GW - 001

GENERAL CORRESPONDENCE

2007 - 1982
5 of 11

Pat Sanchez

From: Denny Foust
Sent: Friday, November 01, 1996 8:10 AM
To: Pat Sanchez
Subject: GIANT SAN JUAN REFINERY GW-1 MODIFICATION 10/29/96
Importance: High

NOVEMBER1, 1996

I DON'T HAVE A PROBLEM WITH THE GIANT SAN JUAN REFINERY GW-1 MODIFICATIONS DATED 10/29/96. MR. SHELTON AND I HAVE DISCUSSED THE NECESSITY OF ALL SHOP DRAINS TO GO THE SLOP TANK AS DESCRIBED. THE SEPTIC SYSTEM IS FOR DOMESTIC WASTE ONLY ASSOCIATED WITH OPERATIONS AND POSSIBLY AN OFFICE IN THE TRUCK SHOP.

Pat Sanchez

From: Denny Foust
Sent: Friday, November 01, 1996 7:06 AM
To: Pat Sanchez
Subject: Registered: Denny Foust

Your message

To: Denny Foust
Subject: GIANT GW-OO1,MODIFICATION DATED OCT. 29, 1996
Sent: 11/1/96 6:20:00 AM

was read on 11/1/96 7:06:00 AM

Pat Sanchez

From: Pat Sanchez
Sent: Friday, November 01, 1996 6:20 AM
To: Denny Foust
Subject: GIANT GW-OO1,MODIFICATION DATED OCT. 29, 1996
Importance: High

DENNY, PLEASE REVIEW THE MODIFICATION AS SUBMITTED BY MR. SHELTON WITH GIANT. PLEASE PROVIDE COMMENT BY E-MAIL BY MONDAY MORNING, AT 8:00 AM - NOVEMBER THE 3RD., 1996.

THANKS FOR YOUR TIME! HAVE A GOOD WEEKEND.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 11:55 AM	Date 10-28-96

Originating Party	Other Parties
Pat Sanchez - OCD	Lynn Shelton - Giant - Gdr-001

Subject: Delisted N. and S pond "API" K-051 sludge. (See letter and Attachments - dated Oct. 21, 1996 from Ms. Michelle Peale, USEPA to Pat Sanchez - OCD.)

Discussion: Notified Mr. Shelton that the OCD needed to know what Giant is proposing to do with the delisted waste. (See USEPA requirements - 60 days from 9/03/96)

Conclusions or Agreements: Mr. Shelton will Notify the OCD in writing as to what Giant proposes to do with the 2,000 cubic yards of delisted waste. He will also send the District a copy of the proposal.

Distribution: File, Denny Foust

Signed: Patricia W Sanchez

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

October 21, 1996

Mr. Pat Sanchez
New Mexico Oil Conservation Division
2040 S. Pachecko
Santa Fe, NM 87505

Dear Mr. Sanchez:

I have enclosed the information you requested from the Giant Refining Company Delisting Petition. I have also included a copy of the proposed rulemaking. It offers more background information about the petition submitted than the final decision. If you have any additional questions regarding the petition, please contact me at (214) 665-7430.

Sincerely,

Michelle R. Peace

Michelle R. Peace, Environmental Engineer
Region 6 Delisting Team

Enclosures (2)

before promulgating a rule that includes a Federal mandate that may result in expenditures by State, local, and tribal governments, in aggregate, or by the private sector, of $100 million or more in any 1 year. Section 203 requires EPA to establish a plan for obtaining input from, informing, educating, and advising any small governments that may be significantly or uniquely affected by the rule.

Under section 205 of the Unfunded Mandates Act, EPA must identify and consider a reasonable number of regulatory alternatives before promulgating a rule for which a budgetary impact statement must be prepared. The EPA must select from those alternatives the least costly, most cost-effective, or least burdensome alternative that achieves the objective of the rule, unless EPA explains why a particular alternative is not selected or the selection of a particular alternative is inconsistent with law.

Because this proposed rule does not impose any new mandates on State, local, or tribal governments, and the rule is estimated to result in the expenditures by State, local, and tribal governments or the private sector of less that $100 million in any 1 year, EPA has not prepared a budgetary impact statement or specifically addressed the selection of the least costly, most cost-effective, or least burdensome alternative. Because small governments will not be significantly or uniquely affected by this rule, EPA is not required to develop a plan with regard to small governments. However, EPA will work with eligible State and local air pollution control agencies to assist them in requesting delegation of authority to implement and enforce the OCS regulations.

C. Paperwork Reduction Act

These rule revisions do not contain any information collection requirements subject to review by the OMB under the Paperwork Reduction Act of 1980, 44 U.S.C. § 3501, *et seq.*

D. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) of 1980 requires Federal agencies to identify potentially adverse impacts of Federal rules upon small entities. Small entities include small businesses, organizations, and governmental jurisdictions. In instances where significant economic impacts are possible on a substantial number of these entities, agencies are required to perform a regulatory flexibility analysis. Furthermore, *EPA Guidelines for Implementing the Regulatory Flexibility Act*, issued on April 9, 1992, require the Agency to determine whether regulations will have any economic impacts on small entities. These revisions to the OCS regulations do not, in themselves, impose any requirements on small entities, nor require or exclude small entities from meeting the requirements of the OCS regulations. As a result, EPA has determined that these revisions will not have a significant impact on a substantial number of small entities.

Therefore, as required under § 605 of the RFA, 5 U.S.C. 605, I certify that these revisions do not have a significant impact on a substantial number of small entities.

List of Subjects in 40 CFR Part 55

Environmental protection, Administrative practice and procedures, Air pollution control, Continental shelf, Intergovernmental relations, Nitrogen oxides, Ozone, permits, Reporting and recordkeeping requirements, Sulfur oxides.

Dated: May 13, 1996.

Carol M. Browner,

Administrator.

For reasons set out in the preamble, 40 CFR part 55 is proposed to be amended as set forth below.

PART 55—OUTER CONTINENTAL SHELF AIR REGULATIONS

1. The authority citation for part 55 continues to read as follows:

Authority: Section 328 of the Clean Air Act (42 U.S.C. 7401 *et seq.*) as amended by Public Law 101-549.

§ 55.2 [Amended]

2. In § 55.2 the introductory text of the definition of "Nearest Onshore Area" is proposed to be amended by adding a comma after "OCS source" and removing the words "located within 25 miles of the States' seaward boundary," which follows.

3. Section 55.3 is proposed to be amended by revising paragraph (c) to read as follows:

§ 55.3 Applicability.

* * * * *

(c) The OCS sources located beyond 25 miles of States' seaward boundaries shall be subject to all the requirements of this part, except the requirements of §§ 55.4, 55.5, 55.12 and 55.14 of this part.

* * * * *

4. Section 55.6 is proposed to be amended by revising paragraph (d)(2) to read as follows:

§ 55.6 Permit requirements.

* * * * *

(d) * * *

(1) * * *

(2) The Administrator or delegated agency shall not issue a permit to operate to any existing OCS source that has not demonstrated compliance with all the applicable requirements of this part.

* * * * *

5. Section 55.11 is proposed to be amended by revising paragraph (a) and by adding paragraph (j) to read as follows:

§ 55.11 Delegation.

(a) The governor or the governor's designee of any State adjacent to an OCS source subject to the requirements of this part may submit a request, pursuant to section 328(a)(3) of the Act, to the Administrator for the authority to implement and enforce the requirements of this OCS program (i) within 25 miles of the State's seaward boundary and/or beyond 25 miles of the State's seaward boundary. Authority to implement and enforce §§ 55.5, 55.11, and 55.12 of this part will not be delegated.

* * * * *

(j) *Delegated Authority.*

The delegated agency in the COA for sources located within 25 miles of the State's seaward boundary or the delegated agency in the NOA for sources located beyond 25 miles of the State's seaward boundary will exercise all delegated authority. If there is no delegated agency in the COA for sources located within 25 miles of the State's seaward boundary, or in the NOA for sources located beyond 25 miles of the State's seaward boundary, the EPA will issue the permit and implement and enforce the requirements of this part. For sources located within 25 miles of the State's seaward boundary, the Administrator may retain the authority for implementing and enforcing the requirements of this part if the NOA and COA are in different States.

[FR Doc. 96-12627 Filed 5-17-96; 8:45 am]

BILLING CODE 6560-50-P

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40 CFR Part 261

[SW-FRL-5507-8]

Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Proposed Exclusion

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule and request for comment.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to grant a

petition to Giant Refining Company (Giant) to exclude (or "delist"), on a one-time basis, certain solid wastes generated at its facility from the lists of hazardous wastes contained in 40 CFR 261.31 and 261.32 (hereinafter all sectional references are to 40 CFR unless otherwise indicated). This action responds to a delisting petition originally submitted by the Bloomfield Refining Company, Inc. (Bloomfield), in Bloomfield, New Mexico. Bloomfield was purchased by Giant on October 4, 1995. Giant has advised the Agency that it wishes to proceed with the petition for delisting submitted by Bloomfield. This petition was submitted under 40 CFR 260.20, which allows any person to petition the Administrator to modify or revoke any provision of 40 CFR parts 260 through 266, 268 and 273, and under 40 CFR 260.22, which specifically provides generators the opportunity to petition the Administrator to exclude a waste on a "generator specific" basis from the hazardous waste lists. This proposed decision is based on an evaluation of waste-specific information provided by the petitioner. If this proposed decision is finalized, the petitioned waste will be conditionally excluded from the requirements of hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA).

The EPA is also proposing the use of a fate and transport model (the EPA Composite Model for Landfills (EPACML)) to evaluate the potential impact of the petitioned waste on human health and the environment, based on the waste-specific information provided by the petitioner. This model has been used in evaluating the petition to predict the concentration of hazardous constituents that may be released from the petitioned waste, once it is disposed.

DATES: The EPA is requesting public comments on this proposed decision and on the applicability of the fate and transport model used to evaluate the petition. Comments will be accepted until July 5, 1996. Comments postmarked after the close of the comment period will be stamped "late."

Any person may request a hearing on this proposed decision by filing a request with Jane N. Saginaw, Regional Administrator, whose address appears below, by June 4, 1996. The request must contain the information prescribed in 40 CFR 260.20(d).

ADDRESSES: Send three copies of your comments. Two copies should be sent to William Gallagher, Delisting Program, Multimedia Planning and Permitting Division (6PD-O), Environmental Protection Agency, Region 6, 1445 Ross Avenue, Dallas, Texas 75202. A third copy should be sent to the New Mexico Environment Department, Hazardous and Radioactive Materials Bureau, 1190 St. Francis Drive, Sante Fe, New Mexico 87502. Identify your comments at the top with this regulatory docket number: "F-96-NMDEL-GIANT."

Requests for a hearing should be addressed to the Regional Administrator, Region 6, Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202.

The RCRA regulatory docket for this proposed rule is located at the Region 6, Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202 and is available for viewing in the EPA library on the 12th floor from 8:30 a.m. to 4:00 p.m., Monday through Friday, excluding Federal holidays. Call (214) 665-6444 for appointments. The docket may also be viewed at the New Mexico Environment Department, 1190 St. Francis Drive, Sante Fe, New Mexico 87502. The public may copy material from any regulatory docket at no cost for the first 100 pages, and at $0.15 per page for additional copies.

FOR FURTHER INFORMATION, CONTACT: For technical information concerning this notice, contact Michelle Peace, Delisting Program (6PD-O), Region 6, Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202, (214) 665-7430.

SUPPLEMENTARY INFORMATION:

I. Background

A. Authority

On January 16, 1981, as part of its final and interim final regulations implementing Section 3001 of RCRA, the EPA published an amended list of hazardous wastes from non-specific and specific sources. This list has been amended several times, and is published in § 261.31 and § 261.32. These wastes are listed as hazardous because they typically and frequently exhibit one or more of the characteristics of hazardous wastes identified in Subpart C of Part 261 (i.e., ignitability, corrosivity, reactivity, and toxicity) or meet the criteria for listing contained in § 261.11 (a)(2) or (a)(3).

Individual waste streams may vary, however, depending on raw materials, industrial processes, and other factors. Thus, while a waste that is described in these regulations generally is hazardous, a specific waste from an individual facility meeting the listing description may not be. For this reason, § 260.20 and § 260.22 provide an exclusion procedure, allowing persons to demonstrate that a specific waste from a particular generating facility should not be regulated as a hazardous waste.

To have their wastes excluded, petitioners must show that wastes generated at their facilities do not meet any of the criteria for which the wastes were listed. See § 260.22(a) and the background documents for the listed wastes. In addition, the Hazardous and Solid Waste Amendments (HSWA) of 1984 require the Agency to consider any factors (including additional constituents) other than those for which the waste was listed, if there is a reasonable basis to believe that such additional factors could cause the waste to be hazardous. Accordingly, a petitioner also must demonstrate that the waste does not exhibit any of the hazardous waste characteristics (i.e., ignitability, reactivity, corrosivity, and toxicity), and must present sufficient information for the Agency to determine whether the waste contains any other toxicants at hazardous levels. See § 260.22(a), 42 U.S.C. § 6921(f), and the background documents for the listed wastes. Although wastes which are "delisted" (i.e., excluded) have been evaluated to determine whether or not they exhibit any of the characteristics of hazardous waste, generators remain obligated under RCRA to determine whether or not their waste remains non-hazardous based on the hazardous waste characteristics.

In addition, residues from the treatment, storage, or disposal of listed hazardous wastes and mixtures containing listed hazardous wastes are also considered hazardous wastes. See §§ 261.3 (a)(2)(iv) and (c)(2)(i), referred to as the "mixture" and "derived-from" rules, respectively. Such wastes are also eligible for exclusion and remain hazardous wastes until excluded. On December 6, 1991, the U.S. Court of Appeals for the District of Columbia vacated the "mixture/derived from" rules and remanded them to the Agency on procedural grounds. *See* Shell Oil Co. v. EPA, 950 F.2d 741 (D.C. Cir. 1991). On March 3, 1992, EPA reinstated the mixture and derived-from rules, and solicited comments on other ways to regulate waste mixtures and residues (57 Federal Register (FR) 7628). On December 21, 1995, the EPA proposed rules related to waste mixtures and residues at 60 FR 66344 and invited public comment.

B. Approach Used To Evaluate This Petition

Giant's petition requests a delisting for a listed hazardous waste. In making the initial delisting determination, the EPA evaluated the petitioned waste against the listing criteria and factors

cited in § 261.11 (a)(2) and (a)(3). Based on this review, the EPA agreed with the petitioner that the waste is non-hazardous with respect to the original listing criteria. (If the EPA had found, based on this review, that the waste remained hazardous based on the factors for which the waste was originally listed, the EPA would have proposed to deny the petition.) The EPA then evaluated the waste with respect to other factors or criteria to assess whether there is a reasonable basis to believe that such additional factors could cause the waste to be hazardous. The EPA considered whether the waste is acutely toxic, and considered the toxicity of the constituents, the concentration of the constituents in the waste, their tendency to migrate and to bioaccumulate, their persistence in the environment once released from the waste, plausible and specific types of management of the petitioned waste, the quantities of waste generated, and waste variability.

For this delisting determination, the EPA used such information to identify plausible exposure routes (i.e., ground water, surface water, air) for hazardous constituents present in the petitioned waste. The EPA determined that disposal in a Subtitle D landfill is the most reasonable, worst-case disposal scenario for Giant's petitioned waste, and that the major exposure route of concern would be ingestion of contaminated ground water. Therefore, the EPA is proposing to use a particular fate and transport model to predict the maximum allowable concentrations of hazardous constituents that may be released from the petitioned waste after disposal and to determine the potential impact of the disposal of Giant's petitioned waste on human health and the environment. Specifically, the EPA used the maximum estimated waste volume and the maximum reported extract concentrations as inputs to estimate the constituent concentrations in the ground water at a hypothetical receptor well downgradient from the disposal site. The calculated receptor well concentrations (referred to as compliance-point concentrations) were then compared directly to the current health-based levels at an assumed risk value of 10^{-6} used in delisting decision-making for the hazardous constituents of concern.

The EPA believes that this fate and transport model represents a reasonable worst-case scenario for disposal of the petitioned waste in a landfill, and that a reasonable worst-case scenario is appropriate when evaluating whether a waste should be relieved of the protective management constraints of RCRA Subtitle C. The use of a reasonable worst-case scenario results in conservative values for the compliance-point concentrations and ensures that the waste, once removed from hazardous waste regulation, will not pose a threat to human health or the environment. Because a delisted waste is no longer subject to hazardous waste control, the EPA is generally unable to predict and does not presently control how a waste will be managed after delisting. Therefore, the EPA does not currently consider extensive site-specific factors when applying the fate and transport model.

The EPA also considers the applicability of groundwater monitoring data during the evaluation of delisting petitions. The EPA normally requests groundwater monitoring data for wastes managed on-site to determine whether hazardous constituents have migrated to the underlying groundwater. Groundwater monitoring data provides significant additional information important to fully characterize the potential impact (if any) of the disposal of a petitioned waste on human health and the environment. In this case, the EPA determined that the groundwater monitoring data was not applicable to the evaluation of the petitioned waste. Although Giant's petitioned waste is managed in an on-site waste pile, the EPA Region 6 has not required Giant to install groundwater monitoring wells specifically to monitor the waste pile. Giant does have a monitoring system in place at its facility, including wells in the vicinity of the waste pile. However, the location of these wells were not selected with the specific intent of monitoring the waste pile. For these reasons, the EPA does not believe that data collected from Giant's groundwater monitoring system will provide a clear measure of whether the waste pile has adversely impacted groundwater quality at the Giant site. However, the potential impact of these wastes on the groundwater will be predicted through the application of the EPACML, fate and transport model.

Finally, the Hazardous and Solid Waste Amendments of 1984 specifically require the EPA to provide notice and an opportunity for comment before granting or denying a final exclusion. Thus, a final decision will not be made until all timely public comments (including those at public hearings, if any) on today's proposal are addressed.

II. Disposition of Delisting Petition

Giant Refining Company, Bloomfield, New Mexico

A. Petition for Exclusion

Giant, located in Bloomfield, New Mexico, is involved in the processing and refining of petroleum. Giant petitioned the EPA for an exclusion of a discrete volume of contaminated soil presently stored in an on-site waste pile, generated from the cleaning of two wastewater treatment impoundments (referred to as the South and North Oily Water Ponds) in 1982. The soil is classified as EPA Hazardous Waste No. K051—"API separator sludge from the petroleum refining industry." The listed constituents of concern for EPA Hazardous Waste No. K051 are hexavalent chromium and lead (see Part 261, Appendix VII).

Giant petitioned the EPA to exclude this discrete volume of excavated soil because it does not believe that the waste meets the criteria for which it was listed. Giant also believes that the waste does not contain any other constituents that would render it hazardous. Review of this petition included consideration of the original listing criteria, as well as the additional factors required by the Hazardous and Solid Waste Amendments (HSWA) of 1984. See Section 222 of HSWA, 42 U.S.C. § 6921(f), and 40 CFR § 260.22(d) (2)–(4). Today's proposal to grant this petition for delisting is the result of the EPA's evaluation of Giant's petition.

B. Background

On April 15, 1991, Bloomfield, now Giant, petitioned the EPA to exclude, from the lists of hazardous wastes contained in 40 CFR § 261.31 and § 261.32, a discrete volume of contaminated soil excavated from its wastewater treatment impoundments. Giant subsequently provided additional information to complete its petition. Specifically, in its petition, Giant requested that the EPA grant an one-time exclusion for 2,000 cubic yards of excavated soil presently stored in an on-site waste pile.

In support of its petition, Giant submitted: (1) descriptions of its wastewater treatment processes and the excavation activities associated with the petitioned waste; (2) results from total constituent analyses for the eight Toxicity Characteristic (TC) metals listed in § 261.24 (i.e., the TC metals) antimony, beryllium, cyanide, nickel, vanadium, and zinc from representative samples of the stockpiled waste; (3) results from the Toxicity Characteristic Leaching Procedure (TCLP, SW-846

Method 1311) for the eight TC metals, antimony, beryllium, cyanide, nickel, vanadium, and zinc from representative samples of the stockpiled waste; (4) results from the Oily Waste Extraction Procedure (OWEP, SW–846 Method 1330) for the eight TC metals, antimony, beryllium, nickel, vanadium, and zinc from representative samples of the stockpiled waste; (5) results from the Extraction Procedure Toxicity Test (EP, SW–846 Method 1310) for the eight metals listed in § 261.24 from representative samples of the stockpiled waste; (6) results from total oil and grease analyses from representative samples of the stockpiled waste; (7) test results and information regarding the hazardous characteristics of ignitability, corrosivity, and reactivity; and (8) results from total constituent and TCLP analyses for certain volatile and semi-volatile organic compounds from representative samples of the stockpiled waste.

Giant is an active petroleum refinery. In October 1984, Bloomfield purchased the refinery located in Bloomfield, New Mexico, from Plateau, Inc., a subsidiary of Suburban Propane Gas Corporation. On October 4, 1995, Giant purchased the refinery from Bloomfield. Giant has assumed ownership and operation of the Bloomfield site and wishes to proceed with the petition for delisting originally submitted by Bloomfield. Current refinery operations, including wastewater treatment, are different than the operations on-line during the time period the waste considered in this petition was generated. During the period of interest, Plateau operated the refinery primarily as a producer of gasoline and diesel fuel. The facility processed roughly 10,000 barrels per day of low sulfur crude oil. The refinery was altered substantially during the period of time in which the waste was generated. In 1976, the refinery consisted of a crude unit with a capacity of 8,000 barrels per day, a reformer with a capacity of roughly 2,800 barrels per day, and required tankage and utilities. By November 1982, the refinery had installed a 6,000 barrel per day fluidized catalytic cracking unit, expanded the crude unit to 16,500 barrels per day, installed a wastewater treatment system, and had added to tankage and utilities. The refinery experienced no periods of inactivity during this time.

Prior to November 1982, Plateau operated two wastewater treatment surface impoundments; the bottoms of the two impoundments had been treated with bentonite to retard migration of contaminants. These two impoundments were used to contain water outflow from an API separator. The API separator was used to remove oil and oily sludges from refinery wastewater and consisted of two reinforced concrete bays. The API separator system received wastewaters from many sources during the time period of waste generation, including boiler blowdown; cooling tower blowdown; desalination water; process area runoff; small amounts of solvent cleaners and sealants; and lubricants used in site vehicles, pump reservoirs, metal machining tools, instrument air supplies, and during the overhaul and rebuilding of various pieces of process equipment. Oily wastewater entered the API separator and was contained for a period of approximately 27 hours (flow to the API separator averaged roughly 35 gallons per minute during the period of interest). Oil within the wastewater was allowed to rise and form a separate floating phase. This phase was recovered through a weir at the downstream end of each bay. Wastewater from each bay flowed under the weir, discharging into the first of two impoundments. Wastewater from the first impoundment was subsequently directed through an outflow pipe to the second impoundment. In addition, any oily sludge with a density heavier than the wastewater sank to the bottom of the concrete bays. These sludges were removed and disposed of at a hazardous waste facility approximately every two years.

