SPK Ref Val | %REC   | LowLimit | HighLimit | RPD Ref Val   | %RPD    | RPDLimit   | Qual |

|                          |       |      |       |   |        |    |     |  |  |  |  |
|--------------------------|-------|------|-------|---|--------|----|-----|--|--|--|--|
| T/R Hydrocarbons: C6-C10 | 2.03  | 0.18 | 1.801 | 0 | 112.7% | 85 | 115 |  |  |  |  |
| Trifluorotoluene         | .0895 | 0    | 0.09  | 0 | 99.4%  | 70 | 130 |  |  |  |  |

| Sample ID: | CCV2 QC0593 | Batch ID: | GC-1_980721  | Test Code:  | SW8015 | Units:   | mg/Kg     | Analysis Date | 7/21/98 | Prep Date: |      |
|------------|-------------|-----------|--------------|-------------|--------|----------|-----------|---------------|---------|------------|------|
| Client ID: | 9807036     | Run ID:   | GC-1_980721A | SeqNo:      | 4846   |          |           |               |         |            |      |
| Analyte    | Result      | PQL       | SPK value    | SPK Ref Val | %REC   | LowLimit | HighLimit | RPD Ref Val   | %RPD    | RPDLimit   | Qual |

|                          |       |      |       |   |        |    |     |  |  |  |  |
|--------------------------|-------|------|-------|---|--------|----|-----|--|--|--|--|
| T/R Hydrocarbons: C6-C10 | 2.103 | 0.18 | 1.801 | 0 | 116.8% | 85 | 115 |  |  |  |  |
| Trifluorotoluene         | .09   | 0    | 0.09  | 0 | 100.0% | 70 | 130 |  |  |  |  |

| Sample ID: | CCV3 QC0593 | Batch ID: | GC-1_980721  | Test Code:  | SW8015 | Units:   | mg/Kg     | Analysis Date | 7/21/98 | Prep Date: |      |
|------------|-------------|-----------|--------------|-------------|--------|----------|-----------|---------------|---------|------------|------|
| Client ID: | 9807036     | Run ID:   | GC-1_980721A | SeqNo:      | 4847   |          |           |               |         |            |      |
| Analyte    | Result      | PQL       | SPK value    | SPK Ref Val | %REC   | LowLimit | HighLimit | RPD Ref Val   | %RPD    | RPDLimit   | Qual |

|                          |       |      |       |   |        |    |     |  |  |  |  |
|--------------------------|-------|------|-------|---|--------|----|-----|--|--|--|--|
| T/R Hydrocarbons: C6-C10 | 2.056 | 0.18 | 1.801 | 0 | 114.1% | 85 | 115 |  |  |  |  |
| Trifluorotoluene         | .0951 | 0    | 0.09  | 0 | 105.7% | 70 | 130 |  |  |  |  |

| Sample ID: | CCV4 QC0593 | Batch ID: | GC-1_980721  | Test Code:  | SW8015 | Units:   | mg/Kg     | Analysis Date | 7/22/98 | Prep Date: |      |
|------------|-------------|-----------|--------------|-------------|--------|----------|-----------|---------------|---------|------------|------|
| Client ID: | 9807036     | Run ID:   | GC-1_980721A | SeqNo:      | 4848   |          |           |               |         |            |      |
| Analyte    | Result      | PQL       | SPK value    | SPK Ref Val | %REC   | LowLimit | HighLimit | RPD Ref Val   | %RPD    | RPDLimit   | Qual |

|                          |       |      |       |   |       |    |     |  |  |  |  |
|--------------------------|-------|------|-------|---|-------|----|-----|--|--|--|--|
| T/R Hydrocarbons: C6-C10 | 1.602 | 0.18 | 1.801 | 0 | 89.0% | 85 | 115 |  |  |  |  |
| Trifluorotoluene         | .0781 | 0    | 0.09  | 0 | 86.8% | 70 | 130 |  |  |  |  |

CCV3 6/13/98  
 102  
 8/17/98

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limits      B - Analyte detected in the associated Method Blank  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits

**CLIENT:** BioTech Remediation, Inc.  
**Work Order:** 9807036  
**Project:** Thriftway Refinery

**QC SUMMARY REPORT**  
 Continuing Calibration Verification Standard

Sample ID: **CCV5 QC0593** Batch ID: **GC-1\_980721** Test Code: **SW8015** Units: **mg/Kg** Analysis Date: **7/22/98** Prep Date:

Client ID: **9807036** Run ID: **GC-1\_980721A** SeqNo: **4849**

| Analyte                  | Result | PQL  | SPK value | SPK Ref Val | %REC   | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|--------------------------|--------|------|-----------|-------------|--------|----------|-----------|-------------|------|----------|------|
| T/R Hydrocarbons: C6-C10 | 1.942  | 0.18 | 1.801     | 0           | 107.8% | 85       | 115       |             |      |          |      |
| Trifluorotoluene         | .0871  | 0    | 0.09      | 0           | 96.8%  | 70       | 130       |             |      |          |      |

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**On Site Technologies, LTD.**

Date: 13-Aug-98

**CLIENT:** BioTech Remediation, Inc.  
**Work Order:** 9807036  
**Project:** Thriftway Refinery

**QC SUMMARY REPORT**  
 Method Blank

| Sample ID:              | MB1     | Batch ID: | GC-1_980716  | Test Code:  | SW8020A   | Units:      | µg/Kg | Analysis Date: | 7/16/98   | Prep Date: |
|-------------------------|---------|-----------|--------------|-------------|-----------|-------------|-------|----------------|-----------|------------|
| Client ID:              | 9807036 | Run ID:   | GC-1_980716A | PQL         | SPK value | SPK Ref Val | %REC  | LowLimit       | HighLimit | SeqNo:     |
| Analyte                 | Result  | PQL       | SPK value    | SPK Ref Val | %RPD      | RPDLimit    | Qual  |                |           |            |
| Benzene                 | ND      | 1         |              |             |           |             |       |                |           |            |
| Ethylbenzene            | ND      | 1         |              |             |           |             |       |                |           |            |
| m,p-Xylene              | ND      | 2         |              |             |           |             |       |                |           |            |
| Methyl tert-Butyl Ether | ND      | 10        |              |             |           |             |       |                |           |            |
| o-Xylene                | ND      | 1         |              |             |           |             |       |                |           |            |
| Toluene                 | ND      | 2         |              |             |           |             |       |                |           |            |

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank

**On Site Technologies, LTD.**

**CLIENT:** BioTech Remediation, Inc.  
**Work Order:** 9807036  
**Project:** Thriftway Refinery

Date: 13-Aug-98

**QC SUMMARY REPORT**  
 Sample Matrix Spike

| Sample ID: 9807036-02AMS | Batch ID: GC-1_980716 | Test Code: SW8020A | Units: µg/Kg | Analysis Date 7/16/98 | Prep Date: |             |      |          |      |
|--------------------------|-----------------------|--------------------|--------------|-----------------------|------------|-------------|------|----------|------|
| Client ID: Sample #2     | Run ID: GC-1_980716A  | PQL                | SPK value    | SeqNo: 4631           |            |             |      |          |      |
| Analyte                  | Result                | SPK Ref Val        | %REC         | LowLimit              | HighLimit  | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                  | 63.18                 | 0                  | 105.3%       | 71                    | 116        |             |      |          |      |
| Ethylbenzene             | 64.12                 | 0                  | 106.9%       | 68                    | 120        |             |      |          |      |
| m,p-Xylene               | 122.5                 | 0                  | 102.1%       | 60                    | 121        |             |      |          |      |
| Methyl tert-Butyl Ether  | 59.34                 | 0                  | 98.9%        | 70                    | 130        |             |      |          |      |
| o-Xylene                 | 63.89                 | 0                  | 106.5%       | 69                    | 124        |             |      |          |      |
| Toluene                  | 63.75                 | 0                  | 106.3%       | 62                    | 128        |             |      |          |      |

| Sample ID: 9807036-02AMSD | Batch ID: GC-1_980716 | Test Code: SW8020A | Units: µg/Kg | Analysis Date 7/16/98 | Prep Date: |             |      |          |      |
|---------------------------|-----------------------|--------------------|--------------|-----------------------|------------|-------------|------|----------|------|
| Client ID: Sample #2      | Run ID: GC-1_980716A  | PQL                | SPK value    | SeqNo: 4632           |            |             |      |          |      |
| Analyte                   | Result                | SPK Ref Val        | %REC         | LowLimit              | HighLimit  | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                   | 60.86                 | 0                  | 101.4%       | 71                    | 116        | 63.18       | 3.7% | 15       |      |
| Ethylbenzene              | 61.62                 | 0                  | 102.7%       | 68                    | 120        | 64.12       | 4.0% | 15       |      |
| m,p-Xylene                | 117.4                 | 0                  | 97.9%        | 60                    | 121        | 122.5       | 4.2% | 15       |      |
| Methyl tert-Butyl Ether   | 57.67                 | 0                  | 96.1%        | 70                    | 130        | 59.34       | 2.9% | 15       |      |
| o-Xylene                  | 61.47                 | 0                  | 102.4%       | 69                    | 124        | 63.89       | 3.9% | 15       |      |
| Toluene                   | 61.37                 | 0                  | 102.3%       | 62                    | 128        | 63.75       | 3.8% | 15       |      |

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank  
 1 of 1

**On Site Technologies, LTD.**

Date: 13-Aug-98

**CLIENT:** BioTech Remediation, Inc.  
**Work Order:** 9807036  
**Project:** Thriftway Refinery

**QC SUMMARY REPORT**  
 Laboratory Control Spike - generic

Sample ID: **LCS SOIL** Batch ID: **GC-1\_980716** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **7/16/98** Prep Date:  
 Client ID: **9807036** Run ID: **GC-1\_980716A** SeqNo: **4629**

| Analyte                 | Result | PQL | SPK value | SPK Ref Val | %REC   | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|-------------------------|--------|-----|-----------|-------------|--------|----------|-----------|-------------|------|----------|------|
| Benzene                 | 65.14  | 1   | 60        | 0           | 108.6% | 71       | 116       |             |      |          |      |
| Ethylbenzene            | 64.95  | 1   | 60        | 0           | 108.2% | 68       | 120       |             |      |          |      |
| m,p-Xylene              | 126.3  | 2   | 120       | 0           | 105.2% | 60       | 121       |             |      |          |      |
| Methyl tert-Butyl Ether | 60.79  | 10  | 60        | 0           | 101.3% | 70       | 130       |             |      |          |      |
| o-Xylene                | 66.55  | 1   | 60        | 0           | 110.9% | 69       | 124       |             |      |          |      |
| Toluene                 | 64.34  | 2   | 60        | 0           | 107.2% | 62       | 128       |             |      |          |      |

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**On Site Technologies, LTD.**

Date: 13-Aug-98

**CLIENT:** BioTech Remediation, Inc.  
**Work Order:** 9807036  
**Project:** Thriftway Refinery

**QC SUMMARY REPORT**  
 Continuing Calibration Verification Standard

| Sample ID:              | CCV1 QC0606/07 | Batch ID: | GC-1_980716  | Test Code: | SW8020A   | Units:      | µg/Kg | Analysis Date: | 7/16/98   | Prep Date:  |      |          |      |
|-------------------------|----------------|-----------|--------------|------------|-----------|-------------|-------|----------------|-----------|-------------|------|----------|------|
| Client ID:              | 9807036        | Run ID:   | GC-1_980716A | PQL        | SPK value | SPK Ref Val | %REC  | LowLimit       | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Analyte                 | Result         |           |              |            |           |             |       |                |           |             |      |          |      |
| Benzene                 | 65.4           | 1         | 60           | 0          | 0         | 109.0%      | 85    | 115            |           |             |      |          |      |
| Ethylbenzene            | 66.32          | 1         | 60           | 0          | 0         | 110.5%      | 85    | 115            |           |             |      |          |      |
| m,p-Xylene              | 127.9          | 2         | 120          | 0          | 0         | 106.6%      | 85    | 115            |           |             |      |          |      |
| Methyl tert-Butyl Ether | 69.47          | 10        | 60           | 0          | 0         | 115.8%      | 85    | 115            |           |             |      |          |      |
| o-Xylene                | 67.11          | 1         | 60           | 0          | 0         | 111.9%      | 85    | 115            |           |             |      |          |      |
| Toluene                 | 65.84          | 2         | 60           | 0          | 0         | 109.7%      | 85    | 115            |           |             |      |          |      |
| 1,4-Difluorobenzene     | 90.43          | 0         | 90           | 0          | 0         | 100.5%      | 70    | 130            |           |             |      |          |      |
| 4-Bromochlorobenzene    | 97.63          | 0         | 90           | 0          | 0         | 108.5%      | 68    | 131            |           |             |      |          |      |
| Fluorobenzene           | 89.27          | 0         | 90           | 0          | 0         | 99.2%       | 70    | 130            |           |             |      |          |      |

SV 8/13/98  
 WVL 8/17/98

| Sample ID:              | CCV2 QC0606/07 | Batch ID: | GC-1_980716  | Test Code: | SW8020A   | Units:      | µg/Kg | Analysis Date: | 7/16/98   | Prep Date:  |      |          |      |
|-------------------------|----------------|-----------|--------------|------------|-----------|-------------|-------|----------------|-----------|-------------|------|----------|------|
| Client ID:              | 9807036        | Run ID:   | GC-1_980716A | PQL        | SPK value | SPK Ref Val | %REC  | LowLimit       | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Analyte                 | Result         |           |              |            |           |             |       |                |           |             |      |          |      |
| Benzene                 | 60.5           | 1         | 60           | 0          | 0         | 100.8%      | 85    | 115            |           |             |      |          |      |
| Ethylbenzene            | 63.04          | 1         | 60           | 0          | 0         | 105.1%      | 85    | 115            |           |             |      |          |      |
| m,p-Xylene              | 118.6          | 2         | 120          | 0          | 0         | 98.9%       | 85    | 115            |           |             |      |          |      |
| Methyl tert-Butyl Ether | 62.65          | 10        | 60           | 0          | 0         | 104.4%      | 85    | 115            |           |             |      |          |      |
| o-Xylene                | 62.12          | 1         | 60           | 0          | 0         | 103.5%      | 85    | 115            |           |             |      |          |      |
| Toluene                 | 61.48          | 2         | 60           | 0          | 0         | 102.5%      | 85    | 115            |           |             |      |          |      |
| 1,4-Difluorobenzene     | 90.41          | 0         | 90           | 0          | 0         | 100.5%      | 70    | 130            |           |             |      |          |      |
| 4-Bromochlorobenzene    | 104.5          | 0         | 90           | 0          | 0         | 116.1%      | 68    | 131            |           |             |      |          |      |
| Fluorobenzene           | 89.31          | 0         | 90           | 0          | 0         | 99.2%       | 70    | 130            |           |             |      |          |      |

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

**CLIENT:** BioTech Remediation, Inc.  
**Work Order:** 9807036  
**Project:** Thriftway Refinery

**QC SUMMARY REPORT**  
 Continuing Calibration Verification Standard

Sample ID: **CCV3 QC0606/07** Batch ID: **GC-1\_980716** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **7/16/98** Prep Date:  
 Client ID: **9807036** Run ID: **GC-1\_980716A** SeqNo: **4628**

| Analyte                 | Result | PQL | SPK value | SPK Ref Val | %REC   | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|-------------------------|--------|-----|-----------|-------------|--------|----------|-----------|-------------|------|----------|------|
| Benzene                 | 64.6   | 1   | 60        | 0           | 107.7% | 85       | 115       |             |      |          |      |
| Ethylbenzene            | 66.09  | 1   | 60        | 0           | 110.2% | 85       | 115       |             |      |          |      |
| m,p-Xylene              | 127.1  | 2   | 120       | 0           | 105.9% | 85       | 115       |             |      |          |      |
| Methyl tert-Butyl Ether | 67.19  | 10  | 60        | 0           | 112.0% | 85       | 115       |             |      |          |      |
| o-Xylene                | 66.43  | 1   | 60        | 0           | 110.7% | 85       | 115       |             |      |          |      |
| Toluene                 | 65.75  | 2   | 60        | 0           | 109.6% | 85       | 115       |             |      |          |      |
| 1,4-Difluorobenzene     | 90.63  | 0   | 90        | 0           | 100.7% | 70       | 130       |             |      |          |      |
| 4-Bromochlorobenzene    | 97.21  | 0   | 90        | 0           | 108.0% | 68       | 131       |             |      |          |      |
| Fluorobenzene           | 89.45  | 0   | 90        | 0           | 99.4%  | 70       | 130       |             |      |          |      |

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

Test No: SW8020A

**QC SUMMARY REPORT  
SURROGATE RECOVERIES**

**BTEX**

| Sample ID      | 14FBZ | 4BCBZ | FLBZ |
|----------------|-------|-------|------|
| 9807016-02A    | 102   | 126   | 101  |
| 9807016-03A    | 104   | 185 * | 101  |
| 9807023-02A    | 101   | 119   | 101  |
| 9807036-01A    | 103   | 118   | 103  |
| 9807036-02A    | 103   | 118   | 103  |
| 9807036-02AMS  | 100   | 101   | 99   |
| 9807036-02AMSD | 100   | 99.3  | 98.8 |
| 9807036-03A    | 102   | 111   | 102  |
| 9807036-04A    | 101   | 105   | 100  |
| 9807036-05A    | 102   | 114   | 102  |
| 9807036-06A    | 102   | 113   | 101  |
| CCV1 QC0606/07 | 100   | 108   | 99.2 |
| CCV2 QC0606/07 | 100   | 116   | 99.2 |
| CCV3 QC0606/07 | 101   | 108   | 99.4 |
| LCS SOIL       | 100   | 101   | 98.3 |
| MB1            | 103   | 117   | 102  |

| Acronym | Surrogate              | QC Limits |
|---------|------------------------|-----------|
| 14FBZ   | = 1,4-Difluorobenzene  | 70-130    |
| 4BCBZ   | = 4-Bromochlorobenzene | 68-131    |
| FLBZ    | = Fluorobenzene        | 70-130    |

\* Surrogate recovery outside acceptance limits

**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 #:

14-Jul-98

| Sample ID   | Matrix | Collection Date    | Bottle Type | Requested Tests |         |         |
|-------------|--------|--------------------|-------------|-----------------|---------|---------|
|             |        |                    |             | SW6010A         | SW8270A | SW9045B |
| 9807036-01B | Soil   | 7/13/98 3:00:00 PM | 4OZG        | 1               | 1       | 1       |
| 9807036-02B | Soil   | 7/13/98 3:28:00 PM | 4OZG        | 1               | 1       | 1       |
| 9807036-03B | Soil   | 7/13/98 3:45:00 PM | 4OZG        | 1               | 1       | 1       |
| 9807036-04B | Soil   | 7/13/98 4:12:00 PM | 4OZG        | 1               | 1       | 1       |
| 9807036-05B | Soil   | 7/13/98 4:30:00 PM | 4OZG        | 1               | 1       | 1       |
| 9807036-06B | Soil   | 7/13/98 4:55:00 PM | 4OZG        | 1               | 1       | 1       |

**Comments:** Please analyze six (6) soil samples for RCRA Metals, pH and Semi-Volatiles (to include Polynuclear Aromatic Hydrocarbons).

Relinquished by:

*DS*

Date/Time

7/15/98 1600

Received by:

*Robert A. ...*

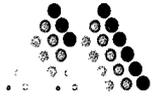
Date/Time

07/16/98  
1030

Relinquished by:

Received by:

RECEIVED AUG 12 1998



**Mountain States Analytical, Inc.**

*The Quality Solution*

August 6, 1998

Mr. David Cox  
On Site Technologies, Ltd.  
612 E Murray Drive  
Farmington, NM 87401

Reference:

Project: Soil Samples  
MSAI Group: 23234

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

|             |             |             |
|-------------|-------------|-------------|
| 9807036-01B | 9807036-02B | 9807036-03B |
| 9807036-04B | 9807036-05B | 9807036-06B |

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the associated invoice and forward it for payment.

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,

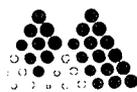
Rolf E. Larsen  
Project Manager

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com





## Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.  
612 E Murray Drive  
Farmington, NM 87401

Attn: Mr. David Cox  
Project: Soil Samples

MSAI Sample: 83146  
MSAI Group: 23234  
Date Reported: 08/06/98  
Discard Date: 09/05/98  
Date Submitted: 07/16/98  
Date Sampled: 07/13/98  
Collected by:  
Purchase Order:  
Project No.:

Sample ID: 9807036-01B

Matrix: Soil

### Thriftway Refinery Fire Water Pond Sample #1 <sup>re</sup>

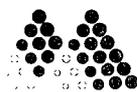
| Test  | Analysis                                             | Results<br>as Received | Units      | Limit of<br>Quantitation |
|-------|------------------------------------------------------|------------------------|------------|--------------------------|
| 0390I | Flame/ICP Prep, sw, 3050A<br>Method: SW-846 3050A    | Batch. s437            |            |                          |
| 0408  | Mercury Prep CVAA, sw, 7471A<br>Method: SW-846 7471A | Batch. s031            |            |                          |
| 13000 | Metals by ICP, 6010A, s/sw<br>Method: SW-846 6010A   |                        |            |                          |
|       | Arsenic                                              | U                      | mg/kg      | 18                       |
|       | Barium                                               | 99.6                   | mg/kg      | 1.5                      |
|       | Cadmium                                              | U                      | mg/kg      | 2.00                     |
|       | Chromium                                             | 5.42                   | mg/kg      | 5.00                     |
|       | Lead                                                 | U                      | mg/kg      | 25                       |
|       | Selenium                                             | U                      | mg/kg      | 30                       |
|       | Silver                                               | U                      | mg/kg      | 2.00                     |
| 1522  | Mercury by CVAA, sw, 7471A<br>Method: SW-846 7471A   | U                      | mg/kg      | 0.37                     |
| 0394  | pH, sw, 9045C<br>Method: SW-846 9045C                | 7.24                   | Std. Units | 0.05                     |
| 1198  | Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A     |                        |            |                          |
|       | Acenaphthene                                         | U                      | ug/kg      | 330                      |
|       | Acenaphthylene                                       | U                      | ug/kg      | 330                      |
|       | Anthracene                                           | U                      | ug/kg      | 330                      |
|       | Benzidine                                            | U                      | ug/kg      | 1,800                    |
|       | Benz(a)anthracene                                    | U                      | ug/kg      | 330                      |
|       | Benzo(a)pyrene                                       | U                      | ug/kg      | 830                      |
|       | Benzo(b)fluoranthene                                 | U                      | ug/kg      | 330                      |
|       | Benzo(ghi)perylene                                   | U                      | ug/kg      | 330                      |

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com

MEMBER  
ACIL



## Mountain States Analytical, Inc.

The Quality Solution

Page 2

On Site Technologies, Ltd.

MSAI Sample: 83146

MSAI Group: 23234

Sample ID: 9807036-01B

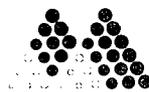
| Test | Analysis                                         | Results<br>as Received | Units | Limit of<br>Quantitation |
|------|--------------------------------------------------|------------------------|-------|--------------------------|
| 1198 | Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A |                        |       |                          |
|      | Benzo(k)fluoranthene                             | U                      | ug/kg | 330                      |
|      | bis(2-Chloroethoxy)methane                       | U                      | ug/kg | 330                      |
|      | bis(2-Chloroethyl)ether                          | U                      | ug/kg | 330                      |
|      | bis(2-Chloroisopropyl)ether                      | U                      | ug/kg | 330                      |
|      | bis(2-Ethylhexyl)phthalate                       | U                      | ug/kg | 330                      |
|      | 4-Bromophenyl-phenyl ether                       | U                      | ug/kg | 330                      |
|      | Butylbenzyl phthalate                            | U                      | ug/kg | 830                      |
|      | 2-Chloronaphthalene                              | U                      | ug/kg | 330                      |
|      | 4-Chlorophenyl-phenyl ether                      | U                      | ug/kg | 330                      |
|      | Chrysene                                         | U                      | ug/kg | 330                      |
|      | Dibenz(a,h)anthracene                            | U                      | ug/kg | 330                      |
|      | 1,2-Dichlorobenzene                              | U                      | ug/kg | 330                      |
|      | 1,3-Dichlorobenzene                              | U                      | ug/kg | 330                      |
|      | 1,4-Dichlorobenzene                              | U                      | ug/kg | 330                      |
|      | 3,3'-Dichlorobenzidine                           | U                      | ug/kg | 330                      |
|      | Diethyl phthalate                                | U                      | ug/kg | 330                      |
|      | Dimethyl phthalate                               | U                      | ug/kg | 330                      |
|      | Di-N-butyl phthalate                             | U                      | ug/kg | 830                      |
|      | 2,4-Dinitrotoluene                               | U                      | ug/kg | 330                      |
|      | 2,6-Dinitrotoluene                               | U                      | ug/kg | 330                      |
|      | Di-N-octyl phthalate                             | 141 J                  | ug/kg | 330                      |
|      | 1,2-Diphenylhydrazine                            | U                      | ug/kg | 330                      |
|      | Fluoranthene                                     | U                      | ug/kg | 330                      |
|      | Fluorene                                         | U                      | ug/kg | 330                      |
|      | Hexachlorobenzene                                | U                      | ug/kg | 330                      |
|      | Hexachlorobutadiene                              | U                      | ug/kg | 330                      |
|      | Hexachlorocyclopentadiene                        | U                      | ug/kg | 330                      |
|      | Hexachloroethane                                 | U                      | ug/kg | 330                      |
|      | Indeno(1,2,3-cd)pyrene                           | U                      | ug/kg | 330                      |
|      | Isophorone                                       | U                      | ug/kg | 330                      |
|      | Naphthalene                                      | U                      | ug/kg | 330                      |
|      | Nitrobenzene                                     | U                      | ug/kg | 330                      |
|      | N-Nitrosodimethylamine                           | U                      | ug/kg | 330                      |
|      | N-Nitrosodi-N-propylamine                        | U                      | ug/kg | 330                      |
|      | N-Nitrosodiphenylamine                           | U                      | ug/kg | 330                      |
|      | Phenanthrene                                     | U                      | ug/kg | 330                      |
|      | Pyrene                                           | U                      | ug/kg | 330                      |

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com





## Mountain States Analytical, Inc.

*The Quality Solution*

On Site Technologies, Ltd.

MSAI Sample: 83146  
MSAI Group: 23234

Page 3

Sample ID: 9807036-01B

| Test Analysis                                         | Results as Received | Units | Limit of Quantitation |
|-------------------------------------------------------|---------------------|-------|-----------------------|
| 1198 Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A |                     |       |                       |
| 1,2,4-Trichlorobenzene                                | U                   | ug/kg | 330                   |
| 2-Chlorophenol                                        | U                   | ug/kg | 830                   |
| 2,4-Dichlorophenol                                    | U                   | ug/kg | 830                   |
| 2,4-Dimethylphenol                                    | U                   | ug/kg | 830                   |
| 4,6-Dinitro-2-methylphenol                            | U                   | ug/kg | 830                   |
| 2,4-Dinitrophenol                                     | U                   | ug/kg | 830                   |
| 2-Nitrophenol                                         | U                   | ug/kg | 830                   |
| 4-Nitrophenol                                         | U                   | ug/kg | 830                   |
| 4-Chloro-3-methylphenol                               | U                   | ug/kg | 830                   |
| Pentachlorophenol                                     | U                   | ug/kg | 830                   |
| Phenol                                                | U                   | ug/kg | 830                   |
| 2,4,6-Trichlorophenol                                 | U                   | ug/kg | 830                   |
| 2-Methylphenol (o-Cresol)                             | U                   | ug/kg | 830                   |
| 3005 SVOA Extraction, s/sw<br>Method: SW-846 3550A    | Complete            | ug/kg |                       |

U - Not detected at the Method Detection Limit.  
J - Compound Detected below the Limit of Quantitation.

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:

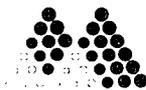
Rolf E. Larsen  
Project Manager

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com

MEMBER  
ACIL



## Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.  
612 E Murray Drive  
Farmington, NM 87401

Attn: Mr. David Cox  
Project: Soil Samples

MSAI Sample: 83147  
MSAI Group: 23234  
Date Reported: 08/06/98  
Discard Date: 09/05/98  
Date Submitted: 07/16/98  
Date Sampled: 07/13/98  
Collected by:  
Purchase Order:  
Project No.:

Sample ID: 9807036-02B

Matrix: Soil

Thriftway Refinery Fire Water Pond Sample #2 <sup>(DC)</sup>

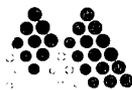
| Test  | Analysis                                             | Results<br>as Received | Units      | Limit of<br>Quantitation |
|-------|------------------------------------------------------|------------------------|------------|--------------------------|
| 0390I | Flame/ICP Prep, sw, 3050A<br>Method: SW-846 3050A    | Batch. s437            |            |                          |
| 0408  | Mercury Prep CVAA, sw, 7471A<br>Method: SW-846 7471A | Batch. s031            |            |                          |
| 13000 | Metals by ICP, 6010A, s/sw<br>Method: SW-846 6010A   |                        |            |                          |
|       | Arsenic                                              | U                      | mg/kg      | 18                       |
|       | Barium                                               | 100                    | mg/kg      | 1.5                      |
|       | Cadmium                                              | U                      | mg/kg      | 2.00                     |
|       | Chromium                                             | 4 B                    | mg/kg      | 5.00                     |
|       | Lead                                                 | U                      | mg/kg      | 25                       |
|       | Selenium                                             | U                      | mg/kg      | 30                       |
|       | Silver                                               | U                      | mg/kg      | 2.00                     |
| 1522  | Mercury by CVAA, sw, 7471A<br>Method: SW-846 7471A   | U                      | mg/kg      | 0.37                     |
| 0394  | pH, sw, 9045C<br>Method: SW-846 9045C                | 7.38                   | Std. Units | 0.05                     |
| 1198  | Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A     |                        |            |                          |
|       | Acenaphthene                                         | U                      | ug/kg      | 330                      |
|       | Acenaphthylene                                       | U                      | ug/kg      | 330                      |
|       | Anthracene                                           | U                      | ug/kg      | 330                      |
|       | Benzidine                                            | U                      | ug/kg      | 1,800                    |
|       | Benz(a)anthracene                                    | U                      | ug/kg      | 330                      |
|       | Benzo(a)pyrene                                       | U                      | ug/kg      | 830                      |
|       | Benzo(b)fluoranthene                                 | U                      | ug/kg      | 330                      |
|       | Benzo(ghi)perylene                                   | U                      | ug/kg      | 330                      |

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com

MEMBER  
ACIL



## Mountain States Analytical, Inc.

The Quality Solution

Page 2

On Site Technologies, Ltd.

MSAI Sample: 83147

MSAI Group: 23234

Sample ID: 9807036-02B

| Test Analysis                                         | Results as Received | Units | Limit of Quantitation |
|-------------------------------------------------------|---------------------|-------|-----------------------|
| 1198 Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A |                     |       |                       |
| Benzo(k)fluoranthene                                  | U                   | ug/kg | 330                   |
| bis(2-Chloroethoxy)methane                            | U                   | ug/kg | 330                   |
| bis(2-Chloroethyl)ether                               | U                   | ug/kg | 330                   |
| bis(2-Chloroisopropyl)ether                           | U                   | ug/kg | 330                   |
| bis(2-Ethylhexyl)phthalate                            | 165 J               | ug/kg | 330                   |
| 4-Bromophenyl-phenyl ether                            | U                   | ug/kg | 330                   |
| Butylbenzyl phthalate                                 | U                   | ug/kg | 830                   |
| 2-Chloronaphthalene                                   | U                   | ug/kg | 330                   |
| 4-Chlorophenyl-phenyl ether                           | U                   | ug/kg | 330                   |
| Chrysene                                              | U                   | ug/kg | 330                   |
| Dibenz(a,h)anthracene                                 | U                   | ug/kg | 330                   |
| 1,2-Dichlorobenzene                                   | U                   | ug/kg | 330                   |
| 1,3-Dichlorobenzene                                   | U                   | ug/kg | 330                   |
| 1,4-Dichlorobenzene                                   | U                   | ug/kg | 330                   |
| 3,3'-Dichlorobenzidine                                | U                   | ug/kg | 330                   |
| Diethyl phthalate                                     | U                   | ug/kg | 330                   |
| Dimethyl phthalate                                    | U                   | ug/kg | 330                   |
| Di-N-butyl phthalate                                  | U                   | ug/kg | 830                   |
| 2,4-Dinitrotoluene                                    | U                   | ug/kg | 330                   |
| 2,6-Dinitrotoluene                                    | U                   | ug/kg | 330                   |
| Di-N-octyl phthalate                                  | U                   | ug/kg | 330                   |
| 1,2-Diphenylhydrazine                                 | U                   | ug/kg | 330                   |
| Fluoranthene                                          | U                   | ug/kg | 330                   |
| Fluorene                                              | U                   | ug/kg | 330                   |
| Hexachlorobenzene                                     | U                   | ug/kg | 330                   |
| Hexachlorobutadiene                                   | U                   | ug/kg | 330                   |
| Hexachlorocyclopentadiene                             | U                   | ug/kg | 330                   |
| Hexachloroethane                                      | U                   | ug/kg | 330                   |
| Indeno(1,2,3-cd)pyrene                                | U                   | ug/kg | 330                   |
| Isophorone                                            | U                   | ug/kg | 330                   |
| Naphthalene                                           | U                   | ug/kg | 330                   |
| Nitrobenzene                                          | U                   | ug/kg | 330                   |
| N-Nitrosodimethylamine                                | U                   | ug/kg | 330                   |
| N-Nitrosodi-N-propylamine                             | U                   | ug/kg | 330                   |
| N-Nitrosodiphenylamine                                | U                   | ug/kg | 330                   |
| Phenanthrene                                          | U                   | ug/kg | 330                   |
| Pyrene                                                | U                   | ug/kg | 330                   |

10  
Years of  
Quality  
Service

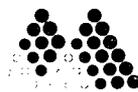
Corporate Office

1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region

6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com





## Mountain States Analytical, Inc.

*The Quality Solution*

Page 3

On Site Technologies, Ltd.

MSAI Sample: 83147

MSAI Group: 23234

Sample ID: 9807036-02B

| Test | Analysis                                         | Results<br>as Received | Units | Limit of<br>Quantitation |
|------|--------------------------------------------------|------------------------|-------|--------------------------|
| 1198 | Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A |                        |       |                          |
|      | 1,2,4-Trichlorobenzene                           | U                      | ug/kg | 330                      |
|      | 2-Chlorophenol                                   | U                      | ug/kg | 830                      |
|      | 2,4-Dichlorophenol                               | U                      | ug/kg | 830                      |
|      | 2,4-Dimethylphenol                               | U                      | ug/kg | 830                      |
|      | 4,6-Dinitro-2-methylphenol                       | U                      | ug/kg | 830                      |
|      | 2,4-Dinitrophenol                                | U                      | ug/kg | 830                      |
|      | 2-Nitrophenol                                    | U                      | ug/kg | 830                      |
|      | 4-Nitrophenol                                    | U                      | ug/kg | 830                      |
|      | 4-Chloro-3-methylphenol                          | U                      | ug/kg | 830                      |
|      | Pentachlorophenol                                | U                      | ug/kg | 830                      |
|      | Phenol                                           | U                      | ug/kg | 830                      |
|      | 2,4,6-Trichlorophenol                            | U                      | ug/kg | 830                      |
|      | 2-Methylphenol (o-Cresol)                        | U                      | ug/kg | 830                      |
| 3005 | SVOA Extraction, s/sw<br>Method: SW-846 3550A    | Complete               | ug/kg |                          |

- U - Not detected at the Method Detection Limit.
- J - Compound Detected below the Limit of Quantitation.
- B - Detected, below limit of quantitation but above 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:

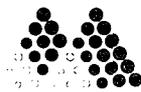
Rolf E. Larsen  
Project Manager

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com





## Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.  
612 E Murray Drive  
Farmington, NM 87401

Attn: Mr. David Cox  
Project: Soil Samples

MSAI Sample: 83148  
MSAI Group: 23234  
Date Reported: 08/06/98  
Discard Date: 09/05/98  
Date Submitted: 07/16/98  
Date Sampled: 07/13/98  
Collected by:  
Purchase Order:  
Project No.:

Sample ID: 9807036-03B

Matrix: Soil

Thriftway Refinery Fire Water Pond Sample #3 (nc)

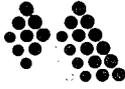
| Test Analysis                                             | Results as Received | Units      | Limit of Quantitation |
|-----------------------------------------------------------|---------------------|------------|-----------------------|
| 0390I Flame/ICP Prep, sw, 3050A<br>Method: SW-846 3050A   | Batch. s437         |            |                       |
| 0408 Mercury Prep CVAA, sw, 7471A<br>Method: SW-846 7471A | Batch. s031         |            |                       |
| 13000 Metals by ICP, 6010A, s/sw<br>Method: SW-846 6010A  |                     |            |                       |
| Arsenic                                                   | U                   | mg/kg      | 18                    |
| Barium                                                    | 87.0                | mg/kg      | 1.5                   |
| Cadmium                                                   | U                   | mg/kg      | 2.00                  |
| Chromium                                                  | 3 B                 | mg/kg      | 5.00                  |
| Lead                                                      | U                   | mg/kg      | 25                    |
| Selenium                                                  | U                   | mg/kg      | 30                    |
| Silver                                                    | 2.82                | mg/kg      | 2.00                  |
| 1522 Mercury by CVAA, sw, 7471A<br>Method: SW-846 7471A   | U                   | mg/kg      | 0.37                  |
| 0394 pH, sw, 9045C<br>Method: SW-846 9045C                | 7.07                | Std. Units | 0.05                  |
| 1198 Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A     |                     |            |                       |
| Acenaphthene                                              | U                   | ug/kg      | 330                   |
| Acenaphthylene                                            | U                   | ug/kg      | 330                   |
| Anthracene                                                | U                   | ug/kg      | 330                   |
| Benzidine                                                 | U                   | ug/kg      | 1,800                 |
| Benz(a)anthracene                                         | U                   | ug/kg      | 330                   |
| Benzo(a)pyrene                                            | U                   | ug/kg      | 830                   |
| Benzo(b)fluoranthene                                      | U                   | ug/kg      | 330                   |
| Benzo(ghi)perylene                                        | U                   | ug/kg      | 330                   |

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com

MEMBER  
ACIL


**Mountain States Analytical, Inc.**

Page 2

On Site Technologies, Ltd.

*The Quality Solution*

MSAI Sample: 83148

MSAI Group: 23234

Sample ID: 9807036-03B

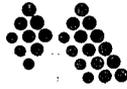
| Test | Analysis                                         | Results<br>as Received | Units | Limit of<br>Quantitation |
|------|--------------------------------------------------|------------------------|-------|--------------------------|
| 1198 | Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A |                        |       |                          |
|      | Benzo(k)fluoranthene                             | U                      | ug/kg | 330                      |
|      | bis(2-Chloroethoxy)methane                       | U                      | ug/kg | 330                      |
|      | bis(2-Chloroethyl)ether                          | U                      | ug/kg | 330                      |
|      | bis(2-Chloroisopropyl)ether                      | U                      | ug/kg | 330                      |
|      | bis(2-Ethylhexyl)phthalate                       | U                      | ug/kg | 330                      |
|      | 4-Bromophenyl-phenyl ether                       | U                      | ug/kg | 330                      |
|      | Butylbenzyl phthalate                            | U                      | ug/kg | 830                      |
|      | 2-Chloronaphthalene                              | U                      | ug/kg | 330                      |
|      | 4-Chlorophenyl-phenyl ether                      | U                      | ug/kg | 330                      |
|      | Chrysene                                         | U                      | ug/kg | 330                      |
|      | Dibenz(a,h)anthracene                            | U                      | ug/kg | 330                      |
|      | 1,2-Dichlorobenzene                              | U                      | ug/kg | 330                      |
|      | 1,3-Dichlorobenzene                              | U                      | ug/kg | 330                      |
|      | 1,4-Dichlorobenzene                              | U                      | ug/kg | 330                      |
|      | 3,3'-Dichlorobenzidine                           | U                      | ug/kg | 330                      |
|      | Diethyl phthalate                                | U                      | ug/kg | 330                      |
|      | Dimethyl phthalate                               | U                      | ug/kg | 330                      |
|      | Di-N-butyl phthalate                             | U                      | ug/kg | 830                      |
|      | 2,4-Dinitrotoluene                               | U                      | ug/kg | 330                      |
|      | 2,6-Dinitrotoluene                               | U                      | ug/kg | 330                      |
|      | Di-N-octyl phthalate                             | 154 J                  | ug/kg | 330                      |
|      | 1,2-Diphenylhydrazine                            | U                      | ug/kg | 330                      |
|      | Fluoranthene                                     | U                      | ug/kg | 330                      |
|      | Fluorene                                         | U                      | ug/kg | 330                      |
|      | Hexachlorobenzene                                | U                      | ug/kg | 330                      |
|      | Hexachlorobutadiene                              | U                      | ug/kg | 330                      |
|      | Hexachlorocyclopentadiene                        | U                      | ug/kg | 330                      |
|      | Hexachloroethane                                 | U                      | ug/kg | 330                      |
|      | Indeno(1,2,3-cd)pyrene                           | U                      | ug/kg | 330                      |
|      | Isophorone                                       | U                      | ug/kg | 330                      |
|      | Naphthalene                                      | U                      | ug/kg | 330                      |
|      | Nitrobenzene                                     | U                      | ug/kg | 330                      |
|      | N-Nitrosodimethylamine                           | U                      | ug/kg | 330                      |
|      | N-Nitrosodi-N-propylamine                        | U                      | ug/kg | 330                      |
|      | N-Nitrosodiphenylamine                           | U                      | ug/kg | 330                      |
|      | Phenanthrene                                     | U                      | ug/kg | 330                      |
|      | Pyrene                                           | U                      | ug/kg | 330                      |

10  
Years of  
Quality  
Service

**Corporate Office**  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

**Southwest States Region**  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com

MEMBER  
ACIL



## Mountain States Analytical, Inc.

The Quality Solution

Page 3

On Site Technologies, Ltd.

MSAI Sample: 83148

MSAI Group: 23234

Sample ID: 9807036-03B

| Test Analysis                                         | Results as Received | Units | Limit of Quantitation |
|-------------------------------------------------------|---------------------|-------|-----------------------|
| 1198 Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A |                     |       |                       |
| 1,2,4-Trichlorobenzene                                | U                   | ug/kg | 330                   |
| 2-Chlorophenol                                        | U                   | ug/kg | 830                   |
| 2,4-Dichlorophenol                                    | U                   | ug/kg | 830                   |
| 2,4-Dimethylphenol                                    | U                   | ug/kg | 830                   |
| 4,6-Dinitro-2-methylphenol                            | U                   | ug/kg | 830                   |
| 2,4-Dinitrophenol                                     | U                   | ug/kg | 830                   |
| 2-Nitrophenol                                         | U                   | ug/kg | 830                   |
| 4-Nitrophenol                                         | U                   | ug/kg | 830                   |
| 4-Chloro-3-methylphenol                               | U                   | ug/kg | 830                   |
| Pentachlorophenol                                     | U                   | ug/kg | 830                   |
| Phenol                                                | U                   | ug/kg | 830                   |
| 2,4,6-Trichlorophenol                                 | U                   | ug/kg | 830                   |
| 2-Methylphenol (o-Cresol)                             | U                   | ug/kg | 830                   |
| 3005 SVOA Extraction, s/sw<br>Method: SW-846 3550A    | Complete            | ug/kg |                       |

- U - Not detected at the Method Detection Limit.
- J - Compound Detected below the Limit of Quantitation.
- B - Detected, below limit of quantitation but above 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:

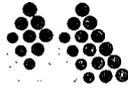
Rolf E. Larsen  
Project Manager

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com





## Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.  
612 E Murray Drive  
Farmington, NM 87401

Attn: Mr. David Cox  
Project: Soil Samples

MSAI Sample: 83149  
MSAI Group: 23234  
Date Reported: 08/06/98  
Discard Date: 09/05/98  
Date Submitted: 07/16/98  
Date Sampled: 07/13/98  
Collected by:  
Purchase Order:  
Project No.:

Sample ID: 9807036-04B

Matrix: Soil

Thriftway Refinery Fire Water Pond Sample #4 <sup>(re)</sup>

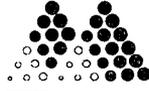
| Test Analysis                                             | Results<br>as Received | Units      | Limit of<br>Quantitation |
|-----------------------------------------------------------|------------------------|------------|--------------------------|
| 0390I Flame/ICP Prep, sw, 3050A<br>Method: SW-846 3050A   | Batch. s437            |            |                          |
| 0408 Mercury Prep CVAA, sw, 7471A<br>Method: SW-846 7471A | Batch. s031            |            |                          |
| 13000 Metals by ICP, 6010A, s/sw<br>Method: SW-846 6010A  |                        |            |                          |
| Arsenic                                                   | U                      | mg/kg      | 18                       |
| Barium                                                    | 108                    | mg/kg      | 1.5                      |
| Cadmium                                                   | U                      | mg/kg      | 2.00                     |
| Chromium                                                  | 4 B                    | mg/kg      | 5.00                     |
| Lead                                                      | U                      | mg/kg      | 25                       |
| Selenium                                                  | U                      | mg/kg      | 30                       |
| Silver                                                    | U                      | mg/kg      | 2.00                     |
| 1522 Mercury by CVAA, sw, 7471A<br>Method: SW-846 7471A   | U                      | mg/kg      | 0.37                     |
| 0394 pH, sw, 9045C<br>Method: SW-846 9045C                | 8.33                   | Std. Units | 0.05                     |
| 1198 Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A     |                        |            |                          |
| Acenaphthene                                              | U                      | ug/kg      | 330                      |
| Acenaphthylene                                            | U                      | ug/kg      | 330                      |
| Anthracene                                                | U                      | ug/kg      | 330                      |
| Benzidine                                                 | U                      | ug/kg      | 1,800                    |
| Benz(a)anthracene                                         | U                      | ug/kg      | 330                      |
| Benzo(a)pyrene                                            | U                      | ug/kg      | 830                      |
| Benzo(b)fluoranthene                                      | U                      | ug/kg      | 330                      |
| Benzo(ghi)perylene                                        | U                      | ug/kg      | 330                      |

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com

MEMBER  
ACIL



## Mountain States Analytical, Inc.

On Site Technologies, Ltd.