During the period around October and November 1982, Plateau cleaned the impoundments to install a 100 milliliter synthetic high density polyethylene (HDPE) liner. Approximately 90,000 gallons of sludge were removed by vacuum truck and disposed of in an offsite hazardous waste disposal facility. This sludge was mainly the result of the accumulation of windblown dirt and debris. Visibly contaminated soil from the impoundments was removed and disposed of in an unlined on-site landfill in October 1984. This landfill was a dedicated area of the Giant site, and did not hold any other waste material. Plateau assumed this material was not hazardous based on characteristic testing. As part of subsequent closure activities, the contaminated soil was reexcavated in November 1989 and stockpiled at its present location, where it awaits final disposal. This volume of stockpiled soil is the subject of Giant's delisting petition.

The impoundments were originally installed about 1974 for fresh water use. Following the installation of the API separator in late 1976, wastewater from the API separator was routed to the impoundments for further wastewater treatment. Prior to the installation of the API separator, a tank was used to recover oil from wastewater. The API separator was installed because of substantial expansion planned and underway for the refinery. Therefore, the period of generation of waste sludges into the impoundments (and, therefore, the generation of the contaminated soil) was from late 1976 until the impoundments were cleaned in November 1982.

The stockpiled waste has a moisture content of roughly 25 percent. The waste does not contain any free liquids or liquid petroleum. The stockpiled waste consists only of the waste that was originally deposited in the landfill from the impoundments and a small amount of soils adjacent to the landfill that was removed during the November 1989 excavation activities.

To collect representative samples from a waste pile like Giant's, petitioners are normally requested to divide the unit into four quadrants (not exceeding 10,000 square feet per quadrant) and randomly collect five full-depth core samples from each quadrant. The five full-depth core samples are then composited (mixed) by quadrant to produce a total of four composite samples. See *Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods*, EPA, Office of Solid Waste and Emergency Response, Publication SW–846 (third edition), November 1986, and *Petitions to Delist Hazardous Wastes—A Guidance Manual*, (second edition), EPA, Office of Solid Waste, (EPA/530–R–93–007), March 1993.

The first sampling and analysis of the stockpiled waste took place in May 1990. Two samples of waste were gathered over the full depth of the waste pile, from the surface to the bottom of the waste pile. This was accomplished by cutting trenches into the waste pile using a backhoe and gathering composite samples, with a trowel, from ten locations within each trench spanning the entire depth of the trench. To form a composite from the west side of the waste pile, ten samples each from six trenches were mixed in a bucket (for a total of 60 samples). The same procedure was followed in forming a composite from the east side of the waste pile. These two composite samples were analyzed for the total concentrations (i.e., mass of a particular constituent per mass of waste) of the eight TCLP metals, nickel, antimony, beryllium, vanadium, selected volatile and semi-volatile organic constituents, and oil and grease content. These two samples were also analyzed to

determine whether the waste exhibited ignitable, corrosive, or reactive properties as defined, respectively, under § 261.21, § 261.22, and § 261.23, including analysis for total constituent concentrations of cyanide, sulfide, reactive cyanide, and reactive sulfide. These two samples were also analyzed for TCLP concentrations (i.e., mass of a particular constituent per unit volume of extract) of the eight TC metals, nickel, and selected volatile and semi-volatile organic constituents. Finally, these two samples were analyzed for EP toxicity concentrations of the eight metals listed in § 261.24.

To highlight any possible variance of the outer material due to weathering, a third composite sample was formed from samples taken from eight locations across the surface of the waste pile. The maximum depth sampled was twelve inches. This composite sample was subject to the same analyses as the other two composite samples. In August 1990, Giant collected three samples, one sample each from the west side, east side, and surface of the waste pile. These samples were analyzed for TCLP concentrations of selected semi-volatile constituents.

Giant claims that because the waste pile was subjected to several operations that would have mixed the waste to a significant extent, including dredging of the wastewater treatment impoundments; loading and transporting the waste; unloading and spreading the waste in the landfill; reexcavating, loading and transporting the waste; and spreading and contouring the waste, the analytical data obtained from the two composite samples are representative of any variation in the waste pile concentrations. Based on its review of information describing this sampling event, the EPA concluded that these samples were not sufficient to support a delisting determination in part, because only two of the samples represented the full depth of the waste pile. At the request of the EPA, Giant submitted an addendum to its delisting petition. This addendum, submitted on June 25, 1993, included results from the analysis of four additional samples of the petitioned waste. Four waste samples were collected from the waste pile at the Giant facility in April 1993. The waste pile was divided into four quadrants and four full-depth core samples were collected from each quadrant.

All four samples were analyzed for total constituent concentrations of the TC metals, antimony, beryllium, cyanide, nickel, sulfide, vanadium, zinc, reactive cyanide, and reactive sulfide. The four composite samples were also analyzed for oil and grease content and leachate concentrations (using the TCLP and OWEP) of the TC metals, antimony, beryllium, cyanide, nickel, vanadium, and zinc (using distilled water in the cyanide extraction). An aliquot of the full-depth core sample was removed and analyzed for total constituent and TCLP leachate concentrations of selected volatile organic constituents. In addition, the remainder of the sample was composited and analyzed for total constituent and TCLP leachate concentrations of selected semi-volatile organic constituents.

C. Agency Analysis

Giant used SW–846 Methods 7041 through 7740 to quantify the total constituent concentrations of antimony, arsenic, lead, mercury, and selenium; and SW–846 Method 6010 to quantify total constituent concentrations of barium, beryllium, cadmium, chromium, nickel, silver, vanadium, and zinc in the 1990 and 1993 samples. Giant used SW–846 Methods 9010 (modified) to quantify the total constituent concentrations of cyanide in the 1990 and 1993 samples. Giant used Methods 7.3.4.2 and 9030 modified to quantify the total constituent concentrations of sulfide, respectively, in the 1990 and 1993 samples.

Using modified SW 846 Method 9071, Giant determined that the petitioned waste had a maximum oil and grease content of 2.35 percent. Two composite samples of the waste had more than one percent oil and grease. The leachate analyses for one sample extract (as discussed below) was modified in accordance with the OWEP methodology. The leachate analysis for the other sample extract was not modified, as the laboratory had already conducted the TCLP without filtration difficulties. Wastes having more than one percent total oil and grease may either have significant concentrations of constituents of concern in the oil phase, which may not be assessed using the standard leachate procedures, or the concentration of oil and grease may be sufficient to coat the solid phase of the sample and interfere with the leaching of metals from the sample.

Giant used SW–846 Method 1311 (TCLP)/Method 6010 to quantify the leachable concentrations of the eight TC metals, antimony, beryllium, nickel, vanadium, and zinc in the 1990 and 1993 samples. SW–846 Method 7470 was used for mercury analyses of the extracts from the 1993 samples. Giant used SW–846 Method 1311 (TCLP; modified using distilled water)/Method 9010 to quantify leachable cyanide concentrations in the 1993 samples. Extractable metals for one of the 1993 composite samples (i.e., Sample D) was evaluated by the OWEP (SW–846 Method 1330).[1]

Giant used SW–846 Method 1310 (EP)/Method 6010 to quantify the leachable concentrations of arsenic, barium, cadmium, chromium, lead, selenium, and silver in the 1990 samples. SW–846 Method 7470 was used for mercury analyses of the extracts from the 1990 samples. The EP analyses were only conducted on the three 1990 composite samples.

Characteristic testing was conducted on the 1990 and 1993 samples of the stockpiled waste, including analysis for reactive cyanide and reactive sulfide (SW–846 Methods 7.3.3.2 and 7.3.4.2, respectively), ignitability (SW–846 Method 1010 (modified)), and corrosivity (SW–846 Method 9045).

Table 1 presents the maximum total constituent and leachate concentrations for the eight TC metals, antimony, beryllium, cyanide, nickel, vanadium, and zinc for the composite samples of the petitioned waste. Table 1 also presents maximum reactive cyanide and reactive sulfide concentrations.

The detection limits presented in Table 1 represent the lowest concentrations quantifiable by Giant when using the appropriate SW–846 or Agency-approved analytical methods to analyze its waste. (Detection limits may vary according to the waste and waste matrix being analyzed, i.e., the "cleanliness" waste matrices varies and "dirty" waste matrices may cause interferences, thus raising the detection limits).

Giant used SW–846 Methods 8240 and 8270 to quantify the total constituent concentrations of 41 volatile and 65 semi-volatile organic compounds, respectively, in the stockpiled waste samples. This suite of constituents included all of the nonpesticide organic constituents listed in § 261.24. Giant used SW–846 Methods 8240 and 8270 to quantify the leachable concentrations of 21 volatile and 76 semi-volatile organic compounds, respectively, in the stockpiled waste samples, following extraction by SW–846 Method 1311

[1] The Oily Waste Extraction Procedure (OWEP) is a leach test used to determine the mobile metal concentration in oily wastes. The OWEP simulates biodegradation that has occurred in the landfill. The oil in the wastes, which tends to bind complex metals such that they are not available for leaching, degrades in the landfill disposal environment, eventually resulting in the release of the metals into the underlying strata and ground water. Per the EPA instructions, Bloomfield modified the OWEP by substituting the Toxicity Characteristic Leaching Procedure (TCLP) for the Extraction Procedure (EP) in step 7.10 of the OWEP method.

(TCLP). This suite of constituents included all of the organic constituents listed in § 261.24. Table 2 presents the maximum total and leachate concentrations of all detected organic constituents in Giant's waste and waste extract samples. Lastly, on the basis of explanations and analytical data provided by Giant, none of the analyzed samples exhibited the characteristics of ignitability, corrosivity, or reactivity. See § 261.21, § 261.22 and § 261.23.

TABLE 1.—MAXIMUM TOTAL CONSTITUENT AND LEACHATE CONCENTRATIONS (ppm) [1] STOCKPILED SOIL

Inorganic constituents	Total constituent analyses	Leachate analyses	
		EP/TCLP	OWEP
Antimony	< 0.3	0.07	< 0.616
Arsenic	3.9	< 0.2	< 2.05
Barium	194	0.632	0.629
Beryllium	0.3	0.002	< 1.03
Cadmium	3.9	0.003	< 0.030
Chromium (total)	507	0.149	< 0.0999
Cyanide (total)	< 1	< 0.02	
Lead	26.2	< 0.08	0.916
Mercury	0.29	< 0.1	< 0.006
Nickel	14.7	0.007	0.954
Selenium	< 0.4	< 0.09	1.68
Silver	< 0.7	< 0.007	< 0.074
Vanadium	55	< 0.04	< 0.41
Zinc	302	1.67	0.978
Cyanide (reactive)	< 2		
Sulfide (reactive)	< 10		

< Denotes that the constituent was not detected at the detection limit specified in the table.
[1] These levels represent the highest concentration of each constituent found in any one sample. These levels do not necessarily represent the specific levels found in one sample.

TABLE 2.—MAXIMUM TOTAL CONSTITUENT AND LEACHATE CONCENTRATIONS (ppm) [1] STOCKPILED SOIL

Organic constituents	Total constituent analyses	TCLP leachate analyses
Acetone	0.032	< 0.1
Benzo(a)anthracene	1.2	< 0.005
Benzo(a)pyrene	2.1	< 0.005
Chrysene	3.9	< 0.005
Fluorene	1.5	< 0.005
2-Methylnaphthalene	5.9	0.006
Naphthalene	0.83	< 0.005
Phenanthrene	4.4	< 0.005
Pyrene	2.1	< 0.005

< Denotes that the constituent was not detected at the detection limit specified in the table.
[1] These levels represent the highest concentration of each constituent found in any one sample. These levels do not necessarily represent the specific levels found in one sample.

Giant submitted a signed certification stating that the waste pile contains 2,000 cubic yards of waste. The EPA reviews a petitioner's estimates and, on occasion, has requested a petitioner to re-evaluate estimated waste volume. The EPA accepted Giant's certified estimate of 2,000 cubic yards of stockpiled waste.

The EPA does not generally verify submitted test data before proposing delisting decisions. The sworn affidavit submitted with this petition binds the petitioner to present truthful and accurate results. The EPA, however, has maintained a spot-check sampling and analysis program to verify the representative nature of the data for some percentage of the submitted petitions. A spot-check visit to a selected facility may be initiated before finalizing a delisting petition or after granting a final exclusion.

D. Agency Evaluation

The EPA considered the appropriateness of alternative waste management scenarios for Giant's stockpiled waste and decided, based on the information provided in the petition, that disposal in a municipal solid waste landfill is the most reasonable, worst-case scenario for this waste. Under a landfill disposal scenario, the major exposure route of concern for any hazardous constituents would be ingestion of contaminated ground water. The EPA, therefore, evaluated Giant's petitioned waste using the modified EPACML which predicts the potential for groundwater contamination from wastes that are landfilled. See 56 *FR* 32993 (July 18, 1991), 56 *FR* 67197 (December 30, 1991), and the RCRA public docket for these notices for a detailed description of the EPACML model, the disposal assumptions, and the modifications made for delisting. This model, which includes both unsaturated and saturated zone transport modules, was used to predict reasonable worst-case contaminant levels in groundwater at a compliance point (i.e., a receptor well serving as a drinking-water supply). Specifically, the model estimated the dilution/attenuation factor (DAF) resulting from subsurface processes such as three-dimensional dispersion and dilution from groundwater recharge for a specific volume of waste. The EPA requests comments on the use of the

EPACML as applied to the evaluation of Giant's petitioned waste.

For the evaluation of Giant's petitioned waste, the EPA used the EPACML to evaluate the mobility of the hazardous inorganic constituents detected in the extract of samples of Giant's stockpiled waste. The EPA intends to evaluate petitions for wastes no longer being generated on a case-by-case basis. The DAFs are currently calculated assuming an ongoing process generates wastes for 20 years. Therefore, the DAF needs to be adjusted as appropriate for an one-time exclusion. The DAF for the waste volume of 2,000 cubic yards/year has been adjusted for the evaluation of this petition. The DAF for 2,000 cubic yards/year assuming 20 years of generation is 79, for this petition a DAF of 100 is being used. The EPA's evaluation, using a DAF of 100, maximum waste volume estimate of 2,000 cubic yards and the maximum reported TCLP or OWEP leachate concentrations (see Table 1), yielded compliance-point concentrations (see Table 3) that are below the current health-based levels at an assumed risk level of 10^{-6} used in delisting decision-making.

TABLE 3.—EPACML: CALCULATED COMPLIANCE-POINT CONCENTRATIONS (ppm) STOCKPILED SOIL

Inorganic constituents	Compliance point concentrations [1] (mg/l)	Levels of regulatory concern [2] (mg/l)
Antimony	0.0007	0.006
Barium	0.0063	2.0
Beryllium	0.00002	0.004
Cadmium	0.00003	0.005
Chromium	0.0015	0.1
Lead	0.009	0.015
Nickel	0.010	0.1
Selenium	0.017	0.05
Zinc	0.017	10.0

[1] Using the maximum EP/TCLP leachate level and based on a DAF of 100 calculated using the EPACML for an one-time volume of 2,000 cubic yards.

[2] See *Docket Report on Health-Based Levels and Solubilities Used in the Evaluation of Delisting Petitions*, December 1994 located in the RCRA public docket for today's notice.

The maximum reported or calculated leachate concentrations of antimony, barium, beryllium, cadmium, chromium, lead, nickel selenium, and zinc in the stockpiled waste yielded compliance point concentrations well below the health-based levels used in delisting decision-making. The EPA did not evaluate the mobility of the remaining inorganic constituents (i.e., arsenic, mercury, silver, vanadium, and cyanide) from Giant's waste because they were not detected in the leachate using the appropriate analytical test methods (see Table 1). The EPA believes that it is inappropriate to evaluate nondetectable concentrations of a constituent of concern in its modeling efforts if the nondetectable value was obtained using the appropriate analytical method. If a constituent cannot be detected (when using the appropriate analytical method with an adequate detection limit), the EPA assumes that the constituent is not present and therefore does not present a threat to human health or the environment.

The EPA also evaluated the potential hazard of 2-methylnaphthalene, the only organic constituent detected in the TCLP extract of samples of Giant's stockpiled waste. Although, the EPA does not have a health-based level of concern for comparison, the EPA believes that the reported leachate concentration of 0.006 ppm does not present a potential concern. In particular, were this leachate concentration evaluated using the EPACML, the calculated compliance-point concentration would be 0.00006 ppm, a value lower than other chemicals from the naphthalene family. The EPA does not believe that this concentration, at the receptor well, would present an adverse impact on human health or the environment.

As reported in Table 1, the maximum concentrations of reactive cyanide and sulfide in Giant's stockpiled waste are less than 2 and 10 ppm, respectively. These concentrations are below the EPA's interim standards of 250 and 500 ppm, respectively. See *Interim Agency Thresholds for Toxic Gas Generation*, July 12, 1985, internal Agency Memorandum in the RCRA public docket. Therefore, reactive cyanide and sulfide levels are not of concern.

The EPA concluded, after reviewing Giant's processes, that no other hazardous constituents of concern, other than those tested for, are likely to be present or formed as reaction products or by-products in Giant's waste. In addition, on the basis of explanations and analytical data provided by Giant, pursuant to § 260.22, the EPA concludes that the waste does not exhibit any of the characteristics of ignitability, corrosivity, or reactivity. See § 261.21, § 261.22, and § 261.23, respectively.

During the evaluation of Giant's petition, the EPA also considered the potential impact of the petitioned waste via non-ground water routes (i.e., air emission and surface runoff). With regard to airborne dispersion in particular, the EPA believes that exposure to airborne contaminants from Giant's petitioned waste is unlikely. The EPA evaluated the potential hazards resulting from the unlikely scenario of airborne exposure to hazardous constituents released from Giant's waste in an open landfill. The results of this worst-case analysis indicated that there is no substantial present or potential hazard to human health from airborne exposure to constituents from Giant's stockpiled waste. A description of the EPA's assessment of the potential impact of Giant's waste, with regard to airborne dispersion of waste contaminants, is presented in the RCRA public docket for today's proposed rule.

The EPA also considered the potential impact of the petitioned waste via a surface water route. The EPA believes that containment structures at municipal solid waste landfills can effectively control surface water run-off, as the recently promulgated Subtitle D regulations (see 56 FR 50978, October 9, 1991) prohibit pollutant discharges into surface waters. Furthermore, the concentrations of any hazardous constituents dissolved in the runoff will tend to be lower than the levels in the

TCLP/EP or OWEP leachate analyses reported in today's notice, due to the aggressive acid medium used for extraction in the TCLP/EP and OWEP tests. The EPA believes that, in general, leachate derived from the waste is unlikely to enter a surface water body directly without first travelling through the saturated subsurface zone where further dilution and attenuation of hazardous constituents will also occur. Leachable concentrations provide a direct measure of the solubility of a toxic constituent in water, and are indicative of the fraction of the constituent that may be mobilized in surface water, as well as ground water. The reported TCLP/EP and OWEP extraction data show that the metals in Giant's stockpiled waste are essentially immobile in aqueous solution. Therefore, constituents that might be released from Giant's waste to surface water would be likely to remain undissolved. Finally, any transported constituents would be further diluted in the receiving surface water body due to relatively large flows of the streams/rivers of concern.

Based on the reasons discussed above, the EPA believes that contamination of surface water through run-off from the waste disposal area is very unlikely. Nevertheless, the EPA evaluated potential impacts on surface water if Giant's waste were released from a municipal solid waste landfill through run-off and erosion. *See*, the RCRA public docket for today's proposed rule. The estimated levels of the hazardous constituents of concern in surface water would be well below health-based levels for human health, as well as below the EPA Chronic Water Quality Criteria for aquatic organisms (USEPA, OWRS, 1987). The EPA, therefore, concluded that Giant's stockpiled waste is not a substantial present or potential hazard to human health and the environment via the surface water exposure pathway.

E. Conclusion

The EPA has reviewed the sampling procedures used by Giant and has determined that they satisfy the EPA criteria for collecting representative samples of the variations in constituent concentrations found throughout the waste pile. The data submitted in support of the petition show that constituents in Giant's waste are present below the health-based levels used in the delisting decision-making. In addition, the constituents are immobile and should not leach from the waste pile into potential receptors. The EPA believes that Giant has successfully demonstrated that the stockpiled waste is non-hazardous.

The EPA, therefore, proposes to grant a one-time exclusion to Giant Refining Company, Inc., located in Bloomfield, New Mexico, for the stockpiled waste described in its petition as EPA Hazardous Waste No. K051. The EPA's decision to exclude this waste is based on descriptions of the excavation activities associated with the petitioned waste, descriptions of Giant's wastewater treatment process, and characterization of the stockpiled waste. If the proposed rule is finalized, the petitioned waste will no longer be subject to regulation under Parts 262 through 268 and the permitting standards of Part 270.

If made final, the proposed exclusion will apply only to the 2,000 cubic yards of stockpiled waste generated during the excavation of Giant's two wastewater treatment impoundments (referred to as the South and North Oily Water Ponds). The facility would need to file a new petition for any new waste produced. The facility must treat any excavated soil in excess of the original 2,000 cubic yards as hazardous unless a new exclusion is granted.

Although management of the waste covered by this petition would be removed from Subtitle C jurisdiction upon final promulgation of an exclusion, the generator of a delisted waste must either treat, store, or dispose of the waste in an on-site facility, or ensure that the waste is delivered to an off-site storage, treatment, or disposal facility, either of which is permitted, licensed, or registered by a State to manage municipal or industrial solid waste. Alternatively, the delisted waste may be delivered to a facility that beneficially uses or reuses, or legitimately recycles or reclaims the waste, or treats the waste prior to such beneficial use, reuse, recycling, or reclamation.

IV. Effective Date

This rule, if made final, will become effective immediately upon final publication. The Hazardous and Solid Waste Amendments of 1984 amended Section 3010 of RCRA to allow rules to become effective in less than six-months when the regulated community does not need the six-month period to come into compliance. That is the case here, because this rule, if finalized, would reduce the existing requirements for persons generating hazardous wastes. In light of the unnecessary hardship and expense that would be imposed on this petitioner by an effective date six months after publication and the fact that a six-month deadline is not necessary to achieve the purpose of Section 3010, the EPA believes that this exclusion should be effective immediately upon final publication. These reasons also provide a basis for making this rule effective immediately, upon final publication, under the Administrative Procedure Act, pursuant to 5 U.S.C. § 553(d).

V. Regulatory Impact

Under Executive Order 12866, the EPA must conduct an "assessment of the potential costs and benefits" for all "significant" regulatory actions. This proposal to grant an exclusion is not significant, since its effect, if promulgated, would be to reduce the overall costs and economic impact of the EPA's hazardous waste management regulations. This reduction would be achieved by excluding waste generated at a specific facility from the EPA's lists of hazardous wastes, thereby enabling this facility to treat its waste as non-hazardous. There is no additional impact due to today's rule. Therefore, this proposal would not be a significant regulation, and no cost/benefit assessment is required. The Office of Management and Budget (OMB) has also exempted this rule from the requirement for OMB review under Section (6) of Executive Order 12866.

VI. Regulatory Flexibility Act

Pursuant to the Regulatory Flexibility Act, 5 U.S.C. §§ 601–612, whenever an agency is required to publish a general notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the impact of the rule on small entities (i.e., small businesses, small organizations, and small governmental jurisdictions). No regulatory flexibility analysis is required, however, if the Administrator or delegated representative certifies that the rule will not have any impact on any small entities.

This rule, if promulgated, will not have any adverse economic impact on any small entities since its effect would be to reduce the overall costs of the EPA's hazardous waste regulations and would be limited to one facility. Accordingly, I hereby certify that this proposed regulation, if promulgated, will not have a significant economic impact on a substantial number of small entities. This regulation, therefore, does not require a regulatory flexibility analysis.

VII. Paperwork Reduction Act

Information collection and recordkeeping requirements associated with this proposed rule have been approved by OMB under the provisions

of the Paperwork Reduction Act of 1980 (Pub. L. 96–511, 44 U.S.C. § 3501 *et seq.*) and have been assigned OMB Control Number 2050–0053.

VIII. Unfunded Mandates Reform Act

Under section 202 of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, which was signed into law on March 22, 1995, the EPA generally must prepare a written statement for rules with Federal mandates that may result in estimated costs to State, local, and tribal governments in the aggregate, or to the private sector, of $100 million or more in any one year. When such a statement is required for EPA rules, under section 205 of the UMRA, the EPA must identify and consider alternatives, including the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The EPA must select that alternative, unless the Administrator explains in the final rule why it was not selected or it is inconsistent with law. Before the EPA establishes regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must develop under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, giving them meaningful and timely input in the development of the EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising them on compliance with the regulatory requirements. The UMRA generally defines a Federal mandate for regulatory purposes as one that imposes an enforceable duty upon state, local or tribal governments or the private sector. The EPA finds that today's proposed delisting decision is deregulatory in nature and does not impose any enforceable duty upon state, local or tribal governments or the private sector. In addition, the proposed delisting does not establish any regulatory requirements for small governments and so does not require a small government agency plan under UMRA section 203.

List of Subjects in 40 CFR Part 261

Environmental protection, Hazardous waste, Recycling, Reporting and recordkeeping requirements.

Authority: Sec. 3001(f) RCRA, 42 U.S.C. § 6921(f).

Dated: May 3, 1996.

Jane N. Saginaw,

Regional Administrator.

For the reasons set out in the preamble, 40 CFR Part 261 is proposed to be amended as follows:

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

1. The authority citation for Part 261 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, 6922, and 6938.

2. In Table 2 of Appendix IX of Part 261 it is proposed to add the following waste stream in alphabetical order by facility to read as follows:

Appendix IX to Part 261—Wastes Excluded Under § 260.20 and 260.22.

TABLE 2.—WASTES EXCLUDED FROM SPECIFIC SOURCES

Facility	Address	Waste description
*	*	*
Giant Refining Company, Inc	Bloomfield, New Mexico	Waste generated during the excavation of soils from two wastewater treatment impoundments (referred to as the South and North Oily Water Ponds) used to contain water outflow from an API separator (EPA Hazardous Waste No. K051). This is a one-time exclusion for approximately 2,000 cubic yards of stockpiled waste. This exclusion was published on [insert publication date of the final rule]. Notification Requirements: Giant Refining Company must provide a one-time written notification to any State Regulatory Agency to which or through which the delisted waste described above will be transported for disposal at least 60 days prior to the commencement of such activities. Failure to provide such a notification will result in a violation of the delisting petition and a possible revocation of the decision.
*	*	*

[FR Doc. 96–12607 Filed 5–17–96; 8:45 am]
BILLING CODE 6560–50–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 1 and 73

[MM Docket No. 96–16, FCC 96–198]

Revision of Broadcast EEO Policies

AGENCY: Federal Communications Commission.

ACTION: Proposed rule; extension of comment period; dismissal of petition for reconsideration.

SUMMARY: In *Streamlining Broadcast EEO Rules and Policies*, FCC 96–198, released April 26, 1996 (*Streamlining*), the Commission dismisses a Petition for Reconsideration, grants a Petition for Clarification in part and denies it in part, and grants a motion for extension of time concerning the Commission's *Order and Notice of Proposed Rule Making*, 11 FCC Rcd 5154 (1996), MM Docket No. 96–16, 61 FR 9964 (March 12, 1996) (*NPRM*). The Commission finds that the public interest favors grant of the motion for extension of time.

DATES: Initial comments due July 1, 1996; reply comments due July 31, 1996.

ADDRESSES: Office of the Secretary, Federal Communications Commission, Washington, D.C. 20554.

FOR FURTHER INFORMATION CONTACT: Hope G. Cooper, Mass Media Bureau, Enforcement Division. (202) 418–1450.

SUPPLEMENTARY INFORMATION: This is a synopsis of *Streamlining*, FCC 96–198, adopted and released April 26, 1996.

The complete text of *Streamlining* is available for inspection and copying during normal business hours in the FCC Reference Center (Room 239), 1919 M Street, NW., Washington, DC, and also may be purchased from the Commission's copy contractor, International Transcription Services,

Compendium and need not be repeated in the special regulations.

The deletion of the existing rule allows the park to continue to restore the natural aquatic ecosystem while allowing recreational fishing in all park waters. Closures and restrictions have been in place in the park for over 20 years and are fully accepted and supported by the visiting public and the State of California.

Administrative Procedure Act

In accordance with the Administrative Procedure Act (5 U.S.C. 553(b)(B)), the NPS is promulgating this rule under the "good cause" exception of the Act from general notice and comment rulemaking. As discussed above, the NPS believes this exception is warranted because the existing regulations are no longer used and have not been used for over 20 years. This final rule will not impose any additional restrictions on the public and comments on this rule are deemed unnecessary. Based upon this discussion, the NPS finds pursuant to 5 U.S.C. 533(b)(B) that it would be contrary to the public interest to publish this rule through general notice and comment rulemaking.

The NPS also believes that publishing this final rule 30 days prior to the rule becoming effective would be counterproductive and unnecessary for the reasons discussed above. A 30-day delay in this instance would be unnecessary and contrary to the public interest. Therefore, under the "good cause" exception of the Administrative Procedure Act (5 U.S.C. 553(d)(3)), it has been determined that this final rulemaking is excepted from the 30-day delay in the effective date and will therefore become effective on the date published in the **Federal Register**.

Drafting Information

The primary authors of this rule are Bryan Swift, Chief Ranger of Lassen Volcanic National Park, and Dennis Burnett, Washington Office of Ranger Activities, National Park Service.

Paperwork Reduction Act

This final rule does not contain collections of information requiring approval by the Office of Management and Budget under the Paperwork Reduction Act of 1995.

Compliance With Other Laws

This rule was not subject to Office of Management and Budget review under Executive Order 12866. The Department of the Interior determined that this document will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). The economic effects of this rulemaking are local in nature and negligible in scope.

The NPS has determined and certifies pursuant to the Unfunded Mandates Reform Act (2 U.S.C. 1502 *et seq.*), that this rule will not impose a cost of $100 million or more in any given year on local, State or tribal governments or private entities.

The NPS has determined that this rule will not have a significant effect on the quality of the human environment, health and safety because it is not expected to:

(a) Increase public use to the extent of comprising the nature and character of the area or causing physical damage to it;

(b) Introduce non-compatible uses that may compromise the nature and characteristics of the area, or cause physical damage to it;

(c) Conflict with adjacent ownerships or lands uses; or

(d) Cause a nuisance to adjacent owners or occupants.

Based upon this determination, this final rule is categorically excluded from the procedural requirements of the National Policy Act (NEPA) by Departmental regulations in 516 DM 6 (49 FR 21438). As such, neither an Environmental Assessment (EA) nor an Environmental Impact Statement (EIS) has been prepared.

List of Subjects in 36 CFR Part 7

National parks, Reporting and recordkeeping requirements.

In consideration of the foregoing, 36 CFR Chapter I is amended as follows:

PART 7—SPECIAL REGULATIONS, AREAS OF THE NATIONAL PARK SYSTEM

1. The authority citation for Part 7 continues to read as follows:

Authority: 16 U.S.C. 1, 3, 9a, 460(q), 462(k); Sec. 7.96 also issued under D.C. Code 8–137 (1981) and D.C. Code 40–721 (1981).

§ 7.11 [Removed]

2. Section 7.11 is removed.

Dated: August 15, 1996.

George T. Frampton, Jr.,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 96–22331 Filed 8–30–96; 8:45 am]

BILLING CODE 4310–70–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 261

[SW–FRL–5602–6]

Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Final Exclusion

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: The Environmental Protectio Agency (EPA) today is granting a petition submitted by Giant Refining Company (Giant) to exclude from hazardous waste control (delist) certain solid wastes. The wastes being delisted consist of excavated soils contaminated with K051 currently being stored in an on-site waste pile. This action responds to Giant's petition to delist these wastes on a one-time basis from the hazardous waste lists. After careful analysis, EPA has concluded that the petitioned waste is not hazardous waste when disposed of in Subtitle D landfills. This exclusion applies only to excavated soils generated at Giant's Bloomfield, New Mexico facility. Accordingly, this final rule excludes the petitioned waste from the requirements of hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA) when disposed of in Subtitle D landfills.

EFFECTIVE DATE: September 3, 1996.

ADDRESSES: The public docket for this final rule is located at the Environmental Protection Agency Region 6, 1445 Ross Avenue, Dallas, Texas 75202, and is available for viewing in the EPA Library of the 12th floor from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding Federal holidays. Call (214) 665–6444 for appointments. The reference number for this docket is "F–96–NMDEL-GIANT." The public may copy material from any regulatory docket at no cost for the first 100 pages and at a cost of $0.15 per page for additional copies.

FOR FURTHER INFORMATION CONTACT: For general and technical information concerning this document, contact Michelle Peace, Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas, (214) 665–7430.

SUPPLEMENTARY INFORMATION:

I. Background

A. Authority

Under 40 CFR 260.20 and 260.22, facilities may petition EPA to remove their wastes from hazardous waste control by excluding them from the list

of hazardous wastes contained in §§ 261.31 and 261.32. Specifically, § 260.20 allows any person to petition the Administrator to modify or revoke any provision of Parts 260 through 265 and 268 of Title 40 of the Code of Federal Regulations; and § 260.22 provides generators the opportunity to petition the Administrator to exclude a waste on a "generator-specific" basis from the hazardous waste lists. Petitioners must provide sufficient information to EPA to allow EPA to determine that the waste to be excluded does not meet any of the criteria under which the waste was listed as a hazardous waste. In addition, the Administrator must determine, where he/she has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste.

B. History of This Rulemaking

Giant petitioned EPA to exclude from hazardous waste control the excavated soils contaminated with K051–API separator sludge waste presently stored in an on-site waste pile at Bloomfield, New Mexico facility. After evaluating the petition, EPA proposed, on May 20, 1996 to exclude Giant's waste from the lists of hazardous wastes under §§ 261.31 and 261.32 (See 61 FR 25175). This rulemaking addresses public comments received on the proposal and finalizes the proposed decision to grant Giant's petition.

II. Disposition of Petition

Giant Refining Company, Bloomfield, New Mexico

A. Proposed Exclusion

Giant petitioned EPA to exclude from the lists of hazardous wastes contained in 40 CFR 261.31 and 261.32, a discrete volume of contaminated soil excavated from its wastewater treatment impoundments. Specifically, in its petition, Giant requested that EPA grant a one-time exclusion for 2,000 cubic yards of excavated soil presently stored in an on-site waste pile. The soil is classified as EPA Hazardous Waste No. K051—"API separator sludge from the petroleum refining industry." The listed constituents of concern for EPA Hazardous Waste No. K051 are hexavalent chromium and lead (see Part 261, Appendix VII). Giant petitioned the EPA to exclude this discrete volume of excavated soil because it does not believe that the waste meets the criteria for which it was listed. Giant also believes that the waste does not contain any other constituents that would render it hazardous. Review of this petition included consideration of the original listing criteria, as well as the additional factors required by the Hazardous and Solid Waste Amendments (HSWA) of 1984. See Section 222 of HSWA, 42 U.S.C. 6921(f), and 40 CFR 260.22(d) (2)–(4).

In support of its petition, Giant submitted: (1) descriptions of its wastewater treatment processes and the excavation activities associated with the petitioned waste; (2) results from total constituent analyses for the eight Toxicity Characteristic (TC) metals listed in § 261.24 (i.e., the TC metals) antimony, beryllium, cyanide, nickel, vanadium, and zinc from representative samples of the stockpiled waste; (3) results from the Toxicity Characteristic Leaching Procedure (TCLP, SW–846 Method 1311) for the eight TC metals, antimony, beryllium, cyanide, nickel, vanadium, and zinc from representative samples of the stockpiled waste; (4) results from the Oily Waste Extraction Procedure (OWEP, SW–846 Method 1330) for the eight TC metals, antimony, beryllium, nickel, vanadium, and zinc from representative samples of the stockpiled waste; (5) results from the Extraction Procedure Toxicity Test (EP, SW–846 Method 1310) for the eight metals listed in § 261.24 from representative samples of the stockpiled waste; (6) results from total oil and grease analyses from representative samples of the stockpiled waste; (7) test results and information regarding the hazardous characteristics of ignitability, corrosivity, and reactivity; and (8) results from total constituent and TCLP analyses for certain volatile and semi-volatile organic compounds from representative samples of the stockpiled waste.

B. Summary of Responses to Public Comments

The EPA received public comment on the May 20, 1996, proposal from two interested parties, the American Zinc Association (AZA) and Horsehead Resource Development Company (HRD). The comments consisted of the concern that zinc is incorrectly viewed as a hazardous constituent to which the EPA Composite Model for Landfills (EPACML) must be applied and the need to evaluate delisting decisions in relation to the Pollution Prevention Act and the Land Disposal Restrictions.

Classification of Zinc as a Hazardous Constituent

Comment: The AZA is concerned that, for some reason, EPA in connection with the delisting petition filed by Giant Refining Company appears to view zinc as a "hazardous constituent" to which the EPACML must be applied. The AZA contends that zinc is not considered a "hazardous constituent" as defined under RCRA, is not listed on Appendix VIII to 40 CFR Part 261 and is specifically excluded from the definition of "underlying hazardous constituents" in 40 CFR 268.2 (i). The AZA requests that the final rule be changed to exclude zinc.

Response: The criteria for making a successful petition to amend Part 261 to exclude a waste produced at a particular facility can be found in 40 CFR Part 260.22. The regulations in 40 CFR Part 260.22(a)(2) states that based on a complete application, the Administrator must determine where there is a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste.

The EPA understands the AZA's concern regarding implication that zinc is being viewed as a "hazardous constituent" in this delisting petition. In response to this concern, EPA will revise the preamble language to future rulemakings to read that " the EPACML will be used to predict the concentrations of constituents that may be released from the petitioned waste, once it is disposed." To evaluate delisting petitions, *any* constituent detected in the leachate of the petitioned waste must be evaluated by the EPACML. All organic and inorganic constituents detected in the leachate of a petitioned waste are evaluated for their potential hazard to human health and the environment. Zinc, while it may not meet the definitions of hazardous constituent or "underlying hazardous constituent" as defined under the Land Disposal Restrictions, is a constituent found in Giant Refining's waste and moreover, in the leachate of the petitioned waste. Therefore, to meet the delisting criteria, zinc must be evaluated to determine if as a result of leaching into the groundwater the concentration of zinc would pose a hazard to human health or the environment.

In the analysis of the leachate from Giant's waste, levels of zinc were detected and the maximum value is reported on the list of inorganic constituents found in Table 1 of the May 20, 1996, notice. The evaluation of zinc as an "additional constituent" is conducted and compared to its health-based value and the secondary drinking water regulations to determine whether the levels of zinc detected could cause

the waste to be a potential hazard. In the case of Giant's waste, the value for zinc is below the level of regulatory concern and should not present a hazard to human health or the environment.

Impact of This Delisting Upon Recycling of K051

Comment: The commenter did not object to the proposed decision to delist Giant's waste, since the constituent levels in the waste were low enough that HRD did not feel that any statutory mandates were violated. The commenter summarized two principal statutory requirements that HRD feels must be accounted for in order for any delisting decision to be valid:

(a) The Pollution Prevention Act of 1990 established a hierarchy of waste management methods, in order of decreasing preference as: (1) source reduction, (2) recycling, (3) treatment, and (4) land disposal. The commenter emphasized that recycling, such as high temperature metal recovery, is favored over waste treatment methods, such as stabilization. The commenter also stated that the low levels of metals in the petitioned waste were not amenable to recycling; and

(b) The Land Disposal Restrictions (LDR) of RCRA include stringent treatment standards which must be met prior to land disposal of hazardous wastes. The commenter felt that LDR treatment standards should be one of the "factors (including additional constituents) other than those for which the waste was listed" that could cause the waste to be a hazardous waste or to be retained as a hazardous waste (see 40 CFR 260.22(d)(2)). Again, the commenter did not feel that the constituent levels in the petitioned waste were high enough to exceed LDR treatment standards.

Response: The EPA agrees with the commenter that the statutory mandates summarized above are very important considerations. The EPA also agrees that the decision to delist the waste which is the subject of this final rule is not in conflict with either of these mandates. It is also EPA's position that if the evaluation of a delisting petition reveals that the petitioned waste meets all the appropriate criteria in *Petitions to Delist Hazardous Wastes—A Guidance Manual, Second Edition,* EPA Publication No. EPA/530–R–93–007, March 1993, the conditions specified in 40 CFR 260.22(d)(2) have been met, and the waste need not be subject to RCRA Subtitle C. That is to say, the delisting levels established by EPA are protective of human health and the environment, and a waste that meets these levels does not have factors that "could cause the waste to be a hazardous waste." Many LDR treatment standards are concentration levels below those that would be protective of human health and the environment, because they are based on what is technologically achievable, rather than on risk.

The EPA has responded, in an earlier rulemaking, to similar comment by HRD concerning the effect that delisting stabilized wastes might have on the recycling of wastes to recover metals (see 60 FR 31109, June 13, 1995). The EPA's position continues to be that no policies are undermined nor regulations violated by the delisting of a waste which meets all applicable criteria for delisting. Specifically, the existence of an alternate treatment and/or recycling technology is not a factor that "could cause the waste to be a hazardous waste."

C. Final Agency Decision

For reasons stated in both the proposal and this document, EPA believes that Giant's excavated soil should be excluded from hazardous waste control. The EPA, therefore, is granting a final exclusion to Giant Refining Company, Bloomfield, New Mexico for its 2,000 cubic yards of excavated soil, described in its petition as EPA Hazardous Waste No. K051. This exclusion only applies to the waste described in the petition. The maximum volume of contaminated soil covered by this exclusion is 2,000 cubic yards.

Although management of the waste covered by this petition is relieved from Subtitle C jurisdiction, the generator of the delisted waste must either treat, store, or dispose of the waste in an on-site facility, or ensure that the waste is delivered to an off-site storage, treatment, or disposal facility, either of which is permitted, licensed or registered by a State to manage municipal or industrial solid waste. Alternatively, the delisted waste may be delivered to a facility that beneficially uses or reuses, or legitimately recycles or reclaims the waste, or treats the waste prior to such beneficial use, reuse, recycling, or reclamation (see 40 CFR part 260, Appendix I).

III. Limited Effect of Federal Exclusion

The final exclusion being granted today is issued under the Federal (RCRA) delisting program. States, however, are allowed to impose their own, non-RCRA regulatory requirements that are more stringent than EPA's, pursuant to section 3009 of RCRA. These more stringent requirements may include a provision which prohibits a Federally-issued exclusion from taking effect in the State. Because a petitioner's waste may be regulated under a dual system (i.e., both Federal (RCRA) and State (non-RCRA) programs), petitioners are urged to contact the State regulatory authority to determine the current status of their wastes under the State law.

Furthermore, some States (e.g., Louisiana, Georgia, Illinois) are authorized to administer a delisting program in lieu of the Federal program, i.e., to make their own delisting decisions. Therefore, this exclusion does not apply in those authorized States. If the petitioned waste will be transported to and managed in any State with delisting authorization, Giant must obtain delisting authorization from that State before the waste can be managed as non-hazardous in the State.

IV. Effective Date

This rule is effective September 3, 1996. The Hazardous and Solid Waste Amendments of 1984 amended Section 3010 of RCRA to allow rules to become effective in less than six months when the regulated community does not need the six-month period to come into compliance. That is the case here because this rule reduces, rather than increases, the existing requirements for persons generating hazardous wastes. These reasons also provide a basis for making this rule effective immediately, upon publication, under the Administrative Procedure Act, pursuant to 5 U.S.C. 553(d).

V. Regulatory Impact

Under Executive Order 12866, EPA must conduct an "assessment of the potential costs and benefits" for all "significant" regulatory actions. The effect of this rule is to reduce the overall costs and economic impact of EPA's hazardous waste management regulations. The reduction is achieved by excluding waste from EPA's lists of hazardous wastes, thereby enabling a facility to treat its waste as non-hazardous. As discussed in EPA's response to public comments, this rule is unlikely to have an adverse annual effect on the economy of $100 million or more. Therefore, this rule does not represent a significant regulatory action under the Executive Order, and no assessment of costs and benefits is necessary. The Office of Management and Budget (OMB) has exempted this rule from the requirement for OMB review under Section (6) of Executive Order 12866.

VI. Regulatory Flexibility Act

Pursuant to the Regulatory Flexibility Act, 5 U.S.C. §§ 601–612, whenever an agency is required to publish a general

notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis which describes the impact of the rule on small entities (i.e., small businesses, small organizations, and small governmental jurisdictions). No regulatory flexibility analysis is required, however, if the Administrator or delegated representative certifies that the rule will not have any impact on any small entities.

This regulation will not have an adverse impact on any small entities since its effect will be to reduce the overall costs of EPA's hazardous waste regulations. Accordingly, I hereby certify that this regulation will not have a significant economic impact on a substantial number of small entities. This regulation, therefore, does not require a regulatory flexibility analysis.

VII. Paperwork Reduction Act

Information collection and recordkeeping requirements associated with this final rule have been approved by OMB under the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 96–511, 44 U.S.C. 3501 *et seq.*) and have been assigned OMB Control Number 2050–0053.

VIII. Unfunded Mandates Reform Act

Under section 202 of the Unfunded Mandates Reform Act of 1995 (UMRA), Pub. L. 104–4, which was signed into law on March 22, 1995, EPA generally must prepare a written statement for rules with Federal mandates that may result in estimated costs to State, local, and tribal governments in the aggregate, or to the private sector, of $100 million or more in any one year. When such a statement is required for EPA rules, under section 205 of the UMRA, EPA must identify and consider alternatives, including the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The EPA must select that alternative, unless the Administrator explains in the final rule why it was not selected or it is inconsistent with law. Before EPA establishes regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must develop under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, giving them meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising them on compliance with the regulatory requirements.

The UMRA generally defines a Federal mandate for regulatory purposes as one that imposes an enforceable duty upon State, local, or tribal governments or the private sector. The EPA finds that today's delisting decision is deregulatory in nature and does not impose any enforceable duty on any State, local, or tribal governments or the private sector. In addition, today's delisting decision does not establish any regulatory requirements for small governments and so does not require a small government agency plan under UMRA section 203.

List of Subjects in 40 CFR Part 261

Environmental protection, Hazardous waste, Recycling, Reporting and recordkeeping requirements.

Authority: Sec. 3001(f) RCRA, 42 U.S.C. 6921(f).

Dated: August 21, 1996.

Jane N. Saginaw,

Regional Administrator.