*The Quality Solution*

MSAI Sample: 83149

MSAI Group: 23234

Sample ID: 9807036-04B

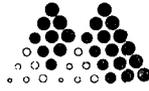
| Test | Analysis                                         | Results<br>as Received | Units | Limit of<br>Quantitation |
|------|--------------------------------------------------|------------------------|-------|--------------------------|
| 1198 | Semi-VOA, PPL, 8270A, SW<br>Method: SW-846 8270A |                        |       |                          |
|      | Benzo(k)fluoranthene                             | U                      | ug/kg | 330                      |
|      | bis(2-Chloroethoxy)methane                       | U                      | ug/kg | 330                      |
|      | bis(2-Chloroethyl)ether                          | U                      | ug/kg | 330                      |
|      | bis(2-Chloroisopropyl)ether                      | U                      | ug/kg | 330                      |
|      | bis(2-Ethylhexyl)phthalate                       | U                      | ug/kg | 330                      |
|      | 4-Bromophenyl-phenyl ether                       | U                      | ug/kg | 330                      |
|      | Butylbenzyl phthalate                            | U                      | ug/kg | 830                      |
|      | 2-Chloronaphthalene                              | U                      | ug/kg | 330                      |
|      | 4-Chlorophenyl-phenyl ether                      | U                      | ug/kg | 330                      |
|      | Chrysene                                         | U                      | ug/kg | 330                      |
|      | Dibenz(a,h)anthracene                            | U                      | ug/kg | 330                      |
|      | 1,2-Dichlorobenzene                              | U                      | ug/kg | 330                      |
|      | 1,3-Dichlorobenzene                              | U                      | ug/kg | 330                      |
|      | 1,4-Dichlorobenzene                              | U                      | ug/kg | 330                      |
|      | 3,3'-Dichlorobenzidine                           | U                      | ug/kg | 330                      |
|      | Diethyl phthalate                                | U                      | ug/kg | 330                      |
|      | Dimethyl phthalate                               | U                      | ug/kg | 330                      |
|      | Di-N-butyl phthalate                             | U                      | ug/kg | 830                      |
|      | 2,4-Dinitrotoluene                               | U                      | ug/kg | 330                      |
|      | 2,6-Dinitrotoluene                               | U                      | ug/kg | 330                      |
|      | Di-N-octyl phthalate                             | U                      | ug/kg | 330                      |
|      | 1,2-Diphenylhydrazine                            | U                      | ug/kg | 330                      |
|      | Fluoranthene                                     | U                      | ug/kg | 330                      |
|      | Fluorene                                         | U                      | ug/kg | 330                      |
|      | Hexachlorobenzene                                | U                      | ug/kg | 330                      |
|      | Hexachlorobutadiene                              | U                      | ug/kg | 330                      |
|      | Hexachlorocyclopentadiene                        | U                      | ug/kg | 330                      |
|      | Hexachloroethane                                 | U                      | ug/kg | 330                      |
|      | Indeno(1,2,3-cd)pyrene                           | U                      | ug/kg | 330                      |
|      | Isophorone                                       | U                      | ug/kg | 330                      |
|      | Naphthalene                                      | U                      | ug/kg | 330                      |
|      | Nitrobenzene                                     | U                      | ug/kg | 330                      |
|      | N-Nitrosodimethylamine                           | U                      | ug/kg | 330                      |
|      | N-Nitrosodi-N-propylamine                        | U                      | ug/kg | 330                      |
|      | N-Nitrosodiphenylamine                           | U                      | ug/kg | 330                      |
|      | Phenanthrene                                     | U                      | ug/kg | 330                      |
|      | Pyrene                                           | U                      | ug/kg | 330                      |



**Corporate Office**  
 1645 West 2200 South, Salt Lake City, Utah 84119  
 801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
 e-mail: service@msailabs.com

**Southwest States Region**  
 6223 Bayonne, Spring, Texas 77389  
 281-320-2842 • FAX 281-320-0989  
 e-mail: gbrewer@msailabs.com





## Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.

Sample ID: 9807036-04B

MSAI Sample: 83149

MSAI Group: 23234

| Test | Analysis                                         | Results<br>as Received | Units | Limit of<br>Quantitation |
|------|--------------------------------------------------|------------------------|-------|--------------------------|
| 1198 | Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A |                        |       |                          |
|      | 1,2,4-Trichlorobenzene                           | U                      | ug/kg | 330                      |
|      | 2-Chlorophenol                                   | U                      | ug/kg | 830                      |
|      | 2,4-Dichlorophenol                               | U                      | ug/kg | 830                      |
|      | 2,4-Dimethylphenol                               | U                      | ug/kg | 830                      |
|      | 4,6-Dinitro-2-methylphenol                       | U                      | ug/kg | 830                      |
|      | 2,4-Dinitrophenol                                | U                      | ug/kg | 830                      |
|      | 2-Nitrophenol                                    | U                      | ug/kg | 830                      |
|      | 4-Nitrophenol                                    | U                      | ug/kg | 830                      |
|      | 4-Chloro-3-methylphenol                          | U                      | ug/kg | 830                      |
|      | Pentachlorophenol                                | U                      | ug/kg | 830                      |
|      | Phenol                                           | U                      | ug/kg | 830                      |
|      | 2,4,6-Trichlorophenol                            | U                      | ug/kg | 830                      |
|      | 2-Methylphenol (o-Cresol)                        | U                      | ug/kg | 830                      |
| 3005 | SVOA Extraction, s/sw<br>Method: SW-846 3550A    | Complete               | ug/kg |                          |

- U - Not detected at the Method Detection Limit.
- J - Compound Detected below the Limit of Quantitation.
- B - Detected, below limit of quantitation but above 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:

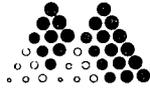
Rolf E. Larsen  
Project Manager



Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com





## Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.  
612 E Murray Drive  
Farmington, NM 87401

Attn: Mr. David Cox  
Project: Soil Samples

MSAI Sample: 83150  
MSAI Group: 23234  
Date Reported: 08/06/98  
Discard Date: 09/05/98  
Date Submitted: 07/16/98  
Date Sampled: 07/13/98  
Collected by:  
Purchase Order:  
Project No.:

Sample ID: 9807036-05B

Matrix: Soil

Thriftway Refinery Fire Water Pond Sample #5 <sup>(12)</sup>

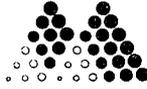
| Test Analysis                                             | Results as Received | Units      | Limit of Quantitation |
|-----------------------------------------------------------|---------------------|------------|-----------------------|
| 0390I Flame/ICP Prep, sw, 3050A<br>Method: SW-846 3050A   | Batch. s437         |            |                       |
| 0408 Mercury Prep CVAA, sw, 7471A<br>Method: SW-846 7471A | Batch. s031         |            |                       |
| 13000 Metals by ICP, 6010A, s/sw<br>Method: SW-846 6010A  |                     |            |                       |
| Arsenic                                                   | U                   | mg/kg      | 18                    |
| Barium                                                    | 88.3                | mg/kg      | 1.5                   |
| Cadmium                                                   | U                   | mg/kg      | 2.00                  |
| Chromium                                                  | 4 B                 | mg/kg      | 5.00                  |
| Lead                                                      | 6 B                 | mg/kg      | 25                    |
| Selenium                                                  | U                   | mg/kg      | 30                    |
| Silver                                                    | 0.6 B               | mg/kg      | 2.00                  |
| 1522 Mercury by CVAA, sw, 7471A<br>Method: SW-846 7471A   | U                   | mg/kg      | 0.37                  |
| 0394 pH, sw, 9045C<br>Method: SW-846 9045C                | 8.00                | Std. Units | 0.05                  |
| 1198 Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A     |                     |            |                       |
| Acenaphthene                                              | U                   | ug/kg      | 330                   |
| Acenaphthylene                                            | U                   | ug/kg      | 330                   |
| Anthracene                                                | U                   | ug/kg      | 330                   |
| Benzidine                                                 | U                   | ug/kg      | 1,800                 |
| Benz(a)anthracene                                         | U                   | ug/kg      | 330                   |
| Benzo(a)pyrene                                            | U                   | ug/kg      | 830                   |
| Benzo(b)fluoranthene                                      | U                   | ug/kg      | 330                   |
| Benzo(ghi)perylene                                        | U                   | ug/kg      | 330                   |

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com

MEMBER  
ACIL


**Mountain States Analytical, Inc.**
*The Quality Solution*

Page 2

On Site Technologies, Ltd.

MSAI Sample: 83150

MSAI Group: 23234

Sample ID: 9807036-05B

| Test | Analysis                                         | Results<br>as Received | Units | Limit of<br>Quantitation |
|------|--------------------------------------------------|------------------------|-------|--------------------------|
| 1198 | Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A |                        |       |                          |
|      | Benzo(k)fluoranthene                             | U                      | ug/kg | 330                      |
|      | bis(2-Chloroethoxy)methane                       | U                      | ug/kg | 330                      |
|      | bis(2-Chloroethyl)ether                          | U                      | ug/kg | 330                      |
|      | bis(2-Chloroisopropyl)ether                      | U                      | ug/kg | 330                      |
|      | bis(2-Ethylhexyl)phthalate                       | U                      | ug/kg | 330                      |
|      | 4-Bromophenyl-phenyl ether                       | U                      | ug/kg | 330                      |
|      | Butylbenzyl phthalate                            | U                      | ug/kg | 830                      |
|      | 2-Chloronaphthalene                              | U                      | ug/kg | 330                      |
|      | 4-Chlorophenyl-phenyl ether                      | U                      | ug/kg | 330                      |
|      | Chrysene                                         | U                      | ug/kg | 330                      |
|      | Dibenz(a,h)anthracene                            | U                      | ug/kg | 330                      |
|      | 1,2-Dichlorobenzene                              | U                      | ug/kg | 330                      |
|      | 1,3-Dichlorobenzene                              | U                      | ug/kg | 330                      |
|      | 1,4-Dichlorobenzene                              | U                      | ug/kg | 330                      |
|      | 3,3'-Dichlorobenzidine                           | U                      | ug/kg | 330                      |
|      | Diethyl phthalate                                | U                      | ug/kg | 330                      |
|      | Dimethyl phthalate                               | U                      | ug/kg | 330                      |
|      | Di-N-butyl phthalate                             | U                      | ug/kg | 830                      |
|      | 2,4-Dinitrotoluene                               | U                      | ug/kg | 330                      |
|      | 2,6-Dinitrotoluene                               | U                      | ug/kg | 330                      |
|      | Di-N-octyl phthalate                             | U                      | ug/kg | 330                      |
|      | 1,2-Diphenylhydrazine                            | U                      | ug/kg | 330                      |
|      | Fluoranthene                                     | U                      | ug/kg | 330                      |
|      | Fluorene                                         | U                      | ug/kg | 330                      |
|      | Hexachlorobenzene                                | U                      | ug/kg | 330                      |
|      | Hexachlorobutadiene                              | U                      | ug/kg | 330                      |
|      | Hexachlorocyclopentadiene                        | U                      | ug/kg | 330                      |
|      | Hexachloroethane                                 | U                      | ug/kg | 330                      |
|      | Indeno(1,2,3-cd)pyrene                           | U                      | ug/kg | 330                      |
|      | Isophorone                                       | U                      | ug/kg | 330                      |
|      | Naphthalene                                      | U                      | ug/kg | 330                      |
|      | Nitrobenzene                                     | U                      | ug/kg | 330                      |
|      | N-Nitrosodimethylamine                           | U                      | ug/kg | 330                      |
|      | N-Nitrosodi-N-propylamine                        | U                      | ug/kg | 330                      |
|      | N-Nitrosodiphenylamine                           | U                      | ug/kg | 330                      |
|      | Phenanthrene                                     | U                      | ug/kg | 330                      |
|      | Pyrene                                           | U                      | ug/kg | 330                      |

10  
Years of  
Quality  
Service

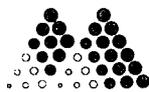
**Corporate Office**

1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

**Southwest States Region**

6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com

MEMBER  
**ACIL**



## Mountain States Analytical, Inc.

*The Quality Solution*

On Site Technologies, Ltd.

Sample ID: 9807036-05B

Page 3

MSAI Sample: 83150  
MSAI Group: 23234

| Test Analysis                                         | Results as Received | Units | Limit of Quantitation |
|-------------------------------------------------------|---------------------|-------|-----------------------|
| 1198 Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A |                     |       |                       |
| 1,2,4-Trichlorobenzene                                | U                   | ug/kg | 330                   |
| 2-Chlorophenol                                        | U                   | ug/kg | 830                   |
| 2,4-Dichlorophenol                                    | U                   | ug/kg | 830                   |
| 2,4-Dimethylphenol                                    | U                   | ug/kg | 830                   |
| 4,6-Dinitro-2-methylphenol                            | U                   | ug/kg | 830                   |
| 2,4-Dinitrophenol                                     | U                   | ug/kg | 830                   |
| 2-Nitrophenol                                         | U                   | ug/kg | 830                   |
| 4-Nitrophenol                                         | U                   | ug/kg | 830                   |
| 4-Chloro-3-methylphenol                               | U                   | ug/kg | 830                   |
| Pentachlorophenol                                     | U                   | ug/kg | 830                   |
| Phenol                                                | U                   | ug/kg | 830                   |
| 2,4,6-Trichlorophenol                                 | U                   | ug/kg | 830                   |
| 2-Methylphenol (o-Cresol)                             | U                   | ug/kg | 830                   |
| 3005 SVOA Extraction, s/sw<br>Method: SW-846 3550A    | Complete            | ug/kg |                       |

- U - Not detected at the Method Detection Limit.
- J - Compound Detected below the Limit of Quantitation.
- B - Detected, below limit of quantitation but above 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:

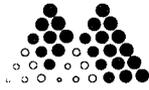
Rolf E. Larsen  
Project Manager

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: brewer@msailabs.com





## Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.  
612 E Murray Drive  
Farmington, NM 87401

Attn: Mr. David Cox  
Project: Soil Samples

MSAI Sample: 83151  
MSAI Group: 23234  
Date Reported: 08/06/98  
Discard Date: 09/05/98  
Date Submitted: 07/16/98  
Date Sampled: 07/13/98  
Collected by:  
Purchase Order:  
Project No.:

Sample ID: 9807036-06B

Matrix: Soil

Thriftway Refinery Fire Water Pond Sample #6 <sup>(12)</sup>

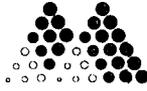
| Test Analysis                                             | Results as Received | Units      | Limit of Quantitation |
|-----------------------------------------------------------|---------------------|------------|-----------------------|
| 03901 Flame/ICP Prep, sw, 3050A<br>Method: SW-846 3050A   | Batch. s437         |            |                       |
| 0408 Mercury Prep CVAA, sw, 7471A<br>Method: SW-846 7471A | Batch. s031         |            |                       |
| 13000 Metals by ICP, 6010A, s/sw<br>Method: SW-846 6010A  |                     |            |                       |
| Arsenic                                                   | U                   | mg/kg      | 18                    |
| Barium                                                    | 100                 | mg/kg      | 1.5                   |
| Cadmium                                                   | U                   | mg/kg      | 2.00                  |
| Chromium                                                  | 5.07                | mg/kg      | 5.00                  |
| Lead                                                      | 6 B                 | mg/kg      | 25                    |
| Selenium                                                  | U                   | mg/kg      | 30                    |
| Silver                                                    | U                   | mg/kg      | 2.00                  |
| 1522 Mercury by CVAA, sw, 7471A<br>Method: SW-846 7471A   | 0.088 B             | mg/kg      | 0.37                  |
| 0394 pH, sw, 9045C<br>Method: SW-846 9045C                | 7.95                | Std. Units | 0.05                  |
| 1198 Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A     |                     |            |                       |
| Acenaphthene                                              | U                   | ug/kg      | (1) 1,700             |
| Acenaphthylene                                            | U                   | ug/kg      | 1,700                 |
| Anthracene                                                | U                   | ug/kg      | 1,700                 |
| Benzidine                                                 | U                   | ug/kg      | 9,000                 |
| Benz(a)anthracene                                         | 371 J               | ug/kg      | 1,700                 |
| Benzo(a)pyrene                                            | 350 J               | ug/kg      | 4,200                 |
| Benzo(b)fluoranthene                                      | 176 J               | ug/kg      | 1,700                 |
| Benzo(ghi)perylene                                        | U                   | ug/kg      | 1,700                 |

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com

MEMBER  
ACIL



## Mountain States Analytical, Inc.

Page 2

On Site Technologies, Ltd.

*The Quality Solution*

MSAI Sample: 83151

MSAI Group: 23234

Sample ID: 9807036-06B

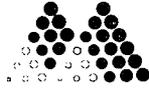
| Test Analysis                                         | Results as Received | Units | Limit of Quantitation |
|-------------------------------------------------------|---------------------|-------|-----------------------|
| 1198 Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A |                     |       |                       |
| Benzo(k)fluoranthene                                  | U                   | ug/kg | 1,700                 |
| bis(2-Chloroethoxy)methane                            | U                   | ug/kg | 1,700                 |
| bis(2-Chloroethyl)ether                               | U                   | ug/kg | 1,700                 |
| bis(2-Chloroisopropyl)ether                           | U                   | ug/kg | 1,700                 |
| bis(2-Ethylhexyl)phthalate                            | U                   | ug/kg | 1,700                 |
| 4-Bromophenyl-phenyl ether                            | U                   | ug/kg | 1,700                 |
| Butylbenzyl phthalate                                 | U                   | ug/kg | 4,200                 |
| 2-Chloronaphthalene                                   | U                   | ug/kg | 1,700                 |
| 4-Chlorophenyl-phenyl ether                           | U                   | ug/kg | 1,700                 |
| Chrysene                                              | 1,300 J             | ug/kg | 1,700                 |
| Dibenz(a,h)anthracene                                 | U                   | ug/kg | 1,700                 |
| 1,2-Dichlorobenzene                                   | U                   | ug/kg | 1,700                 |
| 1,3-Dichlorobenzene                                   | U                   | ug/kg | 1,700                 |
| 1,4-Dichlorobenzene                                   | U                   | ug/kg | 1,700                 |
| 3,3'-Dichlorobenzidine                                | U                   | ug/kg | 1,700                 |
| Diethyl phthalate                                     | U                   | ug/kg | 1,700                 |
| Dimethyl phthalate                                    | U                   | ug/kg | 1,700                 |
| Di-N-butyl phthalate                                  | U                   | ug/kg | 4,200                 |
| 2,4-Dinitrotoluene                                    | U                   | ug/kg | 1,700                 |
| 2,6-Dinitrotoluene                                    | U                   | ug/kg | 1,700                 |
| Di-N-octyl phthalate                                  | U                   | ug/kg | 1,700                 |
| 1,2-Diphenylhydrazine                                 | U                   | ug/kg | 1,700                 |
| Fluoranthene                                          | U                   | ug/kg | 1,700                 |
| Fluorene                                              | U                   | ug/kg | 1,700                 |
| Hexachlorobenzene                                     | U                   | ug/kg | 1,700                 |
| Hexachlorobutadiene                                   | U                   | ug/kg | 1,700                 |
| Hexachlorocyclopentadiene                             | U                   | ug/kg | 1,700                 |
| Hexachloroethane                                      | U                   | ug/kg | 1,700                 |
| Indeno(1,2,3-cd)pyrene                                | U                   | ug/kg | 1,700                 |
| Isophorone                                            | U                   | ug/kg | 1,700                 |
| Naphthalene                                           | U                   | ug/kg | 1,700                 |
| Nitrobenzene                                          | U                   | ug/kg | 1,700                 |
| N-Nitrosodimethylamine                                | U                   | ug/kg | 1,700                 |
| N-Nitrosodi-N-propylamine                             | U                   | ug/kg | 1,700                 |
| N-Nitrosodiphenylamine                                | U                   | ug/kg | 1,700                 |
| Phenanthrene                                          | U                   | ug/kg | 1,700                 |
| Pyrene                                                | 888 J               | ug/kg | 1,700                 |

10  
Years of  
Quality  
Service

Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com

MEMBER  
**ACIL**



## Mountain States Analytical, Inc.

The Quality Solution

Page 3

On Site Technologies, Ltd.

MSAI Sample: 83151

MSAI Group: 23234

Sample ID: 9807036-06B

| Test Analysis                                         | Results as Received | Units | Limit of Quantitation |
|-------------------------------------------------------|---------------------|-------|-----------------------|
| 1198 Semi-VOA, PPL, 8270A, sw<br>Method: SW-846 8270A |                     |       |                       |
| 1,2,4-Trichlorobenzene                                | U                   | ug/kg | 1,700                 |
| 2-Chlorophenol                                        | U                   | ug/kg | 4,200                 |
| 2,4-Dichlorophenol                                    | U                   | ug/kg | 4,200                 |
| 2,4-Dimethylphenol                                    | U                   | ug/kg | 4,200                 |
| 4,6-Dinitro-2-methylphenol                            | U                   | ug/kg | 4,200                 |
| 2,4-Dinitrophenol                                     | U                   | ug/kg | 4,200                 |
| 2-Nitrophenol                                         | U                   | ug/kg | 4,200                 |
| 4-Nitrophenol                                         | U                   | ug/kg | 4,200                 |
| 4-Chloro-3-methylphenol                               | U                   | ug/kg | 4,200                 |
| Pentachlorophenol                                     | U                   | ug/kg | 4,200                 |
| Phenol                                                | U                   | ug/kg | 4,200                 |
| 2,4,6-Trichlorophenol                                 | U                   | ug/kg | 4,200                 |
| 2-Methylphenol (o-Cresol)                             | U                   | ug/kg | 4,200                 |
| 3005 SVOA Extraction, s/sw<br>Method: SW-846 3550A    | Complete            | ug/kg |                       |

(1) Sample 83151 was diluted by a factor of five due to the dark color and high viscosity of the sample extract. The LOQs were adjusted accordingly.

- U - Not detected at the Method Detection Limit.
- J - Compound Detected below the Limit of Quantitation.
- B - Detected, below limit of quantitation but above 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



Corporate Office  
1645 West 2200 South, Salt Lake City, Utah 84119  
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278  
e-mail: service@msailabs.com

Southwest States Region  
6223 Bayonne, Spring, Texas 77389  
281-320-2842 • FAX 281-320-0989  
e-mail: gbrewer@msailabs.com



Mountain States Analytical, Inc.  
 Daily QC Batching Data  
 Data Released for Reporting

08/06/98  
 15:50:46  
 Group: 23234

Analysis Batch Number: 1522 -07/23/98-107 -1  
 Test Identification : 1522 -Mercury by CVAA, sw, 7471A                      Sequence : 1522 -1  
 Number of Samples : 8  
 Batch Data-Date/Time : 07/23/98 / 16:44:33

| BLANK#   | ANALYTE | CONC FOUND # | CONC LIMIT |
|----------|---------|--------------|------------|
| PBS1-031 | Mercury | ND           | 0.1000     |

SPIKE

| SAMPLE#     | ANALYTE | CONC ADDED | CONC SAMPLE | CONC SPIKE | % REC #   | QC LIMITS |       |
|-------------|---------|------------|-------------|------------|-----------|-----------|-------|
|             |         |            |             |            |           | LOWER     | UPPER |
| 23173-82928 | Mercury | 0.4150     | 10.2470     | 10.0260    | -53.3(2k) | 80.0      | 120.0 |

MSD

| SAMPLE#     | ANALYTE | CONC ADDED | CONC SAMPLE | RESULT 2 | %REC2 #   | QC LIMITS |       |       |       |
|-------------|---------|------------|-------------|----------|-----------|-----------|-------|-------|-------|
|             |         |            |             |          |           | LOWER     | UPPER | RPD # | LIMIT |
| 23173-82928 | Mercury | 0.4150     | 10.2470     | 10.0210  | -54.5(2k) | 80.0      | 120.0 | 0.0   | 20.0  |

DUPLICATE

| SAMPLE#     | ANALYTE | RESULT 1 | RESULT 2 | RPD # | LIMIT | DILUTION |
|-------------|---------|----------|----------|-------|-------|----------|
| 23173-82928 | Mercury | 10.2470  | 10.0360  | 2.1   | 20.0  | 10.00    |

CONTROL

| SAMPLE#  | ANALYTE | CONC FOUND | CONC KNOWN | % REC # | QC LIMITS |       |
|----------|---------|------------|------------|---------|-----------|-------|
|          |         |            |            |         | LOWER     | UPPER |
| LCSS-031 | Mercury | 2.9230     | 3.2300     | 90.5    | 47.9      | 182.3 |

CCV #

| CCV #  | ANALYTE | TRUE VALUE | BATCH READ | % REC # | LOWER | UPPER |
|--------|---------|------------|------------|---------|-------|-------|
| ICV-   | Mercury | 3.0000     | 3.0690     | 102.3   | 90.0  | 110.0 |
| CCV--2 | Mercury | 5.0000     | 5.1170     | 102.3   | 80.0  | 120.0 |
| CCV--3 | Mercury | 5.0000     | 5.0100     | 100.2   | 80.0  | 120.0 |
| CCV--4 | Mercury | 5.0000     | 4.9560     | 99.1    | 80.0  | 120.0 |
| CCV--5 | Mercury | 5.0000     | 4.9580     | 99.2    | 80.0  | 120.0 |

CCB#

| CCB# | ANALYTE | CONC FOUND # | CONC LIMIT |
|------|---------|--------------|------------|
| ICB- | Mercury | ND           | 0.1000     |
| CCB- | Mercury | ND           | 0.1000     |
| CCB- | Mercury | ND           | 0.1000     |
| CCB- | Mercury | ND           | 0.1000     |
| CCB- | Mercury | ND           | 0.1000     |

----- Result Footnotes -----  
 (2k) - Sample concentration >4X spk added. Serial dilution was recovered within 10% limits.

Groups & Samples

-----  
 23138-82845    23173-82928    23234-83146    23234-83147    23234-83148    23234-83149    23234-83150    23234-83151

Mountain States Analytical, Inc.  
 Daily QC Batching Data  
 Data Released for Reporting

08/06/98  
 15:50:53  
 Group: 23234

Analysis Batch Number: ICPSO-07/30/98-118 -3  
 Test Identification : ICPSO-\*Metal Soils by ICP  
 Number of Samples : 14  
 Batch Data-Date/Time : 08/03/98 / 11:35:11

Sequence : DATA211

| BLANK#    | ANALYTE    | CONC FOUND # | CONC LIMIT |        |
|-----------|------------|--------------|------------|--------|
| PBS1-437  | Aluminum   | 0.0744(XX)   | 0.0500     |        |
|           | Arsenic    | ND           | 0.0300     |        |
|           | Barium     | 0.0012       | 0.0030     |        |
|           | Beryllium  | 0.0003       | 0.0003     |        |
|           | Calcium    | 0.1327       | 0.4000     |        |
|           | Cadmium    | ND           | 0.0040     |        |
|           | Chromium   | 0.0025       | 0.0100     |        |
|           | Copper     | 0.0105(1d)   | 0.0100     |        |
|           | Nickel     | 0.0117       | 0.0200     |        |
|           | Lead       | ND           | 0.0400     |        |
|           | Antimony   | 0.0593       | 0.1000     |        |
|           | Selenium   | 0.0068       | 0.0700     |        |
|           | Thallium   | 0.0537       | 0.1000     |        |
|           | Vanadium   | 0.0010       | 0.0030     |        |
|           | Zinc       | 0.0446(XX)   | 0.0250     |        |
|           | PBS2-437-2 | Aluminum     | 0.0882(XX) | 0.0500 |
|           |            | Arsenic      | ND         | 0.0300 |
| Barium    |            | 0.0011       | 0.0030     |        |
| Beryllium |            | 0.0002       | 0.0003     |        |
| Calcium   |            | 0.1030       | 0.4000     |        |
| Cadmium   |            | ND           | 0.0040     |        |
| Chromium  |            | ND           | 0.0100     |        |
| Copper    |            | 0.0054       | 0.0100     |        |
| Nickel    |            | ND           | 0.0200     |        |
| Lead      |            | ND           | 0.0400     |        |
| Antimony  |            | ND           | 0.1000     |        |
| Selenium  |            | 0.0042       | 0.0700     |        |
| Thallium  |            | 0.0136       | 0.1000     |        |
| Vanadium  |            | ND           | 0.0030     |        |
| Zinc      |            | 0.0579(XX)   | 0.0250     |        |

| SPIKE       |           | QC LIMITS  |             |            |            |       |       |
|-------------|-----------|------------|-------------|------------|------------|-------|-------|
| SAMPLE#     | ANALYTE   | CONC ADDED | CONC SAMPLE | CONC SPIKE | % REC #    | LOWER | UPPER |
| 23226-83123 | Aluminum  | 200.0000   | 3291.2910   | 3555.4119  | 132.1(XX)  | 80.0  | 120.0 |
|             | Arsenic   | 200.0000   | 6.0750      | 188.1901   | 91.1       | 80.0  | 120.0 |
|             | Barium    | 200.0000   | 57.0710     | 233.6000   | 88.3       | 80.0  | 120.0 |
|             | Beryllium | 5.0000     | 0.7790      | 5.2218     | 88.9       | 80.0  | 120.0 |
|             | Calcium   | 100.0000   | 26666.8060  | 25066.5525 | ***** (B)  | 80.0  | 120.0 |
|             | Cadmium   | 5.0000     | 1.1490      | 6.3307     | 103.6      | 80.0  | 120.0 |
|             | Chromium  | 20.0000    | 112.8210    | 120.0010   | 35.9(2h)   | 80.0  | 120.0 |
|             | Copper    | 25.0000    | 68.1610     | 103.7446   | 142.3(2c)  | 80.0  | 120.0 |
|             | Nickel    | 50.0000    | 25.0670     | 75.3495    | 100.6      | 80.0  | 120.0 |
|             | Lead      | 50.0000    | 4398.7710   | 4174.8555  | -447.8(2h) | 80.0  | 120.0 |
|             | Antimony  | 100.0000   | 9.1780      | 62.9426    | 53.8(2c)   | 80.0  | 120.0 |
|             | Selenium  | 200.0000   | 7.9620      | 182.2733   | 87.2       | 80.0  | 120.0 |
|             | Thallium  | 200.0000   | -1.5310     | 175.5624   | 88.5       | 80.0  | 120.0 |
|             | Vanadium  | 50.0000    | 35.4570     | 83.1723    | 95.4       | 80.0  | 120.0 |
|             | Zinc      | 50.0000    | 230.2700    | 228.8188   | -2.9(XX)   | 80.0  | 120.0 |

Analysis Batch Number: ICPSO-07/30/98-118 -3  
 Test Identification : ICPSO-\*Metal Soils by ICP  
 Number of Samples : 14  
 Batch Data-Date/Time : 08/03/98 / 11:35:11

Sequence : DATA211

| MSD<br>SAMPLE# | ANALYTE   | CONC ADDED | CONC SAMPLE | RESULT 2   | %REC2 #    | QC LIMITS |       | RPD #    | LIMIT |
|----------------|-----------|------------|-------------|------------|------------|-----------|-------|----------|-------|
|                |           |            |             |            |            | LOWER     | UPPER |          |       |
| 23226-83123    | Aluminum  | 200.0000   | 3291.2910   | 3862.3210  | 285.5(XX)  | 80.0      | 120.0 | 8.3      | 20.0  |
|                | Arsenic   | 200.0000   | 6.0750      | 196.5010   | 95.2       | 80.0      | 120.0 | 4.3      | 20.0  |
|                | Barium    | 200.0000   | 57.0710     | 252.6320   | 97.8       | 80.0      | 120.0 | 7.8      | 20.0  |
|                | Beryllium | 5.0000     | 0.7790      | 5.5790     | 96.0       | 80.0      | 120.0 | 6.6      | 20.0  |
|                | Calcium   | 100.0000   | 26666.8060  | 27264.2240 | 597.4(B)   | 80.0      | 120.0 | 8.4      | 20.0  |
|                | Cadmium   | 5.0000     | 1.1490      | 7.1630     | 120.3(B)   | 80.0      | 120.0 | 12.3     | 20.0  |
|                | Chromium  | 20.0000    | 112.8210    | 169.2590   | 282.2(2h)  | 80.0      | 120.0 | 34.1(2h) | 20.0  |
|                | Copper    | 25.0000    | 68.1610     | 98.2970    | 120.5(2c)  | 80.0      | 120.0 | 5.4      | 20.0  |
|                | Nickel    | 50.0000    | 25.0670     | 68.1240    | 86.1       | 80.0      | 120.0 | 10.1     | 20.0  |
|                | Lead      | 50.0000    | 4398.7710   | 6786.3540  | 4775.2(2h) | 80.0      | 120.0 | 47.6(2h) | 20.0  |
|                | Antimony  | 100.0000   | 9.1780      | 83.2250    | 74.0(2c)   | 80.0      | 120.0 | 27.8(2c) | 20.0  |
|                | Selenium  | 200.0000   | 7.9620      | 199.9810   | 96.0       | 80.0      | 120.0 | 9.3      | 20.0  |
|                | Thallium  | 200.0000   | -1.5310     | 182.3660   | 91.9       | 80.0      | 120.0 | 3.8      | 20.0  |
|                | Vanadium  | 50.0000    | 35.4570     | 82.5240    | 94.1       | 80.0      | 120.0 | 0.8      | 20.0  |
|                | Zinc      | 50.0000    | 230.2700    | 273.3000   | 86.1       | 80.0      | 120.0 | 17.7     | 20.0  |

## DUPLICATE

| SAMPLE#     | ANALYTE   | RESULT 1   | RESULT 2   | RPD #     | LIMIT | DILUTION |
|-------------|-----------|------------|------------|-----------|-------|----------|
| 23226-83123 | Aluminum  | 3291.2910  | 2405.6390  | 31.1(XX)  | 20.0  | 1.00     |
|             | Arsenic   | 6.0750     | 6.5960     | 8.2       | 20.0  | 1.00     |
|             | Barium    | 57.0710    | 38.5960    | 38.6(B)   | 20.0  | 1.00     |
|             | Beryllium | 0.7790     | 0.5320     | 37.7(B)   | 20.0  | 1.00     |
|             | Calcium   | 26666.8060 | 19559.3580 | 30.8(B)   | 20.0  | 1.00     |
|             | Cadmium   | 1.1490     | 0.9690     | 17.0      | 20.0  | 1.00     |
|             | Chromium  | 112.8210   | 84.1050    | 29.2(B)   | 20.0  | 1.00     |
|             | Copper    | 68.1610    | 38.7500    | 55.0(B)   | 20.0  | 1.00     |
|             | Nickel    | 25.0670    | 13.3860    | 60.8(B)   | 20.0  | 1.00     |
|             | Lead      | 4398.7710  | 3909.5440  | 11.8      | 20.0  | 1.00     |
|             | Antimony  | 0.0918     | 0.0793     | 14.6      | 20.0  | 1.00     |
|             | Selenium  | 0.0796     | 0.0433     | 59.1(5a)  | 20.0  | 1.00     |
|             | Thallium  | -1.5310    | 0.0000     | 200.0(5a) | 20.0  | 1.00     |
|             | Vanadium  | 35.4570    | 23.5600    | 40.3(B)   | 20.0  | 1.00     |
|             | Zinc      | 230.2700   | 162.4730   | 34.5(B)   | 20.0  | 1.00     |

## CONTROL

| SAMPLE#  | ANALYTE   | CONC FOUND | CONC KNOWN | % REC # | QC LIMITS |       |
|----------|-----------|------------|------------|---------|-----------|-------|
|          |           |            |            |         | LOWER     | UPPER |
| LCSW-437 | Aluminum  | 2.1454     | 2.0000     | 107.3   | 80.0      | 120.0 |
|          | Arsenic   | 1.9373     | 2.0000     | 96.9    | 80.0      | 120.0 |
|          | Barium    | 1.9797     | 2.0000     | 99.0    | 80.0      | 120.0 |
|          | Beryllium | 0.0494     | 0.0500     | 98.8    | 80.0      | 120.0 |
|          | Calcium   | 2.3125     | 2.0000     | 115.6   | 80.0      | 120.0 |
|          | Cadmium   | 0.0483     | 0.0500     | 96.7    | 80.0      | 120.0 |
|          | Chromium  | 0.2048     | 0.2000     | 102.4   | 80.0      | 120.0 |
|          | Copper    | 0.2492     | 0.2500     | 99.7    | 80.0      | 120.0 |
|          | Nickel    | 0.4997     | 0.5000     | 99.9    | 80.0      | 120.0 |
|          | Lead      | 0.4874     | 0.5000     | 97.5    | 80.0      | 120.0 |
|          | Antimony  | 0.9542     | 9.0000     | 10.6    | 0.0       | 200.0 |
|          | Selenium  | 1.9440     | 19.9000    | 9.8     | 4.2       | 196.0 |
|          | Thallium  | 2.0383     | 2.4200     | 84.2    | 19.0      | 180.0 |

Analysis Batch Number: ICPSO-07/30/98-118 -3  
 Test Identification : ICPSO-\*Metal Soils by ICP  
 Number of Samples : 14  
 Batch Data-Date/Time : 08/03/98 / 11:35:11

Sequence : DATA211

| CONTROL    |           | QC LIMITS   |             |           |       |       |
|------------|-----------|-------------|-------------|-----------|-------|-------|
| SAMPLE#    | ANALYTE   | CONC FOUND  | CONC KNOWN  | % REC #   | LOWER | UPPER |
| LCSW-437   | Vanadium  | 0.5044      | 0.5000      | 100.9     | 80.0  | 120.0 |
|            | Zinc      | 0.6006      | 0.5000      | 120.1(XX) | 80.0  | 120.0 |
| LCSS-437-2 | Aluminum  | 17134.5257  | 15333.0000  | 111.7     | 75.3  | 124.7 |
|            | Arsenic   | 8.4307      | 6.9100      | 122.0     | 44.9  | 154.8 |
|            | Barium    | 1318.1654   | 852.9000    | 154.6     | 11.4  | 188.5 |
|            | Beryllium | 0.7723      | 0.6100      | 126.6     | 24.6  | 175.4 |
|            | Calcium   | 130204.7871 | 119477.0000 | 109.0     | 81.0  | 119.0 |
|            | Cadmium   | 15.8654     | 13.7000     | 115.8     | 78.8  | 121.2 |
|            | Chromium  | 47.3277     | 41.3000     | 114.6     | 72.6  | 127.1 |
|            | Copper    | 543.8594    | 465.4000    | 116.9     | 82.1  | 118.0 |
|            | Nickel    | 29.5960     | 26.0000     | 113.8     | 65.0  | 135.4 |
|            | Lead      | 100.6109    | 89.2000     | 112.8     | 70.5  | 128.9 |
|            | Antimony  | 0.0000      | 9.0000      | 0.0       | 0.0   | 200.0 |
|            | Selenium  | 39.3584     | 19.9000     | 197.8(H)  | 4.2   | 196.0 |
|            | Thallium  | 3.0852      | 2.4200      | 127.5     | 19.0  | 180.0 |
|            | Vanadium  | 121.9366    | 108.7000    | 112.2     | 79.9  | 119.6 |
|            | Zinc      | 739.0624    | 625.2000    | 118.2     | 74.9  | 125.2 |

|         |           | QC LIMITS  |            |         |       |       |
|---------|-----------|------------|------------|---------|-------|-------|
| CCV #   | ANALYTE   | TRUE VALUE | BATCH READ | % REC # | LOWER | UPPER |
| ICV-    | Aluminum  | 20.0000    | 21.0755    | 105.4   | 90.0  | 110.0 |
|         | Arsenic   | 1.6000     | 1.6239     | 101.5   | 90.0  | 110.0 |
|         | Barium    | 4.0000     | 3.9908     | 99.8    | 90.0  | 110.0 |
|         | Beryllium | 0.4000     | 0.4049     | 101.2   | 90.0  | 110.0 |
|         | Calcium   | 40.0000    | 41.4178    | 103.5   | 90.0  | 110.0 |
|         | Cadmium   | 4.0000     | 4.0595     | 101.5   | 90.0  | 110.0 |
|         | Chromium  | 4.0000     | 4.1212     | 103.0   | 90.0  | 110.0 |
|         | Copper    | 4.0000     | 3.9994     | 100.0   | 90.0  | 110.0 |
|         | Nickel    | 8.0000     | 8.1416     | 101.8   | 90.0  | 110.0 |
|         | Lead      | 20.0000    | 20.0298    | 100.1   | 90.0  | 110.0 |
|         | Antimony  | 4.0000     | 4.2052     | 105.1   | 90.0  | 110.0 |
|         | Selenium  | 1.6000     | 1.6147     | 100.9   | 90.0  | 110.0 |
|         | Thallium  | 4.0000     | 4.0146     | 100.4   | 90.0  | 110.0 |
|         | Vanadium  | 1.6000     | 1.6112     | 100.7   | 90.0  | 110.0 |
| Zinc    | 4.0000    | 4.0621     | 101.6      | 90.0    | 110.0 |       |
| CCV1--2 | Aluminum  | 20.0000    | 21.2107    | 106.1   | 90.0  | 110.0 |
|         | Arsenic   | 1.6000     | 1.6439     | 102.7   | 90.0  | 110.0 |
|         | Barium    | 4.0000     | 3.9882     | 99.7    | 90.0  | 110.0 |
|         | Beryllium | 0.4000     | 0.4082     | 102.1   | 90.0  | 110.0 |
|         | Calcium   | 40.0000    | 41.6332    | 104.1   | 90.0  | 110.0 |
|         | Cadmium   | 4.0000     | 4.0918     | 102.3   | 90.0  | 110.0 |
|         | Chromium  | 4.0000     | 4.1618     | 104.0   | 90.0  | 110.0 |
|         | Copper    | 4.0000     | 4.0169     | 100.4   | 90.0  | 110.0 |
|         | Nickel    | 8.0000     | 8.2356     | 102.9   | 90.0  | 110.0 |
|         | Lead      | 20.0000    | 20.2579    | 101.3   | 90.0  | 110.0 |
|         | Antimony  | 4.0000     | 4.1534     | 103.8   | 90.0  | 110.0 |
|         | Selenium  | 1.6000     | 1.6684     | 104.3   | 90.0  | 110.0 |
|         | Thallium  | 4.0000     | 4.1328     | 103.3   | 90.0  | 110.0 |
|         | Vanadium  | 1.6000     | 1.6218     | 101.4   | 90.0  | 110.0 |

Analysis Batch Number: ICPSO-07/30/98-118 -3  
 Test Identification : ICPSO-\*Metal Soils by ICP  
 Number of Samples : 14  
 Batch Data-Date/Time : 08/03/98 / 11:35:11

Sequence : DATA211

| CCV #   | ANALYTE   | TRUE VALUE | BATCH READ | % REC # | QC LIMITS |       |
|---------|-----------|------------|------------|---------|-----------|-------|
|         |           |            |            |         | LOWER     | UPPER |
| CCV1--2 | Zinc      | 4.0000     | 4.0870     | 102.2   | 90.0      | 110.0 |
| CCV2--3 | Aluminum  | 20.0000    | 21.1617    | 105.8   | 90.0      | 110.0 |
|         | Arsenic   | 1.6000     | 1.6390     | 102.4   | 90.0      | 110.0 |
|         | Barium    | 4.0000     | 3.9916     | 99.8    | 90.0      | 110.0 |
|         | Beryllium | 0.4000     | 0.4090     | 102.3   | 90.0      | 110.0 |
|         | Calcium   | 40.0000    | 41.4805    | 103.7   | 90.0      | 110.0 |
|         | Cadmium   | 4.0000     | 4.1021     | 102.6   | 90.0      | 110.0 |
|         | Chromium  | 4.0000     | 4.1718     | 104.3   | 90.0      | 110.0 |
|         | Copper    | 4.0000     | 4.0214     | 100.5   | 90.0      | 110.0 |
|         | Nickel    | 8.0000     | 8.2570     | 103.2   | 90.0      | 110.0 |
|         | Lead      | 20.0000    | 20.1816    | 100.9   | 90.0      | 110.0 |
|         | Antimony  | 4.0000     | 4.1811     | 104.5   | 90.0      | 110.0 |
|         | Selenium  | 1.6000     | 1.6624     | 103.9   | 90.0      | 110.0 |
|         | Thallium  | 4.0000     | 4.1251     | 103.1   | 90.0      | 110.0 |
|         | Vanadium  | 1.6000     | 1.6198     | 101.2   | 90.0      | 110.0 |
|         | Zinc      | 4.0000     | 4.0894     | 102.2   | 90.0      | 110.0 |
| CCV3--4 | Aluminum  | 20.0000    | 20.9995    | 105.0   | 90.0      | 110.0 |
|         | Arsenic   | 1.6000     | 1.6589     | 103.7   | 90.0      | 110.0 |
|         | Barium    | 4.0000     | 3.9816     | 99.5    | 90.0      | 110.0 |
|         | Beryllium | 0.4000     | 0.4066     | 101.6   | 90.0      | 110.0 |
|         | Calcium   | 40.0000    | 41.4434    | 103.6   | 90.0      | 110.0 |
|         | Cadmium   | 4.0000     | 4.0896     | 102.2   | 90.0      | 110.0 |
|         | Chromium  | 4.0000     | 4.1508     | 103.8   | 90.0      | 110.0 |
|         | Copper    | 4.0000     | 4.0015     | 100.0   | 90.0      | 110.0 |
|         | Nickel    | 8.0000     | 8.2065     | 102.6   | 90.0      | 110.0 |
|         | Lead      | 20.0000    | 20.2384    | 101.2   | 90.0      | 110.0 |
|         | Antimony  | 4.0000     | 4.1708     | 104.3   | 90.0      | 110.0 |
|         | Selenium  | 1.6000     | 1.6541     | 103.4   | 90.0      | 110.0 |
|         | Thallium  | 4.0000     | 4.0475     | 101.2   | 90.0      | 110.0 |
|         | Vanadium  | 1.6000     | 1.6171     | 101.1   | 90.0      | 110.0 |
|         | Zinc      | 4.0000     | 4.0849     | 102.1   | 90.0      | 110.0 |
| CCV4--5 | Aluminum  | 20.0000    | 21.0120    | 105.1   | 90.0      | 110.0 |
|         | Arsenic   | 1.6000     | 1.6341     | 102.1   | 90.0      | 110.0 |
|         | Barium    | 4.0000     | 3.9876     | 99.7    | 90.0      | 110.0 |
|         | Beryllium | 0.4000     | 0.4049     | 101.2   | 90.0      | 110.0 |
|         | Calcium   | 40.0000    | 41.1435    | 102.9   | 90.0      | 110.0 |
|         | Cadmium   | 4.0000     | 4.0724     | 101.8   | 90.0      | 110.0 |
|         | Chromium  | 4.0000     | 4.1409     | 103.5   | 90.0      | 110.0 |
|         | Copper    | 4.0000     | 3.9992     | 100.0   | 90.0      | 110.0 |
|         | Nickel    | 8.0000     | 8.1682     | 102.1   | 90.0      | 110.0 |
|         | Lead      | 20.0000    | 20.1946    | 101.0   | 90.0      | 110.0 |
|         | Antimony  | 4.0000     | 4.2274     | 105.7   | 90.0      | 110.0 |
|         | Selenium  | 1.6000     | 1.6740     | 104.6   | 90.0      | 110.0 |
|         | Thallium  | 4.0000     | 4.1161     | 102.9   | 90.0      | 110.0 |
|         | Vanadium  | 1.6000     | 1.6107     | 100.7   | 90.0      | 110.0 |
|         | Zinc      | 4.0000     | 4.0740     | 101.8   | 90.0      | 110.0 |