For the reasons set out in the preamble, 40 CFR Part 261 is amended as follows:

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

1. The authority citation for Part 261 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, 6922, and 6938.

2. In Table 2 of Appendix IX, Part 261 add the following waste stream in alphabetical order by facility to read as follows:

Appendix IX—Wastes Excluded Under §§ 260.20 and 260.22

TABLE 2.—WASTES EXCLUDED FROM SPECIFIC SOURCES

Facility	Address	Waste description
Giant Refining Company, Inc	Bloomfield, New Mexico	Waste generated during the excavation of soils from two wastewater treatment impoundments (referred to as the South and North Oily Water Ponds) used to contain water outflow from an API separator (EPA Hazardous Waste No. K051). This is a one-time exclusion for approximately 2,000 cubic yards of stockpiled waste. This exclusion was published on September 3, 1996. Notification Requirements: Giant Refining Company must provide a one-time written notification to any State Regulatory Agency to which or through which the delisted waste described above will be transported for disposal at least 60 days prior to the commencement of such activities. Failure to provide such a notification will result in a violation of the delisting petition and a possible revocation of the decision.

GIANT REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413

505
632-8013

October 9, 1996

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the September, 1996 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The high pressure shut off was tested, with OCD personnel in attendance, successfully. The gears on the totalizer continue to be unreliable and will be replaced with a remote counter assembly.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

Lynn Shelton

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1996	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN-TIME (HRS)	INJECTION PRESSURE MAX (PSIA)	INJECTION PRESSURE MIN (PSIA)	INJECTION PRESSURE AVG (PSIA)	ANNULAR PRESSURE MAX (PSIA)	ANNULAR PRESSURE MIN (PSIA)	ANNULAR PRESSURE AVG (PSIA)	ON-LINE FLOW RATES MAX (GPM)	ON-LINE FLOW RATES MIN (GPM)	ON-LINE FLOW RATES AVG (GPM)
JAN	10,943,000	5,296,800	2,784,200	2,349,216	528	961.4	866	886.11	21.5	-0.1	1.15	142.6	69	108.76
FEB	9,951,000	3,975,700	3,908,900	3,357,330	0	946.8	889.4	915.27	135.1	-0.2	106.94	132.5	110.2	116.77
MAR	9,755,000	2,970,900	4,329,400	4,980,917	192	1014	938.0	975.7	215.3	9.5	97.0	156.0	138.8	150.39
APR	10,960,000	3,546,200	4,464,100	5,301,850	8	1166	901.3	954.84	220	74.1	149.06	160.1	102.1	126.96
MAY	11,265,000	3,518,900	*	4,535,554	48	1142	879.1	951.99	219.6	77.5	155.68	148.9	86.3	108.61
JUN	11,250,000	3,471,100	*	5,089,759	52	1083	923.6	951.89	222	65.8	142.73	153.5	0.3	126.99
JUL	13,237,000	Must Recalculate	440,000*	396,806	696	951.9	948.2	949.87	189.6	42.1	99.85	150.7	101.1	137.78
AUG	12,586,400	3,816,200	1,393,200	1,767,211	540	1012	944	983.39	220	86.2	148.07	149	138	144.38
SEP	13,321,000	4,083,400	***	6,464,622	19	1070	976.9	1013.5	179.5	50.1	106.9	159.8	0	153.7
OCT														
NOV														
DEC														

*** Totalizer rebuilt in September. Subsequently stripped gears. Will be purchasing a remote counter.

CERTIFICATION: Lynn Shelton DATE: 10/9/96

TLS 10/96

RECEIVED
OCT 16 1996
Environmental Bureau
Oil Conservation Division

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

September 12, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-619

Mr. Lynn Shelton
Giant Industries
P.O. Box 159
Bloomfield, NM 87413

RE: Wastewater Beneficial Use - GW-001
Truck Terminal Construction

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) has reviewed the letter dated August 28, 1996 submitted from Giant regarding the beneficial use of refinery non-hazardous wastewater for construction proposes at the future truck terminal at Giant Refinery GW-001. **The OCD approves of this beneficial use of refinery wastewater until August 1, 1997 with the following conditions:**

1. The water will be applied in such a manner so that no excess water runs off the facility into surface or protectable ground waters.

2. At the end of each days activity all unused water shall be returned to the refinery double lined surface impoundments for proper disposal into the class I UIC well.

3. Before each incremental use of wastewater the refinery shall notify 72 hours in advance the OCD Aztec District office at (505)-334-6178 so that the OCD may have a representative present to observe water application procedures at the site. Giant will keep a written record of the amount in barrels of water used and shall submit a final report by August 15, 1997 to the OCD Santa Fe Division Office, the report will indicate the dates and volumes per date of water in barrels used. A copy of this report will also be sent to the Aztec District Office.

Please note, OCD approval does not relieve Giant for liability should this beneficial use result in contamination to surface water, groundwater, or the environment. Further, OCD approval does not relieve Giant from responsibility with other Federal, State, or Local Regulations that may apply.

Sincerely,

Roger C. Anderson
Bureau Chief

RCA/pws
xc: Mr. Denny Foust - Environmental Geologist

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

August 28, 1996

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Re: Wastewater Beneficial Use

Dear Mr. Anderson:

Giant Refining Company - Bloomfield Refinery (Giant) requests permission to use non-hazardous refinery process wastewater that is stored in the lined evaporation lagoons for the beneficial use of dust suppression in an upcoming construction project.

The project will be to build a new truck service shop, a parking area and eventually a new office complex. Construction is scheduled to begin immediately and will be done in phases. For that reason, Giant requests that the authorization to use non-hazardous process wastewater be valid until August 1, 1997.

Included is a comparison of the 1st and 2nd Quarter Injection Well Analytical data with the WQCC standards. Incorporated by reference is the data from the spray evaporation area as included in the Closure Plan for the Spray Evaporation Area which was submitted to your office on August 15, 1996.

It is estimated that 1800 barrels (75,600 gallons) of water per day will be used for dust suppression. All water will be confined to the construction area.

Thank you for your prompt response to this request. If you need additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes, Refinery Manager

GIANT REFINING COMPANY - CINIZA
COMPARISON OF INJECTION WELL QTR SAMPLING WITH THE WQCC CONSTITUENT LIST

Parameter	WQCC Standard (mg/l)	1st Quarter Event (mg/l)	2ndQuarter Event (mg/l)
Arsenic	0.1	0.076	0.030
Barium	1.0	ND	0.24
Cadmium	0.01	0.005	ND
Chromium	0.05	0.006	ND
Cyanide	0.2	---	---
Flouride	1.6	---	---
Lead	0.05	0.091	ND
Total Mercury	0.002	ND	ND
Nitrate (NO3 as N)	10.0	---	---
Selenium	0.05	0.061	0.016
Silver	0.05	0.010	ND
Uranium	5.0	---	---
Benzene	0.01	ND	ND
Toluene	0.75	2010*	ND
Carbon Tetrachloride	0.01	ND	ND
1,2-Dichloroethane	0.01	ND	ND
1,1-Dichloroethylene	0.005	---	---
1,1,2,2-Tetrachloroethylene	0.02	---	---
1,1,2-Trichloroethylene	0.1	---	---
Ethylbenzene	0.75	446*	ND
Total Xylenes	0.62	2360*	ND
Methylene Chloride	0.1	ND	ND
Chloroform	0.1	ND	ND
1,1-Dichloroethane	0.025	ND	ND
Ethylene Dibromide	0.0001	---	---
1,1,1-Trichloroethane	0.06	ND	ND
1,1,2-Trichlorethane	0.01	ND	ND
1,1,2,2-Tetrachloroethane	0.01	ND	ND
Vinyl Chloride	0.001	ND	ND
PAHs: total Naphthalene plus monomethylnaphthalenes	0.03	---	---
Benzo(a)pyrene	0.0007	---	---
Chloride	250	1,520	2,180
Copper	1.0	---	---
Iron	1.0	---	---
Manganese	0.2	---	---
Phenols	0.005	---	---
Sulfate (SO4)	600	757	1,020
Zinc	10	---	---
pH	6 to 9	8.0	7.4
Aluminum	5.0	---	---
Boron	0.75	---	---
Cobalt	0.05	---	---
Molybdenum	1.0	---	---
Nickel	0.2	---	---

* Suspect lab contamination. Refer to Quarterly Injection Well Report for complete data.

P 288 258 604

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail *(See reverse)*

Sent to Giant - Mr. Shelton	
Street & Number Lagcans	
Post Office, State, & ZIP Code	
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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

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

August 28, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-604

Mr. Lynn Shelton
Environmental Manager
Giant Industries
P.O. Box 159
Bloomfield, NM 87413

RE: Closure Plan for the Unlined Evaporation Lagoons and the Spray Evaporation Area. Date August 13, 1996.

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) has reviewed the above captioned plan from Giant regarding the closure/modification of the "Unlined Evaporation Lagoons/Spray Evaporation Area." **The OCD approves of the closure and modification as proposed with the following conditions:**

1. The monitoring and sampling of monitoring wells MW-1 and MW-5 will continue as previously approved. When the CMS (dated December 21, 1995) is approved, OCD will be open to reconsidering the continued monitoring of MW-1 and MW-5.

2. Any discharge/spill or leak that is a result of the modification/construction will be reported to the OCD Aztec District office at (505)-334-6178 pursuant to WQCC 1203 and OCD Rule 116.

Please note, OCD approval does not relieve Giant for liability should this closure/modification result in contamination to surface water, groundwater, or the environment. Further, OCD approval does not relieve Giant from responsibility with other Federal, State, or Local Regulations that may apply. Public notice was not issued because this modification was part of the previous discharge plan renewal conditions.

If Giant has any questions regarding this matter please feel free to call me at (505)-827-7152.

Sincerely,

Roger C. Anderson
Bureau Chief

xc: Mr. Denny Foust - Environmental Geologist

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

Certified Mail No. P-288-258-605

☒ Telephone ☐ Personal | Time 2:50 PM | Date 8-28-96

Originating Party	Other Parties
Mr. Lynn Shelton - Giant	Pat Sanchez - OCD

Subject: WQCC Regs. / Guidelines / Application Form.

Discussion

	Version
(1) WQCC Regulations	12/95
(2) Discharge Plan Guidelines	12/95
(3) Discharge Plan Application Form	12/95

The 3 above Items enclosed.

Conclusions or Agreements

Distribution File, Lynn Shelton

Signed Patricia W. Sanchez

P 288 258 605

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

Sent to	Gm - Lynn
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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

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

August 15, 1996

Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Permit Revision, Discharge Permit GW-001
Closure of Affected Units

Dear Mr. Anderson:

As stated in Section 6.1.4 of the above referenced permit, Giant Refining Company - Bloomfield submits a closure plan for the Unlined Evaporation Lagoons and the Spray Evaporation Area at this facility and requests a permit revision to remove these units from the discharge permit.

Since this is an existing permit and these actions perform an activity required by the permit, Giant requests a waiver of the flat fee as noted in Section 3-114.B.5 of the WQCC Regulations.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: Denny Foust, Deputy Oil & Gas Inspector, OCD Aztec

cc w/o enclosure:
John Stokes, Refinery Manager
Kim Bullerdick, Corporate Counsel

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

August 14, 1996

96 AUG 14 AM 8 52

Mr. Greg Lyssy (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Mearsures, including product recovery from onsite recovery wells. continues.

Corrective Measures Study (CMS)

1. GRC continues to explore options that will optimize remediation efforts at this facility.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

July Report

GIANT REFINING CO.

GIANT REFINING COMPANY - BLOOMFIELD REFINERY

#50 COUNTY ROAD 4990
P.O. BOX 159
BLOOMFIELD, NM 87413

PHONE - (505) 632-8013
FAX - (505) 632-3911

DATE: 7/3/96

TO: PAT SANCHEZ

COMPANY: NM OCD

FAX NUMBER: (505) 827 8177

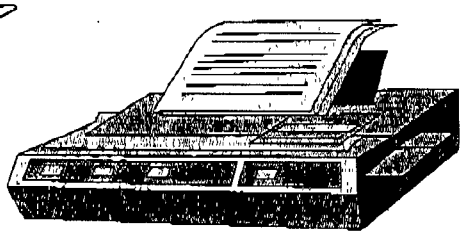
FROM: LYNN SHELTON

PAGE 1 **of** 3

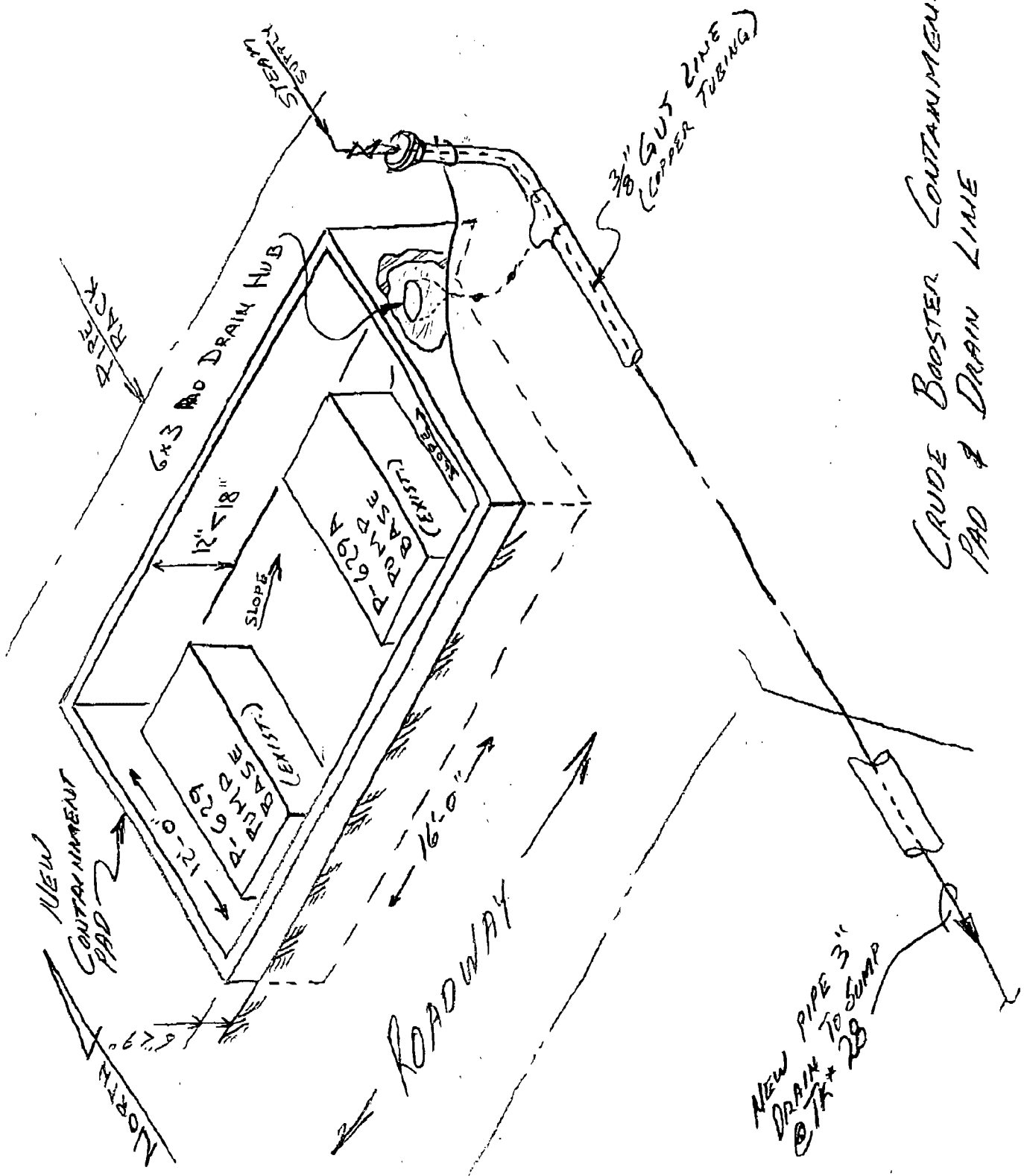
7-8-96
Returned Mr. Sheltons call and Told him this is considered a Containment Pad.

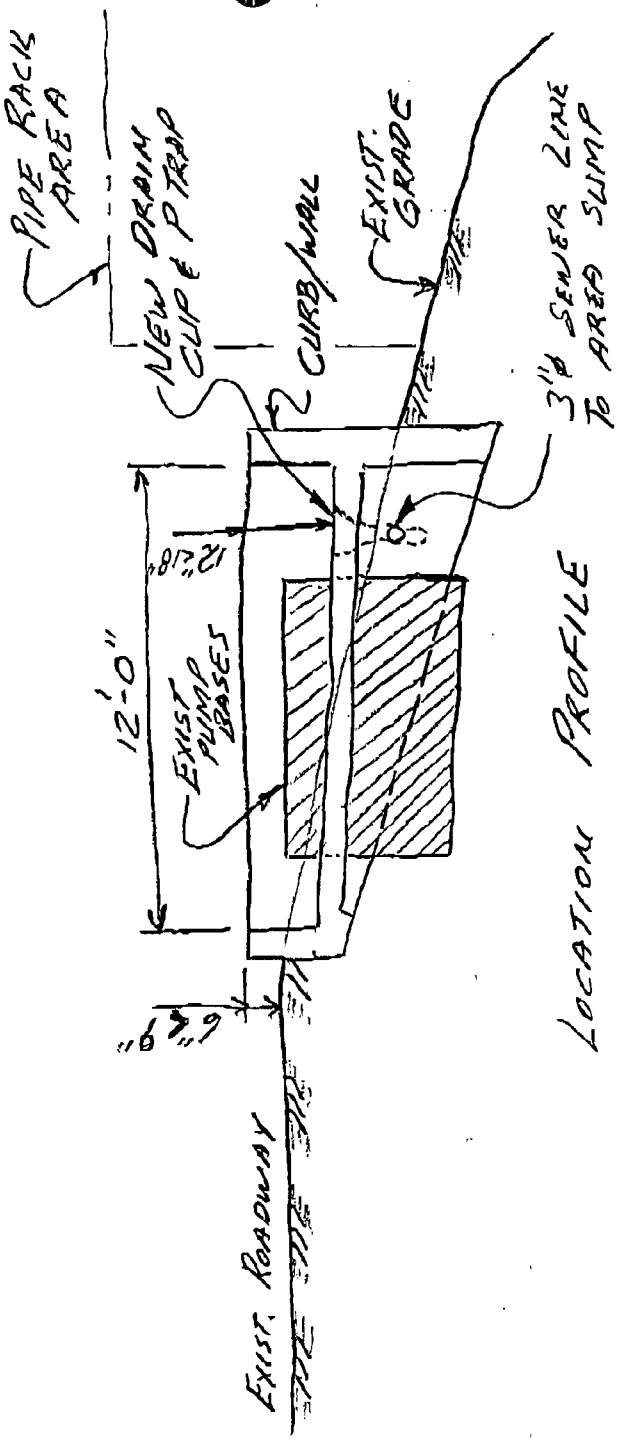
MESSAGE: WE ARE IN A DISCUSSION AS TO WHETHER A PAD AS CONSTRUCTED IN THE DRAWING IS A CONTAINMENT PAD OR A SUMP. PLEASE NOTE THAT THE PAD IS ON A SLOPE (A CONTAINMENT DIKE) AND THAT THE PAD IS ONLY ~ 50% AT OR BELOW GRADE. DOES THE OCD CONSIDER THIS TO BE A SUMP?

THANKS,
Lyn



RECEIVED
JUL 03 1996
Environmental Bureau
Oil Conservation Division





STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

June 20, 1996

CERTIFIED MAIL
RETURN RECEIPT NO.P-594-835-145

Mr. Lynn Shelton
Environmental Manager
Giant Industries
P.O. Box 159
Bloomfield, NM 87413

RE: Soil Sampling Parameters
Faxed to OCD on May 6, 1996

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) has reviewed the Fax submitted from Giant regarding the sampling of the soil underlying the evaporation lagoons. The OCD approves of the list with the requirement that only WQCC 3103 A, B, and C constituents be analyzed for in the soils utilizing approved sample collection and analysis methods as outlined in SW-846 and approved by the EPA. The OCD will require Giant to contact the Santa Fe Office at (505)-827-7156 and Mr. Denny Foust with the District at 334- 6178 one week before the soil samples are taken so that the OCD may have a representative at the site during the sample collection.

Please submit the results with a cover letter discussing the course of action Giant wishes to pursue with the area that are being sampled for these parameters outlined above to the Santa Fe OCD office for approval with a copy sent to Mr. Denny Foust with the Aztec District OCD office.

If Giant has any questions regarding this matter please feel free to call me at (505)-827-7156.

Sincerely,

Patricio W. Sanchez
Petroleum Engineering Specialist

XC: Mr. Denny Foust

GIANT REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

June 20, 1996

Mr. Greg Lyssy (6EN-HX)
USEPA, Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 7202-2733

Re: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order on Consent
U.S EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continues.

Corrective Measures Study (CMS)

1. GRC has been in dialogue with several consulting firms about the CMI.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NM OCD
Benito Garcia, NM Environment Department

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 1:15 pm	Date 6-20-96

Originating Party	Other Parties
Pat Sanchez - OCD	Lynn Shelton - Giant

Subject: Soil Sampling Parameters - see Fax dated May 6, 1996 8:52 AM from Giant.

Discussion: Discussed w/ Mr. Shelton - agreed to sample for all relevant WQCC metals - i.e. 3103 A, B, C - and Not those not regulated by NMOCD. will also sample for plt. Donny Foust or/other OCD rep. to be present during sampling.

Conclusions or Agreements: OCD to send follow up letter - Giant to submit Analysis and closure/investigation reports for each item.

Distribution

Signed: Patricia M. Sanchez

GIANT REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413

505
632-8013

May 9, 1996

Mr. Greg Lyssy (6EN-HX)
USEPA, Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 7202-2733

Re: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order on Consent
U.S EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continues. GRC has selected Inter-Mountain Labloratories of Farmington, to do the groundwater analylisis. The Semi-Annual RCRA Groundwater Sampling event is scheduled for the week of May 20-24, 1996.

Corrective Measures Study (CMS)

1. No activity.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NM OCD
Benito Garcia, NM Environment Department

GIANT REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

April 18, 1996

Mr. Greg Lyssy (6EN-HX)
USEPA, Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 7202-2733

Re: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order on Consent
U.S EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continues.

Corrective Measures Study (CMS)

1. No activity.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

March 18, 1996

Mr. Greg Lyssy (6EN-HX)
USEPA, Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 7202-2733

Re: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order on Consent
U.S EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continues.

Corrective Measures Study (CMS)

1. No activity.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: Roger Anderson, NM OCD
Benito Garcia, NM Environment Department
John Stokes, Refinery Manager, GRC

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

February 5, 1996

Mr. Greg Lyssy (6EN-HX)
U.S. Environmental Protection Agency, Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: **Monthly Progress Report**
EPA I.D. No. NMD089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

Corrective Measures Study (CMS)

1. GRC submitted the Corrective Measures Study on December 21, 1995.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: Roger Anderson, NMOCD
Benito Garcia, NM Environment Department
John Stokes, Refinery Manager, GRC

May 3, 1996

To: Roger Anderson

From: Lynn Shelton

Subject: Soil Analytical Parameters

I have included a list of analytical parameters for the soil underlying the unlined evaporation lagoons. This list is more inclusive than 601/602. While 601/602 included most of the parameters from the WQCC list (Section 3-103.A.) it did not include any semi-volatile organics. For that reason, I have taken the 8240/8270 list and removed the non-refinery constituents. It is still a pretty lengthy list.