Mountain States Analytical, Inc.  
Daily QC Batching Data  
Data Released for Reporting

08/06/98  
15:51:06  
Group: 23234

Analysis Batch Number: ICPSO-07/30/98-118 -3

Test Identification : ICPSO-\*Metal Soils by ICP

Sequence : DATA211

Number of Samples : 14

Batch Data-Date/Time : 08/03/98 / 11:35:11

| CCB#      | ANALYTE   | CONC FOUND # | CONC LIMIT |        |
|-----------|-----------|--------------|------------|--------|
| ICB-      | Aluminum  | 0.0147       | 0.0500     |        |
|           | Arsenic   | 0.0055       | 0.0300     |        |
|           | Barium    | 0.0001       | 0.0030     |        |
|           | Beryllium | 0.0002       | 0.0002     |        |
|           | Calcium   | 0.0178       | 0.4000     |        |
|           | Cadmium   | 0.0007       | 0.0040     |        |
|           | Chromium  | 0.0006       | 0.0100     |        |
|           | Copper    | 0.0026       | 0.0100     |        |
|           | Nickel    | ND           | 0.0200     |        |
|           | Lead      | ND           | 0.0400     |        |
|           | Antimony  | 0.0163       | 0.1000     |        |
|           | Selenium  | 0.0534       | 0.0700     |        |
|           | Thallium  | ND           | 0.1000     |        |
|           | Vanadium  | 0.0003       | 0.0030     |        |
|           | Zinc      | ND           | 0.0250     |        |
|           | CCB1-     | Aluminum     | 0.0176     | 0.0500 |
|           |           | Arsenic      | ND         | 0.0300 |
| Barium    |           | ND           | 0.0030     |        |
| Beryllium |           | 0.0001       | 0.0002     |        |
| Calcium   |           | 0.0172       | 0.4000     |        |
| Cadmium   |           | 0.0004       | 0.0040     |        |
| Chromium  |           | ND           | 0.0100     |        |
| Copper    |           | ND           | 0.0100     |        |
| Nickel    |           | ND           | 0.0200     |        |
| Lead      |           | ND           | 0.0400     |        |
| Antimony  |           | ND           | 0.1000     |        |
| Selenium  |           | 0.0162       | 0.0700     |        |
| Thallium  |           | 0.0159       | 0.1000     |        |
| Vanadium  |           | ND           | 0.0030     |        |
| Zinc      |           | ND           | 0.0250     |        |
| CCB2-     |           | Aluminum     | 0.0170     | 0.0500 |
|           |           | Arsenic      | ND         | 0.0300 |
|           | Barium    | ND           | 0.0030     |        |
|           | Beryllium | 0.0001       | 0.0002     |        |
|           | Calcium   | 0.0266       | 0.4000     |        |
|           | Cadmium   | ND           | 0.0040     |        |
|           | Chromium  | ND           | 0.0100     |        |
|           | Copper    | ND           | 0.0100     |        |
|           | Nickel    | ND           | 0.0200     |        |
|           | Lead      | ND           | 0.0400     |        |
|           | Antimony  | ND           | 0.1000     |        |
|           | Selenium  | 0.0009       | 0.0700     |        |
|           | Thallium  | ND           | 0.1000     |        |
|           | Vanadium  | ND           | 0.0030     |        |
|           | Zinc      | ND           | 0.0250     |        |
|           | CCB2-     | Aluminum     | 0.0177     | 0.0500 |
|           |           | Arsenic      | ND         | 0.0300 |
| Barium    |           | 0.0001       | 0.0030     |        |
| Beryllium |           | 0.0001       | 0.0002     |        |
| Calcium   |           | 0.0279       | 0.4000     |        |

Analysis Batch Number: ICPSO-07/30/98-118 -3  
 Test Identification : ICPSO-\*Metal Soils by ICP  
 Number of Samples : 14  
 Batch Data-Date/Time : 08/03/98 / 11:35:11

Sequence : DATA211

| CCB#      | ANALYTE   | CONC FOUND # | CONC LIMIT |
|-----------|-----------|--------------|------------|
| CCB2-     | Cadmium   | 0.0001       | 0.0040     |
|           | Chromium  | ND           | 0.0100     |
|           | Copper    | ND           | 0.0100     |
|           | Nickel    | 0.0013       | 0.0200     |
|           | Lead      | ND           | 0.0400     |
|           | Antimony  | 0.0052       | 0.1000     |
|           | Selenium  | 0.0199       | 0.0700     |
|           | Thallium  | 0.0050       | 0.1000     |
|           | Vanadium  | 0.0004       | 0.0030     |
|           | Zinc      | ND           | 0.0250     |
|           | CCB3-     | Aluminum     | 0.0109     |
| Arsenic   |           | ND           | 0.0300     |
| Barium    |           | ND           | 0.0030     |
| Beryllium |           | 0.0001       | 0.0002     |
| Calcium   |           | 0.0207       | 0.4000     |
| Cadmium   |           | ND           | 0.0040     |
| Chromium  |           | ND           | 0.0100     |
| Copper    |           | ND           | 0.0100     |
| Nickel    |           | ND           | 0.0200     |
| Lead      |           | 0.0038       | 0.0400     |
| Antimony  |           | ND           | 0.1000     |
| Selenium  |           | ND           | 0.0700     |
| Thallium  |           | 0.0185       | 0.1000     |
| Vanadium  |           | 0.0001       | 0.0030     |
| Zinc      |           | ND           | 0.0250     |
| CCB4-     | Aluminum  | 0.0196       | 0.0500     |
|           | Arsenic   | 0.0040       | 0.0300     |
|           | Barium    | 0.0002       | 0.0030     |
|           | Beryllium | 0.0001       | 0.0002     |
|           | Calcium   | 0.0454       | 0.4000     |
|           | Cadmium   | 0.0009       | 0.0040     |
|           | Chromium  | ND           | 0.0100     |
|           | Copper    | ND           | 0.0100     |
|           | Nickel    | 0.0005       | 0.0200     |
|           | Lead      | ND           | 0.0400     |
|           | Antimony  | 0.0053       | 0.1000     |
|           | Selenium  | 0.0111       | 0.0700     |
|           | Thallium  | ND           | 0.1000     |
| Vanadium  | ND        | 0.0030       |            |
| Zinc      | ND        | 0.0250       |            |

----- Result Footnotes -----  
 (XX) - Analyte was not reported from this run  
 (1d) - The preparation blank concentration is less than 5% of the regulatory limit  
 (B) - Nonhomogeneous sample  
 (2h) - Sample concentration >4X spk added. PDS was recovered within limits.  
 (2c) - Spike result outside limits. PDS is within acceptance limits.  
 (5a) - Duplicates not evaluated: Results are <10x detection limit  
 (H) - LCS reference value below LOQ

Mountain States Analytical, Inc.  
Daily QC Batching Data  
Data Released for Reporting

08/06/98  
15:51:12  
Group: 23234

Analysis Batch Number: ICPSO-07/30/98-118 -3  
Test Identification : ICPSO-\*Metal Soils by ICP  
Number of Samples : 14  
Batch Data-Date/Time : 08/03/98 / 11:35:11

Sequence : DATA211

Groups & Samples

-----  
23225-83115    23226-83123    23234-83146    23234-83147    23234-83148    23234-83149    23234-83150    23234-83151  
23256-83260    23256-83261    23259-83275    23259-83276    23259-83277    23259-83278

Mountain States Analytical, Inc.  
Daily QC Batching Data  
Data Released for Reporting

07/27/98  
09:13:56  
Group: 23234

Analysis Batch Number: 0394 -07/22/98-147 -1  
Test Identification : 0394 -pH, sw, 9045C  
Number of Samples : 7  
Batch Data-Date/Time : 07/23/98 / 12:44:00

Sequence :

DUPLICATE

| SAMPLE#     | ANALYTE           | RESULT 1 | RESULT 2 | RPD # | LIMIT | DILUTION |
|-------------|-------------------|----------|----------|-------|-------|----------|
| 23234-83146 | pH of soil slurry | 7.2400   | 7.2100   | 0.4   | 1.4   | 1.00     |

CONTROL

| SAMPLE# | ANALYTE           | CONC FOUND | CONC KNOWN | % REC # | QC LIMITS |       |
|---------|-------------------|------------|------------|---------|-----------|-------|
|         |                   |            |            |         | LOWER     | UPPER |
| LCS-1   | pH of soil slurry | 3.9600     | 4.0000     | 99.0    | 97.1      | 104.1 |
| LCS-2   | pH of soil slurry | 4.0200     | 4.0000     | 100.5   | 97.1      | 104.1 |

Groups & Samples

-----

23234-83146    23234-83147    23234-83148    23234-83149    23234-83150    23234-83151

SBLK

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980727C

Matrix: (soil/water) SOIL

Lab Sample ID: 980722SB

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: X4210

Level: (low/med) LOW

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

% Moisture: 0 decanted: (Y/N) N

Date Extracted:

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/27/98

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/KG Q

|           |                              |     |   |
|-----------|------------------------------|-----|---|
| 108-95-2  | Phenol                       | 830 | U |
| 111-44-4  | bis(2-Chloroethyl) ether     | 330 | U |
| 95-57-8   | 2-Chlorophenol               | 830 | U |
| 541-73-1  | 1,3-Dichlorobenzene          | 330 | U |
| 106-46-7  | 1,4-Dichlorobenzene          | 330 | U |
| 95-50-1   | 1,2-Dichlorobenzene          | 330 | U |
| 95-48-7   | 2-Methylphenol (o-Cresol)    | 830 | U |
| 108-60-1  | bis(2-Chloroisopropyl) ether | 330 | U |
| 621-64-7  | N-Nitrosodi-N-propylamine    | 330 | U |
| 67-72-1   | Hexachloroethane             | 330 | U |
| 98-95-3   | Nitrobenzene                 | 330 | U |
| 78-59-1   | Isophorone                   | 330 | U |
| 105-67-9  | 2,4-Dimethylphenol           | 830 | U |
| 88-75-5   | 2-Nitrophenol                | 830 | U |
| 111-91-1  | bis(2-Chloroethoxy)methane   | 330 | U |
| 120-83-2  | 2,4-Dichlorophenol           | 830 | U |
| 120-82-1  | 1,2,4-Trichlorobenzene       | 330 | U |
| 91-20-3   | Naphthalene                  | 330 | U |
| 87-68-3   | Hexachlorobutadiene          | 330 | U |
| 59-50-7   | 4-Chloro-3-methylphenol      | 830 | U |
| 77-47-4   | Hexachlorocyclopentadiene    | 670 | U |
| 88-06-2   | 2,4,6-Trichlorophenol        | 830 | U |
| 95-95-4   | 2,4,5-Trichlorophenol        | 830 | U |
| 91-58-7   | 2-Chloronaphthalene          | 330 | U |
| 131-11-3  | Dimethyl phthalate           | 330 | U |
| 606-20-2  | 2,6-Dinitrotoluene           | 330 | U |
| 208-96-8  | Acenaphthylene               | 330 | U |
| 51-28-5   | 2,4-Dinitrophenol            | 830 | U |
| 83-32-9   | Acenaphthene                 | 330 | U |
| 100-02-7  | 4-Nitrophenol                | 830 | U |
| 121-14-2  | 2,4-Dinitrotoluene           | 330 | U |
| 84-66-2   | Diethyl phthalate            | 330 | U |
| 7005-72-3 | 4-Chlorophenyl-phenyl ether  | 330 | U |



2D  
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980728C

Level: (low/med) LOW

|    | EPA<br>SAMPLE NO. | S1<br>(2FP) # | S2<br>(PHL) # | S3<br>(NBZ) # | S4<br>(FBP) # | S5<br>(TBP) # | S6<br>(TPH) # | S7<br># | S8<br># | TOT<br>OUT |
|----|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------|---------|------------|
| 01 | MAPEP98S5         | 71            | 79            | 66            | 72            | 78            | 85            |         |         | 0          |
| 02 | REPLICATE1        | 76            | 82            | 68            | 74            | 87            | 90            |         |         | 0          |
| 03 | 01B               | 69            | 80            | 60            | 71            | 74            | 99            |         |         | 0          |
| 04 | 02B               | 73            | 82            | 63            | 73            | 81            | 100           |         |         | 0          |
| 05 | 03B               | 72            | 83            | 63            | 73            | 89            | 100           |         |         | 0          |
| 06 | 04B               | 70            | 81            | 60            | 71            | 87            | 96            |         |         | 0          |
| 07 | 05B               | 64            | 74            | 55            | 63            | 80            | 85            |         |         | 0          |
| 08 | 06B               | 76            | 87            | 66            | 79            | 88            | 97            |         |         | 0          |
| 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 (25-121)  
 S2 (PHL) = Phenol-d6 (24-113)  
 S3 (NBZ) = Nitrobenzene-d5 (23-120)  
 S4 (FBP) = 2-Fluorobiphenyl (30-115)  
 S5 (TBP) = 2,4,6-Tribromophenol (19-122)  
 S6 (TPH) = Terphenyl-d14 (18-137)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

3D  
SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980727C

Matrix Spike - EPA Sample No.: M2138

Level: (low/med) LOW

| COMPOUND                | SPIKE ADDED (ug/Kg) | SAMPLE CONCENTRATION (ug/Kg) | MS CONCENTRATION (ug/Kg) | MS % REC # | QC. LIMITS REC. |
|-------------------------|---------------------|------------------------------|--------------------------|------------|-----------------|
| Phenol                  | 3330                | 4960                         | 7910                     | 88         | 5-112           |
| 2-Chlorophenol          | 3330                | 240                          | 2700                     | 74         | 23-134          |
| 1,4-Dichlorobenzene     | 3330                | 205                          | 2600                     | 72         | 20-124          |
| N-Nitrosodi-N-propylami | 3330                | 296                          | 3060                     | 83         | 1-230           |
| 1,2,4-Trichlorobenzene  | 3330                | 231                          | 2820                     | 78         | 44-142          |
| 4-Chloro-3-methylphenol | 3330                | 558                          | 3070                     | 75         | 22-147          |
| Acenaphthene            | 3330                | 478                          | 3170                     | 81         | 47-145          |
| 4-Nitrophenol           | 3330                | 482                          | 1800                     | 40         | 1-132           |
| 2,4-Dinitrotoluene      | 3330                | 493                          | 3060                     | 77         | 39-139          |
| Pentachlorophenol       | 3330                | 417                          | 1340                     | 28         | 14-176          |
| Pyrene                  | 3330                | 648                          | 3390                     | 82         | 52-115          |

| COMPOUND                | SPIKE ADDED (ug/Kg) | MSD CONCENTRATION (ug/Kg) | MSD % REC # | % RPD # | QC LIMITS RPD | REC.   |
|-------------------------|---------------------|---------------------------|-------------|---------|---------------|--------|
| Phenol                  | 3330                | 9630                      | 140*        | 46*     | 42            | 5-112  |
| 2-Chlorophenol          | 3330                | 2640                      | 72          | 3       | 40            | 23-134 |
| 1,4-Dichlorobenzene     | 3330                | 2670                      | 74          | 3       | 28            | 20-124 |
| N-Nitrosodi-N-propylami | 3330                | 2870                      | 77          | 8       | 38            | 1-230  |
| 1,2,4-Trichlorobenzene  | 3330                | 2980                      | 82          | 5       | 28            | 44-142 |
| 4-Chloro-3-methylphenol | 3330                | 2960                      | 72          | 4       | 42            | 22-147 |
| Acenaphthene            | 3330                | 3280                      | 84          | 4       | 31            | 47-145 |
| 4-Nitrophenol           | 3330                | 1840                      | 41          | 2       | 50            | 1-132  |
| 2,4-Dinitrotoluene      | 3330                | 3100                      | 78          | 1       | 38            | 39-139 |
| Pentachlorophenol       | 3330                | 1280                      | 26          | 7       | 50            | 14-176 |
| Pyrene                  | 3330                | 3310                      | 80          | 2       | 31            | 52-115 |

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

\* Values outside of QC limits

RPD: 1 out of 11 outside limits

Spike Recovery: 1 out of 22 outside limits

COMMENTS:

---

FORM 3  
SOIL SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980727C

Matrix Spike - Sample No.: SBLK

Level: (low/med) LOW

| COMPOUND                | SPIKE<br>ADDED<br>(ug/Kg) | SAMPLE<br>CONCENTRATION<br>(ug/Kg) | LCS<br>CONCENTRATION<br>(ug/Kg) | LCS<br>%<br>REC # | QC.<br>LIMITS<br>REC. |
|-------------------------|---------------------------|------------------------------------|---------------------------------|-------------------|-----------------------|
| Phenol                  | 3330                      | 0.00                               | 2420                            | 73                | 5-112                 |
| 2-Chlorophenol          | 3330                      | 0.00                               | 2290                            | 69                | 23-134                |
| 1,4-Dichlorobenzene     | 3330                      | 0.00                               | 2240                            | 67                | 20-124                |
| N-Nitrosodi-N-propylami | 3330                      | 0.00                               | 2550                            | 76                | 1-230                 |
| 1,2,4-Trichlorobenzene  | 3330                      | 0.00                               | 2390                            | 72                | 44-142                |
| 4-Chloro-3-methylphenol | 3330                      | 0.00                               | 2430                            | 73                | 22-147                |
| Acenaphthene            | 3330                      | 0.00                               | 2590                            | 78                | 47-145                |
| 4-Nitrophenol           | 3330                      | 0.00                               | 2630                            | 79                | 1-132                 |
| 2,4-Dinitrotoluene      | 3330                      | 0.00                               | 2510                            | 75                | 39-139                |
| Pentachlorophenol       | 3330                      | 0.00                               | 2210                            | 66                | 14-176                |
| Pyrene                  | 3330                      | 0.00                               | 2690                            | 81                | 52-115                |

# 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

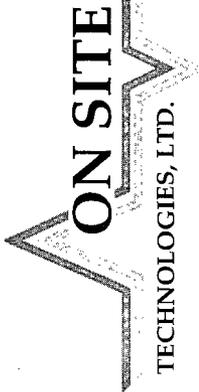
Spike Recovery: 0 out of 11 outside limits

COMMENTS:

---



---



# CHAIN OF CUSTODY RECORD

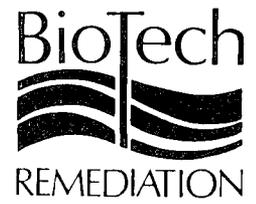
5177

Date: 7/17/93

Page 1 of 1

TECHNOLOGIES, LTD. 657 W. Maple • P. O. Box 2606 • Farmington NM 87499  
 LAB: (505) 325-5667 • FAX: (505) 325-6256

| Purchase Order No.: <u>898-3B3</u>                                                                                    |             | Job No.                                                                                              |        |                 |
|-----------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------------------------------------|--------|-----------------|
| Name: <u>Steve</u>                                                                                                    |             | Title                                                                                                |        |                 |
| Company: <u>Biotech Remediation</u>                                                                                   |             | Company                                                                                              |        |                 |
| Address: <u>710 E. 20th St. Suite 400</u>                                                                             |             | Mailing Address                                                                                      |        |                 |
| City, State, Zip: <u>Framington, NM 87401</u>                                                                         |             | City, State, Zip                                                                                     |        |                 |
| Telephone No.: <u>327-4965</u>                                                                                        |             | Telephone No.                                                                                        |        |                 |
| Telefax No.                                                                                                           |             | Telefax No.                                                                                          |        |                 |
| Sampling Location: <u>Therapeutic Refractory Fire Water Pond</u><br><u>626 Rd 5500</u><br><u>Bloomfield, NM 87413</u> |             | ANALYSIS REQUESTED<br>TPH 4000<br>TPH 4001<br>GRO<br>DRO<br>RCR metals<br>Sem. volatiles<br>PAH (17) |        |                 |
| Sampler: <u>Ken Sinks</u><br><u>Ken Sinks</u>                                                                         |             | RESULTS TO REPORT TO<br>Number of Containers                                                         |        |                 |
| SAMPLE IDENTIFICATION                                                                                                 | SAMPLE DATE |                                                                                                      | MATRIX | PRES.           |
|                                                                                                                       | DATE        | TIME                                                                                                 |        |                 |
| Sample #1                                                                                                             | 7/13        | 1500                                                                                                 | soil   | soil            |
| Sample #2                                                                                                             |             | 1523                                                                                                 |        |                 |
| Sample #3                                                                                                             |             | 1545                                                                                                 |        |                 |
| Sample #4                                                                                                             |             | 1612                                                                                                 |        |                 |
| Sample #5                                                                                                             |             | 1630                                                                                                 |        |                 |
| Sample #6                                                                                                             |             | 1655                                                                                                 |        |                 |
| <del>_____</del>                                                                                                      |             |                                                                                                      |        |                 |
| Relinquished by: <u>Ken Sinks</u>                                                                                     |             |                                                                                                      |        |                 |
| Date/Time: <u>7/17/93</u> <u>0830</u>                                                                                 |             |                                                                                                      |        |                 |
| Relinquished by:                                                                                                      |             |                                                                                                      |        |                 |
| Date/Time:                                                                                                            |             |                                                                                                      |        |                 |
| Relinquished by:                                                                                                      |             |                                                                                                      |        |                 |
| Date/Time:                                                                                                            |             |                                                                                                      |        |                 |
| Method of Shipment:                                                                                                   |             |                                                                                                      |        |                 |
| Authorized by: <u>Ken Sinks</u>                                                                                       |             |                                                                                                      |        |                 |
| Date: <u>7/17/93</u>                                                                                                  |             |                                                                                                      |        |                 |
| Received by: <u>Steve</u>                                                                                             |             | Date/Time: <u>7/17/93</u> <u>0830</u>                                                                |        |                 |
| Received by:                                                                                                          |             | Date/Time:                                                                                           |        |                 |
| Received by:                                                                                                          |             | Date/Time:                                                                                           |        |                 |
| Rush                                                                                                                  |             | 24-48 Hours                                                                                          |        | 10 Working Days |
| Special Instructions:                                                                                                 |             |                                                                                                      |        |                 |



RECEIVED

APR 03 1998

Environmental Bureau  
Oil Conservation Division

710 East 20th Street, Suite 400  
Farmington, New Mexico 87401

~~Field Office: (505) 698-9965~~

~~Fax: (505) 698-9858~~

Telephone (505) 327-4965  
Facsimile (505) 564-3604

March 31, 1998

Will Olsen, Project Manager, Santa Fe Office  
Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, NM 87505

**RE: Annual Ground Water Monitoring Report; Thriftway Refinery, Bloomfield, NM**

Dear Mr. Olsen:

Enclosed, please find the Annual Ground Water Monitoring Report for the Thriftway Refinery, Bloomfield, New Mexico. This report is submitted in compliance with the Ground Water Discharge Plan GW-55 and pursuant to the requirements of the New Mexico Oil Conservation Division.

If you have any questions, please contact me at 505-327-4965.

Respectfully,

A handwritten signature in cursive script, appearing to read "Terry Griffin".

Terry Griffin  
Project Administrator

TG/tjg

810\gc033198

cc: Denny Foust, OCD, Aztec Office



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505  
(505) 827-7131

January 7, 1998

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-288-259-004**

Mr. Jim Ratcliffe  
Transportation Director  
Thriftway Marketing Corporation  
710 East 20th Street  
Farmington, NM 87401

**RE: Fire Water Pond Sediment Sampling and Analysis  
GW-055 "Bloomfield Refinery"  
Thriftway Marketing Corporation (TMC)**

Dear Mr. Ratcliffe:

The New Mexico Oil Conservation Division (OCD) has reviewed the modified work plan for the fire water pond. This document contains TMC's modified work plan for sediment sample collection and laboratory analysis of sediments in the fire water pond.

The above referenced modified work plan is approved with the following conditions:

1. Sampling and analysis will be pursuant to the approved discharge plan dated May 8, 1996.
2. The OCD Aztec District Office will be notified 72 hours prior to sampling.
3. TMC will submit a report on each investigation to the OCD by July 1, 1998. The report will contain:
  - A. A description of all investigation activities including conclusions and recommendations.
  - B. A summary of all laboratory analytical results of soil samples.
4. All documents submitted for approval will be submitted to the OCD Santa Fe Office with copies provided to the OCD Aztec District Office.

Please be advised that OCD approval does not relieve TMC of liability if contamination exists which is beyond the scope of the work plan or if the activities fail to adequately determine the extent of contamination related to TMC's activities. In addition, OCD approval does not relieve

Mr. Jim Ratcliffe  
January 7, 1998  
Page 2

TMC of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions, please call me at (505) 827-7155.

Sincerely,



Mark Ashley  
Geologist

xc: OCD Aztec District Office  
Mr. Ross Kennemer - BioTech Remediation

P. 288 259 004

US Postal Service  
**Receipt for Certified Mail**  
No Insurance Coverage Provided.  
Do not use for International Mail (*See reverse*)

|                                                             |           |
|-------------------------------------------------------------|-----------|
| Sent to                                                     |           |
| Street & Number                                             |           |
| Post Office, State, & ZIP Code                              |           |
| Postage                                                     | \$        |
| Certified Fee                                               |           |
| Special Delivery Fee                                        |           |
| Restricted Delivery Fee                                     |           |
| Return Receipt Showing to Whom & Date Delivered             |           |
| Return Receipt Showing to Whom, Date, & Addressee's Address |           |
| <b>TOTAL Postage &amp; Fees</b>                             | <b>\$</b> |
| Postmark or Date                                            |           |

PS Form 3800, April 1995

MEMORANDUM OF MEETING OR CONVERSATION

|                                               |                                   |              |             |
|-----------------------------------------------|-----------------------------------|--------------|-------------|
| <input checked="" type="checkbox"/> Telephone | <input type="checkbox"/> Personal | Time 1:45 pm | Date 1-5-98 |
|-----------------------------------------------|-----------------------------------|--------------|-------------|

|                          |                      |
|--------------------------|----------------------|
| <u>Originating Party</u> | <u>Other Parties</u> |
|--------------------------|----------------------|

TERRY GRIFFIN - RETURNING MARK ASHLEY

MY HOME CALL OF 12-31-97, 2 PM.

Subject TERRY GRIFFIN - FIREWATER POND SAMPLING. LETTER DATED 10-29-97 TO THE OED.

Discussion OED NEEDS A DATE FOR SAMPLING, NOT AN APPROXIMATE LIKE "MIDSUMMER 1998."

Conclusions or Agreements TERRY AGREED TO JULY 1, 1998

Distribution Signed Mark Ashley



October 29, 1997

Pat Sanchez  
Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, New Mexico 87505

710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
~~Field Office: (505) 882-8866~~  
~~Fax: (505) 882-8868~~  
Telephone (505) 327-4965  
Facsimile (505) 564-3604

**Re: Work Plan for Fire Water Pond Sediment Sampling and Analyses, Thriftway Refinery, 626 County Road 5500, Bloomfield, New Mexico**

Dear Mr. Sanchez:

*GW-055*

Pursuant to the February 23, 1996 Discharge Plan Renewal Inspection Report and your Notice of Deficiency Letter of May 7, 1997, each regarding the above referenced site, BioTech Remediation, Inc. ("BioTech"), on behalf of Thriftway Marketing Corporation ("Thriftway"), submits the following work plan for sample collection and laboratory analyzing of sediments in the firewater pond:

**Scope of Work**

- 1) **Sediment Sample Collection** - Discharge from the ground water treatment system into the firewater pond has resulted in nearly filling the firewater pond. It is not expected that the firewater pond will be unable to accommodate the water being discharged, whereas recharge to the shallow underlying aquifer is sufficient; however, the area prescribed for sampling is approximately two feet below water at this time. Once the water level in the pond recedes past the intended sampling locations, probably by midsummer 1998, the appropriate samples will be collected and submitted for laboratory analyses.
- 2) **Reporting** - Following receipt of the laboratory samples a Project Report and Corrective Action Plan, if warranted, will be submitted for approval.

If you have any questions or comments regarding the aforementioned, please do not hesitate to call me or Ms. Terry Griffin at (505) 327-4965.

Respectfully,

A handwritten signature in cursive script that reads "Ross Kennemer".

Ross Kennemer  
Project Manager

810/gc/102097



JUL 22 1997

710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
~~Field Office: (505) 622-3265~~  
~~Fax: (505) 622-0850~~

Telephone (505) 327-4965  
Facsimile (505) 564-3604

RECEIVED

JUL 24 1997

Environmental Bureau  
Oil Conservation Division

July 16, 1997

Dear Sir or Madam:

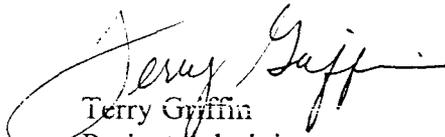
BioTech Remediation, Inc., has changed its telephone and fax numbers, although BioTech's address remains 710 E. 20th Street - Suite 400. The new numbers are:

**Telephone**                    **505-327-4965**

**Facsimile**                    **505-564-3604**

Please make note of this in your files for future reference. We apologize for any inconvenience which this may have caused.

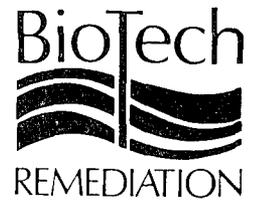
Sincerely yours,

  
Terry Griffin  
Project Administrator

TG/tjg

8-8-97

Thriftway Bloomfield  
GW-055,  
Compliance  
Referred to  
Bill Olson.



710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
~~Field Office: (505) 632-3365~~  
Fax: (505) 632-9850

Telephone (505) 327-4965  
Facsimile (505) 564-3604

RECEIVED

III 24 1997

Oil Conservation Division

July 16, 1997

Dear Sir or Madam:

BioTech Remediation, Inc., has changed its telephone and fax numbers, although BioTech's address remains 710 E. 20th Street - Suite 400. The new numbers are:

**Telephone**                    **505-327-4965**

**Facsimile**                    **505-564-3604**

Please make note of this in your files for future reference. We apologize for any inconvenience which this may have caused.

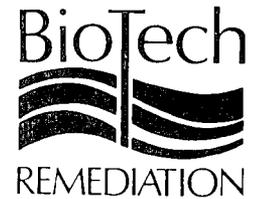
Sincerely yours,

  
Terry Griffin  
Project Administrator

TG/tjg

SENT VIA FAX  
AND CERTIFIED MAIL  
P 468-883-519

RECEIVED  
APR - 8 1997  
CONSERVATION DIVISION



710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
Field Office: (505) 632-3365  
Fax: (505) 632-9850

April 1, 1997

Bill Olsen  
Oil Conservation Division  
2040 South Pacheco  
Santa Fe, New Mexico 87505

**Re: Annual Ground Water Monitoring and Sampling Report**

Dear Mr. Olsen:

Per our telephone conversation of this morning, BioTech Remediation Inc. ("BioTech"), will be submitting the Annual Ground Water Monitoring Report for the Thriftway Refinery on April 25, 1997.

As addressed in our conversation, the report was to be submitted by April 1, 1996 and the contents are to include the monitoring and sampling results for 1996. However, as I explained, BioTech was under the impression that the annual report was to include data up to April 1, 1997 and some of the samples collected at the end of March 1997 were destroyed at the laboratory prior to being analyzed and BioTech had to collect and resubmit those samples.

Based on a clearer understanding of the reporting schedule, as noted above, the Annual Ground Water Monitoring Report will be submitted to the OCD by April 25, 1997. I appreciate your understanding regarding this matter.

If you have any questions or comments, please contact me at (505) 632-3365.

Sincerely,

A handwritten signature in cursive script that reads "Ross Kennemer".

Ross Kennemer  
Project Manager

810/amrl

c: Pat Sanchez, OCD Santa Fe

OIL CONSERVATION DIVISION  
RECEIVED

'92 AUG 27 AM 8 57

# Thrift way

710 East 20th Street  
Farmington, New Mexico 87401

Office: (505) 326-5571  
Refinery: (505) 632-3363  
Fax: 505-327-3813

August 18, 1992

Mr. William C. Olson  
Hydrologeologist  
Environmental Bureau  
State of New Mexico  
Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
P.O. Box 2068  
State of Land Office Building  
Santa Fe, NM 87504

Re: DISCHARGE PLAN GW-55 THRIFTWAY BLOOMFIELD REFINERY SAN JUAN  
COUNTY, NEW MEXICO LETTER DATED JULY 28, 1992

Dear Mr. Olson:

I will address each of your questions and statements in the order you presented them in your July 28, 1992 letter.

1. Submission of quarterly ground water monitoring reports.

Thriftway is in the startup phase of its ground water remediation system. We will be submitting our first quarterly monitoring report for the quarter ending August 31, 1992 within the next 6 or 7 weeks. The actual sampling event for this quarter will take place August 31, 1992. We will notify you again on the 27th to confirm this date.

2. Operate the ground water remediation system such that the air stripper effluent meets or exceeds N.M. Water Quality Control Commission (WQCC) ground water standards.

Thriftway has implemented a recycle stream on the stripper and will continue to gather data and adjust the operation or revamp the system until the desired ppm hydrocarbon is attained. Our last sample showed less than 10 ppb benzene in the effluent, however, we will continue to monitor this on a weekly basis to insure stable operation over the next month.

The Tetrachloroethane and Trichloroethane found in the effluent from the stripper may have come from the epoxy paint used in the interior of the air stripper. We are checking with the supplier to find out whether this is the case or not. To date we have not been able to determine this. In any event, we will have the influent as well as the effluent to the stripper checked for these constituents during the quarterly sample analysis.

3. Investigate the full extent of ground water contamination related to refinery activities.

Monitoring well MW-12 showed the presence of chromium at twice the WQCC standard. We will retest this well for chromium and investigate why any chromium would be at such an isolated location. To date no reason has surfaced and our records show nothing.

Figure one attached, shows the proposed location for three additional monitoring wells to be installed the week of August 24th, 1992.

These wells are to be located as we discussed in your office August 14, 1992. Monitoring well MW-20 will be located 100 feet due west of MW-19. Monitoring well MW-21 will be located Northwest of MW-6 approximately 100 to 200 feet depending on data on soil analysis. Monitoring well MW-22 will be located on an isosceles triangle vertex about 150 feet on a side with MW-6 and MW-8 as base angle vertices. These monitoring wells will be installed and constructed as per previous approved monitoring well installation submissions.

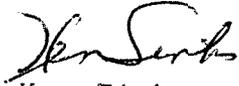
4. Construct the remediation system pursuant to plans and specifications submitted by Thriftway and approved in the discharge plan.

The injection system was altered slightly to accommodate elevation changes and existing dikes. The injection area or trench was broken up into five sections. This was done to allow level installation of the injection line. The approved injection trench location crossed two dikes in the area of tank 29. Because of the additional work needed to tear down and later rebuild the dikes and the fact that there was the risk of breaking unknown buried lines, the decision was made to relocate the trench to the west of the dike where all the underground lines had been located during a previous project. See figure 2 for the location of the new injection system. The injection system was installed as part of the approved plan.

5. Storage of Petroleum contaminated soils.

Thriftway has had Envirotech sample the remaining stockpiled contaminated soils at the refinery. They will perform TCLP analysis and the results of the TCLP will be submitted to your office prior to disposal of the soil.

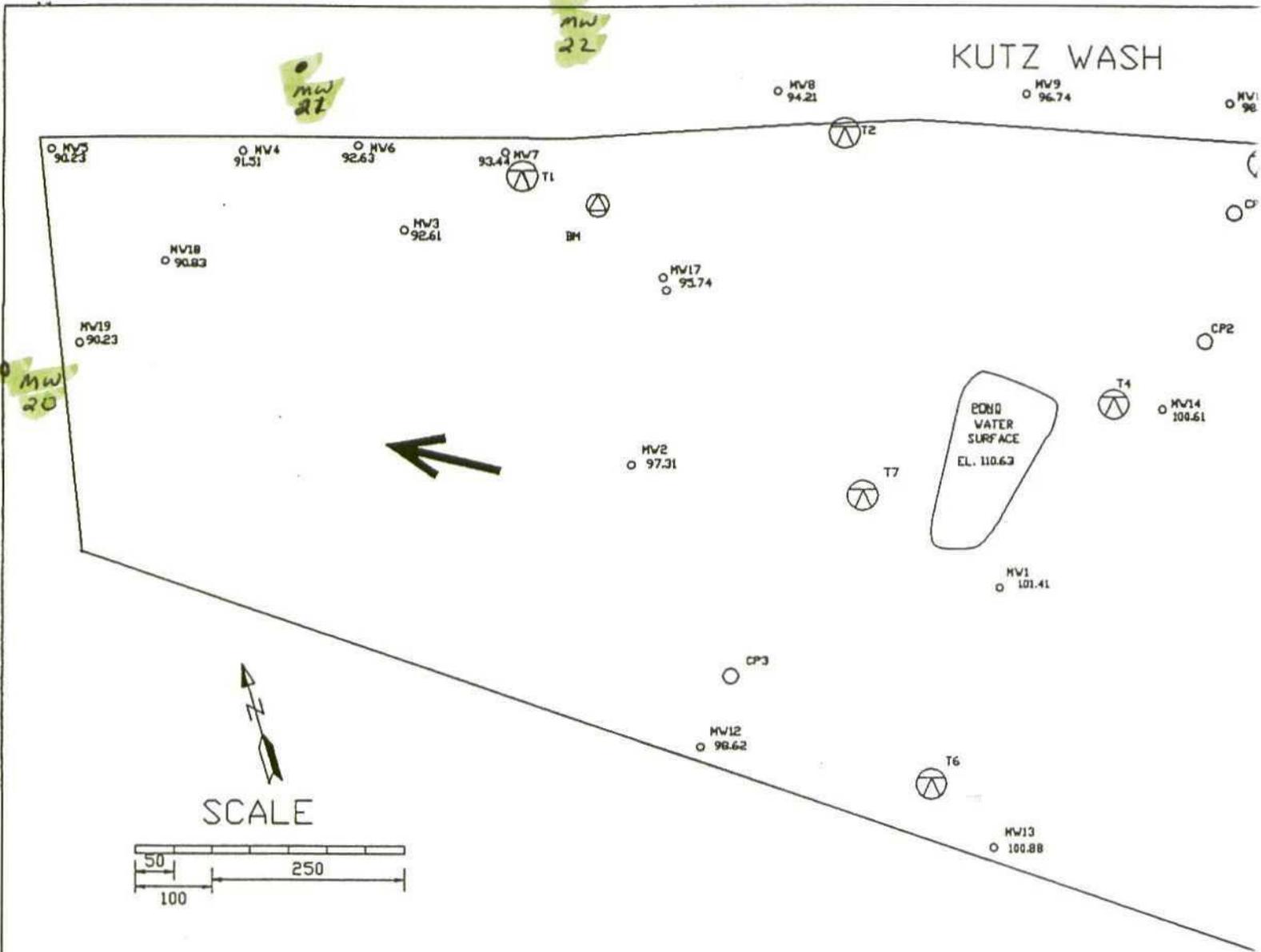
Sincerely,



Ken Sinks  
Environmental Engineer

cc: R.J. Dalley, Mark Weidler, File GW-55  
ks/ae  
docgw55

PROPOSED NEW MONITORING WELL LOCATIONS



MW10 ◦ : APPROXIMATE MONITOR WELL LOCATION

⊗ BM: BENCH MARK LOCATED @ N. W. CORNER OF FUEL OIL LOADING, CONCRETE SPILL CONTAINMENT SLAB, RELATIVE ELEVATION 100'

← APPROXIMATE GROUNDWATER FLOW DIRECTION

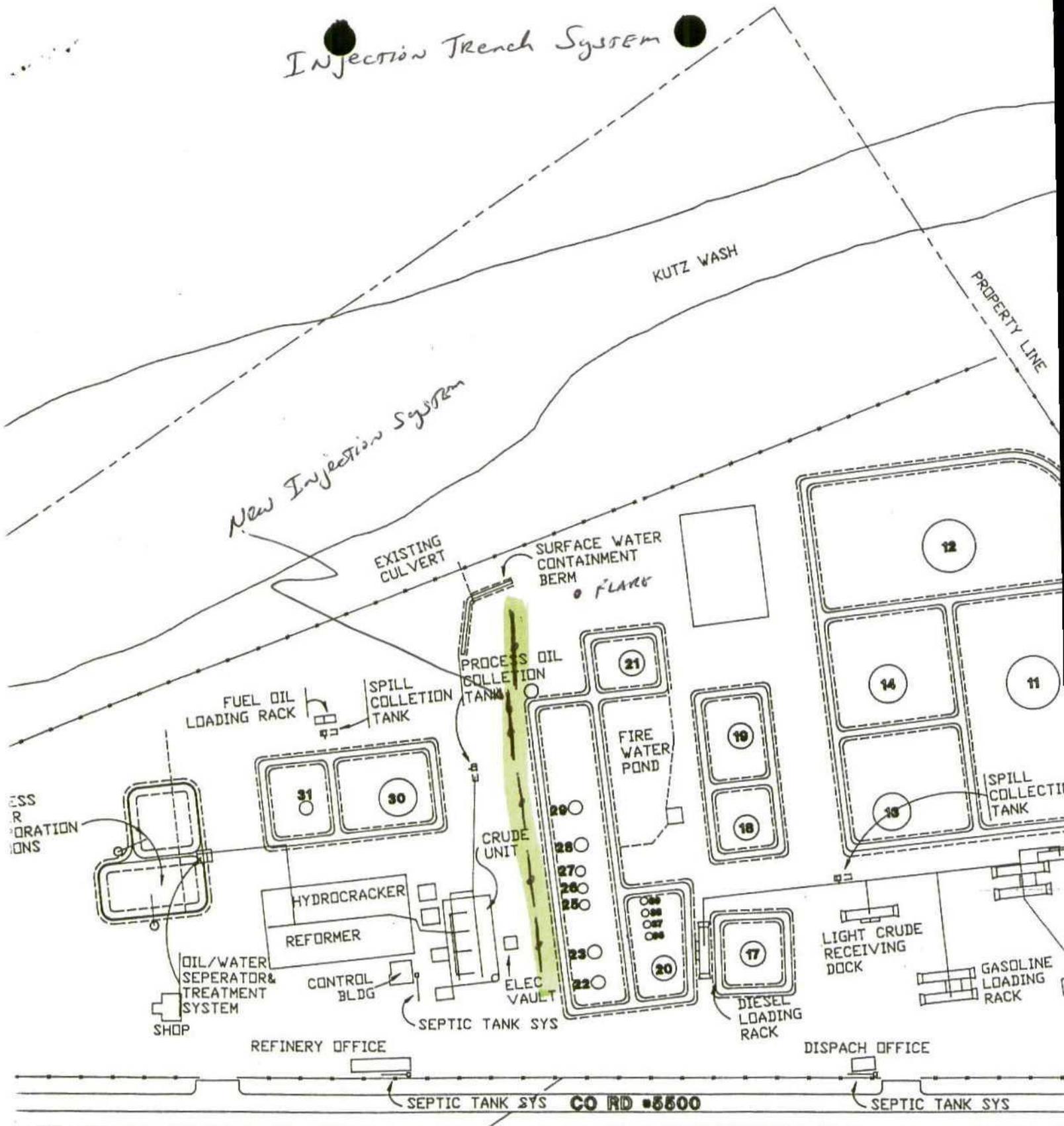
THRIFTWAY REFINERY  
 BLOOMFIELD, NEW MEXICO  
 THRIFTWAY MARKETING CORP  
 710 E 20TH ST, FARMINGTON, NM, 87401

ENVI  
 ENVIR  
 5796 U  
 FARMINGT  
 PHON

FIGURE I

# Injection Trench System

*New Injection System*



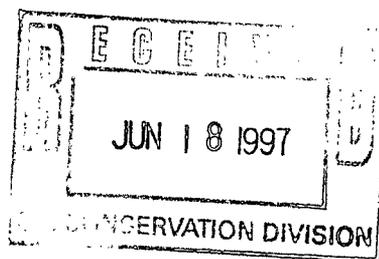
**THRIFTWAY REFINERY**  
**SITE PLAN** SCALE 1" = 200FT



Figure 2

June 16, 1997

Mr. Roger C. Anderson  
 Bureau Chief  
 Environmental Bureau-OCD  
 2040 S. Pacheco  
 Santa Fe, NM 87505



Dear Mr. Anderson:

On May 7, 1997, the New Mexico Oil Conservation Division (OCD) issued a Notice of Deficiency (NOD) for the GW-055 Thriftway Bloomfield Refinery Discharge Permit. Within the NOD, the OCD noted several items which required attention and requested that all items be submitted together as a single report. BioTech Remediation, Inc. (BioTech) has addressed the specific deficiencies outlined in the notice and presents the results in the following sections.

1. The BioTech report on behalf of Thriftway Marketing Corporation (TMC) "Fire Water Pond Sediment Sampling and Analyses, Thriftway Refinery, 626 County Road 5500, Bloomfield, New Mexico" dated April 24, 1997, was found to be deficient.

On June 6, 1997, soil samples were taken from the soil in the fire water pond below the discharge pipe and tested for BTEX, TPH, and hazardous constituents. The results of the BTEX and TPH analyses are presented below in Table 1. Results for the hazardous constituents are pending and will be submitted to the OCD office upon receipt.

Table 1. Summary of Fire Water Pond Soil Analyses  
 Thriftway Refinery, Bloomfield, NM

| Parameter    | Results (ug/kg) |
|--------------|-----------------|
| TPH          | 8186            |
| Benzene      | ND              |
| Toluene      | 55              |
| Ethylbenzene | 131             |
| Total Xylene | 151             |

Based on the analyses data, BioTech recommends and requests that the soils within the fire water pond, found to contain hydrocarbon contaminants, be excavated and thin spread on a bermed plastic liner, and then tilled on a periodic basis to promote remediation. Therefore, BioTech requests OCD comments regarding these actions.

2. Results of the below grade UST liner inspection are attached. In short, results indicate UST and liner soundness.
3. Refinery tank testing records were located and are attached.
4. Following a review of the refinery records and further grounds inspection, it was concluded that only one water well had been plugged. Plugging records were located and are attached. The additional noted well remains active, and the casing appears to be in sound condition.

Respectfully submitted,



Ross Kennemer  
Project Manager

810/61697nod

enclosures

c: Mr. Denny Foust - OCD Aztec Environmental Geologist  
Mr. Jim Ratcliff - Thriftway Company

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

Attn: *Beth McNally*  
 Company: *BioTech Remediation*  
 Address: *710 E 20th Street, Suite 400*  
 City, State: *Farmington, NM 87401*

Date: *12-Jun-97*  
 COC No.: *6058*  
 Sample No.: *14887*  
 Job No.: *897-368*

Project Name: *Thriftway Refinery*  
 Project Location: *Fire Water Pond*  
 Sampled by: *RK/BM*  
 Analyzed by: *HR*  
 Sample Matrix: *Soil*

Date: *6-Jun-97* Time: *9:30*  
 Date: *10-Jun-97*

**Laboratory Analysis**

| Parameter                                | Results as Received | Limit of Quantitation | Unit of Measure | Method                  |
|------------------------------------------|---------------------|-----------------------|-----------------|-------------------------|
| <i>Total Petroleum Hydrocarbons, TPH</i> | <i>8186</i>         | <i>25</i>             | <i>mg/kg</i>    | <i>EPA Method 418.1</i> |

ND - Not Detected at Limit of Quantitation

**Quality Assurance Report****Laboratory Fortified Blank/Spike Soil**

| Laboratory Identification                      | Analyzed Value | Acceptable Range  | Unit of Measure |
|------------------------------------------------|----------------|-------------------|-----------------|
| <i>Laboratory Fortified Blank Soil - QCBS2</i> | <i>&lt; 25</i> | <i>&lt; 25</i>    | <i>mg/kg</i>    |
| <i>Laboratory Fortified Spike Soil - QCSS1</i> | <i>880</i>     | <i>828 - 1024</i> | <i>mg/kg</i>    |

**Duplication**

| Laboratory Identification | % RSD      | Limit % RSD |
|---------------------------|------------|-------------|
| <i>14887-6058</i>         | <i>0.8</i> | <i>15.0</i> |

Approved by: *[Signature]*Date: *6/12/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Attn: *Beth McNally*  
 Company: *BioTech Remediation*  
 Address: *710 E 20th Street, Suite 400*  
 City, State: *Farmington, NM 87401*

Date: *11-Jun-97*  
 COC No.: *6058*  
 Sample No.: *14887*  
 Job No.: *897-368*

Project Name: *Thriftway Refinery*  
 Project Location: *Fire Water Pond*  
 Sampled by: *RK/BM*  
 Analyzed by: *HR*  
 Sample Matrix: *Soil*

Date: *6-Jun-97* Time: *9:30*  
 Date: *9-Jun-97*

## Laboratory Analysis

| Parameter           | Results<br>as Received | Unit of<br>Measure | Limit of<br>Quantitation | Unit of<br>Measure |
|---------------------|------------------------|--------------------|--------------------------|--------------------|
| <i>Benzene</i>      | ND                     | ug/kg              | 1                        | ug/kg              |
| <i>Toluene</i>      | 3                      | ug/kg              | 1                        | ug/kg              |
| <i>Ethylbenzene</i> | 55                     | ug/kg              | 1                        | ug/kg              |
| <i>m,p-Xylene</i>   | 131                    | ug/kg              | 1                        | ug/kg              |
| <i>o-Xylene</i>     | 20                     | ug/kg              | 1                        | ug/kg              |
|                     | <i>TOTAL</i>           | <i>209</i>         |                          | <i>ug/kg</i>       |

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved by: *[Signature]*  
 Date: *6/11/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -





OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

Attn: *Terry Griffin*  
 Company: *BioTech Remediation*  
 Address: *710 E 20th Street, Suite 400*  
 City, State: *Farmington, NM 87401*

Date: *26-Mar-97*  
 COC No.: *6028*  
 Sample No.: *13984*  
 Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*  
 Project Location: *UST Liner*  
 Sampled by: *KS* Date: *19-Mar-97* Time: *16:00*  
 Analyzed by: *DC* Date: *24-Mar-97*  
 Sample Matrix: *Liquid*

| <i>Parameter</i>    | <i>Result</i>  | <i>Unit of Measure</i> | <i>Detection Limit</i> | <i>Unit of Measure</i> |
|---------------------|----------------|------------------------|------------------------|------------------------|
| <i>Benzene</i>      | <i>&lt;0.2</i> | <i>ug/L</i>            | <i>0.2</i>             | <i>ug/L</i>            |
| <i>Toluene</i>      | <i>&lt;0.2</i> | <i>ug/L</i>            | <i>0.2</i>             | <i>ug/L</i>            |
| <i>Ethylbenzene</i> | <i>1.7</i>     | <i>ug/L</i>            | <i>0.2</i>             | <i>ug/L</i>            |
| <i>m,p-Xylene</i>   | <i>1.0</i>     | <i>ug/L</i>            | <i>0.2</i>             | <i>ug/L</i>            |
| <i>o-Xylene</i>     | <i>&lt;0.2</i> | <i>ug/L</i>            | <i>0.2</i>             | <i>ug/L</i>            |
| <i>TOTAL</i>        | <i>2.7</i>     | <i>ug/L</i>            |                        |                        |

**Method** - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*  
 Date: *3/26/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

**ANALYTICAL REPORT**

Attn: *Terry Griffin*  
Company: *BioTech Remediation*  
Address: *710 E 20th Street, Suite 400*  
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*  
COC No.: *6028*  
Sample No.: *14025*  
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*  
Project Location: *Travel Blank*  
Sampled by: *KS* Date: *19-Mar-97* Time: *NR*  
Analyzed by: *DC* Date: *24-Mar-97*  
Sample Matrix: *Liquid*

| <i>Parameter</i>    | <i>Result</i>  | <i>Unit of Measure</i> | <i>Detection Limit</i> | <i>Unit of Measure</i> |
|---------------------|----------------|------------------------|------------------------|------------------------|
| <i>Benzene</i>      | <i>&lt;0.2</i> | <i>ug/L</i>            | <i>0.2</i>             | <i>ug/L</i>            |
| <i>Toluene</i>      | <i>&lt;0.2</i> | <i>ug/L</i>            | <i>0.2</i>             | <i>ug/L</i>            |
| <i>Ethylbenzene</i> | <i>&lt;0.2</i> | <i>ug/L</i>            | <i>0.2</i>             | <i>ug/L</i>            |
| <i>m,p-Xylene</i>   | <i>0.2</i>     | <i>ug/L</i>            | <i>0.2</i>             | <i>ug/L</i>            |
| <i>o-Xylene</i>     | <i>&lt;0.2</i> | <i>ug/L</i>            | <i>0.2</i>             | <i>ug/L</i>            |
| <i>TOTAL</i>        | <i>0.2</i>     | <i>ug/L</i>            |                        |                        |

**Method** - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*  
Date: *3/26/97*



**QUALITY ASSURANCE REPORT**  
for EPA Method 8020

Date Analyzed: 24-Mar-97

Internal QC No.: 0527-STD

Surrogate QC No.: 0528-STD

Reference Standard QC No.: 0529/30-QC

**Method Blank**

| Parameter                               | Result | Unit of Measure |
|-----------------------------------------|--------|-----------------|
| Average Amount of All Analytes In Blank | <0.2   | ppb             |

**Calibration Check**

| Parameter    | Unit of Measure | True Value | Analyzed Value | % Diff | Limit |
|--------------|-----------------|------------|----------------|--------|-------|
| Benzene      | ppb             | 20.0       | 18.6           | 7      | 15%   |
| Toluene      | ppb             | 20.0       | 19.4           | 3      | 15%   |
| Ethylbenzene | ppb             | 20.0       | 19.8           | 1      | 15%   |
| m,p-Xylene   | ppb             | 40.0       | 38.2           | 4      | 15%   |
| o-Xylene     | ppb             | 20.0       | 19.5           | 2      | 15%   |

**Matrix Spike**

| Parameter    | 1 - Percent Recovered | 2 - Percent Recovered | Limit    | %RSD | Limit |
|--------------|-----------------------|-----------------------|----------|------|-------|
| Benzene      | 89                    | 88                    | (39-150) | 1    | 20%   |
| Toluene      | 92                    | 92                    | (46-148) | 0    | 20%   |
| Ethylbenzene | 94                    | 94                    | (32-160) | 0    | 20%   |
| m,p-Xylene   | 90                    | 90                    | (35-145) | 0    | 20%   |
| o-Xylene     | 93                    | 93                    | (35-145) | 0    | 20%   |

**Surrogate Recoveries**

| Laboratory Identification | S1 Percent Recovered | S2 Percent Recovered | Laboratory Identification | S1 Percent Recovered | S2 Percent Recovered |
|---------------------------|----------------------|----------------------|---------------------------|----------------------|----------------------|
| Limit Percent Recovered   | (70-130)             |                      | Limit Percent Recovered   | (70-130)             |                      |
| 13978-6028                | 94                   |                      | 13984-6028                | 96                   |                      |
| 13979-6028                | 97                   |                      | 14025-6028                | 96                   |                      |
| 13980-6028                | 96                   |                      |                           |                      |                      |
| 13981-6028                | 96                   |                      |                           |                      |                      |
| 13982-6028                | 90                   |                      |                           |                      |                      |
| 13983-6028                | 95                   |                      |                           |                      |                      |

S1: Fluorobenzene

*Pr*  
3/26/97



**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 11 Year built 1979 Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: The tank was found to be in good condition.

Bottom: (welded) yes (riveted) N/A Seams lap

Condition: Good condition based on visual inspection. No metal thickness measurements taken.

Vacuum test: Floor No Wall to floor Yes Lap seam Yes

If not tested, explain: The floor lap seams and wall to floor seams were vacuum tested.

Coatings: Type and condition There was no internal coatings except as noted in the following section concerning water draws.

Openings: Number, Location, Size (make drawing on next sheet) See attached drawing.

Floor drains (ID's) 2 inch Floor drains (OD's) 2 1/2 inch

Vacuum test of water draws Not vacuum tested. If not checked, explain \_\_\_\_\_

The draws were visually checked, cleaned and epoxy coated to insure no leakage.

Tank mixer: Manufacturer None

Style: internal impeller type N/A Size N/A Horsepower N/A

External circulation pump: G.P.M. N/A Seal N/A  
 rating \_\_\_\_\_

Tank heater (Type, condition, BTU rating, internal or external): N/A

Gauge tape float: Yes Manufacturer Verec

Tank suction type: Fixed X Floating N/A Pull up N/A

Pull down N/A Size \_\_\_\_\_ Condition Good

Suction points up or down \_\_\_\_\_ Down \_\_\_\_\_

Is there a vortex breaker over opening \_\_\_\_\_ None \_\_\_\_\_

Inspector Ken Sinks Date 1992

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 11

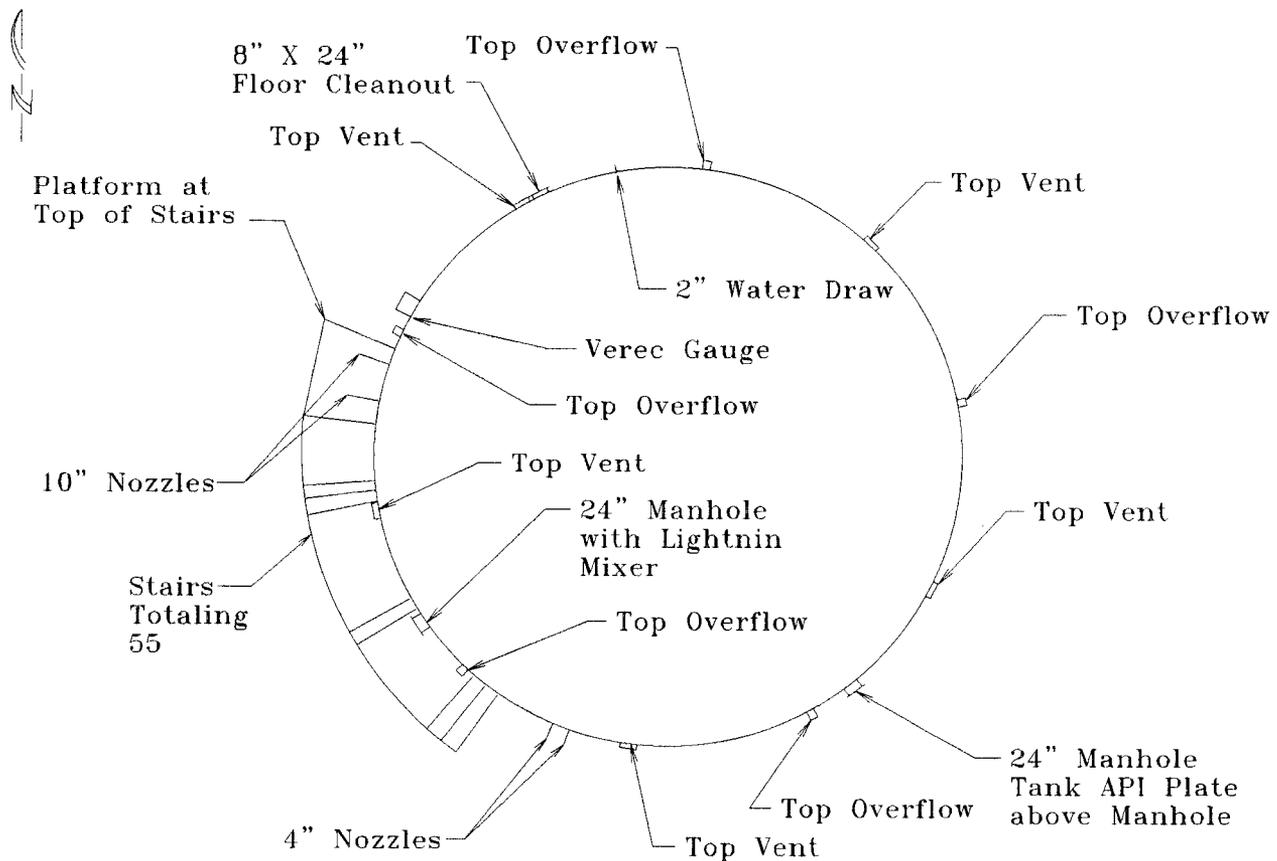
Roof: Inspect for condition of legs, rafters, etc. Okay

Coating type and condition None

Shell: (welded) Yes (riveted) N/A Seams welded  
 Condition and thickness Condition appeared good. No thickness measurements were made.

Coating type and condition None

Make drawing of shell and openings here:



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |     |                       |      |                    |                       |      |      |
|----------------------------------------------------------------|-----|-----------------------|------|--------------------|-----------------------|------|------|
| Tank No.                                                       | 11  | Year Built            | 1979 | Inspected by       | K. Sinks              | Date | 1992 |
| Roof Replaced                                                  | N/A | Shell replaced (date) |      | N/A                | Floor replaced (date) |      | N/A  |
| Shell: Type (riveted)                                          | N/A | (welded)              | Yes  | No. of rivet leaks |                       |      | N/A  |
|                                                                |     |                       |      | No. of seam leaks  |                       |      | None |
| Comments: Corrosion (if holes, give number, size and location) |     |                       |      |                    |                       |      | None |

|                                                 |                                                                                |        |                    |     |       |     |
|-------------------------------------------------|--------------------------------------------------------------------------------|--------|--------------------|-----|-------|-----|
| Paint condition                                 | Slight corrosion where paint has peeled off. Over all paint condition is good. |        |                    |     |       |     |
| Stairway condition                              | Good                                                                           |        |                    |     |       |     |
| Handrail condition                              | Good                                                                           |        |                    |     |       |     |
| Swing suction:                                  | Cable                                                                          | N/A    | Position Indicator | N/A | Winch | N/A |
| Gage pipe flushing nozzle                       | N/A                                                                            |        |                    |     |       |     |
| Valves & flanges (number and size of cast iron) | None                                                                           |        |                    |     |       |     |
| Suction heater (model)                          | None                                                                           |        |                    |     |       |     |
| Tank mixer                                      | None                                                                           |        |                    |     |       |     |
| Roof type: (riveted)                            | N/A                                                                            | welded | Yes                |     |       |     |

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:

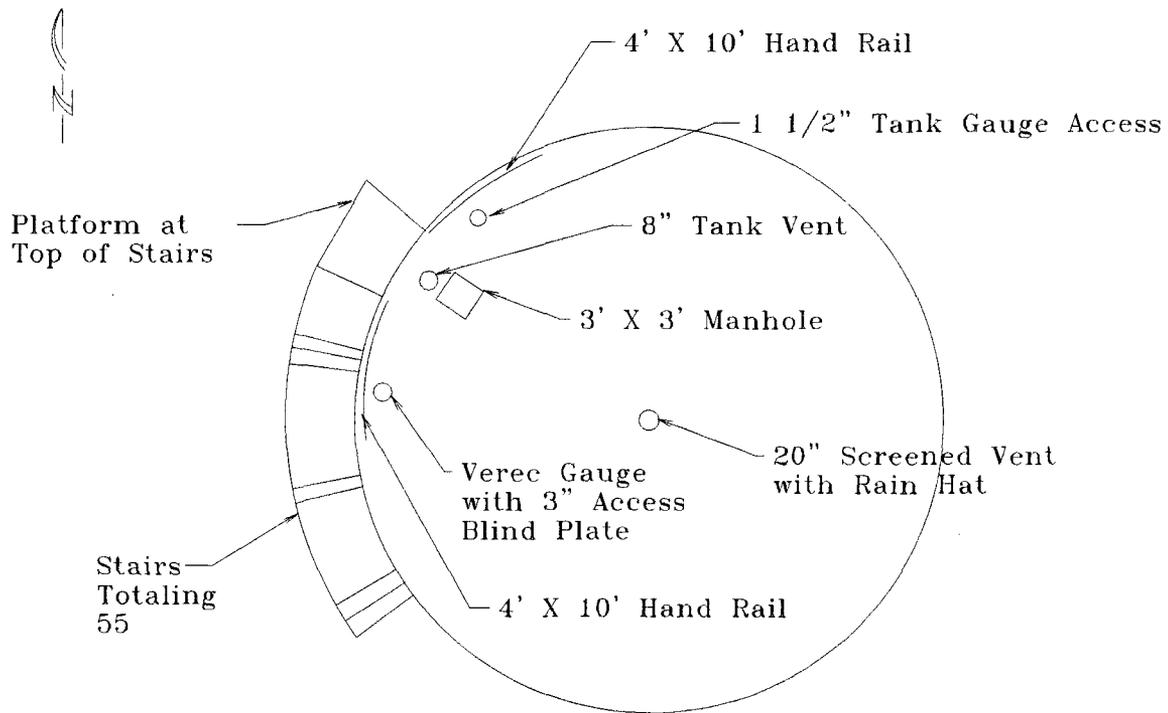
Not hammer tested.

|                                                         |              |        |             |              |      |  |
|---------------------------------------------------------|--------------|--------|-------------|--------------|------|--|
| Vents: Number, size and type (make drawing of location) | See drawing. |        |             |              |      |  |
| Emergency vent - manhole (number, size and type)        | See drawing. |        |             |              |      |  |
| Gaging well: Box                                        | Not Checked  | Cover  | Not checked | Handrail     | Yes  |  |
| Scaffold ring:                                          | Not Checked  |        |             |              |      |  |
| Gage tape: Sheaves                                      | Not checked  | Elbows | Not checked | Roof opening | Okay |  |

THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing). **No cast iron flanges.**



**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 12 Year built 1979 Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: The tank was found to be in good condition.

Bottom: (welded) Yes (riveted) N/A Seams welded lap.

Condition: Good condition based on visual inspection. No metal thickness measurements taken.

Vacuum test: Floor No Wall to floor Yes Lap seam Yes

If not tested, explain: The floor lap seams and wall to floor seams were vacuum tested.

Coatings: Type and condition There was no internal coatings except as noted in the following section concerning water draws.

Openings: Number, Location, Size (make drawing on next sheet) See attached drawing.

Floor drains (ID's) 2 inch Floor drains (OD's) 2 1/2 inch

Vacuum test of water draws Not vacuum tested. If not checked, explain

The draws were visually checked, cleaned and epoxy coated to insure no leakage.

Tank mixer: Manufacturer Lightnin

Style: internal impeller type Prop Size 10" Horsepower 10

External circulation pump:  G.P.M. rating N/A Seal N/A

Tank heater (Type, condition, BTU rating, internal or external): N/A

Gauge tape float: Yes Manufacturer Verec

Tank suction type: Fixed X Floating N/A Pull up N/A

Pull down N/A Size N/A Condition Good

Suction points up or down Down

Is there a vortex breaker over opening None

Inspector Ken Sinks Date 1992

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 12

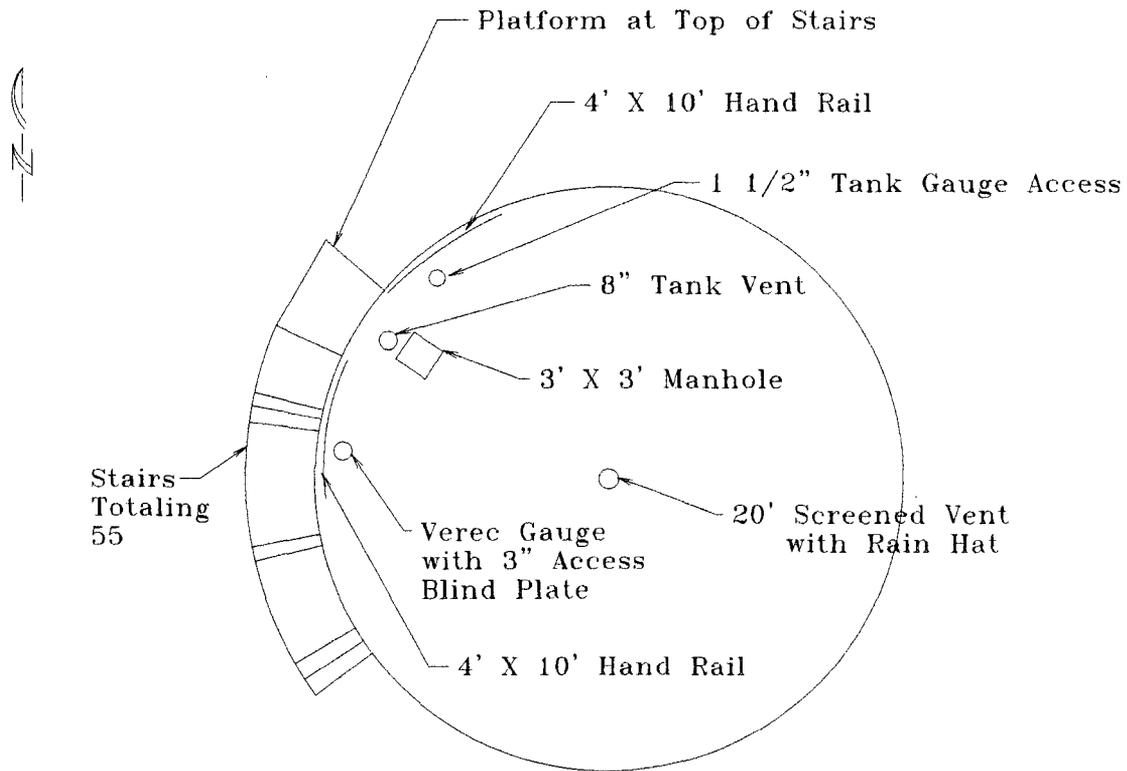
Roof: Inspect for condition of legs, rafters, etc. Okay

Coating type and condition None

Shell: (welded) Yes (riveted) N/A Seams welded  
 Condition and thickness Condition appeared good. No thickness measurements were made.

Coating type and condition None

Make drawing of shell and openings here:



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |     |                       |      |                       |          |      |      |
|----------------------------------------------------------------|-----|-----------------------|------|-----------------------|----------|------|------|
| Tank No.                                                       | 12  | Year Built            | 1979 | Inspected by          | K. Sinks | Date | 1992 |
| Roof Replaced                                                  | N/A | Shell replaced (date) | N/A  | Floor replaced (date) | N/A      |      | N/A  |
| Shell: Type (riveted)                                          | N/A | (welded)              | Yes  | No. of rivet leaks    |          |      | N/A  |
|                                                                |     |                       |      | No. of seam leaks     |          |      | None |
| Comments: Corrosion (if holes, give number, size and location) |     |                       |      | None                  |          |      |      |

|                                                 |                                                                                |        |                    |     |       |     |
|-------------------------------------------------|--------------------------------------------------------------------------------|--------|--------------------|-----|-------|-----|
| Paint condition                                 | Slight corrosion where paint has peeled off. Over all paint condition is fair. |        |                    |     |       |     |
| Stairway condition                              | Good                                                                           |        |                    |     |       |     |
| Handrail condition                              | Good                                                                           |        |                    |     |       |     |
| Swing suction:                                  | Cable                                                                          | N/A    | Position Indicator | N/A | Winch | N/A |
| Gage pipe flushing nozzle                       | N/A                                                                            |        |                    |     |       |     |
| Valves & flanges (number and size of cast iron) | None                                                                           |        |                    |     |       |     |
| Suction heater (model)                          | N/A                                                                            |        |                    |     |       |     |
| Tank mixer                                      | Lightnin.                                                                      |        |                    |     |       |     |
| Roof type: (riveted)                            | N/A                                                                            | welded | Yes                |     |       |     |

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:

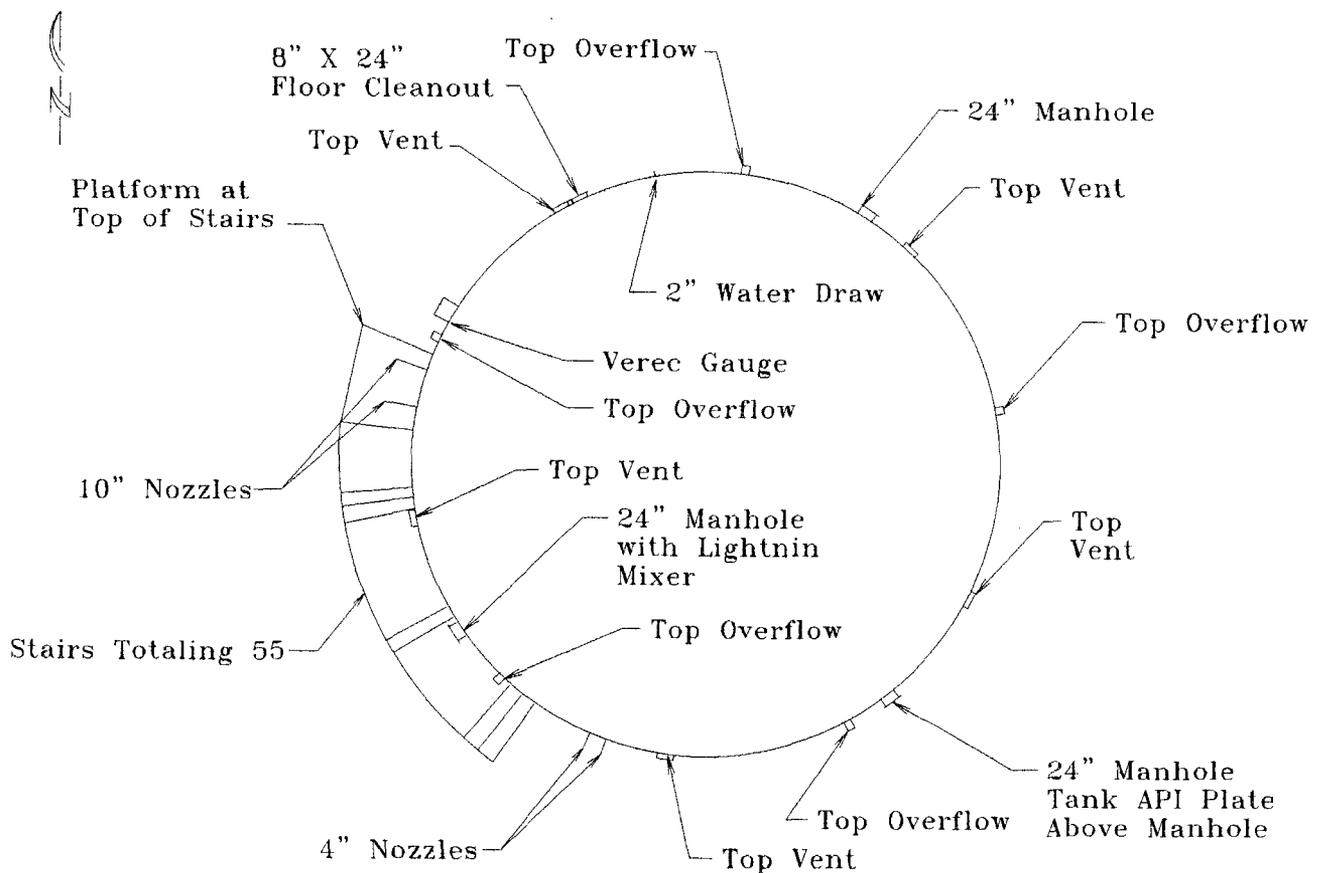
Not hammer tested.

|                                                         |                       |        |             |              |      |  |
|---------------------------------------------------------|-----------------------|--------|-------------|--------------|------|--|
| Vents: Number, size and type (make drawing of location) | See attached Drawing. |        |             |              |      |  |
| Emergency vent - manhole (number, size and type)        | See attached Drawing. |        |             |              |      |  |
| Gaging well: Box                                        | Not Checked           | Cover  | Yes         | Handrail     | Yes  |  |
| Scaffold ring:                                          | Not Checked           |        |             |              |      |  |
| Gage tape: Sheaves                                      | Not checked           | Elbows | Not checked | Roof opening | Okay |  |

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing). **No cast iron flanges.**



**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 13 Year built Before 1972 Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: The tank was found to be in good condition. Noted repairs were made to pontoons.

Bottom: (welded) Yes (riveted) N/A Seams lap

Condition: Good condition based on visual inspection. No metal thickness measurements taken.

Vacuum test: Floor No Wall to floor Yes Lap seam Yes

If not tested, explain: The floor lap seams and wall to floor seams were vacuum tested. The rest of the floor appeared in good condition and wasn't checked due to scheduling conflicts for the tank use.

Coatings: Type and condition There was no internal coatings except as noted in the following section concerning water draws.

Openings: Number, Location, Size (make drawing on next sheet) 6 openings: 1 - 2 1/4" east side; 2 - 4" west side; 1 - 1" gauge line west side; 1 - 2' manhole (round) south side; 1 - 2' X 2' square manhole, rounded corners north side. See drawing.

Floor drains (ID's) 2 inch Floor drains (OD's) 2 1/2 inch

Vacuum test of water draws Not vacuum tested. If not checked, explain \_\_\_\_\_

The draws were visually checked, cleaned and epoxy coated to insure no leakage.

Tank mixer: Manufacturer \_\_\_\_\_ Part of an old Smith agitator was attached to the tank.

Style: internal impeller type Prop Size 6" Horsepower No Motor

External circulation pump: G.P.M. rating N/A Seal N/A

Tank heater (Type, condition, BTU rating, internal or external): None

Gauge tape float: Yes Manufacturer Verec

Tank suction type: Fixed Yes Floating N/A Pull up N/A

Pull down N/A Size N/A Condition Good

Suction points up or down Down

Is there a vortex breaker over opening None

Inspector Ken Sinks Date 1992

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 13

Roof: Inspect for condition of legs, rafters, etc. 3 Legs are bent; Rafters look okay; Two pontoons are bent; Three pontoons are dented; There are three leaks in the dented pontoons. These pontoons were removed and repaired.

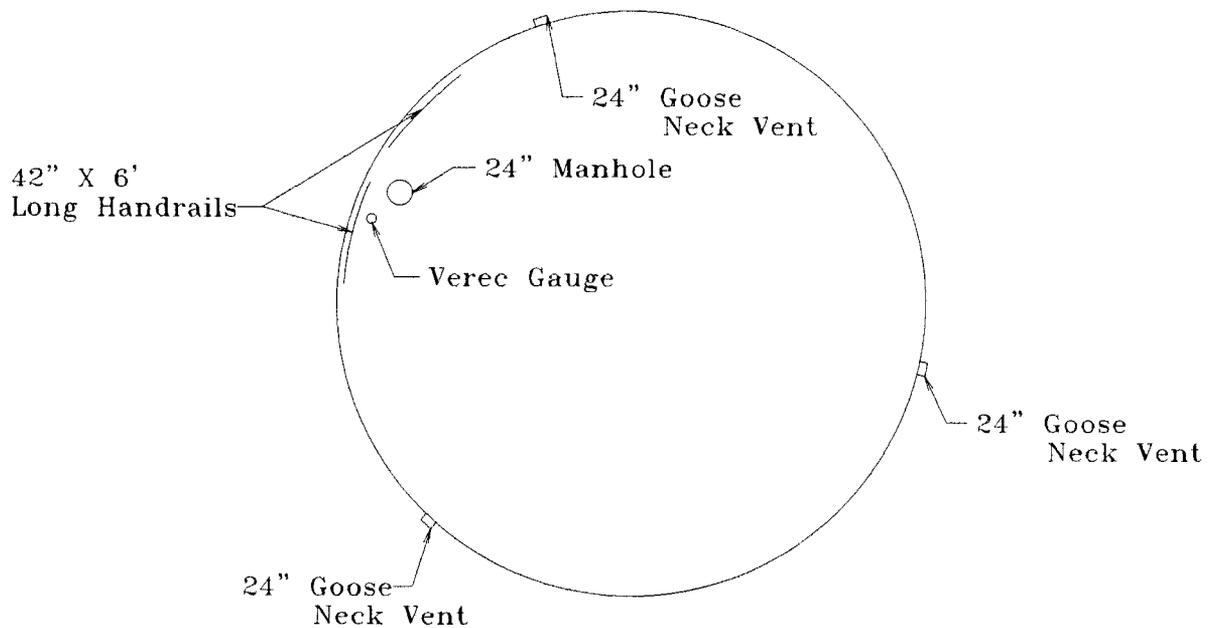
Coating type and condition None

Shell: (welded) Yes (riveted) N/A Seams welded

Condition and thickness Condition appeared good. No thickness measurements were made.

Coating type and condition None

Make drawing of shell and openings here:



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |             |                       |                    |                       |                 |      |             |
|----------------------------------------------------------------|-------------|-----------------------|--------------------|-----------------------|-----------------|------|-------------|
| Tank No.                                                       | <u>13</u>   | Year Built            | <u>Before 1972</u> | Inspected by          | <u>K. Sinks</u> | Date | <u>1992</u> |
| Roof Replaced                                                  | <u>N/a</u>  | Shell replaced (date) | <u>N/A</u>         | Floor replaced (date) | <u>N/A</u>      |      |             |
| Shell: Type (riveted)                                          | <u>N/A</u>  | (welded) Yes          |                    | No. of rivet leaks    | <u>N/A</u>      |      |             |
|                                                                |             |                       |                    | No. of seam leaks     | <u>None</u>     |      |             |
| Comments: Corrosion (if holes, give number, size and location) | <u>None</u> |                       |                    |                       |                 |      |             |

|                                                 |                                                                                                                                                                                   |                    |            |                    |            |       |            |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------|--------------------|------------|-------|------------|
| Paint condition                                 | <u>Heavy corrosion where paint has peeled off. Over all paint condition is fair.</u>                                                                                              |                    |            |                    |            |       |            |
| Stairway condition                              | <u>Good, needs paint.</u>                                                                                                                                                         |                    |            |                    |            |       |            |
| Handrail condition                              | <u>Good, needs paint.</u>                                                                                                                                                         |                    |            |                    |            |       |            |
| Swing suction:                                  | <table border="0" style="width: 100%;"> <tr> <td>Cable</td> <td><u>N/A</u></td> <td>Position Indicator</td> <td><u>N/A</u></td> <td>Winch</td> <td><u>N/A</u></td> </tr> </table> | Cable              | <u>N/A</u> | Position Indicator | <u>N/A</u> | Winch | <u>N/A</u> |
| Cable                                           | <u>N/A</u>                                                                                                                                                                        | Position Indicator | <u>N/A</u> | Winch              | <u>N/A</u> |       |            |
| Gage pipe flushing nozzle                       | <u>N/A</u>                                                                                                                                                                        |                    |            |                    |            |       |            |
| Valves & flanges (number and size of cast iron) | <u>None</u>                                                                                                                                                                       |                    |            |                    |            |       |            |

|                        |                                                                                           |
|------------------------|-------------------------------------------------------------------------------------------|
| Suction heater (model) | <u>N/A</u>                                                                                |
| Tank mixer             | <u>The internal prop and external pulleys were still on the tank, there was no motor.</u> |
| Roof type: (riveted)   | <u>N/A</u> <u>welded Yes</u>                                                              |

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:  
Not hammer tested. Paint condition fair. Roof sagging in places.

|                                                         |                                                                                                                                                           |             |              |             |              |      |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|-------------|--------------|------|
| Vents: Number, size and type (make drawing of location) | <u>Three covered top vents.</u>                                                                                                                           |             |              |             |              |      |
| Emergency vent - manhole (number, size and type)        | <u>Two 2' round and semi round.</u>                                                                                                                       |             |              |             |              |      |
| Gaging well: Box                                        | <table border="0" style="width: 100%;"> <tr> <td>Not Checked</td> <td>Cover</td> <td>Opened</td> <td>Handrail</td> <td>Yes</td> </tr> </table>            | Not Checked | Cover        | Opened      | Handrail     | Yes  |
| Not Checked                                             | Cover                                                                                                                                                     | Opened      | Handrail     | Yes         |              |      |
| Scaffold ring:                                          | <u>Not Checked</u>                                                                                                                                        |             |              |             |              |      |
| Gage tape: Sheaves                                      | <table border="0" style="width: 100%;"> <tr> <td>Not checked</td> <td>Elbows</td> <td>Not checked</td> <td>Roof opening</td> <td>Okay</td> </tr> </table> | Not checked | Elbows       | Not checked | Roof opening | Okay |
| Not checked                                             | Elbows                                                                                                                                                    | Not checked | Roof opening | Okay        |              |      |



**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 14 Year built Before 1972 Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: The tank was found to be in good condition. One pontoon was replaced.

Bottom: (welded) yes (riveted) N/A Seams welded lap.

Condition: Good condition based on visual inspection. No metal thickness measurements taken.

Vacuum test: Floor No Wall to floor Yes Lap seam Yes

If not tested, explain: The floor lap seams and wall to floor seams were vacuum tested. The rest of the floor appeared in good condition.

Coatings: Type and condition There was no internal coatings except as noted in the following section concerning water draws.

Openings: Number, Location, Size (make drawing on next sheet) See attached drawing.

Floor drains (ID's) 2 inch Floor drains (OD's) 2 1/2 inch

Vacuum test of water draws Not vacuum tested. If not checked, explain

The water draw was visually checked, cleaned and epoxy coated to insure no leakage.

Tank mixer: Manufacturer None

Style: internal impeller type N/A Size N/A Horsepower N/A

External circulation pump:  G.P.M. rating N/A Seal N/A

Tank heater (Type, condition, BTU rating, internal or external): None

Gauge tape float: Yes Manufacturer Verec

Tank suction type: Fixed Yes Floating N/A Pull up N/A

Pull down N/A Size N/A Condition Good

Suction points up or down Down

Is there a vortex breaker over opening None

Inspector Ken Sinks Date 1992

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 14

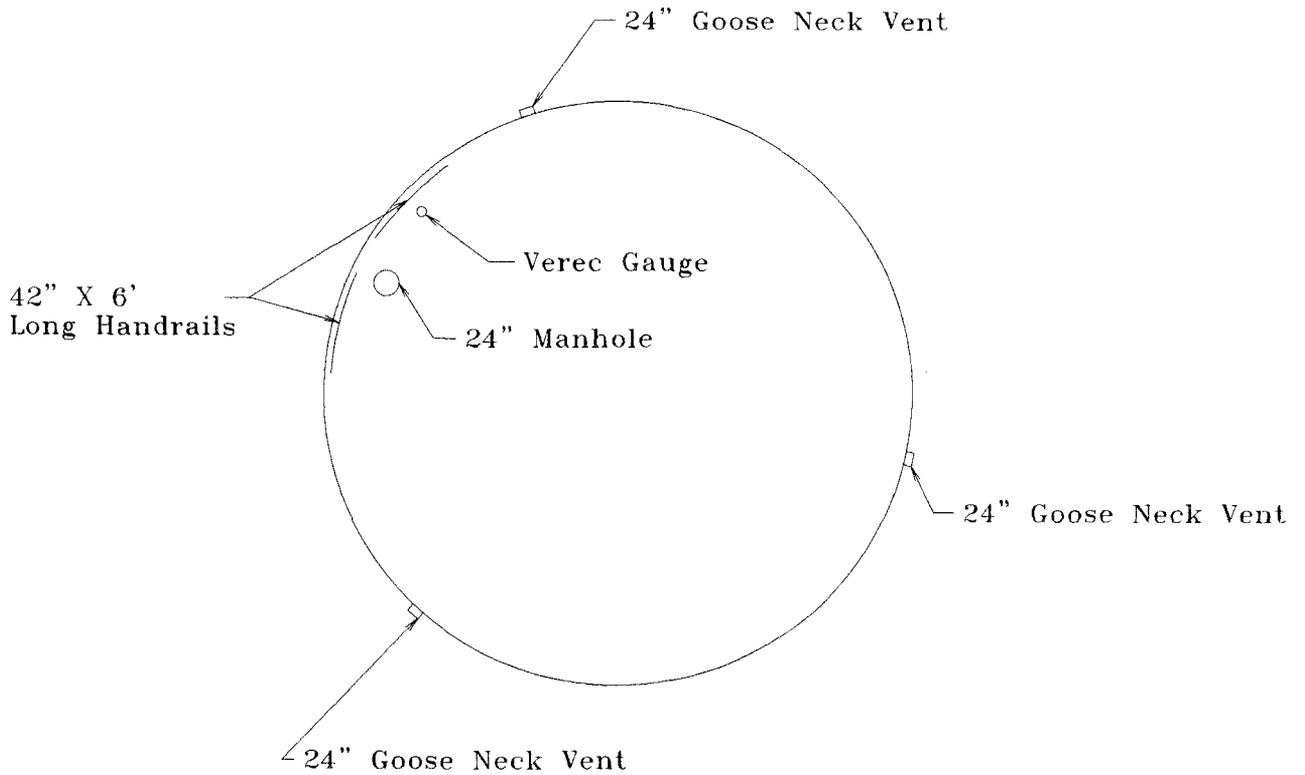
Roof: Inspect for condition of legs, rafters, etc. Okay; there was one pontoon that was bent beyond repair. This was replaced with a new pontoon from Ultra Float - floating roof vendor.

Coating type and condition None

Shell: (welded) Yes (riveted) N/A Seams welded  
Condition and thickness Condition appeared good. No thickness measurements were made.

Coating type and condition None

Make drawing of shell and openings here:



810\T14Einsp

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |            |                       |                    |                       |                 |      |             |             |
|----------------------------------------------------------------|------------|-----------------------|--------------------|-----------------------|-----------------|------|-------------|-------------|
| Tank No.                                                       | <u>14</u>  | Year Built            | <u>Before 1972</u> | Inspected by          | <u>K. Sinks</u> | Date | <u>1992</u> |             |
| Roof Replaced                                                  | <u>N/A</u> | Shell replaced (date) | <u>N/A</u>         | Floor replaced (date) | <u>N/A</u>      |      | <u>N/A</u>  |             |
| Shell: Type (riveted)                                          | <u>N/A</u> | (welded)              | <u>Yes</u>         | No. of rivet leaks    |                 |      | <u>N/A</u>  |             |
|                                                                |            |                       |                    | No. of seam leaks     |                 |      | <u>None</u> |             |
| Comments: Corrosion (if holes, give number, size and location) |            |                       |                    |                       |                 |      |             | <u>None</u> |

|                                                 |                                                                                       |            |                    |            |       |            |  |
|-------------------------------------------------|---------------------------------------------------------------------------------------|------------|--------------------|------------|-------|------------|--|
| Paint condition                                 | <u>Slight corrosion where paint has peeled off. Over all paint condition is fair.</u> |            |                    |            |       |            |  |
| Stairway condition                              | <u>Good</u>                                                                           |            |                    |            |       |            |  |
| Handrail condition                              | <u>Good</u>                                                                           |            |                    |            |       |            |  |
| Swing suction:                                  | Cable                                                                                 | <u>N/A</u> | Position Indicator | <u>N/A</u> | Winch | <u>N/A</u> |  |
| Gage pipe flushing nozzle                       | <u>N/A</u>                                                                            |            |                    |            |       |            |  |
| Valves & flanges (number and size of cast iron) | <u>None</u>                                                                           |            |                    |            |       |            |  |
| Suction heater (model)                          | <u>None</u>                                                                           |            |                    |            |       |            |  |
| Tank mixer                                      | <u>None</u>                                                                           |            |                    |            |       |            |  |
| Roof type: (riveted)                            | <u>N/A</u>                                                                            |            | welded             | <u>Yes</u> |       |            |  |

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:

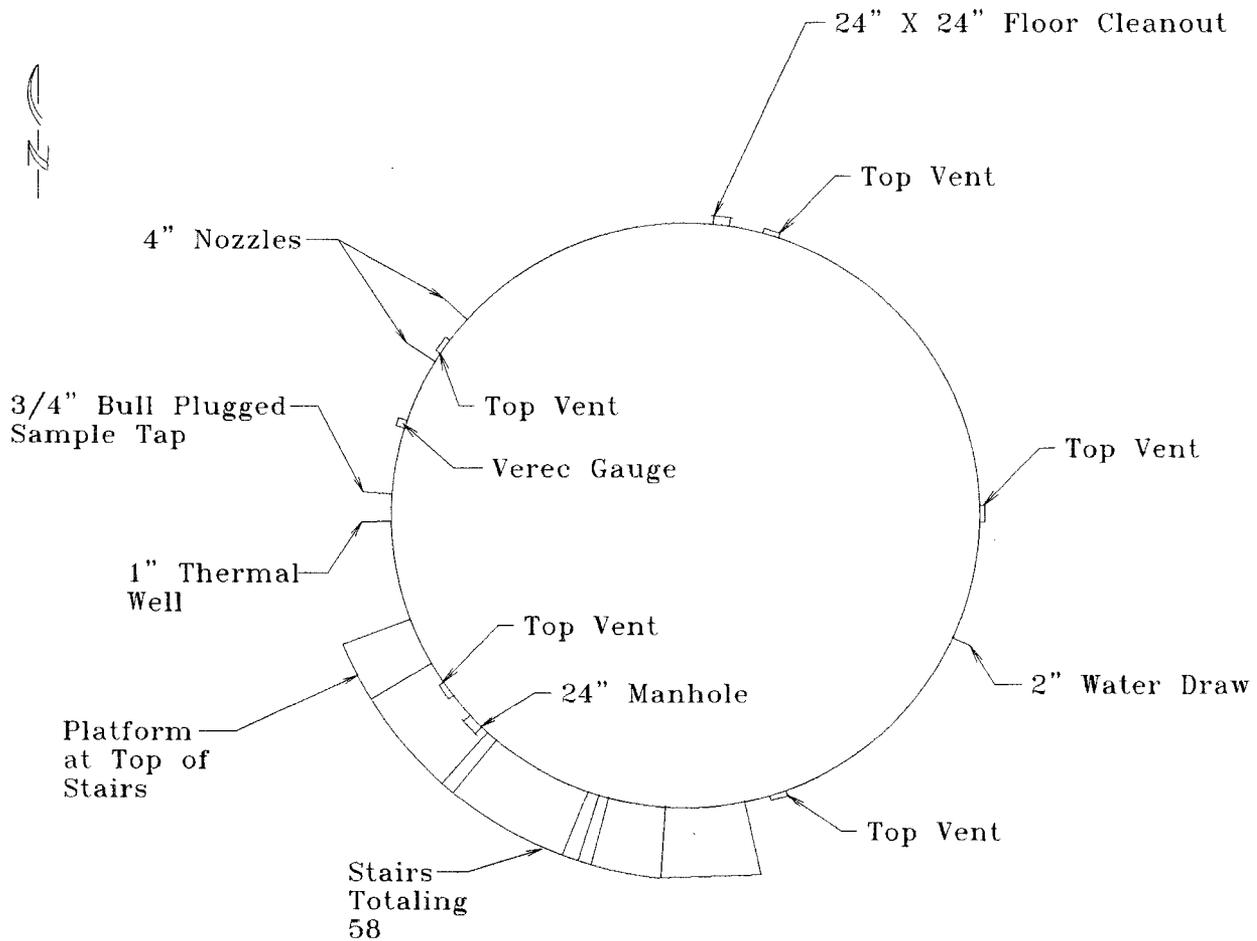
Not hammer tested.

|                                                         |                    |        |                    |              |             |
|---------------------------------------------------------|--------------------|--------|--------------------|--------------|-------------|
| Vents: Number, size and type (make drawing of location) | <u>See drawing</u> |        |                    |              |             |
| Emergency vent - manhole (number, size and type)        | <u>See drawing</u> |        |                    |              |             |
| Gaging well: Box                                        | <u>Not Checked</u> | Cover  | <u>Yes</u>         | Handrail     | <u>Yes</u>  |
| Scaffold ring:                                          | <u>Not Checked</u> |        |                    |              |             |
| Gage tape: Sheaves                                      | <u>Not checked</u> | Elbows | <u>Not checked</u> | Roof opening | <u>Okay</u> |

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing). No cast iron, all steel flanges.