Would you review these lists and let me know if there are any changes that I need to make?

Thank you for your assistance in this matter.

GIANT REFINING COMPANY - BLOOMFIELD

SOIL ANALYSIS CONSTITUENT LIST

Method 8240 - Volatile Organics

Parameter	Normal Reporting Limits	WQCC Reporting Limits (water)
Acetone	50 mg/kg	---
Acrolein	10 mg/kg	---
Acrylonitrile	10 mg/kg	---
Benzene	10 mg/kg	0.01 mg/l
Bromodichloromethane	10 mg/kg	---
Bromoform	10 mg/kg	---
Bromomethane	10 mg/kg	---
2-Butanone	50 mg/kg	---
Carbon Disulfide	10 mg/kg	---
Carbon Tetrachloride	10 mg/kg	0.01 mg/l
Chlorobenzene	10 mg/kg	---
Chlorodibromomethane	10 mg/kg	---
Chloroethane	10 mg/kg	---
2-Chloroethyl Vinyl Ether	10 mg/kg	---
Chloroform	10 mg/kg	0.10 mg/l
Chloromethane	10 mg/kg	---
1,4-Dichloro-2-butane	10 mg/kg	---
Dichlorodifluormethane	10 mg/kg	---
1,1-Dichloroethane	10 mg/kg	0.025 mg/l
1,2-Dichloroethane	10 mg/kg	0.01 mg/l
trans-1,2-Dichloroethene	10 mg/kg	---
1,2-Dichloropropene	10 mg/kg	---
Ethanol	50 mg/kg	---
Ethylbenzene	10 mg/kg	0.75 mg/l
Ethyl Methacrylate	10 mg/kg	---
2-Hexanone	50 mg/kg	---
Iodomethane	10 mg/kg	---
Methylene Chloride	10 mg/kg	0.10 mg/l
4-Methyl-2-Pentanone	10 mg/kg	---
Styrene	10 mg/kg	---
1,1,2,2-Tetrachloroethane	10 mg/kg	0.01 mg/l
Tetrachloroethene	10 mg/kg	---
Toluene	10 mg/kg	0.75 mg/l

Method 8240 - Volatile Organics, cont.:

1,1,1-Trichloroethane	10 mg/kg	0.06 mg/l
1,1,2-Trichloroethane	10 mg/kg	0.01 mg/l
Trichloroethene	10 mg/kg	----------
Trichlorofluoromethane	10 mg/kg	----------
1,2,3-Trichloropropane	10 mg/kg	----------
Vinyl Acetate	10 mg/kg	----------
Vinyl Chloride	10 mg/kg	0.001 mg/l

GIANT REFINING COMPANY - BLOOMFIELD

SOIL ANALYSIS CONSTITUENT LIST

Method 8270 - Semi-Volatile Organics:

Parameter	Normal Reporting Limits	WQCC Reporting Limits (water)
Acenaphthene	10 mg/kg	---
Acenaphthylene	10 mg/kg	---
Acetophenone	10 mg/kg	---
Aniline	10 mg/kg	---
Anthracene	10 mg/kg	---
Benzidine	10 mg/kg	---
Benzoic Acid	10 mg/kg	---
Benzo (a) Anthracene	10 mg/kg	---
Benzo (b) Flouranthene	10 mg/kg	---
Benzo (k) Flouranthene	10 mg/kg	---
Benzo (g,h) perylene	10 mg/kg	---
Benzo (a) Pyrene	10 mg/kg	0.007 mg/l
Benzyl Alcohol	50 mg/kg	---
Bis (2-chloroethoxy) Methane	10 mg/kg	---
Bis (2-chloroethyl) Ether	10 mg/kg	---
Bis (2-chloroisopropyl) Ether	10 mg/kg	---
4-Bromophenyl Phenyl Ether	10 mg/kg	---
4-Chloroaniline	10 mg/kg	---
1-Chloronaphthalene	10 mg/kg	---
2-Chloronaphthalene	10 mg/kg	---
4-Chloro-3-Methylphenol	10 mg/kg	---
2-Chlorophenol	10 mg/kg	---
4-Chlorophenyl Phenyl Ether	10 mg/kg	---
Chrysene	10 mg/kg	---
Dibenz (a,j) Acridine	10 mg/kg	---
Dibenz (a,h) Anthracene	10 mg/kg	---
1,3-Dichlorobenzene	10 mg/kg	---
1,4-Dichlorobenzene	10 mg/kg	---
1,2-Dichlorobenzene	10 mg/kg	---
3,3'-Dichlorobenzidine	10 mg/kg	---
2,4-Dichlorophenol	10 mg/kg	---
2,6-Dichlorophenol	10 mg/kg	---
p-Dimethylaminoazobenzene	10 mg/kg	---
7,12-Dimethylbenz (a) Anthracene	10 mg/kg	---
2,4-Methylphenol	10 mg/kg	---

Method 8270 - Semi-Volatile Organics, cont.:

4,6-Dinitro-2-Methylphenol	10 mg/kg	---
2,4-Dinitrophenol	10 mg/kg	---
2,4-Dinitrotoluene	10 mg/kg	---
2,6-Dinitrotoluene	10 mg/kg	---
Diphenylamine	10 mg/kg	---
1,2-Diphenylhydrazine	10 mg/kg	---
Ethyl Methanesulfonate	10 mg/kg	---
Flouranthene	10 mg/kg	---
Flourene	10 mg/kg	---
Heptachlor	10 mg/kg	---
Heptachlor Epoxide	10 mg/kg	---
Hexachlorobenzene	10 mg/kg	---
Hexachlorobutadiene	10 mg/kg	---
Hexachlorocyclopentadiene	10 mg/kg	---
Hexachlorethane	10 mg/kg	---
Indeno (1,2,3-cd) Pyrene	10 mg/kg	---
Isophorone	10 mg/kg	---

GIANT REFINING COMPANY - BLOOMFIELD

SOIL ANALYSIS CONSTITUENT LIST

Total Metals:

Parameter	Method	Normal Reporting Limit
Arsenic	7060/7040	0.10 mg/kg
Barium	6010 ICAP	1.00 mg/kg
Cadmium	6010 ICAP	0.01 mg/kg
Chromium	6010 ICAP	0.05 mg/kg
Lead	6010 ICAP	0.05 mg/kg
Mercury	7060/7040	0.002 mg/kg
Selenium	6010 ICAP	0.05 mg/kg
Silver	6010 ICAP	0.05 mg/kg
Cyanide	?(~~9010~~)	0.20 mg/kg

— Add WACC 3103 C. metals.

General Chemistry:

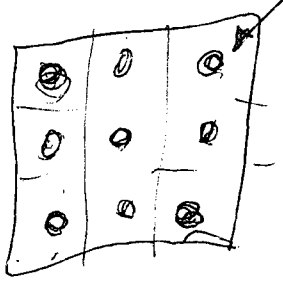
~~Calcium~~	-----	-----
~~Potassium~~	-----	-----
~~Magnesium~~	-----	-----
~~Sodium~~	-----	-----
~~Bicarbonate~~	-----	-----
~~Carbonate~~	-----	-----
Chloride	-----	-----
Sulfate	-----	-----
Nitrate (NO3 as N)	-----	10.0 mg/kg

remove

plt-add keep

PLUS Per Phone Call on 6-20-96 w/Lynn Shelton

8 samples



WACC — 3103 C. Metals

4 - on surface.

4 - below surface.

— Samples — Comple wells.

GROUNDWATER TECHNOLOGY ®

Groundwater Technology, Inc.
2501 Yale Boulevard, SE, Suite 204, Albuquerque, NM 87106 USA
Tel: (505) 242-3113 Fax: (505) 242-1103

21 December 1995

Mr. Greg J. Lyssy
Project Coordinator
RCRA Technical Section - Enforcement Branch
U.S. Environmental Protection Agency - Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

VIA AIRBORNE EXPRESS

RE: Giant Refining Company
#50 County Road 4990
Bloomfield, New Mexico
EPA ID# NM089416416
Administrative Order on Consent - Docket No. VI-303-H
Transmittal of the *Corrective Measure Study Report* and the *Human Health and Ecological Risk Assessment*

Dear Mr. Lyssy:

Enclosed please find three (3) copies of the *Corrective Measure Study Report* (CMS Report) and three (3) copies of the *Human Health and Ecological Risk Assessment* (Risk Assessment) submitted for your review and approval. The CMS Report is required under Attachment II of the Corrective Action Plan of the Administrative Order on Consent (Docket No. VI-303-H) for the referenced site. The Risk Assessment has been prepared to support site-specific corrective action objectives.

Once you have reviewed these documents, Giant Refining Company (GRC) would be pleased to meet with you to discuss the site-specific corrective action objectives, the proposed corrective measure option, and any questions or comments you may have. Please contact Mr. Lynn Shelton of GRC at (505) 632-8013 to schedule a meeting, or Ms. Cymantha Liakos of Groundwater Technology, Inc. at (505) 242-3113 should you have any questions concerning the enclosed submittals.

Sincerely,
Groundwater Technology, Inc.

Cymantha Liakos

Cymantha Liakos
Project Manager

cc: L. Shelton - GRC

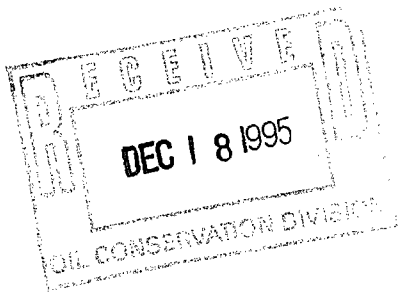
GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413

505
632-8013

December 15, 1995

Mr. Greg J. Lyssy (6EN-HX)
U.S. Environmental Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733



RE: Monthly Progress Report
EPA I. D. No. NMD089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

2. The semi-annual groundwater sampling of RCRA Wells MW-9, MW-20, MW-21, RW-15, and RW-18 was performed by Groundwater Technology, Inc. on December 8, 1995.

Corrective Measures Study (CMS)

1. GRC has completed the comments on the Corrective Measures Study and anticipates a December 22, 1995 submission.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

cc: Roger Anderson, NMOCD
Benito Garcia, NM Environment Department
John Stokes, Refinery Manager, GRC

GIANT REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

November 17, 1995

Mr. Greg J. Lyssy (6EN-HX)
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I. D. No. NMD089416416

Administrative Order on Consent
U. S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the Order, Giant Refining Company - Bloomfield Refinery (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

Corrective Measures Study (CMS)

1. A 60 day extension has been granted to GRC for submittal of the Corrective Measure Study and the Risk Assessment, with the new due date of December 27, 1995.

2. The transfer of ownership of this facility was completed during the month of October.

3. GRC is reviewing the contract to retain Groundwater Technologies as the consulting firm on this project.

If you require additional information, please do not hesitate to contact me a (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

cc: Roger Anderson, NMOCD
Benito Garcia, NM Environment Department
John Stokes, Refinery Manager, GRC

Bloomfield Refining Company
A Gary-Williams Energy Corporation Subsidiary

October 4, 1995

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. William J. LeMay, Director
State of New Mexico
Energy, Minerals & Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Mr. Roger Anderson, Bureau Chief
State of New Mexico
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Mr. Frank Chavis, District Manager
State of New Mexico
Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

Subject: Transfer of Ownership

Gentlemen:

Bloomfield Refining Company (BRC), a wholly-owned subsidiary of Gary-Williams Energy Corporation of Denver, Colorado, is formally notifying the State of New Mexico Oil Conservation Division of the sale of the Bloomfield, New Mexico refinery to San Juan Refining Company (SJRC), a wholly-owned subsidiary of Giant Industries Arizona, Inc. effective October 4, 1995. BRC and SJRC request that the refinery's Discharge Plan GW-001 and Class 1 Injection Well Discharge Plan GW-130 be transferred to SJRC. The GW-001 Plan is for the 5-year period ending June 7, 1999 and the GW-130 Plan is for the 5-year period ending November 4, 1998.

If you have any questions concerning this matter, please contact either Paul Rosswork for BRC at (303) 628-3800 or Kim Bullerdick for SJRC at (602) 585-8850.

Sincerely,

BLOOMFIELD REFINING COMPANY

David J. Youngren
Senior Vice President
370-17th Street, Suite 5300
Denver, CO 80202-5653

SAN JUAN REFINING COMPANY

A. Wayne Davenport
Vice President and Chief Financial Officer
23733 North Scottsdale Road
Scottsdale, AZ 85255

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

October 3, 1995

Mr. Greg J. Lyssy (6EN-HX)
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the Order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

Corrective Measures Study (CMS)

1. The CMS is due by October 27, 1995.

2. The transfer in ownership of the facility to Giant Industries, Inc. is scheduled to occur on October 4, 1995.

3. BRC has completed a draft risk assessment and draft CMS. These documents have been given to Giant Industries, Inc. to complete the review prior to submittal to the US EPA.

Please contact this office for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Benito Garcia, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick
John Goodrich

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED
'95 SEP 5 AM 8 52

September 1, 1995

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the Order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. BRC received USEPA's approval of the RCRA Facility Investigation on August 28, 1995.

Corrective Measures Study (CMS)

1. The CMS is due within 60 days of receipt of the RFI approval (by October 27, 1995).

2. BRC notified USEPA of a pending transfer in ownership of the facility to Giant Industries, Inc. that could occur as early as September 15, 1995.

3. GTI has completed a draft risk assessment and draft CMS for BRC's internal review. These documents have also been given to Giant Industries, Inc. in order to ensure that the requirements of the Order are smoothly transferred.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Benito Garcia, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick
John Goodrich

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

August 28, 1995

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Notice of Transfer of Ownership
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with II.5 and 6 of the Administrative Order On Consent (Order), Bloomfield Refining Company (BRC) submits this information.

1. As a written follow up to our conversation earlier this month, please be advised that Bloomfield Refining Company is in the process of transferring ownership to Giant Industries, Inc. We expect to complete the transfer on or about September 15, 1995.

2. BRC has provided Giant Industries, Inc. with a copy of the Order. The responsibilities of the Order will be transferred to Giant Industries, Inc. as its successor-in-interest per the terms of the Order.

Additional information about the transfer will be provided in accordance with applicable regulations as they become due or available. Please feel free to contact me about this matter. Kim Bullerdick with Giant Industries, Inc. can also be contacted at (602) 585-8850.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick
John Goodrich
Paul Rosswork

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

August 8, 1995

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. A letter of commitment for further plume delineation down-gradient of MW-34 has been prepared.

2. BRC is proceeding with the preparation of the Corrective Measure Study (CMS) report that will be due within 60 days of receipt of final approval of the RFI report from the USEPA.

2. GTI has essentially completed a draft of the risk assessment to identify site-specific correction action objectives.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick
John Goodrich

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED

'95 JU 17 AM 8 52

July 12, 1995

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. BRC is proceeding with the preparation of the Corrective Measure Study (CMS) report that will be due within 60 days of receipt of final approval of the RFI report from the USEPA.

2. GTI is continuing with the preparation of a risk assessment to identify site-specific correction action objectives.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NMOCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick
Joe Warr
John Goodrich

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 6/3/94,
or cash received on 6/10/94 in the amount of $ 3910.00
from Bloomfield Refining Co.
for Bloomfield Refinery (Facility Name) GW-001 (DP No.)
Submitted by: _____ Date: _____
Submitted to ASD by: Robert Myers Date: 6/10/94
Received in ASD by: Helen B Ward Date: 6/10/94
Filing Fee ____ New Facility ____ Renewal X
Modification ____ Other _____ (specify)
Organization Code 521.07 Applicable FY 94

To be deposited in the Water Quality Management Fund.
Full Payment X or Annual Increment ____

Bloomfield Refining Company
A Gary-Williams Energy Corporation Subsidiary

Republic Plaza
370 17th Street, Suite 5300
Denver, Colorado 80202
(303) 628-3800

FIRST BANK
EAST GRAND FORKS
EAST GRAND FORKS, MINNESOTA 56721
75-1592/912

CHECK NUMBER [redacted]

DATE ISSUED 6/03/94

AMOUNT $***3,910.00

PAY ****3,910.00 **********

THIS CHECK VOID UNLESS CASHED WITHIN 120 DAYS OF ISSUE DATE

GENERAL ACCOUNT

SR. V.P.

Two Signatures Required if $25,000 or More,
Special Signatures Required if $100,000 or More

THE ORDER OF

NMED-WATER QUALITY MANAGEMENT
OIL CONSERVATION DIVISION
P.O. BOX 2088
SANTA FE NM 87504

[redacted]

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED

'95 JUN 9 AM 8 52

June 6, 1995

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. BRC is proceeding with the preparation of the Corrective Measure Study (CMS) report that will be due within 60 days of receipt of final approval of the RFI report from the USEPA. On May 31, 1995, five wells (MW-11, MW-26, MW-30, MW-31, and MW-34) were sampled for biological indicators to support the CMS, including: ammonia-nitrogen, orthophosphate, dissolved iron, sulfate, total heterotrophic bacteria, gasoline-utilizing bacteria, nitrate, and sulfate.

2. BRC has initiated a risk assessment to identify site-specific correction action objectives. The site visit by Groundwater Technology's Risk Assessment Services was conducted on May 16, 1995.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

May 1, 1995

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. BRC received the USEPA comments on the RFI/CMS Report dated November 8, 1994, on March 14, 1995. A meeting to discuss the comments was held on April 5, 1995 at the USEPA Region VI offices in Dallas, Texas. BRC's response to USEPA comments was submitted on April 13, 1995, including: statistical analysis of background concentrations for soil, groundwater and sediment; re-evaluation of aquifer test data; drafting of cross-sections and various isopleth and contour maps; and compilation of potential receptor information. BRC indicated in the response that the CMS will be provided as a separate submittal within 60 days of receipt of final approval of the RFI Report.

2. The results of sampling of the three additional groundwater monitoring wells installed on BLM property (MW-32, MW-33 and MW-34) were provided to USEPA in a submittal entitled "Results of the Offsite Well Installations/Groundwater Sampling" dated April 26, 1995. The extent of the separate phase hydrocarbon (SPH) plume has been delineated. Delineation of dissolved hydrocarbons is essentially complete, although MW-34 to the southwest contained 1,630 ug/l of BTEX compounds. No additional delineation activities are proposed at this time. Instead, if additional delineation is warranted, BRC intends to perform it during corrective measure implementation.

3. BRC is proceeding with the preparation of the CMS Report. In addition, a risk assessment will be conducted to identify site-specific correction action objectives.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick
Joe Warr
John Goodrich

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED

'95 APR 17 PM 8 52

April 3, 1995

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. BRC received the USEPA comments on the RFI/CMS Report dated November 8, 1994, on March 14, 1995. A meeting to discuss the comments at the USEPA Region VI offices in Dallas, Texas has been scheduled for April 5, 1995, as requested by USEPA. A response to the comments is due by April 14, 1995.

2. All monitoring wells were gauged for liquid levels on March 1, 1995 and the three new, offsite wells were sampled on March 2, 1995 for analysis for volatile organic compounds (USEPA Method 8240) and semi-volatile organic compounds (USEPA Method 8270). A supplemental report of these activities and findings will be submitted by the next reporting period.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED
'95 FEB 8 AM 8 52

February 1, 1995

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. BRC awaits comments on the RCRA Facility Investigation/ Corrective Measures Study (RFI/CMS) Report dated November 8, 1994 from the USEPA.

2. The drilling of three additional groundwater monitoring wells to the southwest of the facility on public land managed by the Bureau of Land Management is scheduled to begin on February 21, 1995.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

December 2, 1994

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. The RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) dated November 8, 1994 was submitted to the USEPA.

2. A Bureau of Land Management (BLM) right-of-way application was submitted for three additionally proposed monitoring wells to delineate hydrocarbons to the southwest of the BRC facility. An archaeological survey was conducted by the San Juan County Museum, and the proposed well locations were inspected by the BLM. The right-of-way application is currently under review. Well installations will be scheduled upon receipt of BLM's permit.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich

GROUNDWATER TECHNOLOGY

Groundwater Technology, Inc.
2501 Yale Blvd. SE, Suite 204, Albuquerque, NM 87106
Tel: (505) 242-3113 Fax: (505) 242-1103

8 November 1994

Mr. Greg J. Lyssy
Project Coordinator
RCRA Technical Section - Enforcement Branch
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Bloomfield Refining Company
#50 County Road 4990
Bloomfield, New Mexico
EPA ID# NM089416416
Administrative Order on Consent - Docket No. VI-303-H
RCRA Facility Investigation/Corrective Measures Study Report

Dear Mr. Lyssy:

Groundwater Technology, Inc. (GTI) on behalf of Bloomfield Refining Company (BRC) hereby submits three copies of the "RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) Report" for the above-referenced site. Additional wells have been proposed to the southwest of the facility (on the BLM property) to complete delineation in this direction. BRC is in the process of preparing the BLM right-of-way application and procuring an archaeological survey for this work.

Once approved by EPA, the RFI/CMS report is the final requirement of the Administrative Order on Consent. If appropriate, the Corrective Measures Implementation (CMI) would be prepared under another order or the facility's Part B/HSWA permit.

Should you have any questions concerning the report, please do not hesitate to contact me at (505) 242-3113.

Sincerely,
Groundwater Technology, Inc.

Cymantha Liakos
Project Manager

cc: Coby Muckelroy - NMED Hazardous Waste Bureau
Roger Anderson - NM Oil Conservation Division
Joe Warr - BRC
Chris Hawley - BRC
Dave Roderick - BRC

GROUNDWATER TECHNOLOGY ®

Groundwater Technology, Inc.
2501 Yale Boulevard, SE, Suite 204, Albuquerque, NM 87106 USA
Tel: (505) 242-3113 Fax: (505) 242-1103

10 October 1994

Mr. Greg J. Lyssy
Project Coordinator
RCRA Technical Section - Enforcement Branch
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

CERTIFIED MAIL RETURN RECEIPT REQUESTED

RE: Bloomfield Refining Company
#50 County Road 4990
Bloomfield, New Mexico
EPA ID# NM089416416
Administrative Order on Consent - Docket No. VI-303-H
Request for Extension for Submittal of the RFI/CMS Report

Dear Mr. Lyssy:

Groundwater Technology, Inc. (GTI) on behalf of Bloomfield Refining Company (BRC) hereby requests an extension of sixty (60) days for the submittal of the draft RCRA Facility Investigation (RFI)/Corrective Measures Study (CMS) Report. The USEPA letter approving the RFI work plan was received by BRC on November 8, 1993, and the report was originally due 365 days from that date (or November 8, 1994). BRC requests additional time to compile the comprehensive report for submittal by January 8, 1995.

We would appreciate your response to this request in writing at your earliest convenience. Please do not hesitate to contact me at (505) 242-3113 or Mr. Chris Hawley of BRC at (505) 632-8013.

Sincerely,
Groundwater Technology, Inc.

Cymantha Liakos

Cymantha Liakos
Project Manager

cc: Ed Horst - NMED Hazardous Waste Bureau
Roger Anderson - NM Oil Conservation Division
Joe Warr - BRC
Chris Hawley - BRC
Dave Roderick - BRC

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that he is Adv. Director of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Notice Of Publication

and numbered ..... in the ..... Court of Lea County, New Mexico, was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, once each week on the same day of the week, for one (1) consecutive weeks beginning with the issue of October 30, 19 91 and ending with the issue of October 30, 19 91

And that the cost of publishing said notice is the sum of $ 60.67 which sum has been (Paid) (Assessed) as Court Costs

Joyce Clemens

Subscribed and sworn to before me this 12th day of November, 19 91

Mrs. Jean Jensen
Notary Public, Lea County, New Mexico

My Commission Expires Sept. 28, 19 94

LEGAL NOTICE
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 and renewal application have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505)827-5800.