810VT14linsp

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 17 Year built Before 1972 Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: The tank was not inspected internally.

Bottom: (welded) Yes (riveted) N/A Seams Lap  
 Condition: Unknown  
 Vacuum test: Floor No Wall to floor No Lap seam No

If not tested, explain: The tank was not out of service long enough to perform an internal inspection.

Coatings: Type and condition There are no known internal coatings.  
 Openings: Number, Location, Size (make drawing on next sheet) See drawing

Floor drains (ID's) 2 inch Floor drains (OD's) 2 1/2 inch  
 Vacuum test of water draws Not vacuum tested. If not checked, explain Same as above.

Tank mixer: Manufacturer Lightnin  
 Style: internal impeller type Prop Size 10" Horsepower 10  
 External circulation pump: G.P.M. N/A Seal N/A  
 rating  
 Tank heater (Type, condition, BTU rating, internal or external): None

Gauge tape float: Yes Manufacturer Kodata  
 Tank suction type: Fixed Yes Floating N/A Pull up N/A  
 Pull down N/A Size N/A Condition Good  
 Suction points up or down Down  
 Is there a vortex breaker over opening None  
 Inspector Ken Sinks Date 1992

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 17

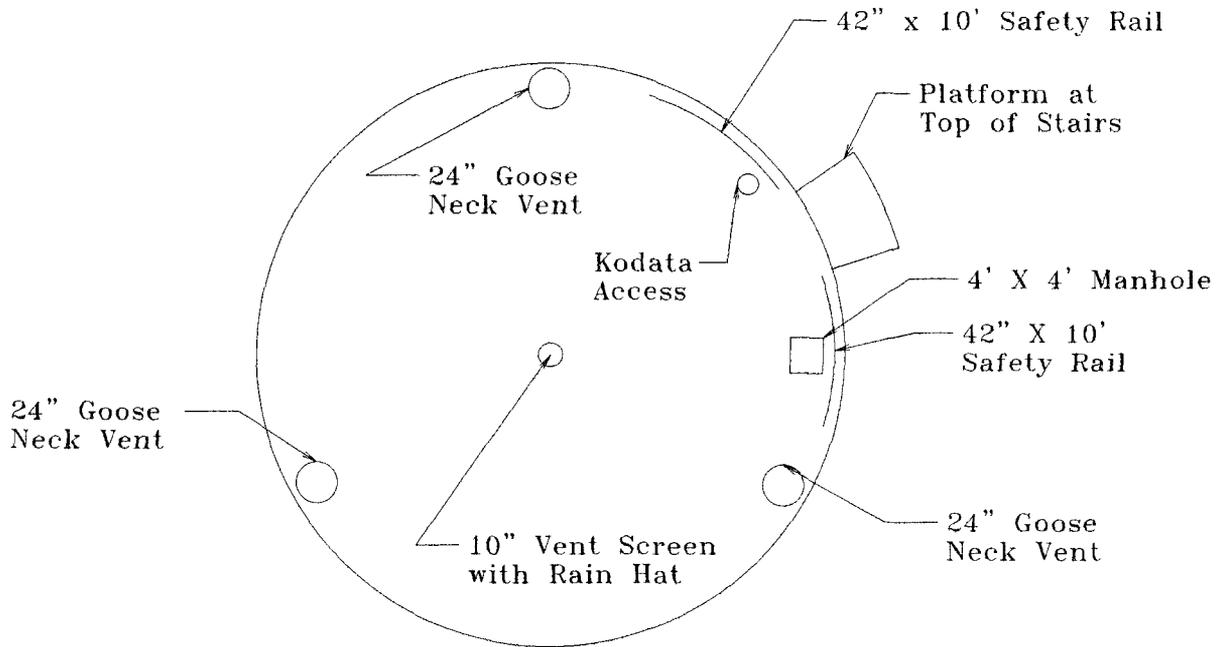
Roof: Inspect for condition of legs, rafters, etc. Not inspected.

Coating type and condition None that is known of.

Shell: (welded) Yes (riveted) N/A Seams welded  
 Condition and thickness Not inspected.

Coating type and condition None that is known of.

Make drawing of shell and openings here:



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |     |                       |             |                    |          |                       |      |
|----------------------------------------------------------------|-----|-----------------------|-------------|--------------------|----------|-----------------------|------|
| Tank No.                                                       | 17  | Year Built            | Before 1972 | Inspected by       | K. Sinks | Date                  | 1992 |
| Roof Replaced                                                  | N/A | Shell replaced (date) |             |                    | N/A      | Floor replaced (date) | N/A  |
| Shell: Type (riveted)                                          | N/A | (welded)              | Yes         | No. of rivet leaks | N/A      |                       |      |
|                                                                |     |                       |             | No. of seam leaks  | None     |                       |      |
| Comments: Corrosion (if holes, give number, size and location) |     |                       |             | None               |          |                       |      |

|                                                 |                                                                                |        |                    |     |       |     |  |
|-------------------------------------------------|--------------------------------------------------------------------------------|--------|--------------------|-----|-------|-----|--|
| Paint condition                                 | Slight corrosion where paint has pealed off. Over all paint condition is good. |        |                    |     |       |     |  |
| Stairway condition                              | Good                                                                           |        |                    |     |       |     |  |
| Handrail condition                              | Good                                                                           |        |                    |     |       |     |  |
| Swing suction:                                  | Cable                                                                          | N/A    | Position Indicator | N/A | Winch | N/A |  |
| Gage pipe flushing nozzle                       | N/A                                                                            |        |                    |     |       |     |  |
| Valves & flanges (number and size of cast iron) | None                                                                           |        |                    |     |       |     |  |
| Suction heater (model)                          | N/A                                                                            |        |                    |     |       |     |  |
| Tank mixer                                      | Lightnin                                                                       |        |                    |     |       |     |  |
| Roof type: (riveted)                            | N/A                                                                            | welded | Yes                |     |       |     |  |

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:

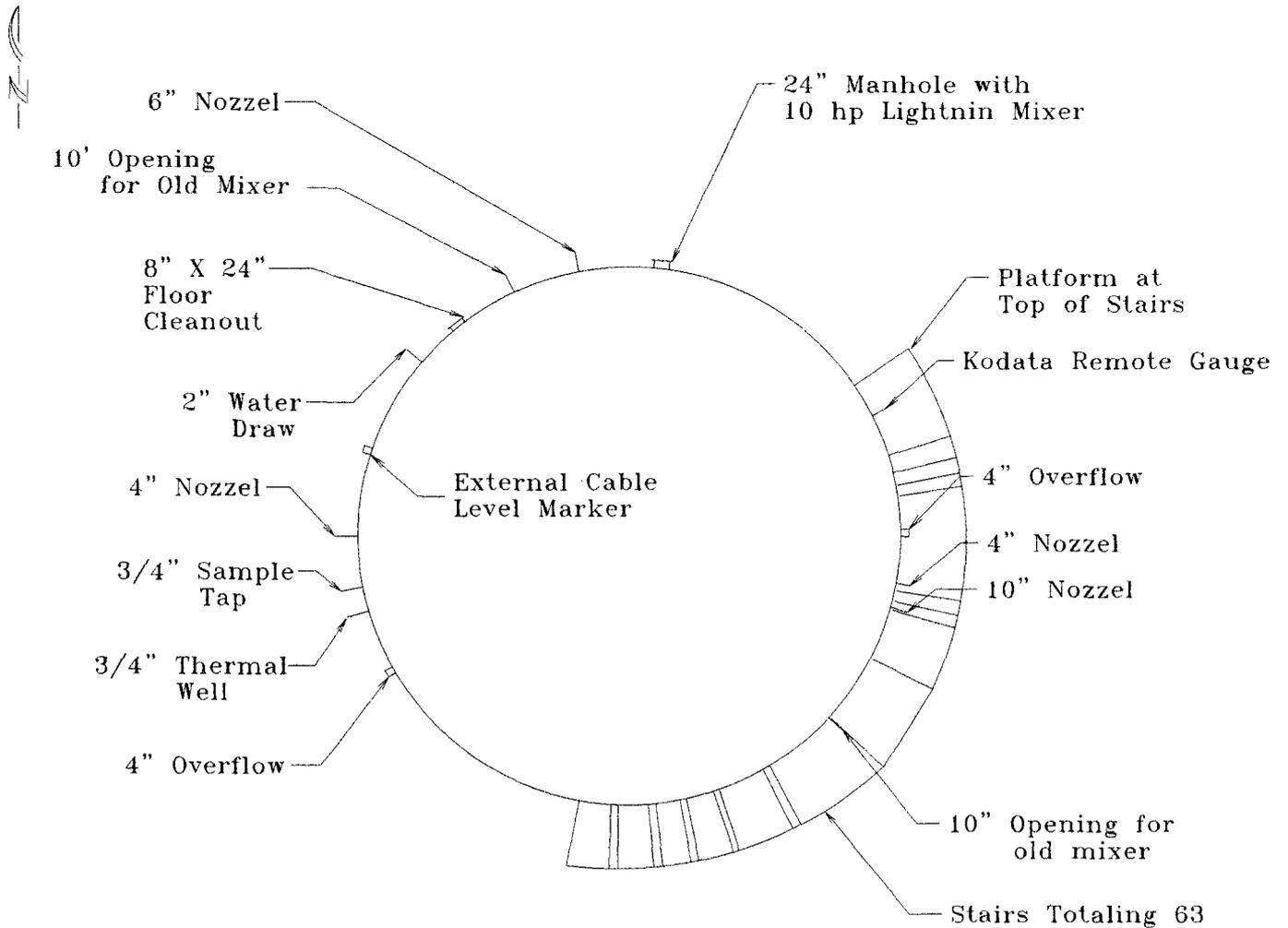
Not hammer tested.

|                                                         |             |        |             |              |      |
|---------------------------------------------------------|-------------|--------|-------------|--------------|------|
| Vents: Number, size and type (make drawing of location) | See drawing |        |             |              |      |
| Emergency vent - manhole (number, size and type)        | See drawing |        |             |              |      |
| Gaging well: Box                                        | Not Checked | Cover  | Yes         | Handrail     | Yes  |
| Scaffold ring:                                          | Not Checked |        |             |              |      |
| Gage tape: Sheaves                                      | Not checked | Elbows | Not checked | Roof opening | Okay |

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing). **No cast iron, all steel flanges.**



810\T17\insp

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 18 Year built Unknown Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: The tank was not inspected internally.

Bottom: (welded) Yes (riveted) N/A Seams Welded lap.

Condition: Unknown

Vacuum test: Floor No Wall to floor No Lap seam No

If not tested, explain: The tank was not out of service long enough to perform an internal inspection. NOTE: This tank does not have an internal floating roof.

Coatings: Type and condition There are no known internal coatings.

Openings: Number, Location, Size (make drawing on next sheet) See drawing.

Floor drains (ID's) 2 inch Floor drains (OD's) 2 1/2 inch

Vacuum test of water draws Not vacuum tested. If not checked, explain Same as above.

Tank mixer: Manufacturer None.

Style: internal impeller type N/A Size N/A Horsepower N/A

External circulation pump: G.P.M. N/A Seal N/A  
rating

Tank heater (Type, condition, BTU rating, internal or external): N/A

Gauge tape float: Yes Manufacturer Kodata

Tank suction type: Fixed Yes Floating N/A Pull up N/A

Pull down N/A Size N/A Condition Good

Suction points up or down Down

Is there a vortex breaker over opening None

Inspector Ken Sinks Date 1992

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 18

Roof: Inspect for condition of legs, rafters, etc. Not inspected.

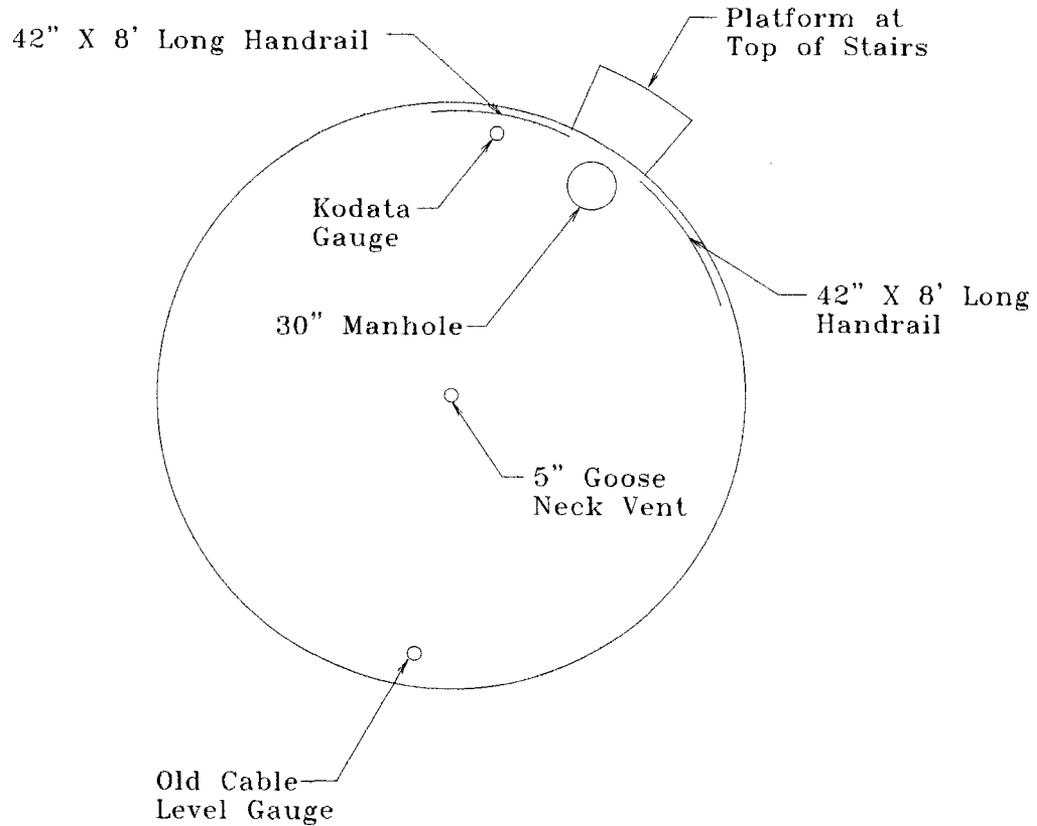
Coating type and condition None that is known of.

Shell: (welded) Yes (riveted) N/A Seams Welded

Condition and thickness Not inspected.

Coating type and condition None that is known of.

Make drawing of shell and openings here:



810T18Einsp

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |            |                       |                |                       |                 |      |             |             |
|----------------------------------------------------------------|------------|-----------------------|----------------|-----------------------|-----------------|------|-------------|-------------|
| Tank No.                                                       | <u>18</u>  | Year Built            | <u>Unknown</u> | Inspected by          | <u>K. Sinks</u> | Date | <u>1992</u> |             |
| Roof Replaced                                                  | <u>N/A</u> | Shell replaced (date) | <u>N/A</u>     | Floor replaced (date) | <u>N/A</u>      |      | <u>N/A</u>  |             |
| Shell: Type (riveted)                                          | <u>N/A</u> | (welded)              | <u>Yes</u>     | No. of rivet leaks    |                 |      | <u>N/A</u>  |             |
|                                                                |            |                       |                | No. of seam leaks     |                 |      | <u>None</u> |             |
| Comments: Corrosion (if holes, give number, size and location) |            |                       |                |                       |                 |      |             | <u>None</u> |

|                                                 |                                                                                          |            |                    |            |       |            |  |
|-------------------------------------------------|------------------------------------------------------------------------------------------|------------|--------------------|------------|-------|------------|--|
| Paint condition                                 | <u>Slight corrosion where paint has peeled off. Over all paint condition is fair.</u>    |            |                    |            |       |            |  |
| Stairway condition                              | <u>One stair not connected to handrail support.</u>                                      |            |                    |            |       |            |  |
| Handrail condition                              | <u>One runner not connected to stair beneath. Not repaired as of date of inspection.</u> |            |                    |            |       |            |  |
| Swing suction:                                  | Cable                                                                                    | <u>N/A</u> | Position Indicator | <u>N/A</u> | Winch | <u>N/A</u> |  |
| Gage pipe flushing nozzle                       | <u>N/A</u>                                                                               |            |                    |            |       |            |  |
| Valves & flanges (number and size of cast iron) | <u>None</u>                                                                              |            |                    |            |       |            |  |

|                        |  |            |  |               |  |                  |
|------------------------|--|------------|--|---------------|--|------------------|
| Suction heater (model) |  |            |  |               |  | <u>No Heater</u> |
| Tank mixer             |  |            |  |               |  | <u>None</u>      |
| Roof type: (riveted)   |  | <u>N/A</u> |  | <u>welded</u> |  | <u>Yes</u>       |

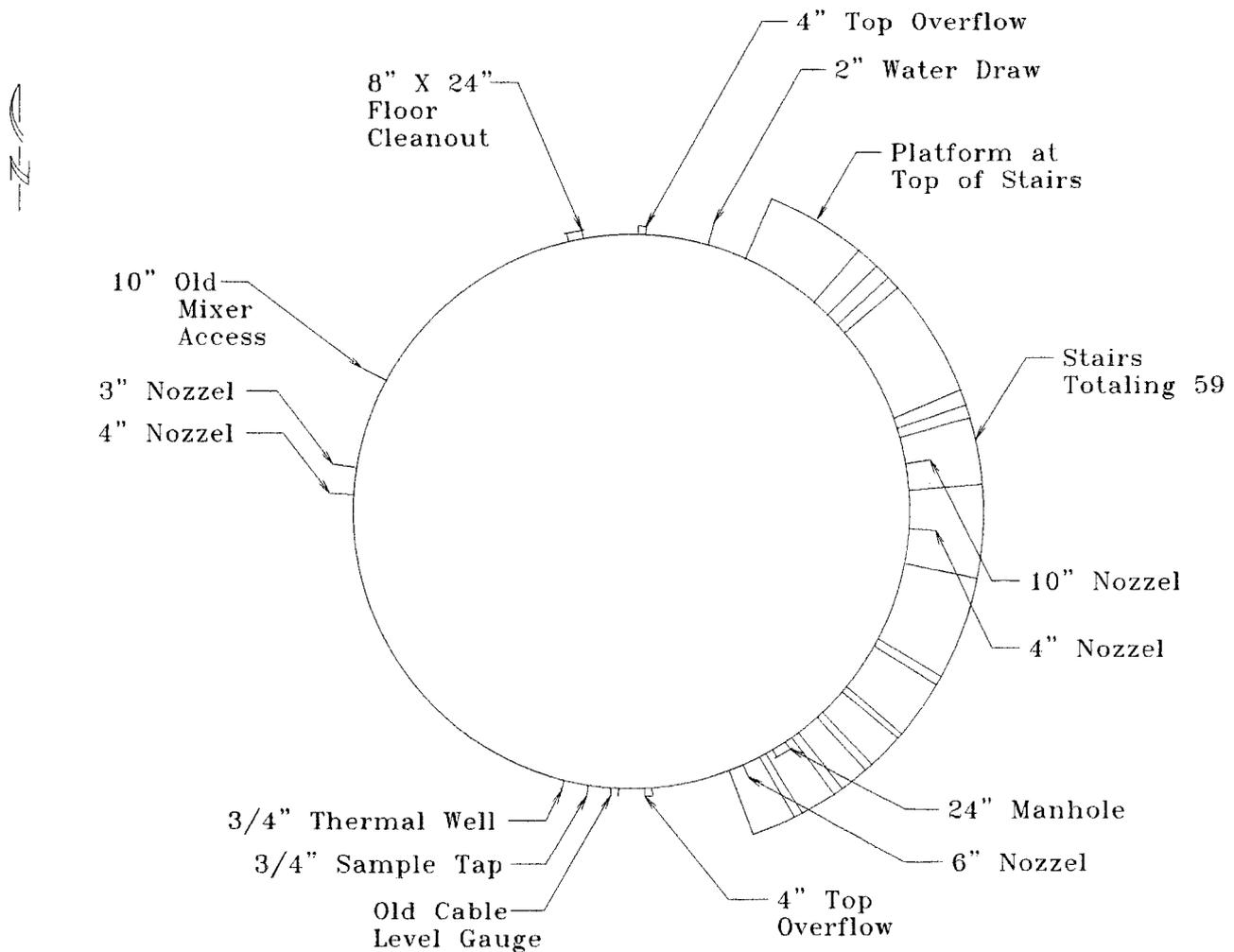
Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:  
Not hammer tested.

|                                                         |                     |        |                    |              |             |  |
|---------------------------------------------------------|---------------------|--------|--------------------|--------------|-------------|--|
| Vents: Number, size and type (make drawing of location) | <u>See drawing.</u> |        |                    |              |             |  |
| Emergency vent - manhole (number, size and type)        | <u>See drawing</u>  |        |                    |              |             |  |
| Gaging well: Box                                        | <u>Not Checked</u>  | Cover  | <u>Opened</u>      | Handrail     | <u>Yes</u>  |  |
| Scaffold ring:                                          | <u>Not Checked</u>  |        |                    |              |             |  |
| Gage tape: Sheaves                                      | <u>Not checked</u>  | Elbows | <u>Not checked</u> | Roof opening | <u>Okay</u> |  |

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing). **No cast iron, all steel flanges.**



810VT18linsp



**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 19

Roof: Inspect for condition of legs, rafters, etc. Not inspected. Same as above. Note: Some evidence of rivets

around manhole leaking.

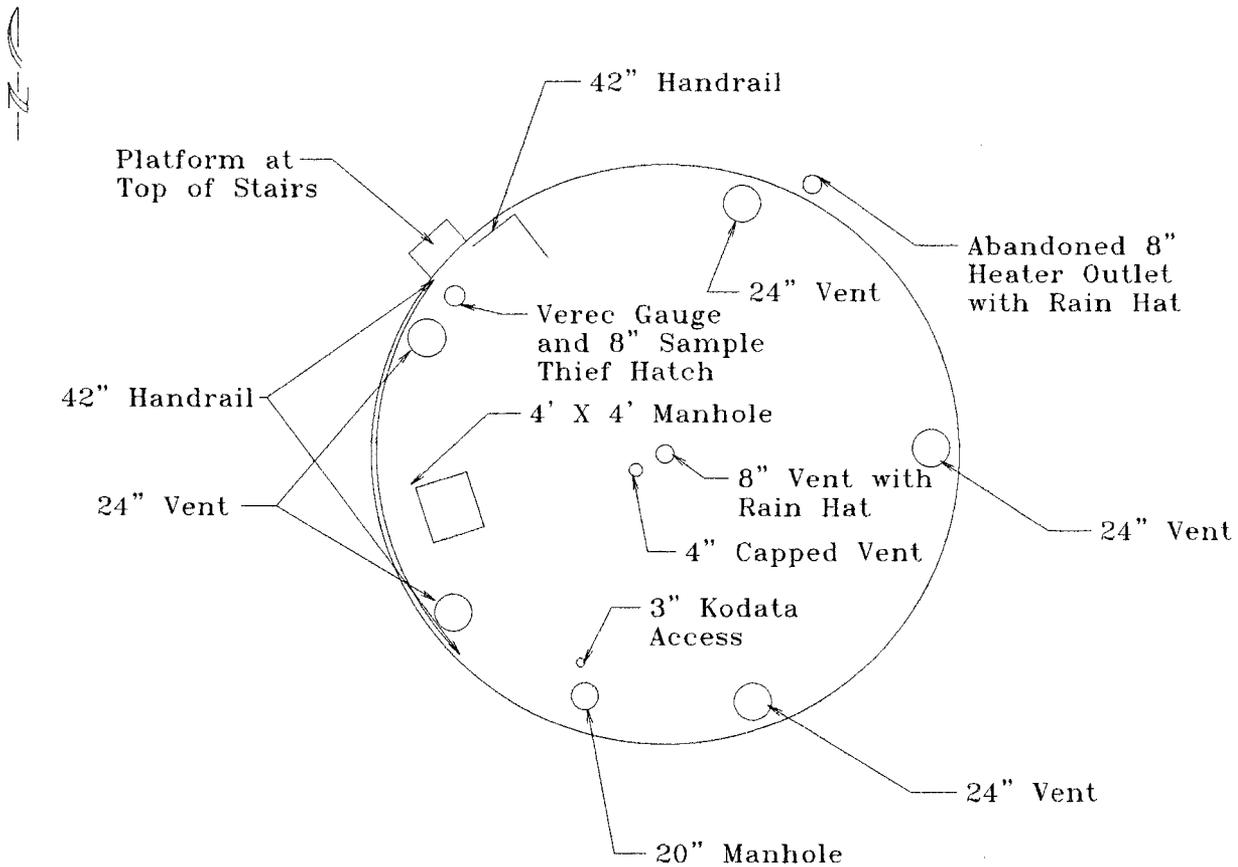
Coating type and condition None that is known of.

Shell: (welded) Yes (riveted) Yes Seams Welded

Condition and thickness Not inspected.

Coating type and condition None that is known of.

Make drawing of shell and openings here:



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                       |                |                       |                |                       |                 |      |                 |
|-----------------------|----------------|-----------------------|----------------|-----------------------|-----------------|------|-----------------|
| Tank No.              | <u>19</u>      | Year Built            | <u>Unknown</u> | Inspected by          | <u>K. Sinks</u> | Date | <u>1992</u>     |
| Roof Replaced         | <u>Ukn.</u>    | Shell replaced (date) | <u>Ukn.</u>    | Floor replaced (date) | <u>Ukn.</u>     |      | <u>Ukn.</u>     |
| Shell: Type (riveted) | <u>Partial</u> | (welded)              | <u>Partial</u> | No. of rivet leaks    |                 |      | <u>Numerous</u> |
|                       |                |                       |                | No. of seam leaks     |                 |      | <u>None</u>     |

Comments: Corrosion (if holes, give number, size and location) Some leakage around manhole rivets. The roof shows signs of rafter failure, based on the number of low spots or sags.

Paint condition Corrosion where paint has peeled off. Over all paint condition is fair.

Stairway condition This tank has a inclined stairway from the north west area of the dike to the tank top.

Handrail condition Okay

Swing suction: Cable N/A Position Indicator N/A Winch N/A

Gage pipe flushing nozzle N/A

Valves & flanges (number and size of cast iron) None

Suction heater (model) None

Tank mixer None

Roof type: (riveted) N/A welded Yes

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:

Not hammer tested.

Vents: Number, size and type (make drawing of location) See drawing.

Emergency vent - manhole (number, size and type) See drawing.

Gaging well: Box Not Checked Cover Yes Handrail Yes

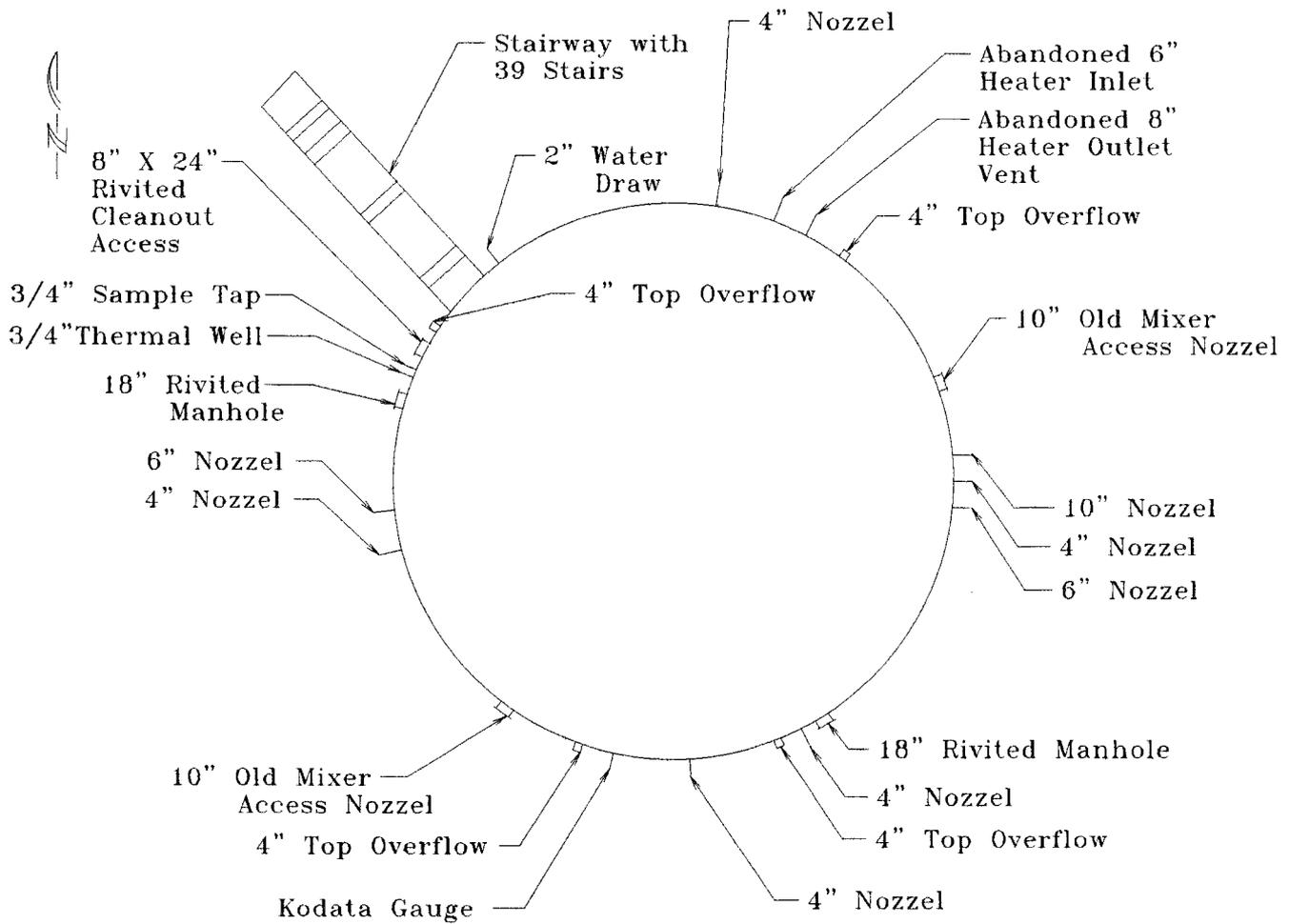
Scaffold ring: Not Checked

Gage tape: Sheaves Not checked Elbows Not checked Roof opening Okay

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing). **No cast iron, all steel flanges.**



810T19linsp

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 21 Year built 1977 Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: The internal floating roof seal needed repairs as did the pontoons. These were made and the tank was returned to service.

Bottom: (welded) yes (riveted) N/A Seams welded lap.

Condition: The bottom appeared to be in good condition.

Vacuum test: Floor No Wall to floor Yes Lap seam Yes

If not tested, explain: The floor was vacuum tested at the welds.

Coatings: Type and condition There are no known internal coatings.

Openings: Number, Location, Size (make drawing on next sheet) See attached drawing.

Floor drains (ID's) 2 inch Floor drains (OD's) 2 1/2 inch

Vacuum test of water draws Not vacuum tested. If not checked, explain \_\_\_\_\_

The well was cleaned and visually inspected. The welds were all epoxy coated.

Tank mixer: Manufacturer None

Style: internal impeller type N/A Size N/A Horsepower N/A

External circulation pump: G.P.M. N/A Seal N/A  
rating

Tank heater (Type, condition, BTU rating, internal or external): N/A

Gauge tape float: Yes Manufacturer Kodata

Tank suction type: Fixed Yes Floating N/A Pull up N/A

Pull down N/A Size N/A Condition Good

Suction points up or down Down

Is there a vortex breaker over opening None

Inspector Ken Sinks Date 1992



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |     |                       |      |                       |          |      |      |
|----------------------------------------------------------------|-----|-----------------------|------|-----------------------|----------|------|------|
| Tank No.                                                       | 21  | Year Built            | 1977 | Inspected by          | K. Sinks | Date | 1992 |
| Roof Replaced                                                  | N/A | Shell replaced (date) | N/A  | Floor replaced (date) | N/A      |      | N/A  |
| Shell: Type (riveted)                                          | N/A | (welded)              | Yes  | No. of rivet leaks    | N/A      |      | N/A  |
|                                                                |     |                       |      | No. of seam leaks     | None     |      | None |
| Comments: Corrosion (if holes, give number, size and location) |     |                       |      | None                  |          |      |      |

Paint condition Slight corrosion where paint has peeled off. Over all paint condition is fair.

Stairway condition Vertical ladder - okay.

Handrail condition Cage backed ladder.

Swing suction: Cable N/A Position Indicator N/A Winch N/A

Gage pipe flushing nozzle N/A

Valves & flanges (number and size of cast iron) None

Suction heater (model) N/A

Tank mixer None

Roof type: (riveted) N/A welded Yes

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:

Not hammer tested.

Vents: Number, size and type (make drawing of location) See drawing.

Emergency vent - manhole (number, size and type) See drawing.

Gaging well: Box Not Checked Cover Opened Handrail Yes

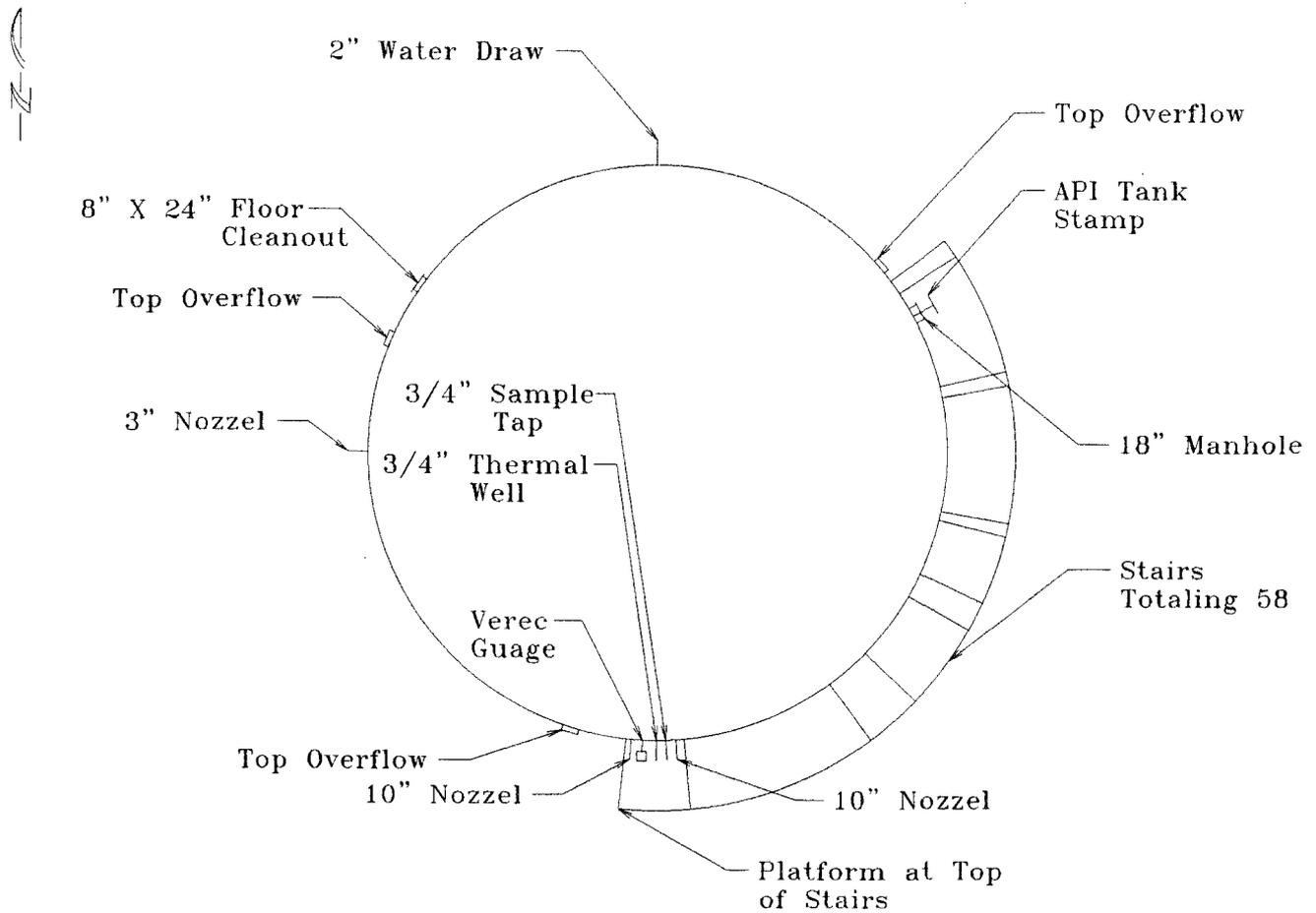
Scaffold ring: Not Checked

Gage tape: Sheaves Not checked Elbows Not checked Roof opening Okay

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing). **No cast iron, all steel flanges.**



810VT21linsp

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 22 Year built Before 1972 Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: This tank was not inspected internally.

Bottom: (welded) Yes (riveted) N/A Seams Welded lap.

Condition: Not inspected.

Vacuum test: Floor No Wall to floor No Lap seam No

If not tested, explain: Tank internals not checked.

Coatings: Type and condition There are no known internal coatings.

Openings: Number, Location, Size (make drawing on next sheet) There are eleven openings on this tank.

See the attached drawing for location and size.

Floor drains (ID's) 2 inch Floor drains (OD's) 2 1/2 inch

Vacuum test of water draws Not vacuum tested. If not checked, explain Currently the tank

is not in service. The tank will be inspected before returning to service.

Tank mixer: Manufacturer None

Style: internal impeller type N/A Size N/A Horsepower N/A

External circulation pump: G.P.M. N/A Seal N/A  
 rating

Tank heater (Type, condition, BTU rating, internal or external): None

Gauge tape float: Yes Manufacturer Kodata

Tank suction type: Fixed Yes Floating N/A Pull up N/A

Pull down N/A Size N/A Condition Unknown

Suction points up or down Down.

Is there a vortex breaker over opening None

Inspector Ken Sinks Date 1992

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 22

Roof: Inspect for condition of legs, rafters, etc. Unknown

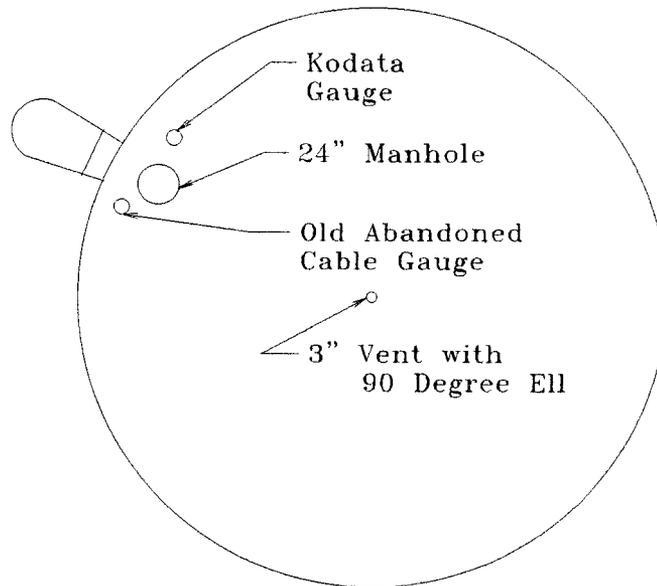
Coating type and condition None.

Shell: (welded) Yes (riveted) N/A Seams welded

Condition and thickness Good, thickness not measured.

Coating type and condition None

Make drawing of shell and openings here:



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |         |                       |      |                    |                       |      |         |
|----------------------------------------------------------------|---------|-----------------------|------|--------------------|-----------------------|------|---------|
| Tank No.                                                       | 22      | Year Built            | 1972 | Inspected by       | K. Sinks              | Date | 1992    |
| Roof Replaced                                                  | Unknown | Shell replaced (date) |      | Unknow<br>n        | Floor replaced (date) |      | Unknown |
| Shell: Type (riveted)                                          | N/A     | (welded)              | Yes  | No. of rivet leaks |                       |      | N/A     |
|                                                                |         |                       |      | No. of seam leaks  |                       |      | None    |
| Comments: Corrosion (if holes, give number, size and location) |         |                       |      | None               |                       |      |         |

|                                                 |                                                                                |     |                    |     |       |     |
|-------------------------------------------------|--------------------------------------------------------------------------------|-----|--------------------|-----|-------|-----|
| Paint condition                                 | Slight corrosion where paint has peeled off. Over all paint condition is fair. |     |                    |     |       |     |
| Stairway condition                              | Okay.                                                                          |     |                    |     |       |     |
| Handrail condition                              | Okay                                                                           |     |                    |     |       |     |
| Swing suction:                                  | Cable                                                                          | N/A | Position Indicator | N/A | Winch | N/A |
| Gage pipe flushing nozzle                       | N/A                                                                            |     |                    |     |       |     |
| Valves & flanges (number and size of cast iron) | None                                                                           |     |                    |     |       |     |
| Suction heater (model)                          | N/A                                                                            |     |                    |     |       |     |
| Tank mixer                                      | None                                                                           |     |                    |     |       |     |
| Roof type: (riveted)                            | N/A                                                                            |     | welded             |     | Yes   |     |

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:

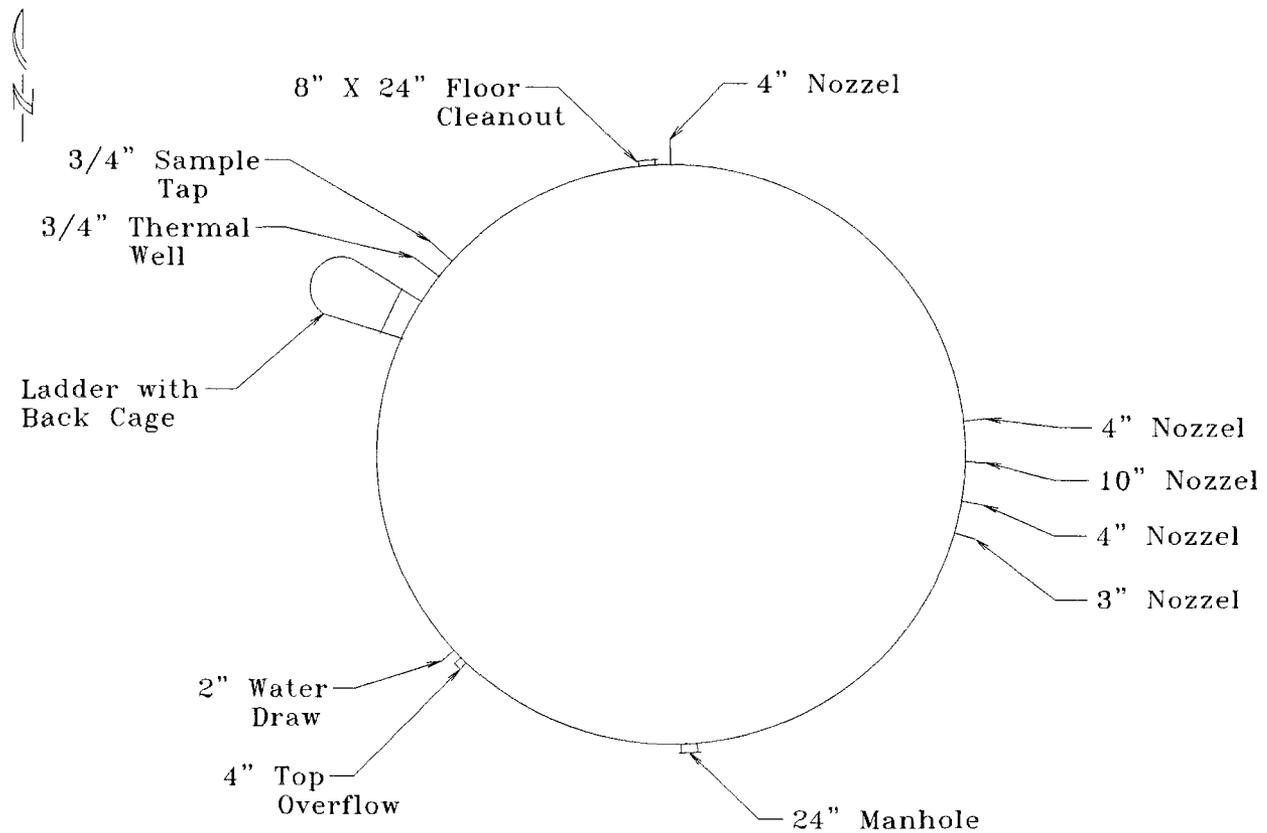
Not hammer tested.

|                                                         |             |        |             |              |      |  |
|---------------------------------------------------------|-------------|--------|-------------|--------------|------|--|
| Vents: Number, size and type (make drawing of location) | See drawing |        |             |              |      |  |
| Emergency vent - manhole (number, size and type)        | See Drawing |        |             |              |      |  |
| Gaging well: Box                                        | Yes         | Cover  | Yes         | Handrail     | Yes  |  |
| Scaffold ring:                                          | Not Checked |        |             |              |      |  |
| Gage tape: Sheaves                                      | Not checked | Elbows | Not checked | Roof opening | Okay |  |

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing). No cast iron fittings.



**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 23 Year built Before 1972 Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: This tank was not inspected internally.

Bottom: (welded) yes (riveted) N/A Seams welded lap.

Condition: Not inspected.

Vacuum test: Floor No Wall to floor No Lap seam No

If not tested, explain: Tank internals not checked.

Coatings: Type and condition There are no known internal coatings.

Openings: Number, Location, Size (make drawing on next sheet) There are eleven openings on this tank. See the attached drawing for location and size.

Floor drains (ID's) 2 inch Floor drains (OD's) 2 1/2 inch

Vacuum test of water draws Not vacuum tested. If not checked, explain The tank is out of service. The tank will be inspected before being placed in service again.

Tank mixer: Manufacturer None

Style: internal impeller type N/A Size N/A Horsepower N/A

External circulation pump: G.P.M. N/A Seal N/A  
rating

Tank heater (Type, condition, BTU rating, internal or external): None

Gauge tape float: Yes Manufacturer Kodata

Tank suction type: Fixed Yes Floating N/A Pull up N/A

Pull down N/A Size N/A Condition Unknown

Suction points up or down Down.

Is there a vortex breaker over opening None

Inspector Ken Sinks Date 1992

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 23

Roof: Inspect for condition of legs, rafters, etc. Unknown

Coating type and condition None.

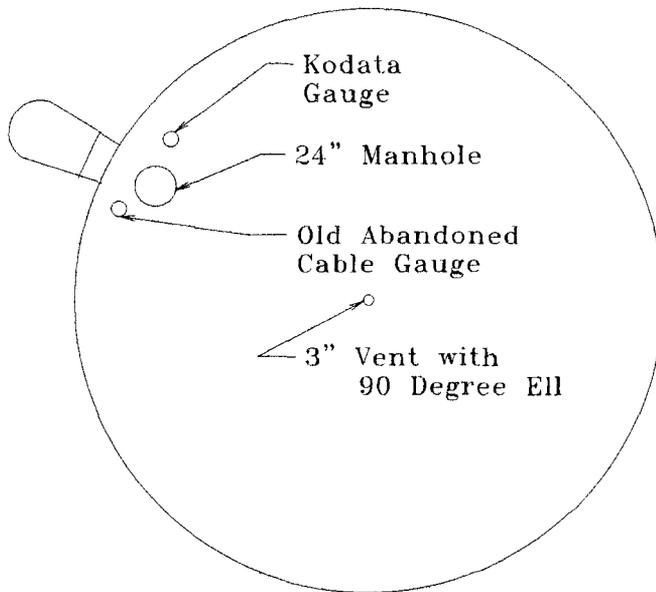
Shell: (welded) Yes (riveted) N/A Seams welded

Condition and thickness Good, thickness not measured.

Coating type and condition None

Make drawing of shell and openings here:

-Z-



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |         |                       |             |                    |                       |         |      |  |
|----------------------------------------------------------------|---------|-----------------------|-------------|--------------------|-----------------------|---------|------|--|
| Tank No.                                                       | 23      | Year Built            | Before 1972 | Inspected by       | K. Sinks              | Date    | 1992 |  |
| Roof Replaced                                                  | Unknown | Shell replaced (date) |             | Unknown            | Floor replaced (date) | Unknown |      |  |
| Shell: Type (riveted)                                          | N/A     | (welded)              | Yes         | No. of rivet leaks |                       | N/A     |      |  |
|                                                                |         |                       |             | No. of seam leaks  |                       | None    |      |  |
| Comments: Corrosion (if holes, give number, size and location) |         |                       |             |                    |                       |         | None |  |

|                                                 |                                                                               |     |                    |     |       |     |  |
|-------------------------------------------------|-------------------------------------------------------------------------------|-----|--------------------|-----|-------|-----|--|
| Paint condition                                 | Slight corrosion where paint has peeled off. Overall paint condition is fair. |     |                    |     |       |     |  |
| Stairway condition                              | Okay.                                                                         |     |                    |     |       |     |  |
| Handrail condition                              | Okay                                                                          |     |                    |     |       |     |  |
| Swing suction:                                  | Cable                                                                         | N/A | Position Indicator | N/A | Winch | N/A |  |
| Gage pipe flushing nozzle                       | N/A                                                                           |     |                    |     |       |     |  |
| Valves & flanges (number and size of cast iron) | None                                                                          |     |                    |     |       |     |  |
| Suction heater (model)                          | N/A                                                                           |     |                    |     |       |     |  |
| Tank mixer                                      | None                                                                          |     |                    |     |       |     |  |
| Roof type: (riveted)                            | N/A                                                                           |     | welded             |     | Yes   |     |  |

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:

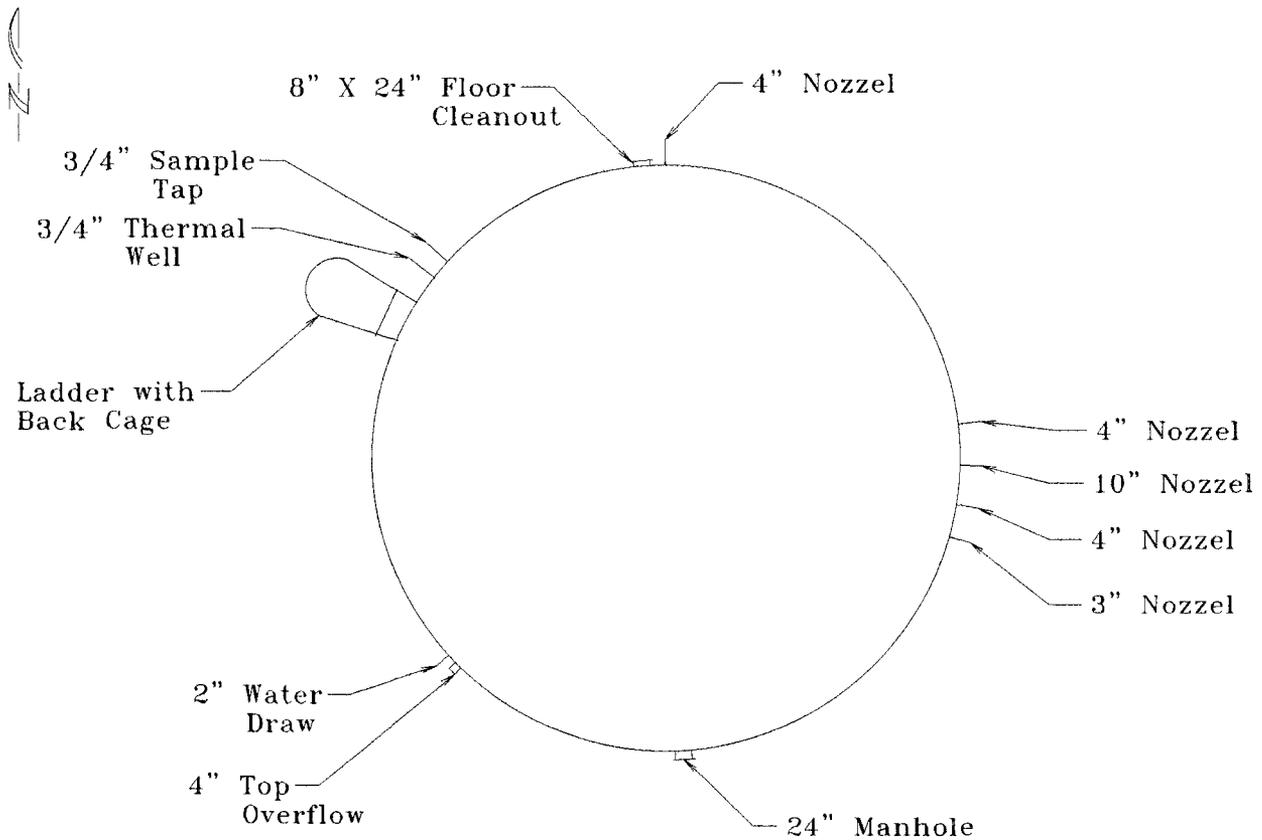
Not hammer tested.

|                                                         |             |        |              |
|---------------------------------------------------------|-------------|--------|--------------|
| Vents: Number, size and type (make drawing of location) | See drawing |        |              |
| Emergency vent - manhole (number, size and type)        | See Drawing |        |              |
| Gaging well: Box                                        | Yes         | Cover  | Yes          |
|                                                         |             |        | Handrail     |
|                                                         |             |        | Yes          |
| Scaffold ring:                                          | Not Checked |        |              |
| Gage tape: Sheaves                                      | Not checked | Elbows | Not checked  |
|                                                         |             |        | Roof opening |
|                                                         |             |        | Okay         |

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing). No cast iron fittings.



**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 27 Year built 1957 Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: This tank was not inspected internally.

Bottom: (welded) yes (riveted) N/A Seams welded.

Condition: Not inspected.

Vacuum test: Floor No Wall to floor No Lap seam No

If not tested, explain: Tank internals were not checked.

Coatings: Type and condition There are no known internal coatings.

Openings: Number, Location, Size (make drawing on next sheet) See the attached drawing for location and size.

Floor drains (ID's) 2 inch Floor drains (OD's) 2 1/2 inch

Vacuum test of water draws Not vacuum tested. If not checked, explain The tank is out of service. The tank will be inspected before being placed in service again.

Tank mixer: Manufacturer None

Style: internal impeller type N/A Size N/A Horsepower N/A

External circulation pump: G.P.M. rating N/A Seal N/A

Tank heater (Type, condition, BTU rating, internal or external): None

Gauge tape float: Yes Manufacturer Kodata

Tank suction type: Fixed Yes Floating N/A Pull up N/A

Pull down N/A Size N/A Condition Unknown

Suction points up or down Down

Is there a vortex breaker over opening None

Inspector Ken Sinks Date 1992

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 27

Roof: Inspect for condition of legs, rafters, etc. Unknown

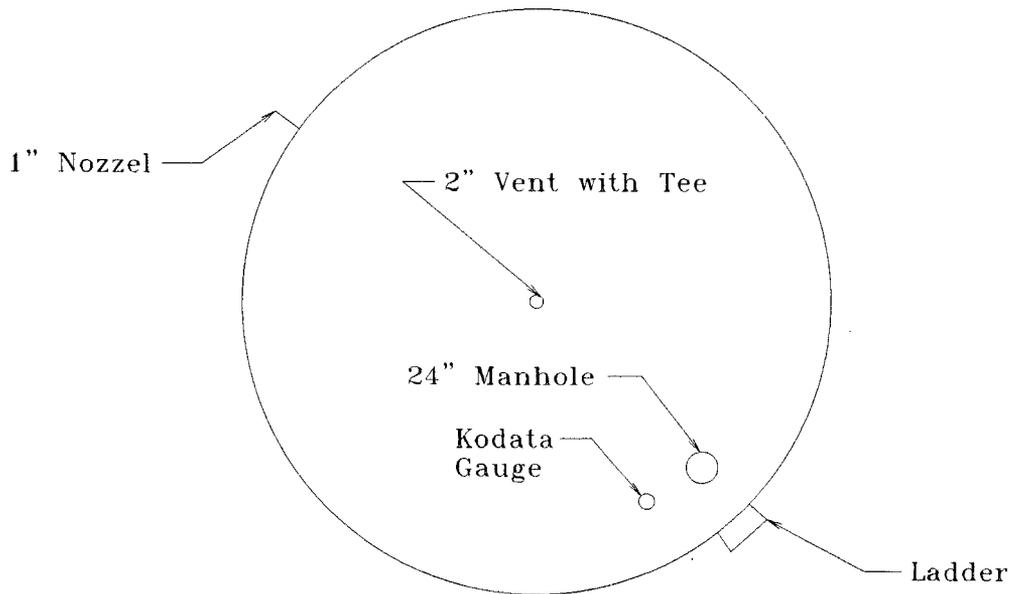
Coating type and condition None

Shell: (welded) Yes (riveted) N/A Seams welded

Condition and thickness Good, thickness not measured.

Coating type and condition None

Make drawing of shell and openings here:



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |                |                       |             |                    |                       |      |                |
|----------------------------------------------------------------|----------------|-----------------------|-------------|--------------------|-----------------------|------|----------------|
| Tank No.                                                       | <u>27</u>      | Year Built            | <u>1957</u> | Inspected by       | <u>K. Sinks</u>       | Date | <u>1992</u>    |
| Roof Replaced                                                  | <u>Unknown</u> | Shell replaced (date) |             | <u>Unknown</u>     | Floor replaced (date) |      | <u>Unknown</u> |
| Shell: Type (riveted)                                          | <u>N/A</u>     | (welded)              | <u>Yes</u>  | No. of rivet leaks |                       |      | <u>N/A</u>     |
|                                                                |                |                       |             | No. of seam leaks  |                       |      | <u>None</u>    |
| Comments: Corrosion (if holes, give number, size and location) |                |                       |             |                    |                       |      | <u>None</u>    |

Paint condition Slight corrosion where paint has peeled off. Over all paint condition is fair.

Stairway condition Okay.

Handrail condition Vertical ladder.

Swing suction: Cable N/A Position Indicator N/A Winch N/A

Gage pipe flushing nozzle N/A

Valves & flanges (number and size of cast iron) None

Suction heater (model) N/A

Tank mixer None

Roof type: (riveted) N/A welded Yes

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:

Not hammer tested.

Vents: Number, size and type (make drawing of location) See Drawing

Emergency vent - manhole (number, size and type) See Drawing

Gaging well: Box Yes Cover Yes Handrail Yes

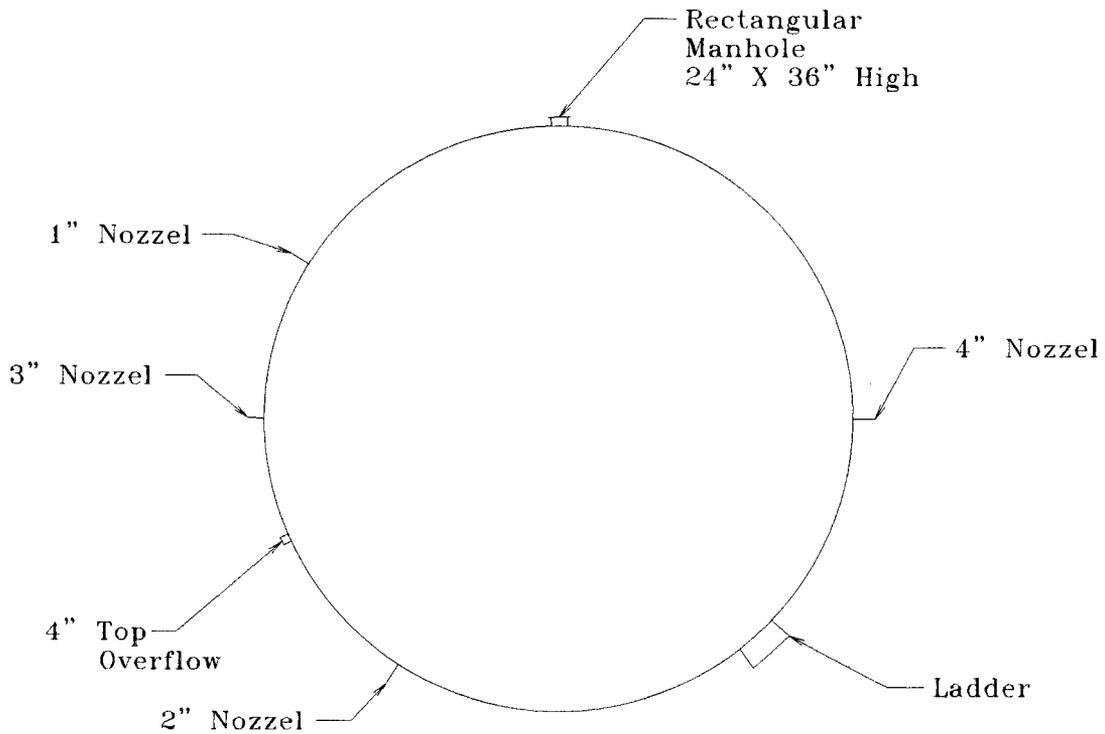
Scaffold ring: Not Checked

Gage tape: Sheaves Not checked Elbows Not checked Roof opening Okay

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing). **No cast iron, all steel flanges.**



**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 28 Year built Before 1972 Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: This tank was not inspected internally.

Bottom: (welded) yes (riveted) N/A Seams welded

Condition: Not inspected.

Vacuum test: Floor No Wall to floor No Lap seam No

If not tested, explain: Tank internals not checked.

Coatings: Type and condition There are no known internal coatings.

Openings: Number, Location, Size (make drawing on next sheet) See the attached drawing for location and size.

Floor drains (ID's) 2 inch Floor drains (OD's) 2 1/2 inch

Vacuum test of water draws Not vacuum tested. If not checked, explain The tank is out of service and will be inspected before being placed into service again.

Tank mixer: Manufacturer None

Style: internal impeller type N/A Size N/A Horsepower N/A

External circulation pump: G.P.M. N/A Seal N/A  
rating

Tank heater (Type, condition, BTU rating, internal or external): None

Gauge tape float: Yes Manufacturer Kodata

Tank suction type: Fixed Yes Floating N/A Pull up N/A

Pull down N/A Size N/A Condition Unknown

Suction points up or down Down

Is there a vortex breaker over opening None

Inspector Ken Sinks Date 1992

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 28

Roof: Inspect for condition of legs, rafters, etc. Unknown

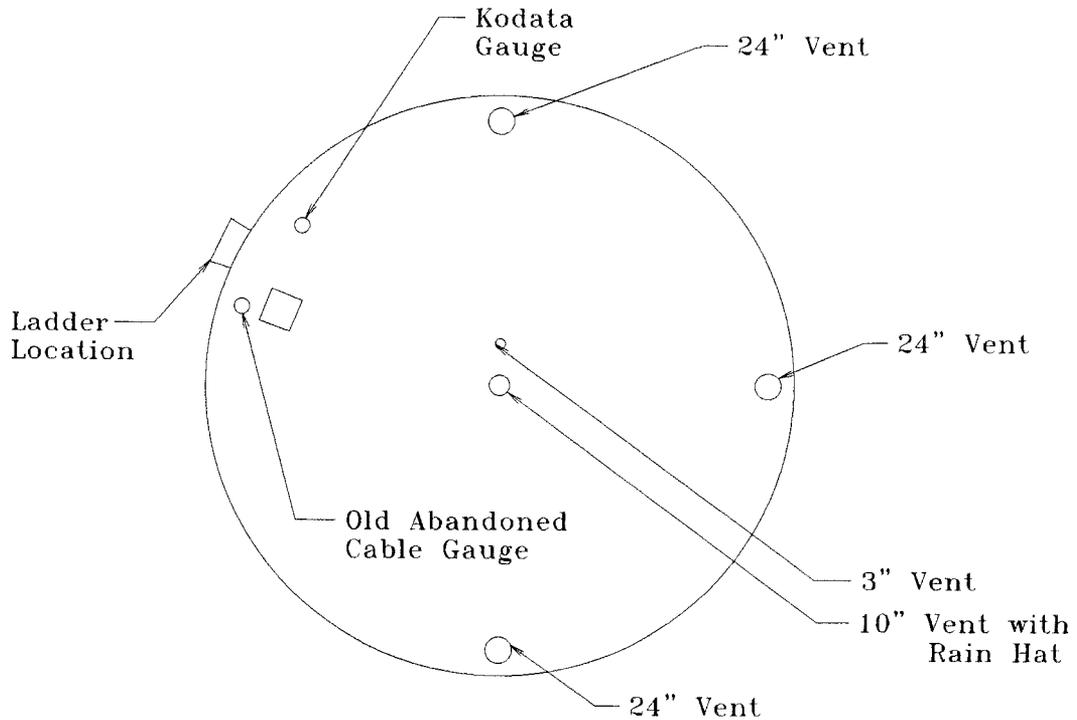
Coating type and condition None

Shell: (welded) Yes (riveted) N/A Seams welded

Condition and thickness Good, thickness not measured.

Coating type and condition None

Make drawing of shell and openings here:



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |         |                       |      |                    |          |                       |         |
|----------------------------------------------------------------|---------|-----------------------|------|--------------------|----------|-----------------------|---------|
| Tank No.                                                       | 28      | Year Built            | 1972 | Inspected by       | K. Sinks | Date                  | 1992    |
| Roof Replaced                                                  | Unknown | Shell replaced (date) |      | Unknown            |          | Floor replaced (date) | Unknown |
| Shell: Type (riveted)                                          | N/A     | (welded)              | Yes  | No. of rivet leaks |          |                       | N/A     |
|                                                                |         |                       |      | No. of seam leaks  |          |                       | None    |
| Comments: Corrosion (if holes, give number, size and location) |         |                       |      | None               |          |                       |         |

Paint condition Heavy corrosion where paint has peeled off. Over all paint condition is fair.

Stairway condition Okay.

Handrail condition Vertical ladder.

Swing suction: Cable N/A Position Indicator N/A Winch N/A

Gage pipe flushing nozzle N/A

Valves & flanges (number and size of cast iron) None

Suction heater (model) N/A

Tank mixer None

Roof type: (riveted) N/A welded Yes

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:

Not hammer tested.

Vents: Number, size and type (make drawing of location) See drawing

Emergency vent - manhole (number, size and type) See Drawing

Gaging well: Box Yes Cover Yes Handrail Yes

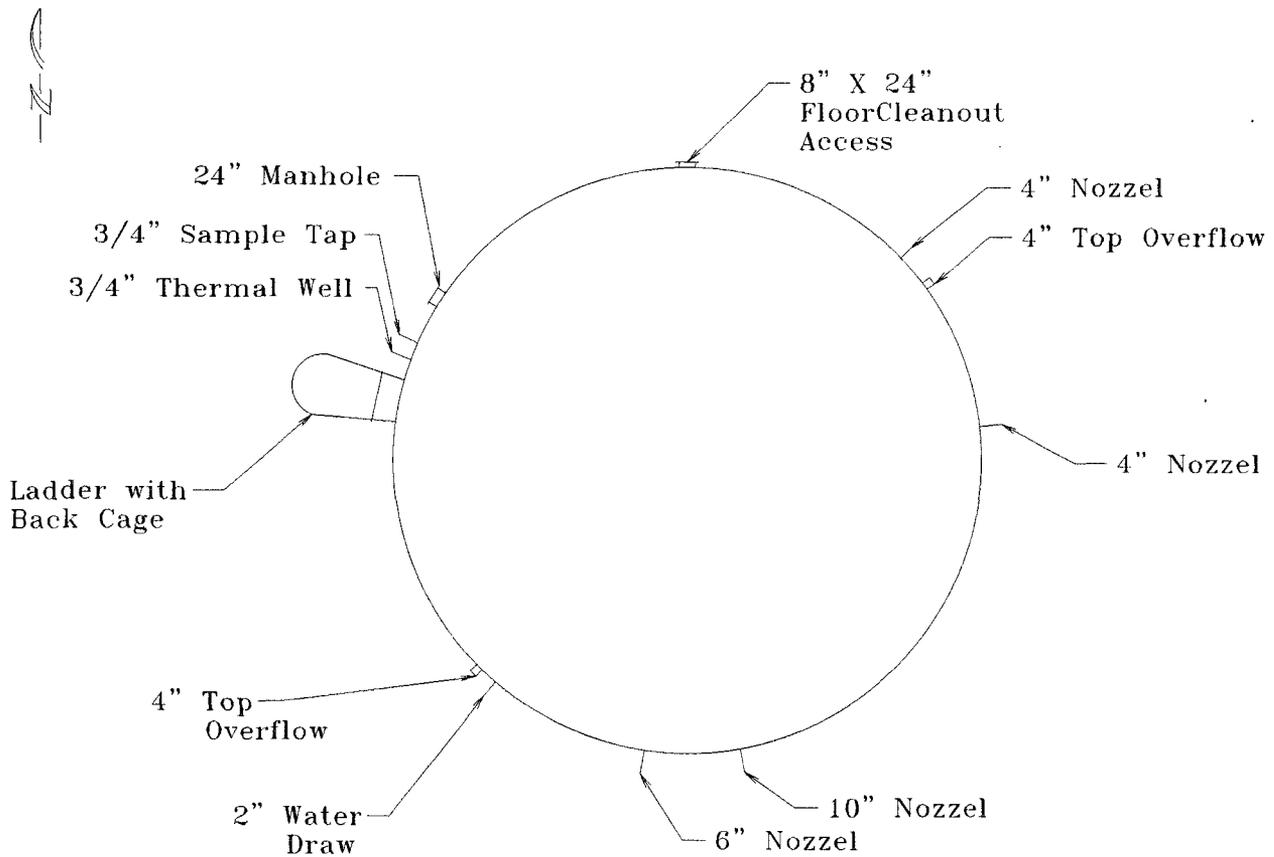
Scaffold ring: Not Checked

Gage tape: Sheaves Not checked Elbows Not checked Roof opening Okay

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on Drawing). **No cast iron, all steel flanges.**



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |     |                       |      |                       |          |      |      |
|----------------------------------------------------------------|-----|-----------------------|------|-----------------------|----------|------|------|
| Tank No.                                                       | 29  | Year Built            | 1972 | Inspected by          | K. Sinks | Date | 1992 |
| Roof Replaced                                                  | Ukn | Shell replaced (date) | Ukn  | Floor replaced (date) | Ukn      |      |      |
| Shell: Type (riveted)                                          | N/A | (welded)              | Yes  | No. of rivet leaks    | N/A      |      |      |
|                                                                |     |                       |      | No. of seam leaks     | None     |      |      |
| Comments: Corrosion (if holes, give number, size and location) |     |                       |      | None                  |          |      |      |

|                                                 |                                                                               |        |                    |     |       |     |
|-------------------------------------------------|-------------------------------------------------------------------------------|--------|--------------------|-----|-------|-----|
| Paint condition                                 | Heavy corrosion where paint has peeled off. Over all paint condition is fair. |        |                    |     |       |     |
| Stairway condition                              | Okay.                                                                         |        |                    |     |       |     |
| Handrail condition                              | Vertical ladder.                                                              |        |                    |     |       |     |
| Swing suction:                                  | Cable                                                                         | N/A    | Position Indicator | N/A | Winch | N/A |
| Gage pipe flushing nozzle                       | N/A                                                                           |        |                    |     |       |     |
| Valves & flanges (number and size of cast iron) | None                                                                          |        |                    |     |       |     |
| Suction heater (model)                          | N/A                                                                           |        |                    |     |       |     |
| Tank mixer                                      | None                                                                          |        |                    |     |       |     |
| Roof type: (riveted)                            | N/A                                                                           | welded | Yes                |     |       |     |

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:  
Not hammer tested.

|                                                         |             |        |             |              |      |  |
|---------------------------------------------------------|-------------|--------|-------------|--------------|------|--|
| Vents: Number, size and type (make drawing of location) | See drawing |        |             |              |      |  |
| Emergency vent - manhole (number, size and type)        | See Drawing |        |             |              |      |  |
| Gaging well: Box                                        | Yes         | Cover  | Yes         | Handrail     | Yes  |  |
| Scaffold ring:                                          | Not Checked |        |             |              |      |  |
| Gage tape: Sheaves                                      | Not checked | Elbows | Not checked | Roof opening | Okay |  |

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 29

Roof: Inspect for condition of legs, rafters, etc. Unknown

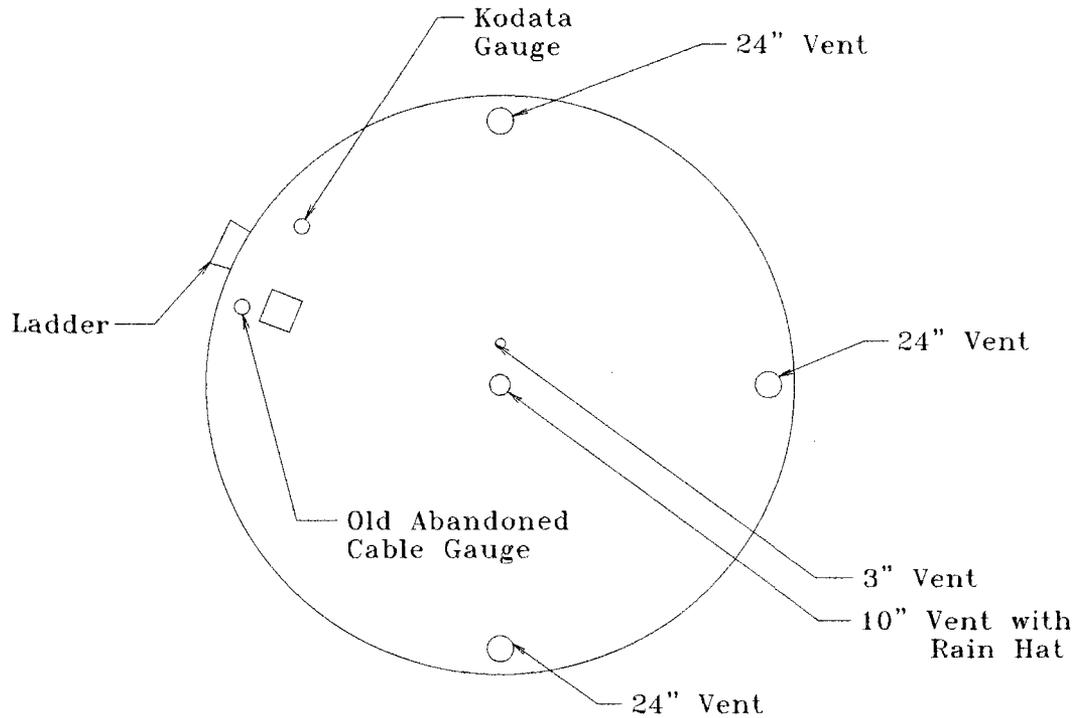
Coating type and condition None

Shell: (welded) Yes (riveted) N/A Seams welded

Condition and thickness Good, thickness not measured.

Coating type and condition None

Make drawing of shell and openings here:

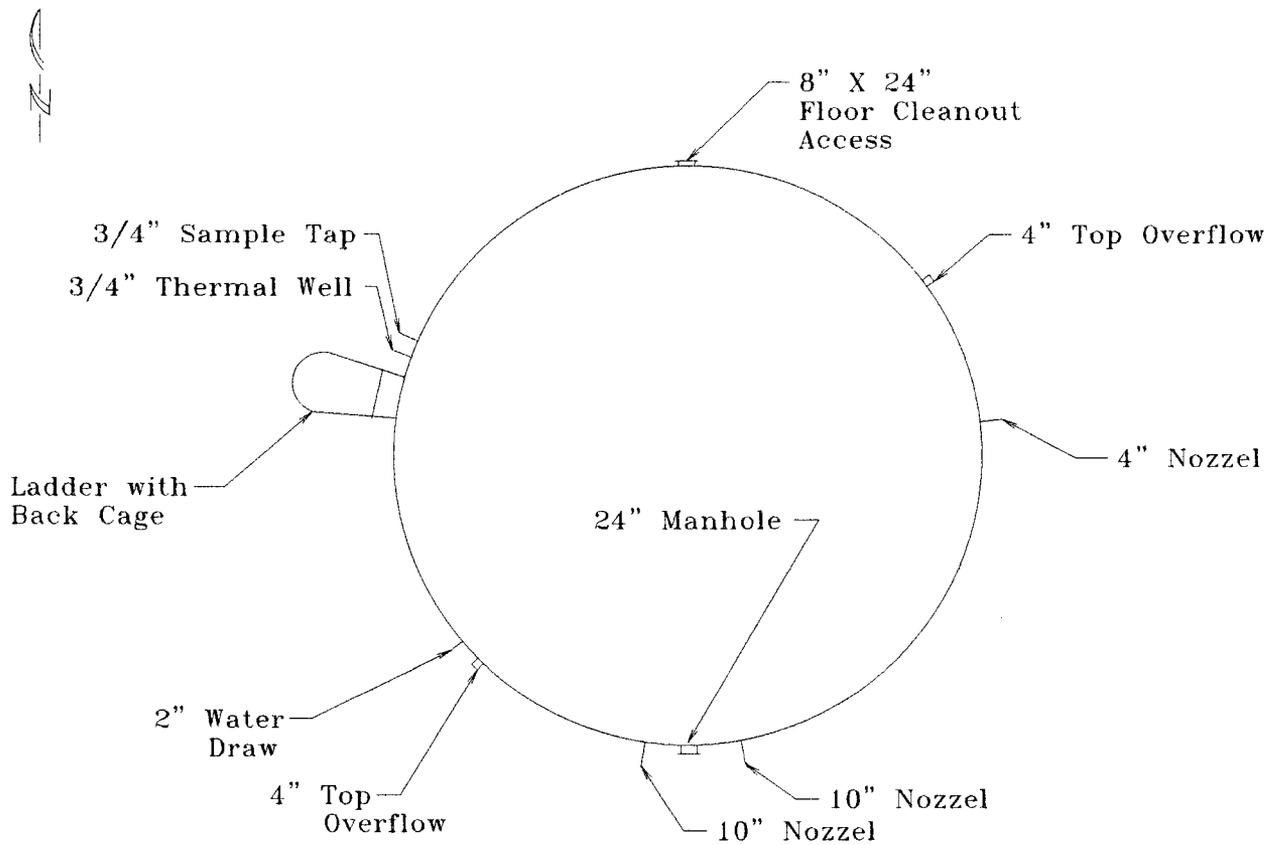




**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing).



810VT29linsp

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 30 Year built Before 1972 Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: This tank was not inspected internally.

Bottom: (welded) yes (riveted) N/A Seams welded

Condition: Not inspected.

Vacuum test: Floor No Wall to floor No Lap seam No

If not tested, explain: Tank internals not checked.

Coatings: Type and condition There are no known internal coatings.

Openings: Number, Location, Size (make drawing on next sheet) See the attached drawing for location and size.

Floor drains (ID's) Unknown Floor drains (OD's) Unknown

Vacuum test of water draws Not vacuum tested. If not checked, explain Currently the tank

is not in service. The tank will be inspected before returning to service.

again.

Tank mixer: Manufacturer Smith agitator.

Style: internal impeller type Ukn Size Ukn Horsepower Ukn

External circulation pump: G.P.M. N/A Seal N/A  
rating

Tank heater (Type, condition, BTU rating, internal or external): Power Flame Blower, Model

#CR1-GO-12, Natural gas or #2 heating oil. 300 MBTU's/Hr. to 1,357 MBTU's/Hr. Natural gas. 2.5 G.P.H to 9.7 G.P.H

# 2 heating oil.

Gauge tape float: Yes Manufacturer Kodata

Tank suction type: Fixed Yes Floating N/A Pull up N/A

Pull down N/A Size N/A Condition Unknown

Suction points up or down Down.

Is there a vortex breaker over opening None

Inspector Ken Sinks Date 1992



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                                                                |            |                       |                |                       |                 |      |             |
|----------------------------------------------------------------|------------|-----------------------|----------------|-----------------------|-----------------|------|-------------|
| Tank No.                                                       | <u>30</u>  | Year Built            | <u>Unknown</u> | Inspected by          | <u>K. Sinks</u> | Date | <u>1992</u> |
| Roof Replaced                                                  | <u>Ukn</u> | Shell replaced (date) | <u>Ukn</u>     | Floor replaced (date) | <u>Ukn</u>      |      | <u>Ukn</u>  |
| Shell: Type (riveted)                                          | <u>N/A</u> | (welded)              | <u>Yes</u>     | No. of rivet leaks    |                 |      | <u>N/A</u>  |
|                                                                |            |                       |                | No. of seam leaks     |                 |      | <u>None</u> |
| Comments: Corrosion (if holes, give number, size and location) |            |                       |                | <u>None</u>           |                 |      |             |

|                                                 |                                                                                      |            |                    |            |            |            |
|-------------------------------------------------|--------------------------------------------------------------------------------------|------------|--------------------|------------|------------|------------|
| Paint condition                                 | <u>Heavy corrosion where paint has peeled off. Over all paint condition is fair.</u> |            |                    |            |            |            |
| Stairway condition                              | <u>Okay.</u>                                                                         |            |                    |            |            |            |
| Handrail condition                              | <u>Ramp type ladder.</u>                                                             |            |                    |            |            |            |
| Swing suction:                                  | Cable                                                                                | <u>N/A</u> | Position Indicator | <u>N/A</u> | Winch      | <u>N/A</u> |
| Gage pipe flushing nozzle                       | <u>N/A</u>                                                                           |            |                    |            |            |            |
| Valves & flanges (number and size of cast iron) | <u>None</u>                                                                          |            |                    |            |            |            |
| Suction heater (model)                          | <u>N/A</u>                                                                           |            |                    |            |            |            |
| Tank mixer                                      | <u>Smith Agitator.</u>                                                               |            |                    |            |            |            |
| Roof type: (riveted)                            | <u>N/A</u>                                                                           |            | <u>welded</u>      |            | <u>Yes</u> |            |

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:

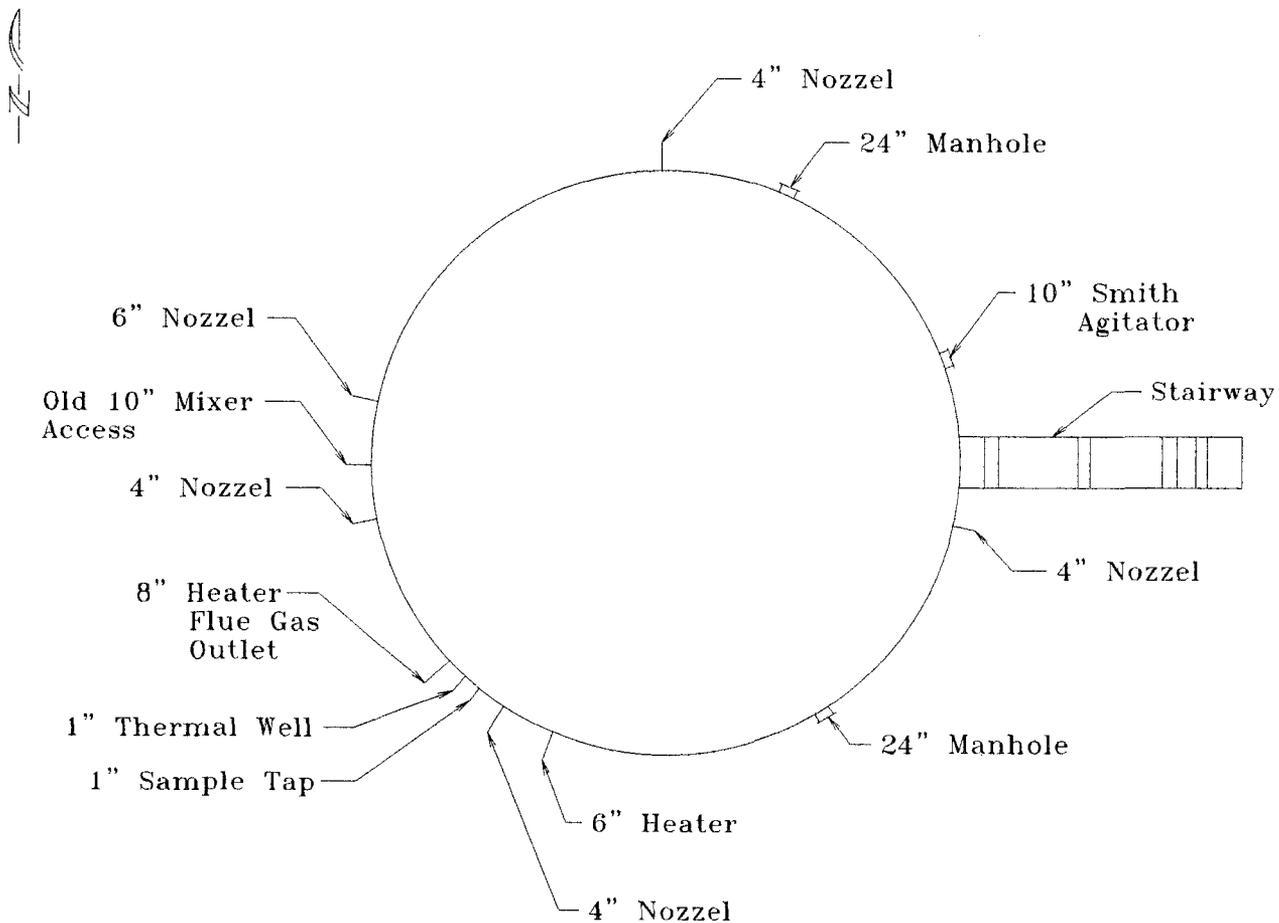
Not hammer tested.

|                                                         |                    |              |                    |
|---------------------------------------------------------|--------------------|--------------|--------------------|
| Vents: Number, size and type (make drawing of location) | <u>See drawing</u> |              |                    |
| Emergency vent - manhole (number, size and type)        | <u>See Drawing</u> |              |                    |
| Gaging well: Box                                        | <u>Yes</u>         | Cover        | <u>Yes</u>         |
|                                                         |                    | Handrail     | <u>Yes</u>         |
| Scaffold ring:                                          | <u>Not Checked</u> |              |                    |
| Gage tape: Sheaves                                      | <u>Not checked</u> | Elbows       | <u>Not checked</u> |
|                                                         |                    | Roof opening | <u>Okay</u>        |

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing). **No cast iron, all steel flanges.**



810VT30linsp

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TANKS**

Tank No. 31 Year built Before 1972 Inspected by K. Sinks Date 1992  
 Roof replaced (year) N/A Floor replaced (year) N/A

Condition: This tank was cleaned in 1996 but not inspected internally.

Bottom: (welded) yes (riveted) N/A Seams welded

Condition: Not inspected.

Vacuum test: Floor No Wall to floor No Lap seam No

If not tested, explain: Tank internals not checked.

Coatings: Type and condition There are no known internal coatings.

Openings: Number, Location, Size (make drawing on next sheet) See the attached drawing for location and size.

Floor drains (ID's) Unknown Floor drains (OD's) Unknown

Vacuum test of water draws Not vacuum tested. If not checked, explain Currently the tank is not in service. The tank will be inspected before returning to service.

Tank mixer: Manufacturer None

Style: internal impeller type Ukn Size Ukn Horsepower Ukn

External circulation pump: G.P.M. rating N/A Seal N/A

Tank heater (Type, condition, BTU rating, internal or external): Heater burned up outside of tank.

Gauge tape float: Yes Manufacturer Kodata

Tank suction type: Fixed Yes Floating N/A Pull up N/A

Pull down N/A Size N/A Condition Unknown

Suction points up or down Down.

Is there a vortex breaker over opening None

Inspector Ken Sinks Date 1992

**THRIFTWAY REFINING CO.  
TANK INTERNAL INSPECTION FORM  
CONE ROOF TYPE**

Tank No. 31

Roof: Inspect for condition of legs, rafters, etc. Unknown

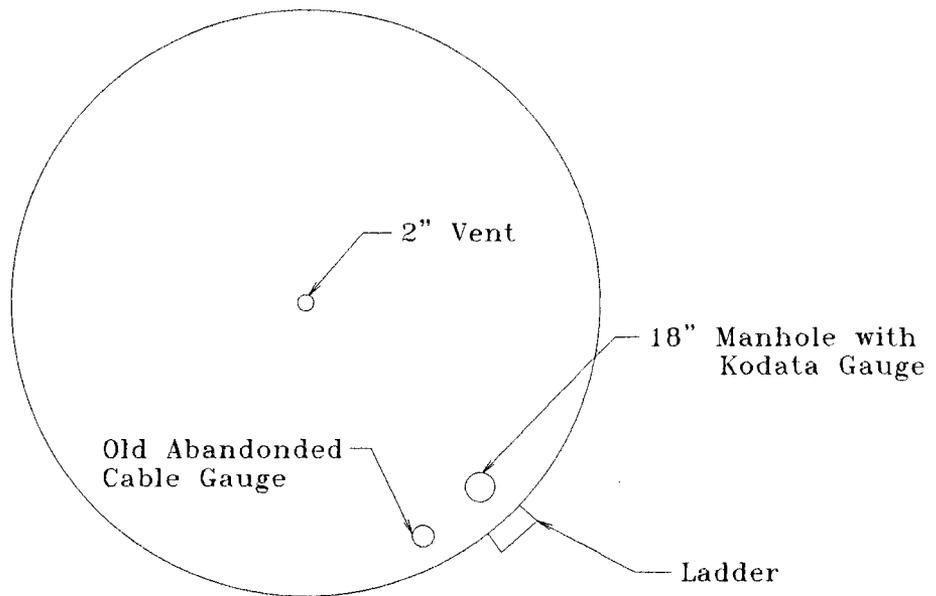
Coating type and condition None.

Shell: (welded) Yes (riveted) N/A Seams welded

Condition and thickness Not inspected internally.

Coating type and condition None

Make drawing of shell and openings here:



**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FORM  
CONE ROOF TANK**

(Use attached drawing to show location of all appurtenances)

|                       |     |                       |         |                       |          |      |      |
|-----------------------|-----|-----------------------|---------|-----------------------|----------|------|------|
| Tank No.              | 31  | Year Built            | Unknown | Inspected by          | K. Sinks | Date | 1992 |
| Roof Replaced         | Ukn | Shell replaced (date) | Ukn     | Floor replaced (date) | Ukn      |      |      |
| Shell: Type (riveted) | N/A | (welded)              | Yes     | No. of rivet leaks    | N/A      |      |      |
|                       |     |                       |         | No. of seam leaks     | None     |      |      |

Comments: Corrosion (if holes, give number, size and location) Tank insulated. No evidence of leakage.

|                                                 |                                          |        |                    |     |       |     |  |
|-------------------------------------------------|------------------------------------------|--------|--------------------|-----|-------|-----|--|
| Paint condition                                 | Tank insulated; could not check coating. |        |                    |     |       |     |  |
| Stairway condition                              | Okay.                                    |        |                    |     |       |     |  |
| Handrail condition                              | Vertical ladder                          |        |                    |     |       |     |  |
| Swing suction:                                  | Cable                                    | N/A    | Position Indicator | N/A | Winch | N/A |  |
| Gage pipe flushing nozzle                       | N/A                                      |        |                    |     |       |     |  |
| Valves & flanges (number and size of cast iron) | None                                     |        |                    |     |       |     |  |
| Suction heater (model)                          | Information not available.               |        |                    |     |       |     |  |
| Tank mixer                                      | None                                     |        |                    |     |       |     |  |
| Roof type: (riveted)                            | N/A                                      | welded | Yes                |     |       |     |  |

Hammer test, give number size and location of holes, low spots, rivet and seam leaks, paint condition:

Not hammer tested.