(GW-68) - Williams Field Services Company, Sandy Fishler, Environmental Specialist, P.O. Box 58900, Salt Lake City, Utah 84158-0900, has submitted a discharge plan application for their Simms Mesa Compressor Station located in the NW/4 NE/4 Section 22, Township 30 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. Approximately 75 gallons per day of wastewater will be stored in an above ground steel tank prior to transport to an OCD approved off-site disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 160 feet with a total dissolved solids concentration estimated to range from 600 to 900 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-1) - Bloomfield Refining Company, David Roderick, Refinery Manager, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Refinery located in the NW/4 SE/4 and the S/2 NE/4, and the N/2 NE/4 SE/4 of section 27, and the S/2 NW/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of section 26, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The renewal application consists of an evaluation proposal of the refinery waste water system with the objective of eliminating all unlined storage facilities. Groundwater most likely to be affected by any accidental spills is at a depth ranging from 10 to 30 feet and is a water zone directly caused by seepage from Hammond Ditch. The ditch water has a total dissolved solids concentration of approximately 200 mg/l. The previously approved discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-74) - Halliburton Company, Matt D. Ratliff, Environmental Engineer, P.O. Drawer 1431, Duncan, Oklahoma 73536-0100, has submitted a discharge plan application for its Hobbs Service Facility located in Section 7, Township 18 South, Range 39 East, NMPM, Lea County, New Mexico. Approximately 135 gallons per day of waste water is stored in below grade fiberglass tanks prior to disposal in an OCD approved offsite disposal facility. Groundwater most likely to be affected by any accidental spills is a depth of approximately 30 feet with a total dissolved solids concentration ranging from 300 to 600 mg/l. The application addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-15) - Marathon Road Water Station, C.W. Trainer, 8090 E. Kalil Dr., Scottsdale, Arizona, 85260, has submitted a renewal application for the previously approved discharge plan for their insitu extraction brine well facility. The Marathon Road Water Station is located in the SW/4 SE/4, Section 25, Township 19 South, Range 34 East, NMPM, Lea County, New Mexico. Fresh water is injected into the Salado Formation at an approximate depth of 1930 to 2400 feet and brine is extracted with an average total dissolved solids concentrations of about 321,080 mg/l. Groundwater most likely to be affected by an accidental discharge is at a depth of 20 to 50 feet with a total dissolved solids concentration ranging form 500 to of 3500 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-22) - Quality Brine, Inc., Stan Watson, P.O. Box 75, Tatum, New Mexico, 88267, has submitted a renewal application for the previously approved discharge plan for their insitu extraction brine well facility. The Quality Brine Water Station is located in the SW/4 SW/4, Section 20, Township 12 South, Range 36 East, NMPM, Lea County, New Mexico. Fresh water is injected into the Salado Formation at an approximate depth of 2300 to 2900 feet and brine is extracted with an average total dissolved solids concentration of about 350,000 mg/l. Groundwater most likely to be affected by an accidental discharge is at a depth of 30 to 40 feet with a total dissolved solids concentration ranging from 700 to 800 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

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 5:00 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 public hearing may be requested by any interested person. Requests for 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 21st day of October, 1991.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY
Director

SEAL

Published in the Lovington Daily Leader October 30, 1991

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED
'94 SEP 6 AM 8 50

September 1, 1994

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: **Monthly Progress Report**
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. The second groundwater sampling event (Phase III RFI) was performed from August 2 to August 4, 1994.

2. Surface water and sediment sampling (Phase V RFI) was performed from August 9 to August 12, 1994. Sampling reports will be completed within the next two to three weeks.

3. The Soil Vapor Extraction/Air Sparging Pilot Test Report was submitted on August 23, 1994.

4. The groundwater monitoring wells were equipped with locking caps and locks during the period.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich

GROUNDWATER TECHNOLOGY

Groundwater Technology, Inc.
2501 Yale Blvd. SE, Suite 204, Albuquerque, NM 87106
Tel: (505) 242-3113 Fax: (505) 242-1103

February 11, 1994

US EPA Region VI
RCRA Technical Enforcement
First International Building
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

Attn: Mr. Greg Lyssy

Re: Results of Implementation of Phase I, of the RFI Workplan -Soil Vapor Survey- at the Bloomfield Refining Company, Bloomfield, New Mexico

Dear Mr. Lyssy:

The subject soil vapor survey was conducted between December 9 and 12, 1993 by Burlington Environmental, Inc. Enclosed is a copy of the soil gas report and a map of the site summarizing the results. A representative of Groundwater Technology was onsite during the survey.

In accordance with the RFI workplan, soil gas measurements were collected from shallow (3 to 4 feet) and deep (7.5 to 10 feet) probes at forty-two (42) soil vapor sampling stations. Due to obstructions, soil vapor measurements were not collected at approximately 4 soil gas stations identified in the RFI work plan. Additional sampling locations, however were identified and substituted to enhance the definition of the impacted area at the site. The soil gas survey appears to have confirmed the previously suspected extent of impact beneath the site. The soil gas survey identified impact to: the area of the flare, the roadway south of tanks 11 and 12, and the area surrounding tanks 24 through 28. Therefore, the positions of soil borings or monitoring wells indicated in the RFI workplan (Phases II and III) will not be altered by these results.

If you have any questions regarding this matter, please call me or Ms. Cymantha Liakos at (505) 242-3113.

Sincerely,

Groundwater Technology, Inc.

Charles W. Schick, PG
Hydrogeologist

copy: Mr. Chris Hawley, Bloomfield Refining, Co.
Mr. Ed Horst NMED, Letter only
Mr. Roger Anderson NMED OCD, Letter only
Project File

632-3306
Chris H.
632-8013
2117 - will send w xc of report

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

March 1, 1995

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

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Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. BRC awaits comments on the RCRA Facility Investigation/ Corrective Measures Study (RFI/CMS) Report dated November 8, 1994 from the USEPA.

2. The installations of three additional groundwater monitoring wells to the southwest of the facility on public land managed by the Bureau of Land Management were completed on February 23, 1995. Sampling will be completed on March 2, 1995. A groundwater elevation survey was completed on March 1, 1995.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED
'95 JAN 12 AM 8 52

January 3, 1995

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

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Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. BRC awaits comments on the RCRA Facility Investigation/ Corrective Measures Study (RFI/CMS) Report dated November 8, 1994 from the USEPA.

2. The Bureau of Land Management (BLM) right-of-way application has been submitted and a permit approved for three additionally proposed monitoring well locations. The installation of these wells is tentatively scheduled for mid-February, 1995 congruent with driller availability.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

November 2, 1994

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. The report for the surface water and sediment sampling (Phase V RFI) was submitted to USEPA in correspondence dated October 14, 1994.

2. A request for an extension of the submittal date for the RFI/CMS was submitted. After discussion with the USEPA, it was decided that the report could be submitted as required with some consideration concerning the CMS information that is being submitted ahead of the required schedule.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

July 20, 1994

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. The second groundwater event (Phase III RFI) is scheduled for the first week in August.

2. A summary of the Phase IV RFI aquifer testing (entitled "Uppermost Aquifer Hydraulic Testing and Modeling") was submitted to the USEPA in correspondence dated July 20, 1994.

3. A summary of the Phase IV RFI air sparging/soil vapor extraction pilot testing will be submitted to USEPA during the next reporting period.

4. Phase V RFI activities (surface water and sediment sampling) are scheduled to be conducted with the second Phase III RFI groundwater sampling event for the first week in August.

5. The RFI Report is due in November 1994, and will be combined with the Corrective Measures Study (CMS) Report.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich

GROUNDWATER TECHNOLOGY ®

Groundwater Technology, Inc.
2501 Yale Boulevard S.E., Suite 204, Albuquerque, NM 87106 USA

20 July 1994

Mr. Greg J. Lyssy
Project Coordinator
RCRA Technical Section - Enforcement Branch
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Bloomfield Refining Company
#50 County Road 4990
Bloomfield, New Mexico
EPA ID# NM089416416
Administrative Order on Consent - Docket No. VI-303-H
Results of the Phase IV RFI - Uppermost Aquifer Hydraulic Testing and Modeling

Dear Mr. Lyssy:

Enclosed is the report entitled "Uppermost Aquifer Hydraulic Testing and Modeling" for the above-referenced site. This report describes the procedures and findings of the aquifer testing conducted as part of the Phase IV RCRA Facility Investigation (RFI) at the Bloomfield Refining Company (BRC) site during the first week of June 1994. A separate report will be submitted for the air sparging/soil vapor extraction pilot testing which was conducted during the second week of June 1994.

The second round of groundwater sampling to complete the Phase III RFI is scheduled for the week of 1 August 1994. Phase V of the RFI (stream and sediment sampling) will also be conducted at that time.

Should you have any questions concerning the report, please do not hesitate to contact me or Sara Brothers of my office at (505) 242-3113.

Sincerely,
Groundwater Technology, Inc.

Cymantha Liakos

Cymantha Liakos
Project Manager

cc: Ed Horst - NMED Hazardous Waste Bureau
Roger Anderson - NM Oil Conservation Division
Joe Warr - BRC
Chris Hawley - BRC
Dave Roderick - BRC

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

July 5, 1994

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue.

RCRA Facility Investigation (RFI) Progress

1. A summary of the Phase III RFI activities (well installations and first groundwater sampling event) and findings was prepared and submitted to USEPA in correspondence dated June 23, 1994. The second groundwater sampling event is scheduled for the last week in July. Additional delineation of separate- and dissolved-phase hydrocarbons to the southwest of the facility may be recommended following the next monitoring event. Bureau of Land Management (BLM) right-of-way permits would be required for additional work in this area.

2. The aquifer testing for Phase IV of the RFI was conducted during the week of June 6, 1994. Initially, RW-19 was used as the pumping well with three monitoring points (MP-3, MP-4, and MP-5) located proximal to it; however, when step-drawdown testing was conducted, separate-phase hydrocarbons (SPH) entered the well, increasing in thickness with increased pumping rates, until most of the saturated thickness was SPH. The pump test was re-located to well RW-22 which did not have several monitoring points located nearby. A summary of the aquifer testing activities and findings is being prepared and will be submitted to USEPA during the next reporting period.

3. The air sparging/soil vapor extraction pilot testing was conducted during the week of June 13, 1994. Three testing segments were conducted; a 4-hour vapor extraction test on VEW-1, a 4-hour air sparging test on AS-1, and a 4-hour combined air sparging/vapor extraction test. Monitoring points MP-1 and MP-2 and wells MW-4 and RW-2 were used to measure responses during the test segments. A summary of the pilot testing activities and findings is being prepared and will be submitted to USEPA during the next reporting period.

4. Phase V RFI activities (surface water and sediment sampling) is tentatively scheduled with the second Phase III RFI groundwater sampling event for the last week in July.

5. The RFI Report is due in November 1994, and will be combined with the Corrective Measures Study (CMS) Report.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich

BLOOMFIELD REFINING COMPANY

DISCHARGE PLAN GW-1

RENEWAL APPLICATION

FOR THE

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

Submitted By:

Bloomfield Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

For the Period:

June 7, 1994 to June 6, 1999

DISCHARGE PLAN RENEWAL APPLICATION FOR BLOOMFIELD REFINING COMPANY

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LIST OF ATTACHMENTS

DISCHARGE PLAN RENEWAL APPLICATION
FOR
BLOOMFIELD REFINING COMPANY

1.0 GENERAL INFORMATION

1.1 Name of Discharger, Operator, and Owner

Bloomfield Refining Company
P. O. Box 159
Bloomfield, New Mexico 87413
(505) 632-8013

1.2 Facility Contacts

Dave Roderick, Refinery Manager
Chris Hawley, Environmental Manager
Chad King, Operations Manager

1.3 Location of Facility

286.93 acres, more or less, being that portion of the NW1/4 NE1/4 and the S1/2 NE1/4 and the N1/2 NE1/4 SE1/4 of Section 27, and the S1/2 NW1/4 and the N1/2 NW1/4 SW1/4 and the SE1/4 NW1/4 SW1/4 and the NE1/4 SW1/4 of Section 26, Township 29 North, Range 11 West, N.M.P.M., San Juan County, New Mexico.

1.4 Type of Operation

Bloomfield Refining Company (BRC) is a petroleum refinery with a nominal crude capacity in barrels per calendar day (bpcd) of 18,000. Processing units include crude desalting, crude distillation, catalytic hydrotreating, catalytic reforming, fluidized catalytic cracking, catalytic polymerization, diesel hydrodesulfurization, gas concentration and treating, and sulfur recovery.

Crude supplies are delivered by pipeline and tank trucks. Products are sold, via tank trucks, from a product terminal operated by BRC.

1.5 Certification

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

Name: David Roderick Title: Vice-President, Refining

Signature: David Roderick Date: 3/23/94

2.0 FACILITY HISTORY AND DESCRIPTION

2.1 Background

The BRC facility is located at #50 County Road 4990 (Sullivan Road), immediately south of Bloomfield, New Mexico in San Juan County (**Figure 1**). The site is located on a bluff approximately 100 feet above the south side of the San Juan River, a perennial river that flows to the west. On the bluff and between the river and the process area of the facility is the Hammond Ditch, a man-made channel for irrigation water supply that borders all but the southern portion of the site. Bordering the facility is a combination of federal and private properties (**Figure 2**). The current facility layout is shown in **Figure 3**. The topography of site is generally flat with low-lying areas to the east of the process area (**Figure 13**).

2.2 Previous Owner's Activities

The BRC facility was originally constructed as a crude topping unit in the late 1950s by local entrepreneur Kimball Campbell. O. L. Garretson bought the facility in the early 1960s, renamed it Plateau, Inc., and sold it in 1964 to Suburban Propane of New Jersey.

Operationally, the facility has steadily evolved through a series of improvements, modifications, and expansions. Suburban upgraded the facility in 1966, increasing the crude unit throughput to 4,100 bpcd and adding a 1,850 bpcd reformer and naphtha hydrotreater. In 1975, the crude unit was expanded to 8,400 bpcd.

In 1979, the crude unit was expanded again to 16,800 bpcd (later demonstrated to have a hydraulic capacity in excess of 18,000 bpcd). A fluidized catalytic cracker (FCC) with a nominal capacity of 6,000 bpcd, an unsaturated gas plant, and a treater unit were also added at that time. The capacity of the reformer/hydrotreater was increased to 2,250 bpcd. The FCC was upgraded in 1982 to conform with state and federal air quality standards.

2.3 BRC Activities

BRC acquired the facility from Suburban Propane (Plateau) on October 31, 1984. BRC made many improvements to facility operations and equipment. These improvements are summarized below.

1986 Relocated spent caustic tank onto a concrete pad with concrete retaining walls

1987 Upgraded the reformer and increased capacity to 3,600 bpcd, modified the laboratory and treater unit, and increased tank storage capacity

1987 Cleaned up north and south bone yards

Decommissioned and dismantled old tanks 6 and 7

Relocated API crude tanks 8 and 9 onto concrete pads with concrete retaining walls

Established a systematic inspection/maintenance/repair program for tanks

1988 Added a 2,000 bpcd catalytic polymerization unit

Removed the facility's two underground storage tanks and replaced them with aboveground storage tanks

Completed cathodic protection system for tank farm and underground piping

Rebuilt process area sewer system and added curbed, concrete paving to the unpaved process areas

1989 Increased reformer throughput to 4,000 bpcd

Activated groundwater hydrocarbon recovery system

Installed a concrete pad with curbing between tanks 3 and 4

Constructed first double-lined evaporation pond as part of discharge plan improvements

1990 Constructed second double-lined evaporation pond as part of discharge plan improvements

Constructed a drum storage shed and converted to bulk chemical usage to minimize use of drummed chemicals

1991 Revamped burner fuel sales rack with concrete paving and curbing

Submitted permit application for underground class 1 disposal well

Upgraded groundwater hydrocarbon recovery system

1992 Submitted air quality permit application proposing the installation of a diesel hydrodesulfurization (HDS) unit and a sulfur recovery unit (SRU) to decrease air emissions

1993 Began a program under a consent agreement with the US EPA to conduct interim measures (IM), a RCRA facility investigation (RFI), and a corrective measures study (CMI) regarding groundwater contamination

Replaced portions of the underground cooling water piping

1993 Added concrete paving around the API separator

Put the HDS unit (2,000 bpcd) and SRU in operation

Improved (eliminated) storm water runoff to north

1994 Completed the underground portions of the class 1 injection well (expect to complete the aboveground facilities and put the well in-service by June 6, 1994)

Retrofitted the south and north oily water ponds with two additional liners in accordance with RCRA minimum technology requirements

Began construction and installation of a floating cover for API separator (April 1994)

2.4 Future BRC Activities

1994 Close clay-lined evaporation ponds and spray evaporation area once disposal well is on-line

1995 Improve diking along south of refinery to eliminate additional storm water runoff

1995 Begin implementation of additional corrective measures for groundwater cleanup as determined from CMS

3.0 EFFLUENT SOURCES

Wastewater sources from the process and other areas are commingled at an API separator. These sources, with quality, quantity, and additive information, are:

3.1 Water Softeners

Approximately 104,040 gallons per day (GPD) of filtered raw water with a total dissolved solid (TDS) content of 240 milligrams per liter (mg/l) are softened. About 600 pounds per day of sodium chloride salt are added for softening. The softeners require periodic regeneration resulting in the discharge of a high salt (10,445 mg/l TDS) brine to the API separator of 5,760 GPD. Softened water, 98,200 GPD with a TDS of 340 mg/l, is sent to the boilers.

3.2 Boilers

The boilers generate approximately 91,080 GPD of steam from softened water and some recycled condensate. The blowdown, 21,600 GPD with a TDS of 2,042 mg/l, is sent to the API separator.

The Nalco product, Transport Plus 7200, an aqueous solution of an acrylamide/acrylate polymer and a carboxylate is added (18 quarts per day, 25 ppm) to inhibit scale formation. The Nalco product, Eliminox O2 Scavenger, an aqueous solution of aminos and carbohydrazides, is added (4 quarts per day) to minimize acid formation from excess oxygen. The Nalco product, Tri-Act 1802 Corrosion Inhibitor, an aqueous solution of amines, is added (7 quarts per day, 10 ppm) to the steam system as a corrosion inhibitor and neutralizer of carbolic acid. A complete summary-list of all significant chemicals in the refinery, including intermediates, products, and wastes, is included in **Attachment 1**. Material safety data sheets are available for these chemicals.

3.3 Cooling Towers

Approximately 236,160 GPD of filtered water with a TDS of 240 mg/l are sent to the two cooling towers. About 41,760 GPD of water with a TDS of 2,290 mg/l are blown down to the API separator. An estimated 194,400 GPD are lost through evaporation.

The Nalco product, 71-D5 Antifoam, a blend of fatty acids, polyglycols, polyglycol ester, and oxyalkylate in kerosene and mineral oil, is added (4 quarts per day, 2 ppm) as a defoamer. The Nalco product, 7344 Chlorine Stabilizer, an aqueous solution of sodium hydroxide, sulfamate, carboxylate, and polyglycol is used (3 quarts per day) as a biological dispersant. The Nalco product, 7356 Corrosion Inhibitor, an aqueous solution of phosphoric acid and zinc chloride, is used (6 gallons per day) to inhibit scale and corrosion in the cooling system. The Nalco

product, 8302 Dispersant, an aqueous solution of a substituted carboxylate, a substituted triazole, an acrylate polymer, and sodium hydroxide, is used (4 gallons per day) as a dispersant to keep calcium phosphate scale from forming. Gaseous chloride (37 pounds per day) is applied as a biocide. Sulfuric acid is added (8 gallons per day) for pH control.

3.4 Process

The process areas generate a wastewater stream to the API separator of 45,240 GPD with an estimated TDS of 873 mg/l. In addition, 2,300 GPD are estimated to result from storm water collected through the oily water sewer system. The majority of wastewater (30,240 GPD) is from the crude desalter. It is estimated that 90 pounds per day of salt are removed from crude, and another 250 pounds per day of salt are added via the salt dryer. Losses to the atmosphere from the process units total 37,200 GPD.

Each process area is equipped with concrete slabs, with sewers routed to the API, to control oily surface water. This includes 9,240 GPD used for other process items and washing, also routed to the API separator. Run-on of storm water into process areas is controlled by concrete curbs at the perimeter of the slabs.

The Unichem International products, Unichem 7375, a proprietary neutralizing amine, and Unichem 7055, a proprietary filmer, corrosive inhibitor, are added to the crude in the crude overhead (11 and 1 gallon per day, respectively). A very minimal amount of these chemicals can end up in the desalter discharge. Unichem 7212, a proprietary demulsifier containing an aromatic solvent and isopropyl alcohol, is added at the desalter (6 gallons per day). Most of this chemical will remain in the crude.

The SRU uses several proprietary chemicals, primarily iron chelates and sulfur conditioning agents in aqueous solutions, as the active ingredients required to remove sulfur from the refinery fuel and diesel HDS gases. These chemicals are recovered by filter pressing them out of the produced sulfur and recycling them back to the SRU process. A small amount ends up in the sewer system routed to the API. Most solution loss remains with the sulfur product, which is non-hazardous (**Attachment** 3).

3.5 Area Drains

Area drains have been provided to control storm water at the immediate boundaries of the process slabs. These drains are routed to the API separator. The amount is included in the 2,300 GPD estimate of process storm water.

3.6 Water Draws From Tank Farm

Crude, intermediate, and product tanks are equipped with sumps for water draw. They are emptied weekly or as needed by vacuum

truck or direct pumping into the API separator.

3.7 Spills

Any hydrocarbon spills are contained and cleaned up immediately. Liquids are taken to the API separator for recovery or discharge through the effluent treatment system.

3.8 Cleaning Operations

Solvents used during cleaning operations are minimal, are selected based on non-toxic characteristics or compatability with products, and are not halogenated. They would be routed to the API separator for hydrocarbon recovery. Effluent from cleaning any process equipment or tanks is routed to the API separator for hydrocarbon recovery. Any solid wastes generated are disposed offsite at approved disposal facilities.

3.9 Product Terminal

Some wastewater may result from product terminal operations. Truck loading is controlled with concrete slabs and drains routed to the API separator or to a product recovery tank. Truck compartments are cleaned on occasion with steam or rinsed with product. The hydrocarbons are recovered in the API separator and the effluent is routed through the API into the wastewater treatment and disposal system.

3.10 Groundwater Recovery

The refinery is actively remediating the shallow, perched groundwater underlying the facility. It is estimated that about 7,200 GPD with a TDS of 2,800 mg/l will be sent to the API separator for hydrocarbon recovery. The water effluent will be treated and disposed in the wastewater system. Groundwater recovery/monitoring information is provided in **Attachment 2**.

3.11 Domestic Sewage

Domestic sewage is disposed, via septic tanks and leach beds, in accordance with New Mexico Environment Department regulations. It is not commingled with other refinery effluent.