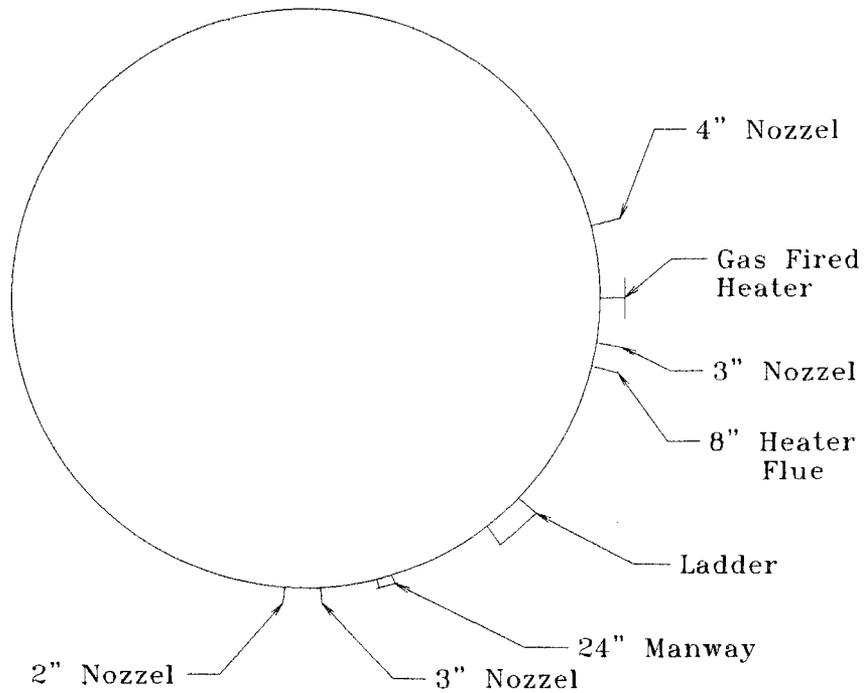
|                                                         |             |        |             |              |      |
|---------------------------------------------------------|-------------|--------|-------------|--------------|------|
| Vents: Number, size and type (make drawing of location) | See drawing |        |             |              |      |
| Emergency vent - manhole (number, size and type)        | See Drawing |        |             |              |      |
| Gaging well: Box                                        | Yes         | Cover  | Yes         | Handrail     | Yes  |
| Scaffold ring:                                          | Not Checked |        |             |              |      |
| Gage tape: Sheaves                                      | Not checked | Elbows | Not checked | Roof opening | Okay |

**THRIFTWAY REFINING CO.  
TANK EXTERNAL INSPECTION FOR  
CONE ROOF TANKS**

Draw in location of nozzles, etc. for shell and roof.

NOTE: Make drawing of all openings, bottom drains, doghouse clean out, valves and manholes for location (record size and if cast iron or steel on drawing). **No cast iron, all steel flanges.**

—  
7  
—





# CEMENTERS, INC.

P. O. Box 302 • FARMINGTON, NE MEXICO 87499 • (505) 32-3683

DATE 3-18-94

CUSTOMER: Thriftway

WELL # Thriftway Plant

CEMENT USED: 955X 290cc/lz

DISPLACEMENT BARRELS: \_\_\_\_\_

CEMENT CIRCULATED: \_\_\_\_\_

DISPLACEMENT RATE: \_\_\_\_\_

CEMENT RATE: 2 BPM

DISPLACEMENT PRESSURE: \_\_\_\_\_

PRESSURE: 400#

DISPLACEMENT TIME: \_\_\_\_\_

CEMENT TIME: \_\_\_\_\_

PLUG BUMP TIMES & PRESSURE: \_\_\_\_\_

OTHER: Run 200' 8" pipe Pump 805X 290cc/lz  
pull to 80' pump 155X 290cc/lz circ. cement to  
surface



**To:** Roger Anderson  
**Fax #:** 505-827-8177  
**Re:** Thriftway Bloomfield Refinery Discharge Permit GW-055  
**Date:** June 16, 1997  
**Pages:** 3, including this cover sheet.

**BIO TECH REMEDIATION, INC**  
**FACSIMILE**

Mr. Anderson:

Following is the letter in response to your letter dated May 7, 1997. The attachments will follow via mail.

Please contact me if you have additional questions.

Respectfully,

  
Terry Griffin

**RECEIVED**

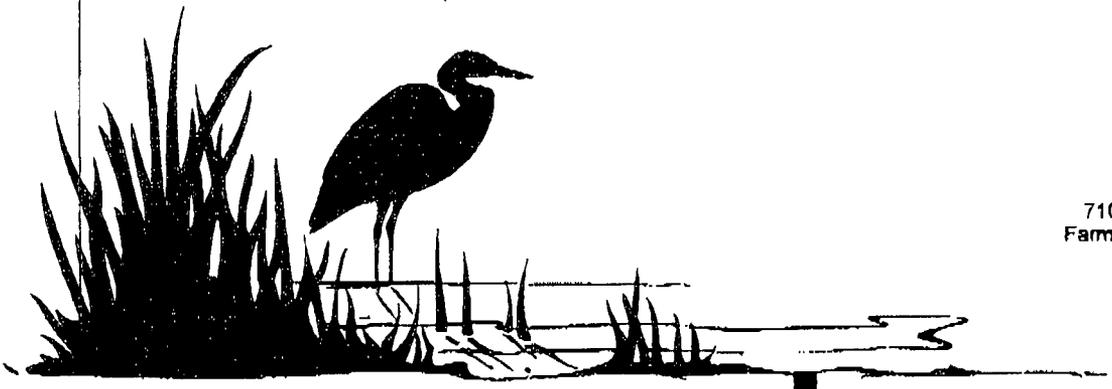
**JUN 16 1997**

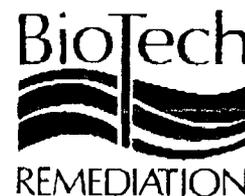
Environmental Bureau  
Oil Conservation Division

From the desk of...

**Terry Griffin**  
Project Administrator  
BioTech Remediation, Inc.  
710 E. 20th Street - Suite 400  
Farmington, New Mexico 87401

505-632-3365  
Fax: 505-632-9850





710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
Field Office: (505) 632-3365  
Fax: (505) 632-9850

June 16, 1997

Mr. Roger C. Anderson  
Bureau Chief  
Environmental Bureau-OCD  
2040 S. Pacheco  
Santa Fe, NM 87505

Dear Mr. Anderson:

On May 7, 1997, the New Mexico Oil Conservation Division (OCD) issued a Notice of Deficiency (NOD) for the GW-055 Thriftway Bloomfield Refinery Discharge Permit. Within the NOD, the OCD noted several items which required attention and requested that all items be submitted together as a single report. BioTech Remediation, Inc. (BioTech) has addressed the specific deficiencies outlined in the notice and presents the results in the following sections.

1. The BioTech report on behalf of Thriftway Marketing Corporation (TMC) "Fire Water Pond Sediment Sampling and Analyses, Thriftway Refinery, 626 County Road 5500, Bloomfield, New Mexico" dated April 24, 1997, was found to be deficient.

On June 6, 1997, soil samples were taken from the soil in the fire water pond below the discharge pipe and tested for BTEX, TPH, and hazardous constituents. The results of the BTEX and TPH analyses are presented below in Table 1. Results for the hazardous constituents are pending and will be submitted to the OCD office upon receipt.

Table 1. Summary of Fire Water Pond Soil Analyses  
Thriftway Refinery, Bloomfield, NM

| Parameter    | Results (ug/kg) |
|--------------|-----------------|
| TPH          | 8186            |
| Benzene      | ND              |
| Toluene      | 55              |
| Ethylbenzene | 131             |
| Total Xylene | 151             |

Based on the analyses data, BioTech recommends and requests that the soils within the fire water pond, found to contain hydrocarbon contaminants, be excavated and thin spread on a bermed plastic liner, and then tilled on a periodic basis to promote remediation. Therefore, BioTech requests OCD comments regarding these actions.

2. Results of the below grade UST liner inspection are attached. In short, results indicate UST and liner soundness.
3. Refinery tank testing records were located and are attached.
4. Following a review of the refinery records and further grounds inspection, it was concluded that only one water well had been plugged. Plugging records were located and are attached. The additional noted well remains active, and the casing appears to be in sound condition.

Respectfully submitted,



Ross Kennemer  
Project Manager

810/61697nod

enclosures

c: Mr. Denny Foust - OCD Aztec Environmental Geologist  
Mr. Jim Ratcliff - Thriftway Company



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

May 7, 1997

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-288-258-814**

Mr. Jim Ratcliffe  
Transportation Director  
Thriftway Marketing Corporation  
710 East 20th Street  
Farmington, NM 87401

**RE: Notice of Deficiency - GW-055 "Bloomfield Refinery"  
Thriftway Marketing Corporation (TMC)  
Discharge Plan Permit Renewal**

Dear Mr. Ratcliffe:

The New Mexico Oil Conservation Division (OCD) on May 8, 1996 approved the "Discharge Plan Renewal" for GW-055. The "Discharge Plan" was renewed under the following terms on May 8, 1996:

*The discharge plan renewal consists of the application dated January 8, 1996, submitted by Biotech Remediation Inc. on behalf of Thriftway Bloomfield Refinery, as well as the OCD inspection report dated February 23, 1996 and the follow-up letter from Biotech Remediation Inc. submitted on behalf of Thriftway Bloomfield Refinery dated March 27, 1996, and this approval letter from OCD dated May 8, 1996. Enclosed are two copies of the conditions of approval. Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within five working days of receipt of this letter.*

The permit conditions for GW-055 were signed by TMC on May 21, 1996, and received by the OCD on May 31, 1996. The OCD (Mr. Pat Sanchez of my Staff) on March 13, 1997 by telephone notified TMC (Ms. Terry Griffin) that several deadlines that had been part of the May 8, 1996 "Approval of Discharge Plan Renewal GW-055" had not been met, at that time OCD was assured that the permit would be looked at and those deadlines and commitments that had been missed would be submitted in short order. The OCD subsequently on April 24, 1997 received from Mr. Ross Kennemer with BioTech Remediation on behalf of TMC "Fire Water Pond Sediment Sampling and Analyses, Thriftway Refinery, 626 County Road 5500, Bloomfield, New Mexico." This submittal is deficient and does not provide sufficient information and documentation to satisfy the requirements of the May 8, 1996 "Approval of Discharge Plan Renewal GW-055."

**The OCD requires that the following items be submitted in a single report by June 16, 1997:**

1. The report dated April 24, 1997 has the following deficiencies: The TPH is a composite

Mr. Jim Ratcliffe  
NOD, GW-055  
May 7, 1997  
Page -2-

of the entire "Fire Water Pond" and not the effected area. The BTEX sample is a sample of the remediation water and not the effected soil. Also, the release should have been characterized for hazardous constituents. ( see Page 2 of the February 23, 1996 inspection report from OCD.)

**Note:** TMC was to have submitted a work plan for OCD approval prior to sampling the fire water pond. Per the letter from BioTech a work plan was to be submitted 90 days from March 27, 1996 to the OCD.

2. The below grade UST was to be tested per the inspection report dated February 23, 1997 from OCD. ( see page 2 of the referenced report.) Per the March 27, 1996 letter from BioTech on behalf of TMC stated that the results would be submitted within 90 days to the OCD.
3. In the letter dated March 27, 1996 from BioTech on behalf of TMC it was stated that a search was under way to locate all refinery tank testing records, what is the status of this search?
4. In the letter dated March 27, 1996 from BioTech on behalf of TMC it was stated that a search was under way to locate the plugging records for the two Ojo Alamo wells, what is the status of this search?

Future deficiencies at this facility GW-055 will subject TMC to enforcement actions provided for under the New Mexico Water Quality Act and the New Mexico Oil and Gas Act. If you have any questions regarding this matter please feel free to call me at (505)-827-7152 or Mr. Pat Sanchez of my staff at (505)-827-7156.

P 288 258 814

Sincerely,



Roger C. Anderson  
Bureau Chief  
Environmental Bureau-OCD

RCA/pws

- c: Mr. Denny Foust - OCD Aztec Environmental Geologist  
Mr. Ross Kennemer - BioTech Remediation  
Ms. Terry Griffin - BioTech Remediation

US Postal Service  
**Receipt for Certified Mail**  
No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

|                                                             |    |
|-------------------------------------------------------------|----|
| Sent to<br>TMC-6W-055 Ratcliffe                             |    |
| Street & Number<br>RD                                       |    |
| Post Office, State, & ZIP Code                              |    |
| Postage                                                     | \$ |
| Certified Fee                                               |    |
| Special Delivery Fee                                        |    |
| Restricted Delivery Fee                                     |    |
| Return Receipt Showing to Whom & Date Delivered             |    |
| Return Receipt Showing to Whom, Date, & Addressee's Address |    |
| TOTAL Postage & Fees                                        | \$ |
| Postmark or Date                                            |    |

PS Form 3800, April 1995

April 24, 1997

RECEIVED  
APR 28 1997  
ENVIRONMENTAL BUREAU



Pat Sanchez  
Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, New Mexico 87505

710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
Field Office: (505) 632-3365  
Fax: (505) 632-9850

**Re: Fire Water Pond Sediment Sampling and Analyses, Thriftway Refinery, 626 County Road 5500, Bloomfield, New Mexico**

Dear Mr. Sanchez:

Attached are the laboratory results for sediment sampling at the fire water pond at the above-referenced site. Also, included is an illustration of the pond, indicating the locations from which the samples were collected.

As noted on the laboratory reports, the collected samples (five total) were composited prior to analysis. The method of composite or split was five points, each consisting of 200 ml of soil. Once collected, individual samples were placed into a clean stainless steel bowl and then unbiasedly split with a small soil mechanics type splitter. It is believed that the contaminants found to be present, although minimal, are a result of a failed discharge line from the air stripper unit which runs through an area containing phase separated product. During a period when the stripper was removed from service, relieving discharge line pressure, it is most likely that product entered the line and when the stripper was returned to service the product was moved along to the pond with the treated water stream. This line has since been replaced preventing this from possibly occurring in the future.

As observed on the laboratory reports, the date which the samples were collected was approximately one-year ago. I sincerely apologize for the delay in submitting the results. If you have any questions or comments please call me at (505)632-3365.

Respectfully,

A handwritten signature in black ink that reads "Ross Kennemer".

Ross Kennemer  
Project Manager

810/gc42497

attachments: Figure 1 Sample Locations  
Laboratory Reports

RECEIVED

APR 29 1997

Environmental Bureau  
Oil Conservation Division

OFF: (505) 325-8786



0810

MAY - 3 1996

LAB: (505) 325-5667

**TPH - Gasoline / Diesel Range Organics**

**RECEIVED**

Attn: *Ross Kennemer*  
Company: *BioTech Remediation*  
Address: *710 E 20th Street, Suite 400*  
City, State: *Farmington, NM 87401*

APR 29 1997  
Environmental Bureau  
Oil Conservation Division

Date: 25-Apr-96  
COC No.: 4052  
Sample No. 10708  
Job No. B-2858

Project Name: **Thriftway Refinery, Bloomfield, NM**  
Project Location: **Pond; Spt. Composite**  
Sampled by: RK  
Analyzed by: DC  
Sample Matrix: *Soil*

Date: 24-Apr-96 Time: 9:45  
Date: 25-Apr-96

**Laboratory Analysis**

| Analyte                           | Result | Unit of Measure | Detection Limit | Unit of Measure |
|-----------------------------------|--------|-----------------|-----------------|-----------------|
| Gasoline Range Organics (C5 - C9) | <5.0   | mg/kg           | 5.0             | mg/kg           |
| Diesel Range Organics (C10 - C28) | <5.0   | mg/kg           | 5.0             | mg/kg           |
| TOTAL                             | <5.0   | mg/kg           |                 |                 |

**Quality Assurance Report**

GRO QC No.: 0447-STD  
DRO QC No.: 0446-STD

**Calibration Check**

| Analyte                  | Method Blank | Unit of Measure | True Value | Analyzed Value | % Diff | Limit |
|--------------------------|--------------|-----------------|------------|----------------|--------|-------|
| Gasoline Range (C5 - C9) | <5.0         | ppb             | 1,350      | 1,318          | 2.4    | 15%   |
| Diesel Range (C10 - C28) | <5.0         | ppm             | 2,000      | 1,990          | 0.5    | 15%   |

**Matrix Spike**

| Analyte                | 1 - Percent Recovered | 2 - Percent Recovered | Limit    | %RSD | Limit |
|------------------------|-----------------------|-----------------------|----------|------|-------|
| Gasoline Range (C5-C9) | 102                   | 97                    | (70-130) | 3    | 20%   |
| Diesel Range (C10-C28) | 101                   | 101                   | (70-130) | 0    | 20%   |

**Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography**

Approved by: *DJL*  
Date: *4/25/96*

P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-8786



MAY - 3 1996

LAB: (505) 325-5667

**AROMATIC VOLATILE ORGANICS**

**RECEIVED**

Attn: *Ross Kenemer*  
 Company: *BioTech Remediation*  
 Address: *710 E 20th Street, Suite 400*  
 City, State: *Farmington, NM 87401*

APR 29 1997  
 Environmental Bureau  
 Oil Conservation Division

Date: 25-Apr-96  
 COC No.: 4052  
 Sample No. 10709  
 Job No. B-2858

Project Name: *Thriftway Refinery, Bloomfield, NM*  
 Project Location: *Stripper Discharge*  
 Sampled by: RK  
 Analyzed by: DC  
 Sample Matrix: *Liquid*

Date: 24-Apr-96 Time: 10:50  
 Date: 24-Apr-96

**Aromatic Volatile Organics**

| <b>Component</b>            | <b>Result</b> | <b>Units of Measure</b> | <b>Detection Limit</b> | <b>Units of Measure</b> |
|-----------------------------|---------------|-------------------------|------------------------|-------------------------|
| <i>Methyl-t-Butyl Ether</i> | 5.5           | ug/L                    | 0.2                    | ug/L                    |
| <i>Benzene</i>              | 2.2           | ug/L                    | 0.2                    | ug/L                    |
| <i>Toluene</i>              | 5.4           | ug/L                    | 0.2                    | ug/L                    |
| <i>Ethylbenzene</i>         | 0.9           | ug/L                    | 0.2                    | ug/L                    |
| <i>m,p-Xylene</i>           | 4.6           | ug/L                    | 0.2                    | ug/L                    |
| <i>o-Xylene</i>             | 1.0           | ug/L                    | 0.2                    | ug/L                    |
| <b>TOTAL</b>                | 19.6          | ug/L                    |                        |                         |

**Method** - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: *[Signature]*  
 Date: *4/25/96*

P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



OFF: (505) 325-8786

MAY 3 1996

LAB: (505) 325-5667

**QUALITY ASSURANCE REPORT**  
for EPA Method 8020

Date Analyzed: 24-Apr-96

Internal QC No.: 0419-STD  
Surrogate QC No.: 0420-STD  
Reference Standard QC No.: 0355-STD

**Method Blank**

| Analyte                                 | Result | Units of Measure |
|-----------------------------------------|--------|------------------|
| Average Amount of All Analytes In Blank | <0.2   | ppb              |

**Calibration Check**

| Analyte              | Units of Measure | True Value | Analyzed Value | % Diff | Limit |
|----------------------|------------------|------------|----------------|--------|-------|
| Methyl-t-Butyl Ether | ppb              | 20.0       | 19.2           | 4      | 15%   |
| Benzene              | ppb              | 20.0       | 19.6           | 2      | 15%   |
| Toluene              | ppb              | 20.0       | 19.7           | 2      | 15%   |
| Ethylbenzene         | ppb              | 20.0       | 19.9           | 0      | 15%   |
| m,p-Xylene           | ppb              | 40.0       | 39.4           | 1      | 15%   |
| o-Xylene             | ppb              | 20.0       | 19.9           | 1      | 15%   |

**Matrix Spike**

| Analyte              | 1 - Percent Recovered | 2 - Percent Recovered | Limit    | %RSD | Limit |
|----------------------|-----------------------|-----------------------|----------|------|-------|
| Methyl-t-Butyl Ether | 87                    | 74                    | (39-150) | 11   | 20%   |
| Benzene              | 125                   | 106                   | (39-150) | 11   | 20%   |
| Toluene              | 124                   | 107                   | (46-148) | 10   | 20%   |
| Ethylbenzene         | 122                   | 106                   | (32-160) | 10   | 20%   |
| m,p-Xylene           | 118                   | 103                   | (35-145) | 10   | 20%   |
| o-Xylene             | 112                   | 97                    | (35-145) | 10   | 20%   |

**Surrogate Recoveries**

| Laboratory Identification | S1<br>Percent Recovered | S2<br>Percent Recovered |
|---------------------------|-------------------------|-------------------------|
| Limit Percent Recovery    | (70-130)                |                         |
| 10709-4052                | 101                     |                         |
|                           |                         |                         |
|                           |                         |                         |
|                           |                         |                         |
|                           |                         |                         |
|                           |                         |                         |
|                           |                         |                         |

S1: Fluorobenzene

**RECEIVED**

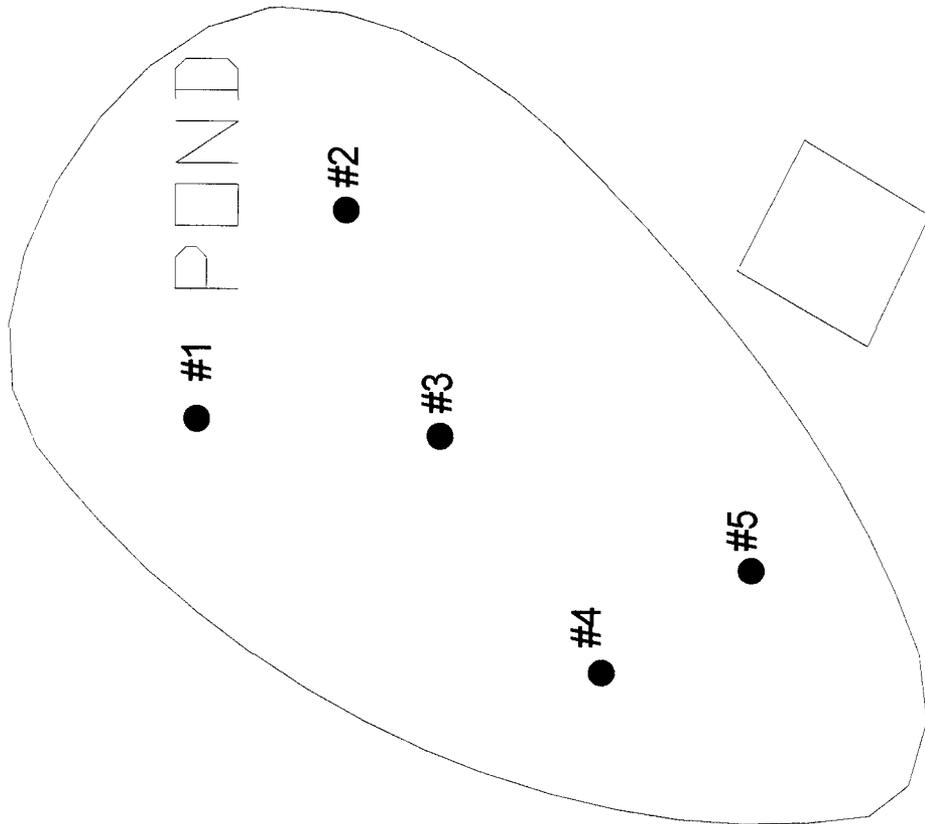
APR 29 1997

Environmental Bureau  
Oil Conservation Division

P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -





**KEY**  
 ● #2 SAMPLE POINT

**RECEIVED**  
 APR 29 1997  
 Environmental Bureau  
 Oil Conservation Division

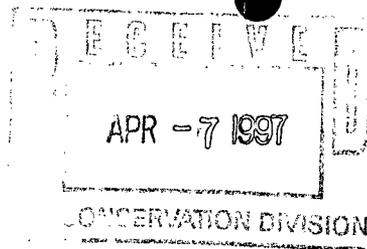
THRIFTWAY REFINERY  
 626 COUNTY ROAD 5500  
 BLOOMFIELD, NEW MEXICO  
 810\PNDSAMPL.SKD

SCIENTIST: R. KENNEMER  
 DRAWN BY: K. SINKS  
**FIGURE 1 POND SAMPLE POINTS**  
 APRIL 25, 1996



710 EAST 20TH STREET, SUITE 400  
 FARMINGTON, NEW MEXICO 87401  
 OFFICE: (505) 632-3365  
 FAX: (505) 632-9850

SENT VIA FAX  
AND CERTIFIED MAIL  
P 468-883-519



April 1, 1997

Bill Olsen  
Oil Conservation Division  
2040 South Pacheco  
Santa Fe, New Mexico 87505

710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
Field Office: (505) 632-3365  
Fax: (505) 632-9850

**Re: Annual Ground Water Monitoring and Sampling Report**

Dear Mr. Olsen:

Per our telephone conversation of this morning, BioTech Remediation Inc. ("BioTech"), will be submitting the Annual Ground Water Monitoring Report for the Thriftway Refinery on April 25, 1997.

As addressed in our conversation, the report was to be submitted by April 1, 1996 and the contents are to include the monitoring and sampling results for 1996. However, as I explained, BioTech was under the impression that the annual report was to include data up to April 1, 1997 and some of the samples collected at the end of March 1997 were destroyed at the laboratory prior to being analyzed and BioTech had to collect and resubmit those samples.

Based on a clearer understanding of the reporting schedule, as noted above, the Annual Ground Water Monitoring Report will be submitted to the OCD by April 25, 1997. I appreciate your understanding regarding this matter.

If you have any questions or comments, please contact me at (505) 632-3365.

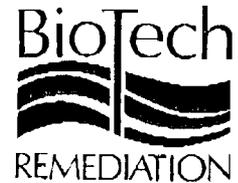
Sincerely,

A handwritten signature in cursive script that reads "Ross Kennemer".

Ross Kennemer  
Project Manager

810/amrl

c: Pat Sanchez, OCD Santa Fe



SENT VIA FAX  
AND CERTIFIED MAIL  
P 468-883-519

April 1, 1997

Bill Olsen  
Oil Conservation Division  
2040 South Pacheco  
Santa Fe, New Mexico 87505

710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
Field Office: (505) 632-3365  
Fax: (505) 632-9850

**Re: Annual Ground Water Monitoring and Sampling Report**

Dear Mr. Olsen:

Per our telephone conversation of this morning, BioTech Remediation Inc. ("BioTech"), will be submitting the Annual Ground Water Monitoring Report for the Thriftway Refinery on April 25, 1997.

As addressed in our conversation, the report was to be submitted by April 1, 1996 and the contents are to include the monitoring and sampling results for 1996. However, as I explained, BioTech was under the impression that the annual report was to include data up to April 1, 1997 and some of the samples collected at the end of March 1997 were destroyed at the laboratory prior to being analyzed and BioTech had to collect and resubmit those samples.

Based on a clearer understanding of the reporting schedule, as noted above, the Annual Ground Water Monitoring Report will be submitted to the OCD by April 25, 1997. I appreciate your understanding regarding this matter.

If you have any questions or comments, please contact me at (505) 632-3365.

Sincerely,

A handwritten signature in cursive script that reads "Ross Kennemer".

Ross Kennemer  
Project Manager

810/amrl

c: Pat Sanchez, OCD Santa Fe

MEMORANDUM OF MEETING OR CONVERSATION

Telephone  Personal

Time 4:05 PM

Date 3-13-97

Originating Party

Other Parties

Terry Griffin - TMC

Pat Sanchez - OGD

Subject

Thriftway Blmfd. Refinery.

Discussion

① Work Plan to Investigate the firewater pond is late. - see permit w/ attached commitments.

② Testing of secondary containment of below grade UST is late - Notify Denny prior to checking secondary space.

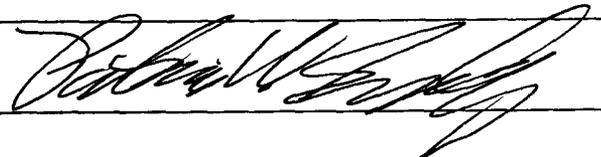
- Note: During the inspection water was in the secondary containment - TMC must sample the contents of the UST and compare it with the secondary containment water.

Conclusions or Agreements

Ms Griffin will follow up on the above items. She will get w/ Ross Boyd next week to write up responses.

Distribution File, Penny Faust.

Signed





State of New Mexico  
**ENVIRONMENT DEPARTMENT**  
 Surface Water Quality Bureau

Harold Runnels Building  
 1190 St. Francis Drive, P.O. Box 26110  
 Santa Fe, New Mexico 87502  
 (505) 827-0187

MARK E. WEIDLER  
 SECRETARY

EDGAR T. THORNTON, III  
 DEPUTY SECRETARY

GARY E. JOHNSON  
 GOVERNOR

**Certified Mail - Return Receipt Requested**

November 13, 1996

**RECEIVED**

NOV 18 1996

Ms. Terry Griffin  
 BioTech Remediation  
 710 East 20th Street Suite 400  
 Farmington, New Mexico 87401

Environmental Bureau  
 Oil Conservation Division

**RE: Reconnaissance Inspection, Thriftway Bloomfield Refinery,  
 October 4, 1996**

Dear Ms. Griffin:

Enclosed, please find a copy of the report for the referenced inspection that I conducted at your facility. This inspection report will be sent to the U.S. Environmental Protection Agency (USEPA) in Dallas, for their review. These inspections are used to determine compliance with the National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with requirements of the federal Clean Water Act.

Problems noted during this inspection are discussed in the Further Explanations section of the inspection report. You are encouraged to review the inspection report, correct any problems noted during the inspection, and to modify your operational and/or administrative procedures, as appropriate. Further, you are encouraged to notify in writing, both USEPA and NMED regarding modifications and compliance schedules.

My thanks for your help and cooperation during this inspection. If you have any questions, please feel free to contact me at the above address or by telephone at (505) 827-2798.

Sincerely,

  
 Richard E. Powell  
 Surface Water Quality Bureau

xc: USEPA, Dallas (2 copies)  
 Taylor Sharpe, USEPA (6EN-WT)  
 NMED, District I, Farmington  
 Roger Anderson, NMOGD



**NPDES Reconnaissance Inspection  
Thriftway Bloomfield Refinery**

**Further Explanations**

**Introduction**

On October 4, 1996, a Reconnaissance Inspection was conducted at the Thriftway Bloomfield Refinery (Standard Industrial Classification 2911) located near Bloomfield, New Mexico by Richard E. Powell of the State of New Mexico Environment Department (NMED). The purpose of this inspection was to evaluate compliance with the NPDES storm water permit program and storm water regulations at 40 Code of Federal Regulations Part 122.26.

This is a currently inactive facility which is undergoing environmental remediation by BioTech Remediation (a subsidiary of Thriftway Corporation) under the direction of the New Mexico Energy, Minerals & Natural Resources Department/Oil Conservation Division (OCD). According to the facility's representative, OCD has imposed some storm water runoff control requirements for this project. Storm water runoff from this industrial facility discharges to Kutz Canyon; thence to the San Juan River in Segment 2401 of the San Juan Basin. This report is based on on-site observation by NMED personnel and verbal information provided by the facility's representative, Ms. Terry Griffin.

An entrance interview was conducted with Ms. Terry Griffin at approximately 1108 hours on October 4, 1996. The inspector made introductions, presented his credentials and discussed the purpose of the inspection.

**Findings**

This facility did not have permit coverage through the National Pollutant Discharge Elimination System (NPDES) on the date of this inspection. There was no pollution prevention plan prepared in written form and available at this site for the inspection, and a pollution prevention plan was not being implemented (although the facility's representative later stated, during a telephone conversation, that certain storm water runoff controls are required by OCD as a part of the remediation project). The facility's representative was briefly informed of the requirements under the NPDES storm water program and further informed that to attain compliance with this program that a SWPPP needs to be prepared, a NOI needs to be filed (a copy of the NPDES baseline general permit and NOI form [published in the **Federal Register/Vol. 57, No. 175/Wednesday, September 9, 1992**] were given to Ms. Griffin during this inspection) and that appropriate storm water runoff control practices (per the SWPPP) need to be installed. A brief exit interview to discuss the findings of this inspection was conducted at approximately 1120 hours on October 4, 1996, and by telephone at 0945 hours on October 24, 1996, with Ms. Griffin.



710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
Field Office: (505) 632-3365  
Fax: (505) 632-9850

May 21, 1996

**RECEIVED**  
MAY 31 1996  
Environmental Bureau  
Oil Conservation Division

Mr. William J. LeMay, Director  
Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, NM 87505

**RE: Discharge Plan Renewal GW-055  
Thriftway Bloomfield Refinery  
San Juan County, New Mexico**

Dear Mr. LeMay,

Enclosed, please find a copy of the approved discharge plan renewal GW-055 signed by Mr. Jim Ratcliffe, Refinery Operations, Thriftway Company. I apologize for the delay in returning this document to your office, Mr. Ratcliffe and myself were out of town the week of May 13<sup>th</sup> and were not able to review the document jointly prior to signature.

We appreciate the cooperative manner in which the OCD worked with us on retaining this permit. If you have any questions, please feel free to contact me at the number listed above.

Respectfully Submitted,

  
Terry Griffin  
Project Administrator

Enclosures

c: Mr. Patricio W. Sanchez, PE - OCD Santa Fe Office (w/o enclosures)

810/gc052196

MAY 14 1996

Mr. Jim Ratcliffe  
Thriftway Marketing Corporation  
Page 3  
May 8, 1996

**ATTACHMENT TO DISCHARGE PLAN RENEWAL GW-055**  
**Thriftway Bloomfield Refinery**  
**DISCHARGE PLAN REQUIREMENTS**  
(May 8, 1996)

1. **Thriftway Bloomfield Refinery Commitments:** Thriftway Bloomfield Refinery will abide by all commitments submitted in the Renewal Application from Biotech Remediation Inc. on behalf of Thriftway dated January 8, 1996 and the inspection report from NMOCD dated February 23, 1996, and the submittal by Biotech Remediation Inc. on behalf of Thriftway dated March 27, 1996, as well as this Discharge Plan Renewal Approval and its conditions of approval letter from OCD dated May 8, 1996.
2. **Drum Storage:** All drums containing materials other than fresh water must be stored on an impermeable pad and curb type containment. All empty drums should be stored on their sides with the bungs in place and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets should also be stored on an impermeable pad and curb type containment.
3. **Process Areas:** All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
4. **Above Ground Tanks:** All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new facilities or modifications to existing facilities must place the tank on an impermeable type pad.
5. **Above Ground Saddle Tanks:** Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.
6. **Tank Labeling:** All tanks should be clearly labeled to identify their contents and other emergency information necessary if the tank were to rupture, spill, or ignite.
7. **Below Grade Tanks/Sumps:** All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks that do not have secondary containment and leak detection must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks /or sumps.

Mr. Jim Ratcliffe  
Thriftway Marketing Corporation  
Page 4  
May 8, 1996

8. **Underground Process/Wastewater Lines:** All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years there after. Companies may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD.

9. **Housekeeping:** All systems designed for spill collection/prevention should be inspected to ensure proper operation and to prevent overtopping or system failure.

Any contaminated soils that are collected at the facility will be tested for hazardous constituents, and after receiving OCD approval, will be disposed of at an OCD approved site.

10. **Spill Reporting:** All spills/releases shall be reported pursuant to OCD Rule 116 and WQCC 1203 to the Aztec OCD District Office at (505)-334-6178.

11. **Transfer of Discharge Plan:** The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.

12. **Closure:** The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

13. **Remediation Monitoring Requirements:**

A. **Product and Waste Disposal:**

All recovered product, waste filters or treatment system waste products will be recycled and/or disposed of at an OCD approved facility.

B. **Ground Water and Treatment System Monitoring:**

The ground water treatment and injection system will be operated such that reinjected effluent from the air stripper does not exceed WQCC ground water standards. Ground water from monitor wells and the treatment system will be sampled and analyzed for specific constituents according to the schedule listed below.

Mr. Jim Ratcliffe  
 Thriftway Marketing Corporation  
 Page 5  
 May 8, 1996

| <u>Monitoring pt.</u> | <u>Monthly</u> | <u>Quarterly</u> | <u>Annually</u>                         |
|-----------------------|----------------|------------------|-----------------------------------------|
| MW-4                  |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-5                  |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-6                  |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-8                  |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-9                  |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-10                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-11                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-12                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-13                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-15                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-18                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-19                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-20                 |                | 602*             | PAH's**<br>Metals**                     |

Mr. Jim Ratcliffe  
 Thriftway Marketing Corporation  
 Page 6  
 May 8, 1996

|                          |      |                                                             |
|--------------------------|------|-------------------------------------------------------------|
| MW-21                    | 602* | Cations/anions**<br>PAH's**<br>Metals**                     |
| MW-22                    | 602* | Cations/anions**<br>PAH's**<br>Metals**<br>Cations/anions** |
| Air Stripper<br>Influent | 602* | PAH's**<br>Metals**<br>Cations/anions**                     |
| Air Stripper<br>Effluent | 602* | PAH's**<br>Metals**<br>Cations/anions**                     |

- \* - Or other appropriate EPA method for aromatic volatile organics
- \*\* - using appropriate EPA methods

C. Annual Reports:

Annual reports will be submitted to OCD by April 1 of each respective year. Annual reports will contain:

- a. A description of all remedial and monitoring activities which occurred during the past year including conclusions and recommendations.
- b. A summary of all laboratory analytic results of ground water quality and treatment system monitoring including copies of the laboratory analyses performed during the year. The summary will include tables for each monitoring point and will list all past and present sampling results.
- c. Ground water isoconcentration maps for contaminants of concern for each quarter (ie. benzene, TDS, chloride, metals, PAH's, etc.).
- d. A water table elevation map for each quarter using the water table elevation of ground water in all monitor wells.

Mr. Jim Ratcliffe  
Thriftway Marketing Corporation  
Page 7  
May 8, 1996

- e. A product thickness map for each quarter using the water table elevation of ground water in all monitor wells.
- f. The volume of water and free phase product recovered each quarter and the cumulative volumes recovered since pumping began.

14. Conditions accepted by:

Jim D. Ratcliffe  
Company Representative

5-21-96  
Date

Refinery Operations  
Title



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

May 8, 1996

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. Z-765-963-136**

Mr. Jim Ratcliffe  
Transportation Director  
Thriftway Marketing Corporation  
710 East 20th Street  
Farmington, NM 87401

**RE: Approval of Discharge Plan Renewal GW-055  
Thriftway Bloomfield Refinery  
San Juan County, New Mexico**

Dear Mr. Ratcliffe:

The discharge plan renewal GW-055 for the Thriftway Bloomfield Refinery located in SE/4, Section 32, SW/4 Section 33, Township 29 North, Range 11 West, and NE/4 NE/4, Section 9, Township 28 North, Range 11 West, NMPM, San Juan County, New Mexico, is hereby approved under the conditions contained in the enclosed attachment. The discharge plan renewal consists of the application dated January 8, 1996, submitted by Biotech Remediation Inc. on behalf of Thriftway Bloomfield Refinery, as well as the OCD inspection report dated February 23, 1996 and the follow-up letter from Biotech Remediation Inc. submitted on behalf of Thriftway Bloomfield Refinery dated March 27, 1996, and this approval letter from OCD dated May 8, 1996. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within five working days of receipt of this letter.**

The discharge plan application was submitted pursuant to Section 3106 of the New Mexico Water Quality Control Commission Regulations. Please note Sections 3109.E and 3109.F which provide for possible future amendments or modifications of the plan. Please be advised that the approval of this plan does not relieve **Thriftway Bloomfield Refinery** of liability should the operations associated with this facility result in pollution of surface water, ground water, or the environment.

Please be advised that all exposed pits, including lined pits and open top tanks (tanks exceeding 16 feet in diameter), shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

Mr. Jim Ratcliffe  
Thriftway Marketing Corporation  
Page 2  
May 8, 1996

Please note that Section 3104 of the regulations requires that "When a plan has been approved, discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3107.C Thriftway Bloomfield Refinery is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

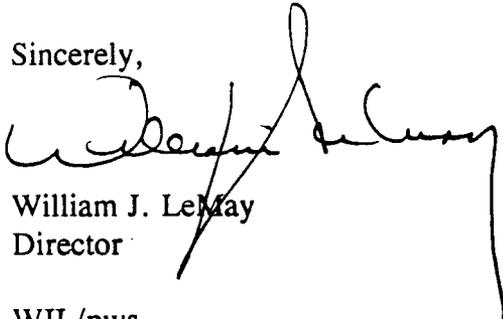
Pursuant to Section 3109.G.4, this plan is for a period of five (5) years. This approval will expire May 9, 2001, and an application for renewal should be submitted in ample time before that date. It should be noted that all discharge plan facilities will be required to submit plans for, or the results of, an underground drainage testing program as a requirement for discharge plan approval.

The discharge plan renewal for the Thriftway Bloomfield Refinery GW-055 is subject to the WQCC Regulation 3114 discharge plan fee. Every billable facility submitting a discharge plan will be assessed a fee equal to the filing fee of fifty dollars (\$50) plus the flat fee of three-thousand nine-hundred and ten dollars (\$3,910) for Refineries.

**The \$50 filing fee has been received by the OCD. The flat fee for an approved discharge plan has been received by the OCD.**

On behalf of the staff of the Oil Conservation Division, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,



William J. LeMay  
Director

WJL/pws  
Attachment

xc: Mr. Denny Foust

Mr. Jim Ratcliffe  
Thriftway Marketing Corporation  
Page 3  
May 8, 1996

**ATTACHMENT TO DISCHARGE PLAN RENEWAL GW-055**  
**Thriftway Bloomfield Refinery**  
**DISCHARGE PLAN REQUIREMENTS**  
(May 8, 1996)

1. **Thriftway Bloomfield Refinery Commitments:** Thriftway Bloomfield Refinery will abide by all commitments submitted in the Renewal Application from Biotech Remediation Inc. on behalf of Thriftway dated January 8, 1996 and the inspection report from NMOCD dated February 23, 1996, and the submittal by Biotech Remediation Inc. on behalf of Thriftway dated March 27, 1996, as well as this Discharge Plan Renewal Approval and its conditions of approval letter from OCD dated May 8, 1996.
2. **Drum Storage:** All drums containing materials other than fresh water must be stored on an impermeable pad and curb type containment. All empty drums should be stored on their sides with the bungs in place and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets should also be stored on an impermeable pad and curb type containment.
3. **Process Areas:** All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
4. **Above Ground Tanks:** All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new facilities or modifications to existing facilities must place the tank on an impermeable type pad.
5. **Above Ground Saddle Tanks:** Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.
6. **Tank Labeling:** All tanks should be clearly labeled to identify their contents and other emergency information necessary if the tank were to rupture, spill, or ignite.
7. **Below Grade Tanks/Sumps:** All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks that do not have secondary containment and leak detection must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks /or sumps.

Mr. Jim Ratcliffe  
Thriftway Marketing Corporation  
Page 4  
May 8, 1996

8. **Underground Process/Wastewater Lines:** All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years there after. Companies may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD.

9. **Housekeeping:** All systems designed for spill collection/prevention should be inspected to ensure proper operation and to prevent overtopping or system failure.

Any contaminated soils that are collected at the facility will be tested for hazardous constituents, and after receiving OCD approval, will be disposed of at an OCD approved site.

10. **Spill Reporting:** All spills/releases shall be reported pursuant to OCD Rule 116 and WQCC 1203 to the Aztec OCD District Office at (505)-334-6178.

11. **Transfer of Discharge Plan:** The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.

12. **Closure:** The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

13. **Remediation Monitoring Requirements:**

A. **Product and Waste Disposal:**

All recovered product, waste filters or treatment system waste products will be recycled and/or disposed of at an OCD approved facility.

B. **Ground Water and Treatment System Monitoring:**

The ground water treatment and injection system will be operated such that reinjected effluent from the air stripper does not exceed WQCC ground water standards. Ground water from monitor wells and the treatment system will be sampled and analyzed for specific constituents according to the schedule listed below.

Mr. Jim Ratcliffe  
Thriftway Marketing Corporation  
Page 5  
May 8, 1996

| <u>Monitoring pt.</u> | <u>Monthly</u> | <u>Quarterly</u> | <u>Annually</u>                         |
|-----------------------|----------------|------------------|-----------------------------------------|
| MW-4                  |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-5                  |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-6                  |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-8                  |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-9                  |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-10                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-11                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-12                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-13                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-15                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-18                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-19                 |                | 602*             | PAH's**<br>Metals**<br>Cations/anions** |
| MW-20                 |                | 602*             | PAH's**<br>Metals**                     |

Mr. Jim Ratcliffe  
 Thriftway Marketing Corporation  
 Page 6  
 May 8, 1996

|                          |      |                                         |                                                             |
|--------------------------|------|-----------------------------------------|-------------------------------------------------------------|
| MW-21                    |      | 602*                                    | Cations/anions**<br>PAH's**<br>Metals**                     |
| MW-22                    |      | 602*                                    | Cations/anions**<br>PAH's**<br>Metals**<br>Cations/anions** |
| Air Stripper<br>Influent | 602* | PAH's**<br>Metals**<br>Cations/anions** |                                                             |
| Air Stripper<br>Effluent | 602* | PAH's**<br>Metals**<br>Cations/anions** |                                                             |

- \* - Or other appropriate EPA method for aromatic volatile organics
- \*\* - using appropriate EPA methods

C. Annual Reports:

Annual reports will be submitted to OCD by April 1 of each respective year. Annual reports will contain:

- a. A description of all remedial and monitoring activities which occurred during the past year including conclusions and recommendations.
- b. A summary of all laboratory analytic results of ground water quality and treatment system monitoring including copies of the laboratory analyses performed during the year. The summary will include tables for each monitoring point and will list all past and present sampling results.
- c. Ground water isoconcentration maps for contaminants of concern for each quarter (ie. benzene, TDS, chloride, metals, PAH's, etc.).
- d. A water table elevation map for each quarter using the water table elevation of ground water in all monitor wells.

Mr. Jim Ratcliffe  
Thriftway Marketing Corporation  
Page 7  
May 8, 1996

- e. A product thickness map for each quarter using the water table elevation of ground water in all monitor wells.
- f. The volume of water and free phase product recovered each quarter and the cumulative volumes recovered since pumping began.

14. Conditions accepted by: \_\_\_\_\_  
Company Representative Date  
  
\_\_\_\_\_  
Title

MEMORANDUM OF MEETING OR CONVERSATION

Telephone  Personal

Time 11:10 AM

Date 5-6-96

Originating Party

632-3365

Other Parties

Pat Sanchez & Bill Olson

Ross Kehmenner

NMCP - Returned Phone Left at 9:51 AM

Bio Tech - Representing Thriftway.

Subject

GW-055 Discharge Plan Renewal.

Discussion

Talked w/ Ross about the permit conditions - He said all looked fine to him - will revise 601/602 to allow flexibility - other EPA approved method may be used. (per Bill Olson & Ross Kehmenner.)