3.12 Waste Lubrication and Motor Oils

Waste lubrication and motor oils are collected in a small tank located on a curbed, concrete pad for subsequent offsite disposal.

3.13 Waste and Slop Oil

All waste and slop oil is recovered in the API separator and sent to crude storage for refinery processing.

3.14 Used Filters

Used filters are drained and disposed offsite through a service provided by vendor (Safety-Kleen). They are collected in a drum located on a curbed, concrete pad. The oil is put into the motor oil tank.

3.15 Truck, Tank, and Drum Washing

Washing is done utilizing non-hazardous materials (steam, water, bio-degradable soap) or chemicals compatable with the refining processes. All washing effluent is routed to the API separator for hydrocarbon recovery and subsequent wastewater treatment and disposal. Empty drums are sent offsite to a drum recycler.

4.0 EFFLUENT CHARACTERISTICS

BRC has installed a class 1 underground injection well subject to specific operational requirements separate from this discharge plan. The aboveground portions are currently under design with installation completion and startup expected on-or-about the expiration date of BRC's current discharge plan (June 6, 1994). This injection well will allow BRC to eliminate the use of two, clay-lined evaporation ponds and an unlined spray evaporation area. The refinery will continue to use the oily water ponds located just downstream from the API separator and the two, 5-acre evaporation ponds installed in 1989 and 1990. These ponds are lined with multiple layers of HDPE and include leak detection systems. As explained in Section 3.0, all effluent sources are commingled at the API separator. Process areas are entirely self-contained with curbed, concrete area slabs. All process wastewater is routed through a refinery sewer system that empties exclusively into the API separator. Therefore, effluent, as it relates to this plan, would be limited to discharges as a result of operational and equipmental failures (spills and leaks).

The commingled wastewater effluent from the API separator is considered a hazardous waste because of benzene concentrations. This wastewater is treated on-site with aggressive biological treatment in the form of high-rate aeration through a series of three lined impoundments (oily water ponds) located just downstream of the API separator. The impoundments are operated in accordance with RCRA interim status (a RCRA Part B application is pending). The effluent, after the benzene concentration has been reduced to non-hazardous levels (less than 500 ppb), is transferred from the treatment ponds to the refinery's evaporation ponds. The transfer sump, piping, and the refinery evaporation ponds are managed under the requirements of this discharge plan as administered by the New Mexico Oil Conservation Division. Therefore, the quality characteristics of the refinery's wastewater effluent for the purposes of this plan is measured at the discharge from the oily water ponds (sump).

4.1 Concentration Analyses

Concentration averages for the effluent from the oily water ponds are summarized as follows (see **Attachment 3** for additional details):

4.1.1 Hazardous Characterization

The results of toxicity characteristic leaching procedure testing on the wastewater as sampled from the oily water treatment ponds' discharge are as follows (ND = not detected at stated detection limit):

Parameter	Units	Regulatory Limits	Detection Limits	Results
Arsenic	mg/l	5.0	0.1	<0.1
Barium	mg/l	100.0	0.5	0.5
Cadmium	mg/l	1.0	0.005	<0.005
Chromium	mg/l	5.0	0.01	0.01
Lead	mg/l	5.0	0.2	<0.2
Mercury	mg/l	0.2	0.001	<0.001
Selenium	mg/l	1.0	0.1	<0.1
Silver	mg/l	5.0	0.01	<0.01
1,1-Dichloroethene	mg/l	0.7	0.02	ND
1,2-Dichloroethane	mg/l	0.5	0.02	ND
2-Butanone	mg/l	200.0	0.1	ND
Benzene	mg/l	0.5	0.02	ND
Carbon Tetrachloride	mg/l	0.5	0.02	ND
Chlorobenzene	mg/l	100.0	0.02	ND
Chloroform	mg/l	6.0	0.02	ND
Tetrachloroethene	mg/l	0.7	0.02	ND
Trichloroethene	mg/l	0.5	0.02	ND
Vinyl chloride	mg/l	0.2	0.02	ND
1,4-Dichlorobenzene	mg/l	7.5	0.02	ND
Hexachloroethane	mg/l	3.0	0.02	ND
Nitrobenzene	mg/l	2.0	0.02	ND
Hexachloro-1,3-butadiene	mg/l	0.5	0.02	ND
2,4,6-Trichlorophenol	mg/l	2.0	0.02	ND
2,4,5-Trichlorophenol	mg/l	400.0	0.02	ND
2,4-Dinitrotoluene	mg/l	0.13	0.02	ND
Hexachlorobenzene	mg/l	0.13	0.02	ND
Pentachlorophenol	mg/l	100.0	0.02	ND
o-Cresol	mg/l	200.0	0.02	ND
m, p-Cresol	mg/l	200.0	0.02	ND
Pyridine	mg/l	5.0	0.2	ND

4.1.2 General Characterization

The results of analytical testing of the water in the north double-lined evaporation pond were as follows (additional information is included in the previous plan):

Parameter	Units	Detection Limits	Results
Total dissolved solids	mg/l		13,600
Total suspended solids	mg/l		26
Fluoride	mg/l		1.38
Sulfide as H2S	mg/l		30.5
Total Nitrate & nitrite	mg/l	0.02	<0.02
Total Kjeldahl nitrogen	mg/l		0.13
Ammonia	mg/l		7.13
Total cyanide	mg/l	0.01	<0.01
Phenols	mg/l	0.01	<0.01
Chloride	mg/l		5,890
Sulfate	mg/l		1,740
Total dissolved metals			
Silver	mg/l	0.01	ND
Arsenic	mg/l	0.005	ND
Cadmium	mg/l	0.002	ND
Chromium	mg/l	0.02	0.05
Copper	mg/l	0.01	0.16
Iron	mg/l	0.05	0.05
Manganese	mg/l	0.02	0.28
Lead	mg/l	0.02	ND
Selenium	mg/l	0.005	0.005
Zinc	mg/l	0.01	ND
Aluminum	mg/l	0.1	0.1
Boron	mg/l	0.01	1.61
Barium	mg/l	0.5	ND
Cobalt	mg/l	0.01	ND
Molybdenum	mg/l	0.02	0.02
Nickel	mg/l	0.01	0.01

4.2 Discussion of Toxic Pollutants

4.2.1 BTEX

Xylenes, benzene, ethyl benzene, and toluene are components of crude oil, intermediates, and products in refinery operations. These aromatic compounds are primarily generated in the reformer, with higher octane fuels containing higher concentrations. An estimate of concentration ranges in percent for these components in products is as follows:

	Xylenes	Benzene	Ethyl Benzene	Toluene
Premium unleaded	11 - 24	2 - 4	1 - 4	6 - 14
Regular unleaded	5 - 14	1 - 4	0.5 - 3	4 - 10
JP-4	3 - 7	1 - 3	0.5 - 2	2 - 4
Kerosene	0 - 0.6	0 - 0.1	0 - 0.1	0 - 0.2
#2 Diesel	0 - 0.5	0 - 0.1	0 - 0.1	0 - 0.2

They primarily enter the wastewater system from the crude desalter, tank water draws, groundwater remediation, spills and leaks, process wastewater, and process upsets. Most are recovered in the API separator and recycled back to crude. A small portion enters the oily water treatment ponds as dissolved components. The high-rate aeration in the oily water ponds is very effective in removing these components as shown in the following comparison (typical analysis):

	Concentration in Effluent from API separator	Concentration in Effluent from Oily water ponds
Xylenes	5 ppm	0.01 ppm
Benzene	9 ppm	0.0003 ppm
Ethyl benzene	1 ppm	<0.0002 ppm
Toluene	14 ppm	<0.0002 ppm

Analytical details are included in **Attachment 3**.

4.2.2 Halogenated Hydrocarbons

The facility does not use halogenated solvents for degreasing or other cleaning activities. 1,1,1-Trichloroethane is used to chloride the reformer catalyst, but is carefully controlled with isolated concrete paving and curbing to eliminate the possibility of entering the sewer system. The chemical is destroyed in the reactors. Analytical results (see **Attachment 3**) do not indicate any halogenated chemicals in the API effluent.

4.2.3 Lead and Other Heavy Metals

Lead and other heavy metals have not been detected at levels of concern in refinery effluents. Lead usage in gasoline products continues to decrease. Lead, as a gasoline additive, is scheduled to stop at the end of 1995.

5.0 TRANSFER AND STORAGE OF PROCESS FLUIDS AND EFFLUENTS

5.1 Water and Wastewater Flow

Water and wastewater flow schematics for the refinery are shown in **Figure 4.**

5.2 Storage Facilities

5.2.1 Tank Storage

The tanks are identified on **Figure 3.** Tanks 1 through 44 are above-ground, unpressurized steel tanks. Tanks B1-B23 are pressurized bullet tanks. **Figures 5 and 6** provide additional details about the tanks. The refinery does not have any underground storage tanks. In addition to the tanks identified in the table, BRC has an unleaded gasoline tank (2,500 gallons) in the warehouse yard, protected with a concrete slab and retaining walls; and, a 300-barrel diesel tank located just west of the auxiliary warehouse, protected with a berm. A few day-tanks, needed periodically for in-plant equipment operations such as the diesel pump, are stored on a curbed, concrete pad when not in use.

5.3 Underground Piping

5.3.1 Process Piping

Underground process piping that contains refinery crude, products, and intermediates has been minimized and is generally limited to the incoming crude pipeline (see **Attachment 4**, also BRC has a detailed operating plan for the pipeline that is not included with this report), about 100 feet of shallowly buried crude charge piping in the crude unit (leaks would be instantly obvious), tank dike crossings, and road crossings. The major road crossing is from the refinery to the truck loading terminal.

5.3.2 Process Water System Piping

Underground piping for process-related water and wastewater do not contain oil contact streams. These underground pipes transport some filtered water, some steam, some cooling tower water, and blowdowns from the boilers and the cooling towers. The main cooling water pipes were replaced in 1993.

5.3.3 Oily Water Sewers

During 1988, the refinery oily water sewer system was rebuilt. In 1993, the sewer system was expanded to include the new HDS and SRU units. The piping system is of welded construction using standard weight A53 grade B carbon steel coated with 50 mil (35 mil is accepted industry standard) protective tape. Collection headers are 14", 12", and 10" diameters. Collection branches are 8", 6", and 4" diameters equipped with "P" traps at drain inlets.

The pipe wall thickness varies up to 3/8" for 14" pipe.

The new sewer boxes are reinforced concrete with sealed covers and vents. The entire oily/water sewer collection system empties to the API separator.

The installation schedule of the underground piping was as follows:

Description	Date Installed
Sewers	
FCC, Gas Con, and Treater	6/78
Cat Poly	4/88
Crude	11/88
Reformer	11/88
HDS, SRU	12/93
Road Crossing to Sales Rack	
Initial Installation	6/78
JP-4	9/87
Cat Poly/Tank 32	4/88
Jet A	2/89
Naphtha Sales	1/75
Miscellaneous	
Crude Unloading Road Crossing to Tank 28	1/77
At Sales Terminals	1/78
Crude Line to Piperack (100 feet)	4/89
Groundwater Recovery	9/88
Sour Water Transfer Lines	6/78
Transfer Lines to Spray Evaporation	6/82
Crude Line (LACT Unit to Piperack)	1/78
Poly Gas Transfer (Cat Poly to Rack Road Crossing)	4/88
JP-4 Sales (cat Poly to Rack Road Crossing)	4/88
API Tank Transfer (Cat Poly to Rack Road Crossing)	4/88
Poly LPG Make (Cat Poly to Rack Road Crossing)	4/88
Poly Gas Slop (Cat Poly to Rack Road Crossing)	4/88
Poly Feed Line (Cat Poly to Rack Road Crossing)	4/88
Slop Transfer Line (Cat Poly to Rack Road Crossing)	4/88
Tank 17 Burner Fuel Sales	1/78
Gas Oil Receiving	1/78
Diesel (To/from HDS to Rack Road Crossing)	12/93

5.4 Groundwater Recovery

Groundwater covered under the remediation plans is collected from several wells (see **Attachment 2**) and routed through underground PVC piping to a 300-barrel holding tank that is drained through coated and wrapped carbon steel piping to a sewer box located near the burner fuel loading rack; or, is emptied directly into the refiner sewer system.

5.5 Tank Farm Sumps

Sumps are used in the tank farm and at the flare primarily for water draws and some storm water that collects inside the tank dikes. The sumps are monitored daily and emptied to the API separator by vacuum truck or direct pumping as required. New and replacement sumps are of double-wall construction (see **Figure 12**).

5.6 Sales and Crude Terminal

A small, intermittent wastewater stream is collected from the product terminals area. The water draw from crude treatment tank 43 is pumped to the API separator. A concrete, crude sump is pumped to tank 43. Gasoline or other products that may be spilled onto the concrete loading slabs are routed to a concrete, sump that is pumped to tank 22.

5.7 Heat Exchanger Cleaning

During turnarounds (average of one every three years), exchangers are cleaned in a bay located at the east end of the auxiliary warehouse. The sludges and liquids are collected in a concrete sump. The liquids are collected by vacuum truck and emptied into the API separator. The hazardous waste sludges are sent to offsite disposal.

5.8 API Separator

The last process fluid collection point before entering the effluent treatment and disposal system is the API separator. As noted throughout this permit renewal application, the API separator is the collection point for all oily water waste streams from the refinery. This would include oil from spills, non-routine discharges, and maintenance activities such as tank cleaning.

5.8.1 Physical Description

The API separator is of standard API design. It is constructed of and lined with steel reinforced concrete. It is divided into two parallel bays, each 10 feet wide by 65 feet long. Liquid depth is maintained at 5' 6" by an underflow weir. Oil is removed by a slotted collection pipe at the downstream end to a sump that is pumped to slop tanks 8 and 9. Slop tanks 8 and 9 are set on reinforced concrete slabs with retaining walls. The overflows and draws are routed back to the API separator. The perimeter of the API separator is paved (1993) with concrete and set below grade within concrete, walled containment.

Floating roof covers are under construction and should be installed before the start date of this plan.

5.8.2 Operating Criteria

The average daily flow rate is about 80 gpm with a highest recorded daily rate of 170 gpm. Estimated solids content is 11.84 pounds per 1,000 B/D capacity per API study "Petroleum Industry Raw Waste Load Survey", December 1972.

Sludge is removed before the depth reaches 2.5 feet (45% of flow depth) but no later than every two years (been cleaning the API on an annual basis in recent years). The sludges are sent to offsite hazardous waste disposal/treatment facilities.

The BRC API separator is significantly over-designed when compared to API criteria for flow rate and horizontal velocity. This minimizes the carryover of free oil into the oily water treatment ponds.

5.9 Drum Storage

Chemical and drum storage areas are paved and curbed with any drainage contained on the pads or directed to refinery sewers as appropriate. Additional information about chemical storage is available in **Attachment** 1.

5.10 Product Additives

Customer product additives that are added at the truck loading rack are contained on curbed, concrete pads.

6.0 EFFLUENT DISPOSAL

For the purposes of this permit renewal application, BRC generates approximately 115,200 GPD (80 gpm) of effluent wastewater that requires disposal. The actual rate during 1993 was 108,900 GPD (76 gpm). This effluent rate is about as low as possible, reflecting BRC's constant effort to minimize it.

6.1 Wastewater Disposal

BRC is currently completing the installation of a class 1 injection well for ultimate wastewater disposal. Since this well will be in service on-or-about the time of renewal of this permit, the details of this renewal application are written assuming that the injection well is in service. The clay-lined south and north evaporation ponds and the spray irrigation area will be operated as per the previous plan until taken out-of-service immediately following the startup of the injection well.

The entire refinery wastewater effluent is collected at an API separator that discharges to three RCRA regulated treatment ponds operated in series. Treated wastewater overflows into a sump from where it is pumped to one of two evaporation ponds. From the evaporation ponds the wastewater is pumped through a filter, which is backwashed to the evaporation ponds, into a filtered water tank, and then injected.

6.1.1 Lined Ponds (RCRA Regulated)

Immediately downstream of the API are three lined ponds identified as the south oily water pond (SOWP), and two sections of the north oily water pond (NOWP-W and NOWP-E). The SOWP is separated from NOWP-W and NOWP-E by an earthen dike, and the NOWP-W and NOWP-E are separated by a concrete wall. All three of the ponds are constructed primarily below grade.

Effective March 29, 1990, maximum concentrations of contaminants for the Toxicity Characteristic were added to 40 CFR 261.24. Specifically, benzene concentrations exceeding 0.5 mg/l were identified as a D018 characteristic hazardous waste under RCRA. The constituent concentration in the facility's wastewater as it exits the refinery process was determined to exceed the established concentration of benzene, and the wastes managed in the impoundments were designated as D018. As a result of the regulatory change, BRC converted the ponds to hazardous waste treatment facilities (aggressive biological treatment in the form of high-rate aeration) and applied for a RCRA permit.

The regulatory change also triggered a regulatory requirement to upgrade the ponds within four years to minimum technology requirements as defined by RCRA regulations. BRC will complete retrofit of the three surface impoundments on or before March 29, 1994. The existing liner system, consisting of a 100-mil high density polyethylene (HDPE) flexible membrane liner (FML)

underlain by a leak detection system and a 33% bentonite-amended soil liner, will remain in place. Two additional HDPE FMLs will be installed over the existing liner. Two additional leak detection layers will also be constructed, resulting in a primary and two secondary leak detection layers in the retrofitted impoundments. Design plans are shown in **Figures 7, 8 and 9.**

6.1.2 Evaporation Ponds

Treated wastewater is pumped to one of two, double-lined (HDPE FML) evaporation ponds installed in accordance with the "Guidelines for the Design and Construction of Lined Evaporation Pits" as published by the New Mexico Oil Conservation Division. Each of these ponds has a 5-acre surface area and a 25 acre-foot capacity. They are equipped with two 60-mil HDPE FMLs and a leak detection system. The first was installed in December 1989, and the second was installed in September 1990. The ponds will each provide 12.5 gpm net evaporation per year in addition to storage prior to injection. Normal operation will be to run-down to the south pond, transfer from the south pond to the north pond, and pump from the north pond for injection.

6.1.3 Class 1 Injection Well (Non-hazardous Wastewater)

Final disposal of refinery wastewater effluent will be through a class 1 injection well. The actual injection operation will be done in accordance with the terms of **Discharge Plan GW-130** as approved on November 5, 1993. The well has been completed and demonstrated to be able to handle the quantity of wastewater that will require disposal (at least 55 gpm on an annual basis) after closure of the clay-lined evaporation ponds and the spray evaporation area. The aboveground facilities are currently being designed, with installation expected on-or-about the effective date of the refinery's discharge plan. The well is located 2442 feet from the south line and 1250 feet the east line of Section 27, Township 29N, Range 11W, NMPM San Juan County, New Mexico. The injection will be into portions of the Cliff House and upper Menefee formations (3276 to 3514 feet depth).

6.1.4 Proposed Modifications

The evaporation ponds and spray irrigation area will be taken out-of-service as soon as possible after the injection well is in service. The water in these units will be allowed to evaporate. A proposed time schedule for final closure of these units will be provided at that time.

6.2 Offsite Disposal

BRC does not currently send any wastewater effluent applicable under this plan to an offsite disposer.

6.3 Other Waste Disposal

Waste Types	Volume Per Year	Frequency	Disposal Location
FCC Fines	50 tons	One one-ton hopper/week	Onsite Landfill-east of fire training area
Trash	364 yds	3 dumpsters 7 yds/week	Offsite-Waste Management Company
Parts Cleaning Solvent	120 gals	30 gals every 2 weeks	Offsite for recovery
API Separator Sludge	100 tons	Once a year	Offsite Hazardous Waste Facility
Heat Exchanger Sludge/other Haz. waste	1 ton	Once a year	Offsite Hazardous Waste Facility
Spent Caustic	1000 tons	20 tons/week	Pulp plant for reuse
Sulfur	180 tons	10 tons/week	Onsite stockpile-Sell as fertilizer
Spent Catalyst from Reformer	1 ton	Every 3 years	Offsite to reclaimer
Spent Cat/Poly Catalyst	60 tons	3 times a year	Offsite sales as fertilizer
Filters	2 drums	2 times/year	Offsite disposal service
Used Oil	500 gals	40 gals/month	Offsite reclaimer

7.0 INSPECTION, MAINTENANCE AND REPORTING

7.1 Notification of Fire, Breaks, Spills, Leaks, & Blowouts

BRC will follow the procedures of Rule 116 in the New Mexico Oil Conservation Commission Regulations in reporting fires, breaks, spills, leaks, and blowouts within the facility. In summary, major events requiring immediate notification to the District OCD Supervisor of breaks, spills or leaks of 25 or more barrels of crude, intermediates, petroleum products, salt water, effluent wastewater, acids, caustics, solvents, or other chemicals will be followed up within ten days with a complete written report using prescribed NM OCD reporting forms. Minor events of 5 barrels or more but less than 25 barrels of the above materials will only be subsequently notified with a written report due within 10 days of the incident.

7.2 Pond Liner Leak Detection Systems

The leak detection systems for the two evaporation ponds are inspected on a weekly basis (see **Figure 11**). Any leaks in access of expected rates will be reported to the NM OCD.

The leak detection systems for the RCRA regulated treatment ponds are inspected daily (see **Figure 10**).

7.3 Effluent Disposal Groundwater Monitoring

Groundwater monitoring involves two activities at BRC. The first involves monitoring of the effluent disposal system for potential contamination being generated by the system, and the second involves cleanup of contaminated down-gradient groundwater that was contaminated by past process related activities.

BRC proposes to continue the monitoring of MW-1, located to the north of the clay-lined evaporation ponds; and MW-5, located in the spray irrigation area until these units complete closure. The wells will be monitored on a semi-annual basis (May and November). Analytical parameters and methods are shown in **Attachment 3**.

7.4 Groundwater Remedial Action

Over the many years of facility existence (since about 1960), groundwater contamination has occurred to the shallow, perched water table immediately underlying the facility. Some of this contamination has migrated to the south onto a small portion of BLM managed property, and some has been detected in a seep exiting the bluff just north of the refinery flare. Hydrocarbons have also seeped into the Hammond irrigation ditch on occasion during the non-irrigation season, but this has decreased substantially in recent years. The source of the groundwater contamination is known to be a result of previous leaks from facility tankage and underground piping. BRC has eliminated

these sources with many improvements to the facility as discussed previously in this plan application.

In addition, the facility began a period of evaluation of the groundwater situation in order to design and implement a groundwater cleanup program that would be effective. A RCRA 3013 groundwater study was completed in February, 1987 that concluded that groundwater contamination did exist, but was the result of product/intermediate releases; therefore, any remediation activities should be done under the auspices of the NM OCD in accordance with their regulatory oversight. Work continued on the groundwater evaluation, resulting in the eventual installation of a pump-and-treat groundwater recovery system. Since February, 1992 the refinery has been operating seven groundwater recovery wells.