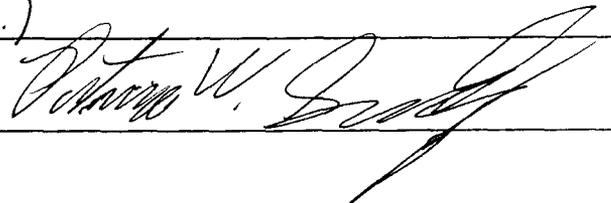
+ will try to get out approval on Wednesday.

Conclusions or Agreements

\* Ross Kehmenner to call us if there is a problem w/ Mr. Jim Ratcliffe signing off on Discharge Plan. (see Fax that was sent to Thriftway dated 5-3-96.)

Distribution File

Signed



5-3-96

**OIL CONSERVATION DIVISION-ENVIRONMENTAL BUREAU**

**TO:** Mr. Ross Kenner - Bio Tech

**FROM:** PATRICIO W. SANCHEZ , PETROLEUM ENGINEER 505-827-7156

**NUMBER OF PAGES INCLUDING THIS ONE:** 6

**MESSAGE:**

Ross, here are the discharge plan  
conditions for the Renewal of  
Thriftway Refinerics Discharge Plan.  
Any questions/comments - give me a call.

**IF YOU HAVE ANY TROUBLE RECEIVING THIS FAX PLEASE CALL  
(505)-827-7133.**

**OCD FAX NUMBER: (505)-827-8177**

Fax: No. 632-9850

Phone 632-3365

Fax'd on 5-2-96 at

4:15 pm - let the secretary  
who received the Fax. know  
that it is important for Ross  
to see permit conditions - their  
permit expires 5-9-96.

Mr. Jim Ratcliffe  
Thriftway Marketing Corporation  
Page 3  
April 22, 1996

**ATTACHMENT TO DISCHARGE PLAN RENEWAL GW-055**  
**Thriftway Bloomfield Refinery**  
**DISCHARGE PLAN REQUIREMENTS**  
(April 22, 1996)

1. **Thriftway Bloomfield Refinery Commitments:** Thriftway Bloomfield Refinery will abide by all commitments submitted in the Renewal Application from Biotech Remediation Inc. on behalf of Thriftway dated January 8, 1996 and the inspection report from NMOCD dated February 23, 1996, and the submittal by Biotech Remediation Inc. on behalf of Thriftway dated March 27, 1996, as well as this Discharge Plan Renewal Approval and its conditions of approval from OCD dated April 22, 1996.
2. **Drum Storage:** All drums containing materials other than fresh water must be stored on an impermeable pad and curb type containment. All empty drums should be stored on their sides with the bungs in place and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets should also be stored on an impermeable pad and curb type containment.
3. **Process Areas:** All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
4. **Above Ground Tanks:** All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new facilities or modifications to existing facilities must place the tank on an impermeable type pad.
5. **Above Ground Saddle Tanks:** Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.
6. **Tank Labeling:** All tanks should be clearly labeled to identify their contents and other emergency information necessary if the tank were to rupture, spill, or ignite.
7. **Below Grade Tanks/Sumps:** All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks that do not have secondary containment and leak detection must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks /or sumps.

Mr. Jim Ratcliffe  
Thriftway Marketing Corporation  
Page 4  
April 22, 1996

8. **Underground Process/Wastewater Lines:** All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years thereafter. Companies may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD.

9. **Housekeeping:** All systems designed for spill collection/prevention should be inspected to ensure proper operation and to prevent overtopping or system failure.

Any contaminated soils that are collected at the facility will be tested for hazardous constituents, and after receiving OCD approval, will be disposed of at an OCD approved site.

10. **Spill Reporting:** All spills/releases shall be reported pursuant to OCD Rule 116 and WQCC 1203 to the Aztec OCD District Office at (505)-334-6178.

11. **Transfer of Discharge Plan:** The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.

12. **Closure:** The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

13. **Remediation Monitoring Requirements:**

A. **Product and Waste Disposal:**

All recovered product, waste filters or treatment system waste products will be recycled and/or disposed of at an OCD approved facility.

B. **Ground Water and Treatment System Monitoring:**

The ground water treatment and injection system will be operated such that reinjected effluent from the air stripper does not exceed WQCC ground water standards. Ground water from monitor wells and the treatment system will be sampled and analyzed for specific constituents according to the schedule listed below.

Mr. Jim Ratcliffe  
Thriftway Marketing Corporation  
Page 5  
April 22, 1996

| <u>Monitoring pt.</u> | <u>Monthly</u> | <u>Quarterly</u> | <u>Annually</u>                         |
|-----------------------|----------------|------------------|-----------------------------------------|
| MW-4                  |                | 601/602*         | PAH's**<br>Metals**<br>Cations/anions** |
| MW-5                  |                | 601/602*         | PAH's**<br>Metals**<br>Cations/anions** |
| MW-6                  |                | 601/602*         | PAH's**<br>Metals**<br>Cations/anions** |
| MW-8                  |                | 601/602*         | PAH's**<br>Metals**<br>Cations/anions** |
| MW-9                  |                | 601/602*         | PAH's**<br>Metals**<br>Cations/anions** |
| MW-10                 |                | 601/602*         | PAH's**<br>Metals**<br>Cations/anions** |
| MW-11                 |                | 601/602*         | PAH's**<br>Metals**<br>Cations/anions** |
| MW-12                 |                | 601/602*         | PAH's**<br>Metals**<br>Cations/anions** |
| MW-13                 |                | 601/602*         | PAH's**<br>Metals**<br>Cations/anions** |
| MW-15                 |                | 601/602*         | PAH's**<br>Metals**<br>Cations/anions** |
| MW-18                 |                | 601/602*         | PAH's**<br>Metals**<br>Cations/anions** |
| MW-19                 |                | 601/602*         | PAH's**<br>Metals**<br>Cations/anions** |
| MW-20                 |                | 601/602*         | PAH's**<br>Metals**                     |

Mr. Jim Ratcliffe  
 Thriftway Marketing Corporation  
 Page 6  
 April 22, 1996

|                       |          |                                         |                                                             |
|-----------------------|----------|-----------------------------------------|-------------------------------------------------------------|
| MW-21                 | 601/602* | 601/602*                                | Cations/anions**<br>PAH's**<br>Metals**                     |
| MW-22                 | 601/602* | 601/602*                                | Cations/anions**<br>PAH's**<br>Metals**<br>Cations/anions** |
| Air Stripper Influent | 601/602* | PAH's**<br>Metals**<br>Cations/anions** |                                                             |
| Air Stripper Effluent | 601/602* | PAH's**<br>Metals**<br>Cations/anions** |                                                             |

( \* - <sup>or other appropriate</sup> EPA Method for aromatic ~~and~~ halogenated volatile organics )  
 \*\* - using appropriate EPA methods

Per Ross Kuhnmer  
 & Bill Olson  
 on 5/8/96  
 phone call.

C. Annual Reports:

Annual reports will be submitted to OCD by April 1 of each respective year. Annual reports will contain:

- a. A description of all remedial and monitoring activities which occurred during the past year including conclusions and recommendations.
- b. A summary of all laboratory analytic results of ground water quality and treatment system monitoring including copies of the laboratory analyses performed during the year. The summary will include tables for each monitoring point and will list all past and present sampling results.
- c. Ground water isoconcentration maps for contaminants of concern for each quarter (ie. benzene, TDS, chloride, metals, Pah's, etc.).
- d. A water table elevation map for each quarter using the water table elevation of ground water in all monitor wells.

Mr. Jim Ratcliffe  
Thriftway Marketing Corporation  
Page 7  
April 22, 1996

- e. A product thickness map for each quarter using the water table elevation of ground water in all monitor wells.
- f. The volume of water and free phase product recovered each quarter and the cumulative volumes recovered since pumping began.

14. **Conditions accepted by:** \_\_\_\_\_  
Company Representative Date  
  
\_\_\_\_\_  
Title

March 27, 1996



Patricio W. Sanchez  
Petroleum Engineer  
State of New Mexico  
Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, New Mexico 87505

710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
Field Office: (505) 632-3365  
Fax: (505) 632-9850

**RECEIVED**

APR 15 1996

Environmental Bureau  
Oil Conservation Division

**RE: Renewal of Discharge Plan GW-55  
Thriftway Bloomfield Refinery**

Dear Mr. Sanchez:

Thriftway Company has contracted with BioTech Remediation, Inc., to prepare and submit all necessary documentation required for approval of the Thriftway Bloomfield Refinery Discharge Plan GW-55.

The following text addresses the issues noted in the Renewal Inspection Letter (RIL), dated February 23, 1996. The items will be addressed in the same order as presented in the above referenced letter.

- ▶ Prior to Refinery start up, a workplan adhering to all Federal and State regulations will be submitted to the OCD, Santa Fe Office. Those items noted on Page 1, Paragraph 2 of the RIL will be addressed within this workplan.
- ▶ When the refinery was removed from operation all tank testing records were removed and archived along with all other facility records. Currently efforts are being made to retrieve these records.
- ▶ Firewater pond - A workplan detailing the proposed sampling locations and the requested analysis to be performed at the firewater pond will be prepared and forwarded within 90 days.
- ▶ UngROUTed groundwater wells - The ungrouted groundwater wells noted during the walk around inspection have been completed per NMED specifications.
- ▶ Housekeeping of 55,000-bbl tanks - Housekeeping around the tanks being leased by Giant has been addressed and will be continued on an as needed basis.

- ▶ General housekeeping - The noted hydrocarbon stained soils have been tilled or raked. General housekeeping is and will be an on going task.
- ▶ Below grade tank (UST) - The requested analyses, to determine the soundness of the UST, is in the process of being completed. The pH and Conductivity readings for both the internal and secondary containment of the UST will be collected in order to determine tank soundness. The results of these analyses will be forwarded to the OCD, Santa Fe office within 90 days. Additionally, this tank is included on the annual cleaning and inspection schedule.
- ▶ Start up monitoring plan for leak detection and spill containment areas - Prior to start up, a workplan detailing scheduled monitoring of leak detection and spill containment will be submitted to the OCD for approval.
- ▶ Plugging of the two Ojo Alamo wells - The plugging records for the two on-site wells have been archived and efforts to retrieve this information is currently underway.
- ▶ Spill Leak Prevention and Solid Waste Disposal - Any occurrence of spills at the facility will be reported to the OCD, Aztec office and the Santa Fe office within 72 hours.
- ▶ Waste Streams and their final disposition - A discussion addressing facility waste streams and disposition of those streams was included in the renewal report and application.
- ▶ Refinery Start Up - Prior to start up of the facility, Thriftway will notify both the OCD, Aztec District office and the Santa Fe office.
- ▶ OCD approval letter dated May 13, 1991 and OCD inspection report dated February 13, 1990.

Letter dated May 13, 1991 -

Page 1, #1 - Investigation of full extent of contamination - The required investigation delineating the full extent of hydrocarbon contaminated soil and ground water has been completed and is on file at the OCD, Santa Fe office.

Page 2, Paragraph 1 - No open top structures including lined pits and open top tanks, which contain substance that could be considered hazardous to wildlife, including migrating birds, are present at the facility.

Page 2, Paragraph 2 - Pursuant to Section 3-104 - All discharges, from this site, will be consistent with the terms and conditions of the plan. Pursuant to Section

3-107.C. - The Director shall be notified of any facility modifications resulting in changes to the discharge plan.

Page 2, Paragraph 3 - In accordance with discharge plan renewal procedures - An underground drainage determination program was implemented and completed during the hydrogeological investigation conducted at the facility. The results of this investigation are detailed in the investigation report which is on file at the OCD, Santa Fe office.

Letter dated February 13, 1990-

1. Crude unloading facility south of the tank farm - Concrete curbing and pads have been installed with central drains and a collection system. A 20-mil double lined leak detection system is in place around the buried collection tank.
2. Diesel Storage Tank - Concrete pads and berms have been installed at the diesel storage tank with a central drain that collects any over flow.
3. Tank-#1 #11 (Condensate Storage) - a concrete trough with piping has been installed from the water draw to the collection sump. The leaking sample valve has been capped and all other valves have either been repaired or replaced. Collection drums were placed beneath the hatches for temporary catchment until the hatch gaskets were repaired. The sump is included on the annual cleaning and inspection schedule.
4. Tank #12 (Condensate storage) - Concrete catch basins have been installed around the pumps. A drain has been installed to the sump and the sump is included on the annual cleaning and inspection schedule. The sampling valve has been plugged. A tank draining procedure has been instituted to prevent the reoccurrence of any sump overfills.
5. Tank #14 (Gasoline Storage) - A water collection system has been installed with a central collection tank located north of tank #21. The sample valve has been capped.
6. Tank #13 (Gasoline Storage) - A water collection system has been installed with a central collection tank located north of tank #21.
7. Tank Farm Transfer Manifold - Leaking valves have been repaired.
8. Tank #19 (Gasoline Storage) - A water collection system has been installed with a central collection tank located north of tank #21.

9. Tank #18 - Leaking valves have been repaired.
10. Diesel Bottom Loading Rack - A soil tilling program has been implemented to address the hydrocarbon stained soil. Concrete curbing and padding has been installed to contain spills or leaks and a drain system has been installed to the crude pad tank.
11. Tank #20 (Diesel Storage) - This tank is no longer in service. Transfer piping has been removed, flange faces have been blind plated and all valves plugged.
12. Run Down Tanks - The 30 series run-down tanks were 400-bbl or less. These tanks have been removed from service and all but one has been disposed of. The tank which has not been disposed of has been removed from service. All piping associated with these tanks have been removed and blind plated.
13. Ethanol Load Manifold - Piping has been rerouted in order to prevent gasoline loading. Concrete curbing and padding has been installed to catch leaks or spills. A 250 gallon metal sump has been installed for the drain-off of this padding. This sump is included on the annual cleaning and inspection schedule.
14. Tank #17 (Gasoline Storage) - Water draw piping has been installed at the tank and routed to the central collection tank.
15. Tank #22 (Mixer Tank) - Water draw piping has been installed to the central collection tank and leaking valves have been repaired.
16. Tank #23 (Blend Tank) - Water draw piping has been installed to the central collection tank and leaking valves have been repaired.
17. Tank #25 (Bolted Tank) - This tank has been removed from service and disposed of.
18. Area between tank #25 and #26 - The pump has been removed from service and the oil staining has been tilled.
19. Drum Area at the MTT Building - This area is no longer used for drum storage.
20. Tank #27 (Ethanol) - Water draw piping has been installed to the central collection tank.

21. Tank #29 - Water draw piping has been installed to the central collection tank and leaking valves have been repaired.
22. Tank #21 (Gasoline) - Water draw piping has been installed to the central collection tank.
23. Tank #30 and #31 (Residual Oil) - Tank #30 and #31 are no longer in service.
24. Northeast corner of property - A subsurface investigation including installation of monitoring wells has been conducted in the noted area. The report documenting the results of the investigation is on file with the OCD, Santa Fe office.
25. Open culvert - The open culvert at the north center of the facility has been bermed to prevent off-site migration of storm water runoff.
26. Heavy Oil Loading Rack - Concrete berming and padding has been installed, as well as a heated collection tank to collect spills. This tank is also on the annual cleaning and inspection schedule.
27. Reflux Pump - A cement pad and curbing have been installed in the process area complete with storm water and process sewer collection systems.
28. Preflash Unit - The pump seal and valves have been repaired and a cement pad and curbing have been installed in the process area complete with storm water and process sewer collection systems.
29. Oil Collection Sump - With the installation of the concrete curbing and padding in the process area the noted sump has been removed.

- ▶ The following paragraph addresses the additional items requested in the February 13, 1990 letter.

As requested, all above grade tanks have been bermed. As previously noted, at this time efforts to retrieve archived tank testing data is being made. Concrete padding and berming has been installed in the noted areas of concern. In the instance that a below grade tank would be installed, a workplan detailing the proposed installation will be submitted to the OCD for approval.

I hope that this information meets your requests and approval. If you have any additional questions, please do not hesitate to call me at (505) 632-3365.

Sincerely,

*Ross Kennemer*  
Ross Kennemer  
Project Manager

810\gwrenewl

**BioTech Remediation, Inc.**  
**710 E. 20th Street, Suite 400**  
**Farmington, NM 87401**  
 Office (505) 632-3365 \* Fax (505) 632-9850

DATE: 4/9/96

# OF PAGES TO FOLLOW: 6

TO: Pat Sanchez

COMPANY: Oil Conservation Division

FAX#: 505-827-8177

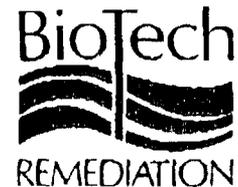
Will This Contamination Ever End?



MESSAGE: Pat -

A hard copy is in the mail. We  
 wanted you to get a copy today  
 as requested in your 2/23/96 letter for  
 renewal of the discharge permit.

Thank You -



March 27, 1996

Patricio W. Sanchez  
Petroleum Engineer  
State of New Mexico  
Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, New Mexico 87505

710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
Field Office: (505) 632-3365  
Fax: (505) 632-9850

**RE: Renewal of Discharge Plan GW-55  
Thriftway Bloomfield Refinery**

Dear Mr. Sanchez:

Thriftway Company has contracted with BioTech Remediation, Inc., to prepare and submit all necessary documentation required for approval of the Thriftway Bloomfield Refinery Discharge Plan GW-55.

The following text addresses the issues noted in the Renewal Inspection Letter (RIL), dated February 23, 1996. The items will be addressed in the same order as presented in the above referenced letter.

- ▶ Prior to Refinery start up, a workplan adhering to all Federal and State regulations will be submitted to the OCD, Santa Fe Office. Those items noted on Page 1, Paragraph 2 of the RIL will be addressed within this workplan.
- ▶ When the refinery was removed from operation all tank testing records were removed and archived along with all other facility records. Currently efforts are being made to retrieve these records.
- ▶ Firewater pond - A workplan detailing the proposed sampling locations and the requested analysis to be performed at the firewater pond will be prepared and forwarded within 90 days.
- ▶ UngROUTED groundwater wells - The ungrouted groundwater wells noted during the walk around inspection have been completed per NMED specifications.
- ▶ Housekeeping of 55,000-bbl tanks - Housekeeping around the tanks being leased by Giant has been addressed and will be continued on an as needed basis.

- ▶ General housekeeping - The noted hydrocarbon stained soils have been tilled or raked. General housekeeping is and will be an on going task.
- ▶ Below grade tank (UST) - The requested analyses, to determine the soundness of the UST, is in the process of being completed. The pH and Conductivity readings for both the internal and secondary containment of the UST will be collected in order to determine tank soundness. The results of these analyses will be forwarded to the OCD, Santa Fe office within 90 days. Additionally, this tank is included on the annual cleaning and inspection schedule.
- ▶ Start up monitoring plan for leak detection and spill containment areas - Prior to start up, a workplan detailing scheduled monitoring of leak detection and spill containment will be submitted to the OCD for approval.
- ▶ Plugging of the two Ojo Alamo wells - The plugging records for the two on-site wells have been archived and efforts to retrieve this information is currently underway.
- ▶ Spill Leak Prevention and Solid Waste Disposal - Any occurrence of spills at the facility will be reported to the OCD, Aztec office and the Santa Fe office within 72 hours.
- ▶ Waste Streams and their final disposition - A discussion addressing facility waste streams and disposition of those streams was included in the renewal report and application.
- ▶ Refinery Start Up - Prior to start up of the facility, Thriftway will notify both the OCD, Aztec District office and the Santa Fe office.
- ▶ OCD approval letter dated May 13, 1991 and OCD inspection report dated February 13, 1990.

Letter dated May 13, 1991 -

Page 1, #1 - Investigation of full extent of contamination - The required investigation delineating the full extent of hydrocarbon contaminated soil and ground water has been completed and is on file at the OCD, Santa Fe office.

Page 2, Paragraph 1 - No open top structures including lined pits and open top tanks, which contain substance that could be considered hazardous to wildlife, including migrating birds, are present at the facility.

Page 2, Paragraph 2 - Pursuant to Section 3-104 - All discharges, from this site, will be consistent with the terms and conditions of the plan. Pursuant to Section

3-107.C. - The Director shall be notified of any facility modifications resulting in changes to the discharge plan.

Page 2, Paragraph 3 - In accordance with discharge plan renewal procedures - An underground drainage determination program was implemented and completed during the hydrogeological investigation conducted at the facility. The results of this investigation are detailed in the investigation report which is on file at the OCD, Santa Fe office.

Letter dated February 13, 1990-

1. Crude unloading facility south of the tank farm - Concrete curbing and pads have been installed with central drains and a collection system. A 20-mil double lined leak detection system is in place around the buried collection tank.
2. Diesel Storage Tank - Concrete pads and berms have been installed at the diesel storage tank with a central drain that collects any over flow.
3. Tank-#1 #11 (Condensate Storage) - a concrete trough with piping has been installed from the water draw to the collection sump. The leaking sample valve has been capped and all other valves have either been repaired or replaced. Collection drums were placed beneath the hatches for temporary catchment until the hatch gaskets were repaired. The sump is included on the annual cleaning and inspection schedule.
4. Tank #12 (Condensate storage) - Concrete catch basins have been installed around the pumps. A drain has been installed to the sump and the sump is included on the annual cleaning and inspection schedule. The sampling valve has been plugged. A tank draining procedure has been instituted to prevent the reoccurrence of any sump overfills.
5. Tank #14 (Gasoline Storage) - A water collection system has been installed with a central collection tank located north of tank #21. The sample valve has been capped.
6. Tank #13 (Gasoline Storage) - A water collection system has been installed with a central collection tank located north of tank #21.
7. Tank Farm Transfer Manifold - Leaking valves have been repaired.
8. Tank #19 (Gasoline Storage) - A water collection system has been installed with a central collection tank located north of tank #21.

9. Tank #18 - Leaking valves have been repaired.
10. Diesel Bottom Loading Rack - A soil tilling program has been implemented to address the hydrocarbon stained soil. Concrete curbing and padding has been installed to contain spills or leaks and a drain system has been installed to the crude pad tank.
11. Tank #20 (Diesel Storage) - This tank is no longer in service. Transfer piping has been removed, flange faces have been blind plated and all valves plugged.
12. Run Down Tanks - The 30 series run-down tanks were 400-bbl or less. These tanks have been removed from service and all but one has been disposed of. The tank which has not been disposed of has been removed from service. All piping associated with these tanks have been removed and blind platted.
13. Ethanol Load Manifold - Piping has been rerouted in order to prevent gasoline loading. Concrete curbing and padding has been installed to catch leaks or spills. A 250 gallon metal sump has been installed for the drain-off of this padding. This sump is included on the annual cleaning and inspection schedule.
14. Tank #17 (Gasoline Storage) - Water draw piping has been installed at the tank and routed to the central collection tank.
15. Tank #22 (Mixer Tank) - Water draw piping has been installed to the central collection tank and leaking valves have been repaired.
16. Tank #23 (Blend Tank) - Water draw piping has been installed to the central collection tank and leaking valves have been repaired.
17. Tank #25 (Bolted Tank) - This tank has been removed from service and disposed of.
18. Area between tank #25 and #26 - The pump has been removed from service and the oil staining has been tilled.
19. Drum Area at the MTT Building - This area is no longer used for drum storage.
20. Tank #27 (Ethanol) - Water draw piping has been installed to the central collection tank.

21. Tank #29 - Water draw piping has been installed to the central collection tank and leaking valves have been repaired.
22. Tank #21 (Gasoline) - Water draw piping has been installed to the central collection tank.
23. Tank #30 and #31 (Residual Oil) - Tank #30 and #31 are no longer in service.
24. Northeast corner of property - A subsurface investigation including installation of monitoring wells has been conducted in the noted area. The report documenting the results of the investigation is on file with the OCD, Santa Fe office.
25. Open culvert - The open culvert at the north center of the facility has been bermed to prevent off-site migration of storm water runoff.
26. Heavy Oil Loading Rack - Concrete berming and padding has been installed, as well as a heated collection tank to collect spills. This tank is also on the annual cleaning and inspection schedule.
27. Reflux Pump - A cement pad and curbing have been installed in the process area complete with storm water and process sewer collection systems.
28. Preflash Unit - The pump seal and valves have been repaired and a cement pad and curbing have been installed in the process area complete with storm water and process sewer collection systems.
29. Oil Collection Sump - With the installation of the concrete curbing and padding in the process area the noted sump has been removed.

- ▶ The following paragraph addresses the additional items requested in the February 13, 1990 letter.

As requested, all above grade tanks have been bermed. As previously noted, at this time efforts to retrieve archived tank testing data is being made. Concrete padding and berming has been installed in the noted areas of concern. In the instance that a below grade tank would be installed, a workplan detailing the proposed installation will be submitted to the OCD for approval.

I hope that this information meets your requests and approval. If you have any additional questions, please do not hesitate to call me at (505) 632-3365.

Sincerely,

*Ross Kennemer*  
Ross Kennemer  
Project Manager

810\gwrenew1

ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

I hereby acknowledge receipt of check No. 1174 dated 1/31/96,  
or cash received on \_\_\_\_\_ in the amount of \$ 3960.00

from Thriftway Co

for Bloomfield Refinery GW55  
(Facility Name) (DP No.)

Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_

Submitted to ASD by: R. Anderson Date: 3/25/96

Received in ASD by: Angela Herrera Date: 3-29-96

Filing Fee  New Facility \_\_\_\_\_ Renewal   
Modification \_\_\_\_\_ Other \_\_\_\_\_  
(specify)

Organization Code 521.07 Applicable FY 96

To be deposited in the Water Quality Management Fund.

Full Payment  or Annual Increment \_\_\_\_\_

1174

THRIFTWAY COMPANY  
710 E. 20TH ST.  
FARMINGTON, NM 87401



The First National Bank  
(406) 467-2531 OF FAIRFIELD  
DRAWER 9 • FAIRFIELD, MONTANA 59436

93-477/929

PAY

THE SUM 3960.00

TO  
THE  
ORDER  
OF

OIL CONSERVATION DIVISION  
NMED - WATER QUALITY MANAGEMENT

DATE

1/31/96

AMOUNT

\$3,960.00

[Signature]  
[Signature]

⑈001174⑈ ⑆092904774⑆ 2714801883⑈

THRIFTWAY COMPANY

DETACH AND RETAIN THIS STATEMENT  
THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW.  
IF NOT CORRECT PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED

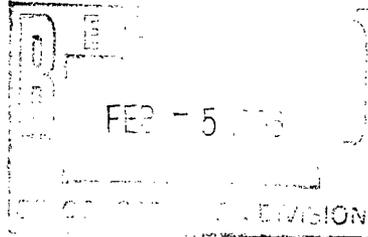
DELUXE - FORM TWC-3 V-2

| DATE    | DESCRIPTION                                        | AMOUNT     |
|---------|----------------------------------------------------|------------|
| 1/29/96 | GROUND WATER DISCHARGE PERMIT - RENEWAL FEE GW-055 | \$3,960.00 |



710 East 20th Street, Suite 400  
Farmington, New Mexico 87401  
Field Office: (505) 632-3365  
Fax: (505) 632-9850

February 2, 1996



Mr. Roger Anderson  
Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, New Mexico 87505

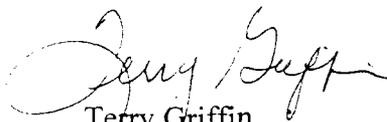
**RE: Discharge Plan GW-55 Renewal - Thriftway Company  
Bloomfield Refinery  
626 County Road 5500  
Bloomfield, San Juan Co., NM**

Dear Mr. Anderson:

Enclosed, please find the discharge plan renewal (an original and a copy) for the above referenced site along with a check for the renewal fee. A copy of this report has also been submitted to Mr. Denny Foutz, OCD, Aztec office.

A notice verifying receipt of this report and that it has been directed to the appropriate office(s) would be appreciated. If you need further information, please contact me at the number listed above.

Sincerely,

  
Terry Griffin  
Project Administrator

810\gc020296



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

February 23, 1996

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. Z-765-963-026**

Mr. Jim Ratcliffe  
Transportation Director  
Thriftway Marketing Corporation  
710 East 20th Street  
Farmington, NM 87401

**RE: Renewal Inspection  
Discharge Plan GW-55  
Thriftway Bloomfield Refinery**

Dear Mr. Ratcliffe:

The New Mexico Oil Conservation Division (OCD) has completed this inspection report as part of the permit renewal process for discharge plan GW-55. The following OCD staff members were present during the renewal inspection on Wednesday February 14, 1996 - Mr. Bill Olson, Mr. Denny Foust, and Mr. Patricio Sanchez. The purpose of this report is to provide Thriftway with the information that is needed to ensure that the NMOCD can renew GW-55 on or before the expiration date of May 9, 1996. However, it will be Thriftways responsibility to provide the OCD with commitments and time lines that are approvable at least 30 days before the permit GW-55 expires.

- Before the Refinery can be started up - Thriftway will submit a plan to pressure test all below grade lines to 3 psig above normal working pressure of the line - see OCD "Discharge Plan Guidelines, Revised 12-95" page 9. The testing plan must be approved by the Santa Fe OCD office and executed before plant start up. Also, all below grade sumps that do not have leak detection and secondary containment must be cleaned and inspected for integrity before the plant can start up-further these type of sumps shall be cleaned and inspected yearly - with written documentation kept at the facility so that OCD may view the inspection results at any time during a facility inspection.

**Note: Any new sumps, below grade tanks, double lined evaporation ponds, or modifications to the remediation system will be approved by the OCD Santa Fe office before installation - Please see the enclosed "Discharge Plan Guidelines, Revised 12-95" for other items that require OCD approval.**

Mr. Jim Ratcliffe  
Thriftway Refinery GW-55  
February 23, 1996  
Page 2

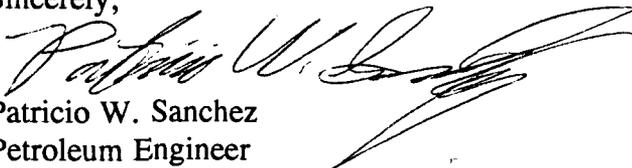
- All results from the previous discharge plan approval tank testing shall be submitted to the OCD Santa Fe office - as the OCD has not yet received the results from these previous tests.
- The firewater pond needs to be investigated for contamination - please submit a work plan as part of the renewal to address possible contamination at the firewater pond. The work plan shall include sample analysis for BTEX, TPH, Heavy Metals, as well as other applicable Hazardous Constituents and Characteristics found in 40 CFR Part 261.
- During the inspection it was noted that several groundwater wells were ungrouted - see photo No. 20 - these type of wells need to be grouted to surface with a cement grout containing 5% bentonite.
- The two 55,000 bbl tanks that are currently being leased by Giant are in need of housekeeping - see photo No. 14.
- General housekeeping is a concern - all small spills shall be racked out.
- The below grade tank (UST) needs to have the water that was in the secondary containment evacuated. The PH and Conductivity of the water in the secondary containment needs to be measured and compared with the PH and conductivity of the water inside of the UST to make certain that the UST still has integrity and is not leaking. Also, the secondary containment inspection pipe shall be capped.
- If Thriftway starts up the Refinery a monitoring plan for all leak detection and spill containment areas shall be proposed and implemented by Thriftway to ensure that minor spills and leaks are addressed promptly before they become major leaks and spills.
- Enclosed for Thriftways reference are the OCD approval letter dated May 13, 1991, and the OCD inspection report dated February 13, 1990. All items that have not been addressed as previously required must be addressed promptly as part of the renewal process.
- Please provide the OCD with the plugging information on the two Ojo Alamo wells at the site - SJ 103 and SJ 103-S. During the inspection it was stated that the two wells had been plugged and abandoned. In verbal conversation with the State Engineers office they indicated that they had no records of the wells being plugged. The OCD is concerned that these wells could act as conduits to the ground water.

Mr. Jim Ratcliffe  
 Thriftway Refinery GW-55  
 February 23, 1996  
 Page 3

- Under the Spill/Leak Prevention and solid waste disposal please refer to NMOCD Rule 116 and WQCC 1203 for spill reporting. Contact the Aztec District NMOCD office at 334-6178 for initial verbal reporting.
- Please include under section 7 and 8 as shown in the NMOCD "Discharge Plan Guidelines, Revised 12/95" on pages 6 through 11 of the guidelines all waste streams and their final disposition.
- Thriftway shall notify the OCD Aztec District office and the Santa Fe Division office 72 hours before start up of the Refinery so that OCD can make arrangements to conduct a compliance inspection during operations.

If Thriftway has any questions with regards to this inspection report feel free to contact the OCD (505)-827-7156.

Sincerely,

  
 Patricio W. Sanchez  
 Petroleum Engineer

enclosure

Z 765 963 026



**Receipt for Certified Mail**

No Insurance Coverage Provided  
 Do not use for International Mail  
 (See Reverse)

|                                                               |    |
|---------------------------------------------------------------|----|
| Sent to <i>Jim Ratcliffe</i>                                  |    |
| Street and No. <i>GW-55 Renewal</i>                           |    |
| P.O., State and ZIP Code                                      |    |
| Postage                                                       | \$ |
| Certified Fee                                                 |    |
| Special Delivery Fee                                          |    |
| Restricted Delivery Fee                                       |    |
| Return Receipt Showing to Whom & Date Delivered               |    |
| Return Receipt Showing to Whom, Date, and Addressee's Address |    |
| TOTAL Postage & Fees                                          | \$ |
| Postmark or Date                                              |    |

PS Form 3800, March 1993

XC: Mr. Denny Foust

MEMORANDUM OF MEETING OR CONVERSATION

Telephone  Personal

Time 10:40 AM

Date 2-23-96

Originating Party

Other Parties

Ray Cruz - State Engineer

Pat Sanchez - OCD

Albng. 841-9480

Subject

SJ-103 & SJ103-S - 050 Alamo wells.

Discussion

Mr. Cruz is a water Resource Tech. III w/ State Engineer in Albuquerque - He said they have no records of SJ-103 or SJ103-S being plugged.

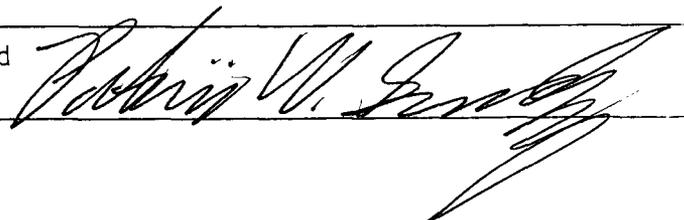
He said last report for SJ-103 was in 1994, SJ-103-S last reported in Jan. 1996. - So, as far as he knows the wells have not been plugged. I let Mr. Cruz know that the OCD is concerned that inactive/unplugged wells could become conduits to the ground water

Conclusions or Agreements

I told Mr. Cruz that I would mention the wells in my inspection report - ask how they were plugged. Mr. Cruz said he was going to call Thriftway and see what the status of the wells are.

Distribution File

Signed



**AFFIDAVIT OF PUBLICATION**

No. 35900

STATE OF NEW MEXICO  
County of San Juan:

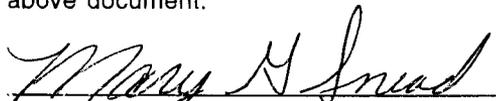
ROBERT LOVETT being duly sworn says: That he is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication on the following day(s):

Thursday, February 15, 1996

and the cost of publication is: \$71.19

  
\_\_\_\_\_

On 2/19/96 ROBERT LOVETT appeared before me, whom I know personally to be the person who signed the above document.

  
\_\_\_\_\_ My Commission Expires March 21, 1998

**RECEIVED**

FEB 22 1996

Environmental Bureau  
Oil Conservation Division

COPY OF PUBLICATION

**Legals**



**NOTICE OF PUBLICATION**

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan renewal application has been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

**(GW-55) - Thriftway Marketing Corporation, Ms. Terry Griffin, (505) 632-3365, 710 East 20th Street, Farmington, NM 87401, has submitted a Discharge Plan Renewal Application for the Bloomfield Refinery located in the SE/4, Section 32, and SW/2 SW/4, Section 33, Township 29 North, Range 11 West, and NE/4 NE/4, Section 9, Township 28 North, Range 11 West, NMPM, San Juan County, New Mexico. Approximately 1,375 gallons per day of wastewater is disposed of in a synthetically double-lined evaporation pond equipped with leak detection. The wastewater has a total dissolved solids concentration of approximately 1,670 mg/L. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth from 5 to 30 feet with a total dissolved solids concentration of approximately 4,300 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed and also covers remediation of contaminated groundwater.**

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the discharge plan application and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 7th day of February, 1996.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

/s/William J. LeMay  
WILLIAM J. LEMAY, Director

SEAL

WJL/pws

Legal No. 35900 published in The Daily Times, Farmington, New Mexico on Thursday, February 15, 1996.

RECEIVED

FEB 22 1996

Environmental Bureau  
Oil Conservation Division

**AFFIDAVIT OF PUBLICATION**

No. 35900

**COPY OF PUBLICATION**

**STATE OF NEW MEXICO**  
**County of San Juan:**

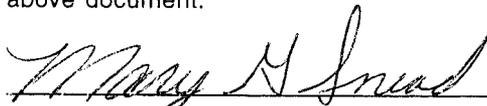
**ROBERT LOVETT** being duly sworn says: That he is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication on the following day(s):

Thursday, February 15, 1996

and the cost of publication is: \$71.19

  
\_\_\_\_\_

On 2/19/96 **ROBERT LOVETT** appeared before me, whom I know personally to be the person who signed the above document.

  
\_\_\_\_\_ My Commission Expires March 21, 1998

**Legals**



**NOTICE OF PUBLICATION**

**STATE OF NEW MEXICO**  
**ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT**  
**OIL CONSERVATION DIVISION**

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan renewal application has been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

**(GW-55) - Thriftway Marketing Corporation, Ms. Terry Griffin, (505) 632-3365, 710 East 20th Street, Farmington, NM 87401, has submitted a Discharge Plan Renewal Application for the Bloomfield Refinery located in the SE/4, Section 32, and SW/2 SW/4, Section 33, Township 29 North, Range 11 West, and NE/4 NE/4, Section 9, Township 28 North, Range 11 West, NMPM, San Juan County, New Mexico. Approximately 1,375 gallons per day of wastewater is disposed of in a synthetically double-lined evaporation pond equipped with leak detection. The wastewater has a total dissolved solids concentration of approximately 1,670 mg/L. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth from 5 to 30 feet with a total dissolved solids concentration of approximately 4,300 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed and also covers remediation of contaminated groundwater.**

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the discharge plan application and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 7th day of February, 1996.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

/s/William J. LeMay  
WILLIAM J. LEMAY, Director

SEAL

WJL/pw:

Legal No. 35900 published in The Daily Times, Farmington, New Mexico on Thursday, February 15 1996.

# The Santa Fe New Mexican

Since 1849, We Read You.

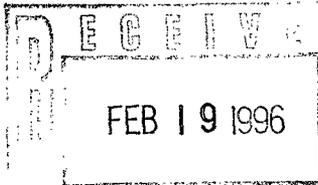
## RECEIVED

FEB 21 1996

NM OIL CONSERVATION  
P O BOX 6429  
SANTA FE, NM 87505-6429

AD NUMBER: 467870  
Environmental Bureau  
Oil Conservation Division  
LEGAL NO: 59075

ACCOUNT: 56689  
P.O. #: 96-199-002997



|             |       |      |    |          |
|-------------|-------|------|----|----------|
| 176         | LINES | once | at | \$ 70.40 |
| Affidavits: |       |      |    | 5.25     |
| Tax:        |       |      |    | 4.73     |
| Total:      |       |      |    | \$ 80.38 |

### NOTICE OF PUBLICATION

#### STATE OF NEW MEXICO

Energy, Minerals and  
Natural Resources  
Department  
Oil Conservation Division

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan application has been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico, 87505, Telephone (505) 827-7131:

(GW-55) - Thriftway Marketing Corporation, Ms. Terry Griffin, (505)-632-3365, 710 East 20th Street, Farmington, NM, 87401, has submitted a Discharge Plan Renewal Application for the Bloomfield Refinery located in the SE/4, Section 32, and SW/2 SW/4, Section 33, Township 29 North, Range 11 West, and NE/4 NE/4, Section 9, Township 28 North, Range 11 West, NMPM, San Juan County, New Mexico. Approximately 1,375 gallons per day of wastewater is disposed of in a synthetically double-lined evaporation pond equipped with leak detection. The wastewater has a total dissolved solids concentration of approximately 1,670 mg/L. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth from 5 to 30 feet with a total dissolved solids concentration of approximately 4,300 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed and also covers remediation of contaminated

groundwater.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the discharge plan application and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 7th of February, 1996.  
STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION  
WILLIAM J. LEMAY, Director  
(Legal #59075)  
Pub. February 14, 1996

### AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO  
COUNTY OF SANTA FE

I, BETSY PERNER being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily news paper published in the English language, and having a general circulation in the Counties of Santa Fe and Los Alamos, State of New Mexico and being a Newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the publication # 59075 a copy of which is hereto attached was published in said newspaper once each week for one consecutive one (s) and that the notice was published in the newspaper proper and not in any supplement; the first publication being on the 14 day of February 1996 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

/S/

*Betsy Perner*  
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 14 day of February A.D., 1996



OFFICIAL SEAL

Candace C. Ruiz

NOTARY PUBLIC - STATE OF NEW MEXICO

My Commission Expires: 9/29/99

*Candace C. Ruiz*

# The Santa Fe New Mexican

Since 1849. We Read You.

## RECEIVED

FEB 21 1996

NM OIL CONSERVATION  
P O BOX 6429  
SANTA FE, NM 87505-6429

AD NUMBER: 467870  
Environmental Bureau  
Conservation Division  
LEGAL NO: 59075

ACCOUNT: 56689  
P.O. #: 96-199-002997

|             |       |      |    |          |
|-------------|-------|------|----|----------|
| 176         | LINES | once | at | \$ 70.40 |
| Affidavits: |       |      |    | 5.25     |
| Tax:        |       |      |    | 4.73     |
| Total:      |       |      |    | \$ 80.38 |

### NOTICE OF PUBLICATION

groundwater.

### STATE OF NEW MEXICO

Energy, Minerals and  
Natural Resources  
Department  
Oil Conservation Division

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan application has been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico, 87505, Telephone (505) 827-7131:

(GW-55) - Thriftway Marketing Corporation, Ms. Terry Griffin, (505)-632-3365, 710 East 20th Street, Farmington, NM, 87401, has submitted a Discharge Plan Renewal Application for the Bloomfield Refinery located in the SE/4, Section 32, and SW/2 SW/4, Section 33, Township 29 North, Range 11 West, and NE/4 NE/4, Section 9, Township 28 North, Range 11 West, NMPM, San Juan County, New Mexico. Approximately 1,375 gallons per day of wastewater is disposed of in a synthetically double-lined evaporation pond equipped with leak detection. The wastewater has a total dissolved solids concentration of approximately 1,670 mg/L. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth from 5 to 30 feet with a total dissolved solids concentration of approximately 4,300 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed and also covers remediation of contaminated

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the discharge plan application and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 7th of February, 1996.  
STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION  
WILLIAM J. LEMAY, Director  
Legal #59075  
Pub. February 14, 1996

### AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO  
COUNTY OF SANTA FE

I, BETSY PERNER being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily news paper published in the English language, and having a general circulation in the Counties of Santa Fe and Los Alamos, State of New Mexico and being a Newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the publication # 59075 a copy of which is hereto attached was published in said newspaper once each week for one consecutive one (s) and that the notice was published in the newspaper proper and not in any supplement; the first publication being on the 14 day of February 1996 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

/s/ Betsy Perner  
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this  
14 day of February A.D., 1996



OFFICIAL SEAL  
**Candace C. Ruiz**  
NOTARY PUBLIC - STATE OF NEW MEXICO

My Commission Expires: 9/29/99  
Candace C. Ruiz

**NOTICE OF PUBLICATION**

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION**

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan renewal application has been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

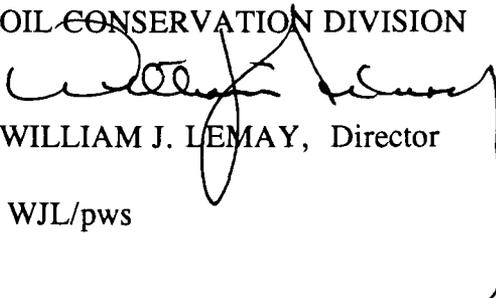
**(GW-55) - Thriftway Marketing Corporation, Ms. Terry Griffin, (505)-632-3365, 710 East 20th Street, Farmington, NM, 87401, has submitted a Discharge Plan Renewal Application for the Bloomfield Refinery located in the SE/4, Section 32, and SW/2 SW/4, Section 33, Township 29 North, Range 11 West, and NE/4 NE/4, Section 9, Township 28 North, Range 11 West, NMPM, San Juan County, New Mexico. Approximately 1,375 gallons per day of wastewater is disposed of in a synthetically double-lined evaporation pond equipped with leak detection. The wastewater has a total dissolved solids concentration of approximately 1,670 mg/L. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth from 5 to 30 feet with a total dissolved solids concentration of approximately 4,300 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed and also covers remediation of contaminated groundwater.**

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the discharge plan application and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 7th day of February, 1996.

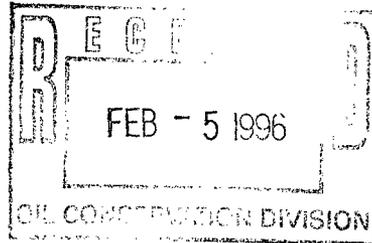
STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
WILLIAM J. LEMAY, Director

WJL/pws

S E A L

February 2, 1996



Mr. Roger Anderson  
Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, New Mexico 87505

**RE: Discharge Plan GW-55 Renewal - Thriftway Company  
Bloomfield Refinery  
626 County Road 5500  
Bloomfield, San Juan Co., NM**

Dear Mr. Anderson:

Enclosed, please find the discharge plan renewal (an original and a copy) for the above referenced site along with a check for the renewal fee. A copy of this report has also been submitted to Mr. Denny Foutz, OCD, Aztec office.

A notice verifying receipt of this report and that it has been directed to the appropriate office(s) would be appreciated. If you need further information, please contact me at the number listed above.

Sincerely,

  
Terry Griffin  
Project Administrator

810\gc020296

Oil Conservation Division  
Environment Bureau

FEB 5 1996

RECEIVED

# **BioTECH REMEDIATION Inc.**

---

---

710 East 20th Street, Suite 400 • Farmington, NM 87401 • (505) 632-3365 • Fax (505) 632-9850

**ORIGINAL**

**DISCHARGE PLAN GW-55 RENEWAL  
THRIFTWAY COMPANY  
BLOOMFIELD REFINERY  
626 COUNTY ROAD 5500  
BLOOMFIELD, SAN JUAN CO., NM**

**PREPARED FOR THE  
OIL CONSERVATION DIVISION  
ROGER ANDERSON, DIRECTOR**

**BY**

**BIOTECH REMEDIATION, INC.  
710 EAST 20TH STREET, SUITE 400  
FARMINGTON, NEW MEXICO 87401**

**JANUARY 8, 1996**