However, the US EPA continued to insist that a hazardous waste release occurred during Plateau ownership (prior to November, 1984); thus the facility is subject to RCRA cleanup oversight. With the threat of a unilateral order from the EPA, the refinery agreed to negotiate an Administrative Order on Consent, partially because it was somewhat moot as to what agency had the lead in groundwater cleanup. The negotiations resulted in the signing of a RCRA 3008(h) agreement on December 21, 1992. This agreement required that the refinery: (1) perform Interim Measures (IM) at the facility to mitigate potential threats to human health or the environment; (2) perform a RCRA Facility Investigation (RFI) to determine fully the nature and extent of any releases(s) of hazardous waste or hazardous constituents at or from the facility; and, (3) perform a Corrective Measure Study (CMS) to identify and evaluate alternatives for corrective action(s) to prevent or mitigate any migration of release(s) of hazardous wastes or hazardous constituents at or from the facility, and to collect any other information necessary to support the selection of corrective measures at the facility. Actual implementation of the selected measures was left for a future agreement, if necessary. Interim measures, which consisted of the continued diking of Hammond ditch during the non-irrigation season to maintain a hydraulic barrier to the bluff seep, continued operation of the groundwater pump-and-treat system, installation of two additional monitoring wells up-gradient of the seep location, and submittal of a report, have been completed. The RFI is in progress with completion required by November 8, 1994. Soil vapor and soil boring surveys have been completed. Subsequent activities will include additional groundwater well installations, stream sampling, aquifer testing, and cleanup methods testing. The RFI work will overlap the CMS.

BRC proposes that these remediation activities will continue in a manner that will meet, at a minimum, NM OCD goals. The NM OCD will be provided with all reports and information generated in the above activities. **Attachment 2** includes additional information about the groundwater remediation.

7.5 Process Area Drains and Curbs

All process areas are equipped with concrete paving with curbs to control runoff/runon. The process slabs are designed to collect all process liquids including stormwater via "P" trap drains routed to the API separator. In addition, area drains are located in critical peripheral areas outside the curbed process slabs to ensure the collection of all oily waste water to the API separator.

7.6 Spill Containment Outside Process Areas

7.6.1 Tank Berms

All tanks are protected by tank dikes that will contain the contents of the tank in the event of a spill. Any spilled material will be recovered by vacuum truck, or pumped to the API separator or directly to a process tank.

7.6.2 Tank Cleaning

Temporary sumps are installed whenever a tank is cleaned, and all oil is recovered to another or the API separator by direct pumping or vacuum truck.

7.6.3 Leak Detection/Protection

7.6.3.1 Process Inspection

Process piping is inspected daily (almost continuously) for visual evidence of leaks by operations personnel. The Cat/Poly and the HDS units are inspected by an outside contractor for VOC emission compliance. Drains are inspected weekly for proper water seals and condition.

7.6.3.2 Tank Inspections

A tank inspection program is utilized to ensure the integrity of the tanks. Tanks are periodically emptied, inspected, and repaired. The inspection includes vacuum testing of the floor weld seams. **Table 7.1** shows a summary of the current inspection status.

7.6.3.3 Corrosion Protection

An electrical corrosion protection system, designed to minimize corrosion of tank bottoms and underground piping, has been in service since May, 1989. It is checked periodically to verify its proper operation.

TABLE 7-1

3/10/94

TK#	Current service	Installation date	Last insp	Next insp
1	FILTERED WATER	1/01/60	1/01/60	1/01/98
2	FILTERED WATER	1/01/78	1/01/78	1/01/98
3	JP-4	9/01/66	3/30/89	4/01/94
4	JP-4	9/01/66	10/01/90	10/01/95
5	HI-REFORMATE	9/01/66	11/30/90	11/30/95
8	API CRUDE SLOP	12/01/87	5/01/89	5/01/99
9	API CRUDE SLOP	12/01/87	12/01/87	12/01/97
10	SPENT CAUSTIC	7/01/86	6/01/89	6/01/94
11	REFORMATE	12/01/82	5/01/92	5/01/02
12	CAT GAS & POLY GAS	12/01/82	3/01/88	3/01/98
13	NO LEAD SALES	9/01/87	11/01/88	11/01/98
14	NO LEAD SALES	9/01/87	1/18/90	1/01/00
17	REDUCED CRUDE	2/01/61	2/08/91	2/01/01
18	#1 DIESEL	1/01/74	5/18/88	11/18/94
19	#2 DIESEL	1/01/75	6/24/91	7/01/01
20	FCC SLOP	1/01/76	11/26/90	11/26/95
21	FCC SLOP	1/01/76	1/01/76	
22	GASOLINE SLOP	1/01/80	3/19/91	3/01/96
23	BASE GAS	1/01/62	6/08/92	6/08/02
24	NAPHTHA (REF FEED)	1/01/60	5/01/86	5/01/95
25	NAPHTHA (REF FEED)	1/01/60	3/01/86	3/01/95
26	JET-A	12/01/67	8/30/90	8/30/95
27	HEAVY BURNER FUEL	1/01/67	4/01/89	4/01/99
28	CRUDE	4/01/69	12/01/88	12/01/98
29	#2 DIESEL	1/01/74	2/01/90	2/01/00
30	REGULAR GASOLINE	1/01/74	3/31/92	3/31/02
31	CRUDE	8/01/77	3/20/92	3/20/02
32	PREMIUM UNLEADED	4/01/88	4/01/88	4/01/98
33	GROUNDWATER COLLECT.	10/31/88	10/31/88	10/31/98
41	CRUDE TREATMENT	1/01/79	1/01/82	1/01/95
42	CRUDE TREATMENT	1/01/79	1/01/82	1/01/95
43	CRUDE TREATMENT	1/01/79	1/01/82	1/01/95
44	HI-REFORMATE	11/01/89	11/01/89	11/01/99
B 1	LPG SLOP (REF FUEL)	1/01/60	5/18/90	5/01/95
B 2	OUT OF SERVICE	1/01/60	1/28/92	
B12	LIGHT NATURAL	1/01/60	7/23/90	
B13	BUTANE	1/01/60	8/10/90	8/10/95
B14	BUTANE	1/01/60	7/15/90	7/15/95
B15	PROPANE	1/01/78	10/08/90	10/08/95
B16	POLY FEED	1/01/78	4/25/90	4/25/95
B17	POLY FEED	1/01/78	3/01/89	3/01/95
B18	POLY FEED	1/01/78	3/22/90	3/01/95
B19	POLY FEED	1/01/78	1/01/89	1/01/95
B20	BUTANE	1/01/78	9/05/90	9/05/95
B21	BUTANE	10/01/93	6/01/90	6/01/95
B22	SATURATE LPG	4/01/88	4/01/88	4/01/95
B23	SATURATE LPG	4/01/88	4/01/88	4/01/95

8.0 SPILL/LEAK PREVENTION & REPORTING (CONTINGENCY PLANS)

8.1 Contingency Plan

As a petroleum refining facility, BRC handles large amounts of potentially hazardous crude, product intermediates, hydrocarbon products, gases, and other chemicals (see **Attachment 1**). Because of the hazard potential, particular from fire, the facility has extensive training and procedures to handle routine jobs and emergencies in a safe manner. Written safety procedures include an Emergency Plan, Safe Work Permits, Eye Protection, Electrical Lock-outs, Safety Hats, Opening and Isolating Equipment, Smoking Areas, Fire and Safety Permits, Firewatches, Respiratory Equipment, Entering Vessels and Other Confined Spaces, Inspection and Maintenace of Safety Equipment, Employee Injury or Illness Procedure, and Excavation Procedures. These, and other written procedures, are not copied in this submittal, but are available at the facility for review.

8.1.1 SPCC Plan

A copy of BRC's general Spill Prevention Control & Countermeasure Plan is included in **Attachment 4.**

8.1.2 Emergency Response Plan

A copy of BRC's Response Plan (Oil Pollution Act of 1990 and Clean Water Act) for spills that might affect waterways is included in **Attachment 4.**

8.1.3 San Juan Pipe Line Spill Response Guide

A copy of BRC's Spill Response Guide for the San Juan Pipe Line is included in **Attachment 4.** A detailed operating plan is also available at the facility for review.

8.1.4 Storm Water Pollution Prevention Plan

A copy of BRC's Storm Water Pollution Prevention Plan is included in **Attachment 4.**

8.1.5 OSHA Process Safety Management

BRC has implemented procedures for compliance with OSHA's rule on "Process Safety Management of Highly Hazardous Chemicals". This "PSM" standard applies to BRC and has extensive requirements for preventing or minimizing consequences of catastrophic releases of toxic, flammable or explosive materials. An overview of the requirements is included in **Attachment 4.** These procedures are designed to be preventive in nature.

9.0 SITE CHARACTERISTICS

9.1 Hydrologic Features

9.1.1 San Juan River

The San Juan River is the only perennial stream in the vicinity of the refinery. Along the reach of the San Juan River in the vicinity of the refinery, the river is neither a gaining nor a losing stream. Its alluvium-filled channel is incised into the impermeable clay of the Nacimiento Formation. The flow of the San Juan River at Bloomfield is regulated by Navajo Dam, and there is no danger of flooding of the refinery site by the San Juan River. The flow of the river is regulated to a minimum of 500 cfs.

9.1.2 Intermittent Stream Channels

Trending southward from the San Juan River are numerous intermittent stream channels which are incising their channels headward into the Jackson Lake Terrace. The erosion in these channels has laid bare the contact between the deposits of Quaternary age and the underlying Nacimiento Formation. Where the Quaternary material is saturated, small seeps or springs occur. The water feeding the seeps and springs in the vicinity of BRC is supplied almost entirely by seepage from the Hammond Ditch and bank storage created by seepage from Hammond Ditch.

9.1.3 Hammond Ditch

In addition to the San Juan River and the intermittent stream channels which traverse the area of interest, the Hammond Irrigation Ditch passes from east to west through the refinery property between the refinery and the San Juan River. The ditch passes through an inverted siphon beneath Sullivan Road on the east side of the property. The ditch is unlined in this section and is excavated into the Quaternary Jackson Lake Terrace deposits. The course of the ditch through the refinery property is shown on drawings included in the Figures.

The Hammond Ditch conveys water only during the irrigation season from mid-April to mid-October. Leakage from the ditch and into the cobble bed is significant. The valleys of nearly all intermittent stream channels which descend from the Jackson Lake Terrace south of the San Juan River are choked with trees, bullrushes, marsh grass, and other vegetation. The source of water which supports the vegetation is leakage through the bed of the Hammond Ditch. Photographs of these valleys were presented in the original discharge plan.

The Hammond Ditch is a man-made, constant-head, line-source of recharge to the cobble bed during the irrigation season. BRC believes that saturation of the cobble bed under portions of the refinery property is both created and localized by Hammond Ditch seepage supplemented by stormwater seepage captured in facility dikes, seepage from the effluent discharge system (unlined components to be taken out-of-service soon), and seepage from the raw water ponds.

During the irrigation season, fresh Hammond Ditch water is stored in the ditch banks. When the ditch water is turned off, a return flow of bank storage, carrying some high TDS and hydrocarbon contaminated water, results. This return flow is controlled with dikes in the ditch during the non-irrigation season to capture water that would otherwise move down

the ditch channel.

9.1.4 Groundwater Occurrence

Ground water is defined by section 1-101 (Y) of the New Mexico Water Quality Control Regulations as: " ...interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply." Based upon this definition, there is no groundwater in the vicinity of the refinery which could be affected by any discharge from the refinery because water in the cobble bed above the Nacimiento Formation does not fall within the definition. Furthermore, the Nacimiento Formation is impermeable and about 500 feet thick which precludes shallow water from entering the deep Ojo Alamo Sandstone or any other deeper aquifers as defined by the Regulations.

However, BRC does recognize, as a result of exhaustive hydrogeologic studies still on-going, that mobilization of hydrocarbon contamination in the soils of the area has occurred because of the primary impetus of the Hammond Ditch water. This groundwater, although flowing within an area where the background conditions were contaminated prior to the promulgation of the New Mexico Water Quality Control Regulations, is being remediated (see **Attachment 2**).

9.2 Groundwater Data

Groundwater analytical data is provided in **Attachment 2**.

9.3 Geologic Description

The refinery is located on the Jackson Lake Terrace of the San Juan River (Pastuzak, 1968) about 120 feet above the present river level and about 500 feet from the river. The terrace was formed during the Pleistocene by downcutting of a former valley floor which had been aggraded with cobble and gravel deposits during the last glacial advance. At that time the San Juan River was swollen with meltwater and carried great quantities of glaciofluvial outwash. In former times, the valley floor was three to five miles wide.

During the last glacial retreat, wind-blown sand and silt from the floodplains settled over the coarse clastics to form structureless loess deposits.

The terrace deposits on which the refinery is situated are comprised of about 15 feet of cobbles and gravels overlying the Nacimiento Formation of Tertiary Age. The cobble bed is overlain by about 20 feet of fine-grained, wind-blown silt and sand. South of the refinery, the cobble bed wedges out leaving only loess in overlying contact with the Nacimiento Formation. As far as can be determined, the Pleistocene cobble bed occurs everywhere beneath the refinery. A summary of lithologic logs for monitoring wells drilled in and about the facility are given in **Attachment 2**.

The Nacimiento Formation is a massively bedded, olive green, unctuous clay. The clay at the outcrop is a tight, unfractured rock unit. As measured in nearby oil wells, the Nacimiento Formation is about 500 feet thick. At least 100 feet of this rock unit are exposed in the cliff face north of the refinery and adjacent to the San Juan River.

The morphology of the contact between the Quaternary cobble and silt of the Jackson Lake Terrace in the vicinity of the refinery and the underlying Nacimiento Formation is important in that it will influence control over the direction of groundwater flow. This morphology was evaluated with a previous discharge plan renewal.

The evaluation suggested that there existed an almost east-west trending depression in the Nacimiento subcrop surface which trends eastward from the precipice northwest of the refinery property towards the SEP and NEP. At the SEP and NEP, the depression seems to branch to the north in a much narrower depression. Though there is not much control to this surface within the refinery property, the existence of the depression is consistent with the occurrence of seeps along the face of the precipice as though this is the natural discharge zone for most shallow water beneath the refinery and that the depression serves as a master French drain from most of the refinery property. Similarly, the depression which trends northward from the solar evaporation ponds has associated with it several small seeps in one of the southward-trending incised intermittent stream channels.

9.4 Flood Potential

The control of surface runoff and flooding potential at the facility is thoroughly evaluated in a previous discharge plan renewal application, and the conclusions remain valid. For the evaluation, the facility was divided into three areas consisting of the area north of the refinery, the area south of the refinery, and the on-site area. Some of the major conclusions are:

1. The ditches along Sullivan Road will handle 100-year flood runoff of the area south of the refinery.

2. Refinery berms will self-contain on-site flood water.

3. The 100-year 24-hour rainfall is only 2.6 inches; therefore, the integrity of the berms will not be endangered.

4. Natural precipitation on the peripheral refinery property would essentially pass through undisturbed areas in which no refinery wastes are stored.

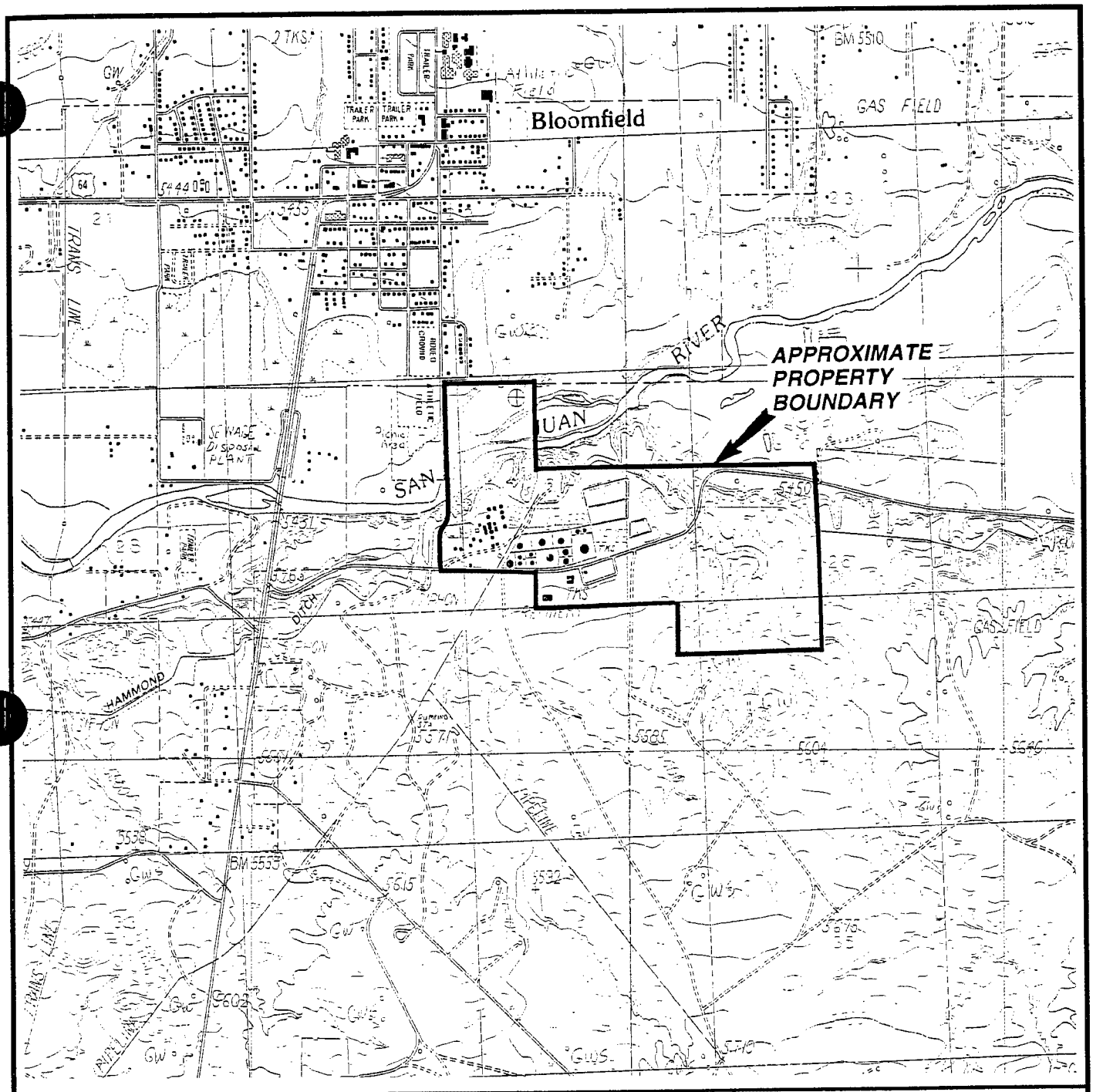
5. Natural precipitation in process units will be controlled by stormwater sewers.

6. Flooding of the San Juan River will not affect the 100-foot higher facility.

7. Spills that might contact rainfall and surface runoff are cleaned up promptly so that they will not pose a threat of contamination to any rainfall and attendant runoff.

LIST OF FIGURES

LIST OF ATTACHMENTS



LEGEND

SITE BOUNDARY

NEW MEXICO

QUADRANGLE LOCATION

N

1000 0 2000

SCALE IN FEET

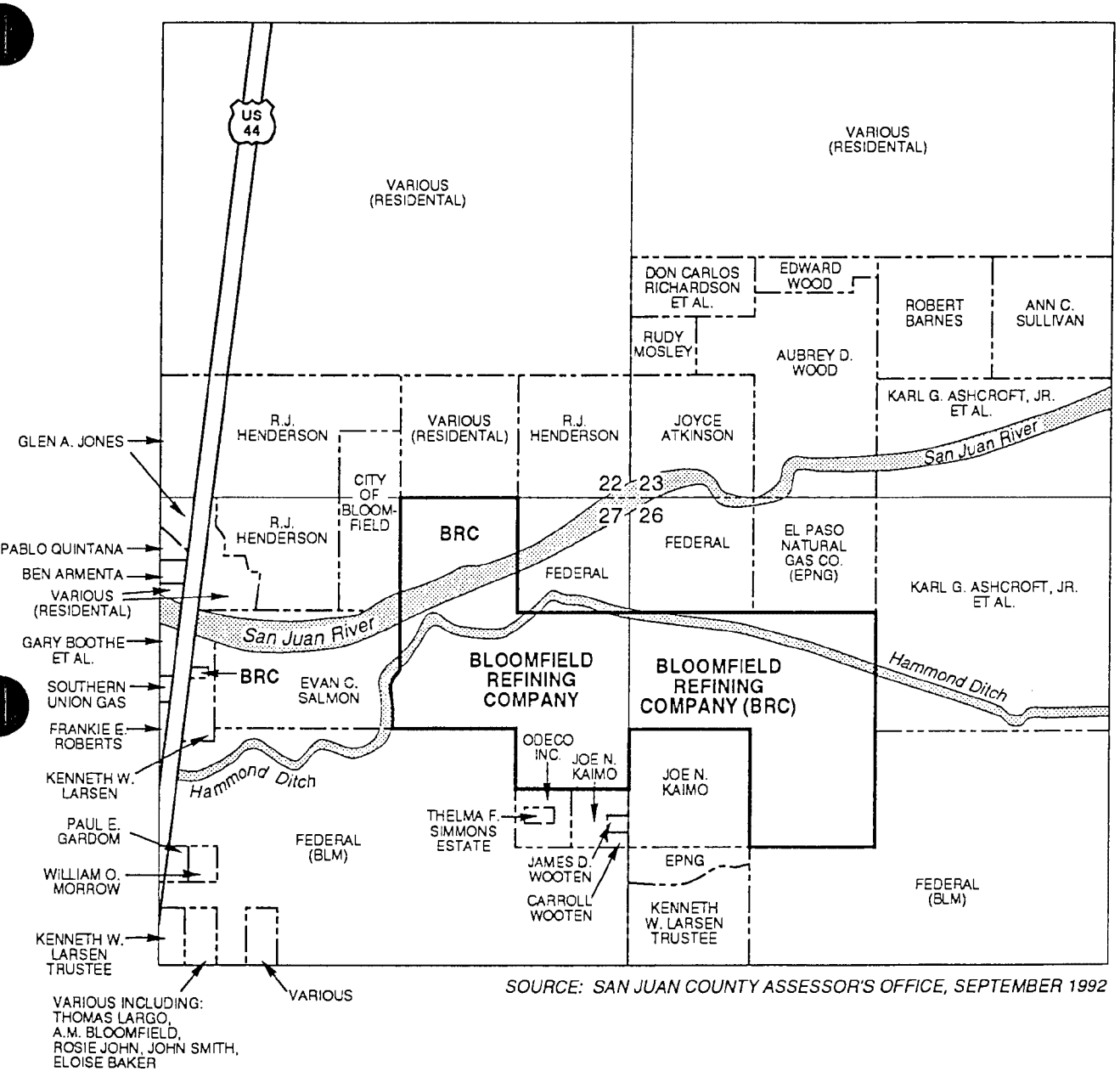
BLOOMFIELD, N. MEX.QUADRANGLE
PROVISIONAL EDITION
1985
36107-F8-TF-024

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary
#50 COUNTY ROAD 4990
BLOOMFIELD, NEW MEXICO

SITE LOCATION

DESIGNED BY: CD	DETAILED BY: EF	CHECKED BY:
DATE: 2/2/93		FILE: BL-SITELOC
PROJECT NO.: 023353014		CONTRACT:
DRAWING: FIGURE 1		REVISION: —

T29N R11W, SEC. 22, 23, 26 & 27



SOURCE: SAN JUAN COUNTY ASSESSOR'S OFFICE, SEPTEMBER 1992

LEGEND

PROPERTY BOUNDARY LINE

SECTION LINE

0 1/4 1/2 MILE

SCALE

N

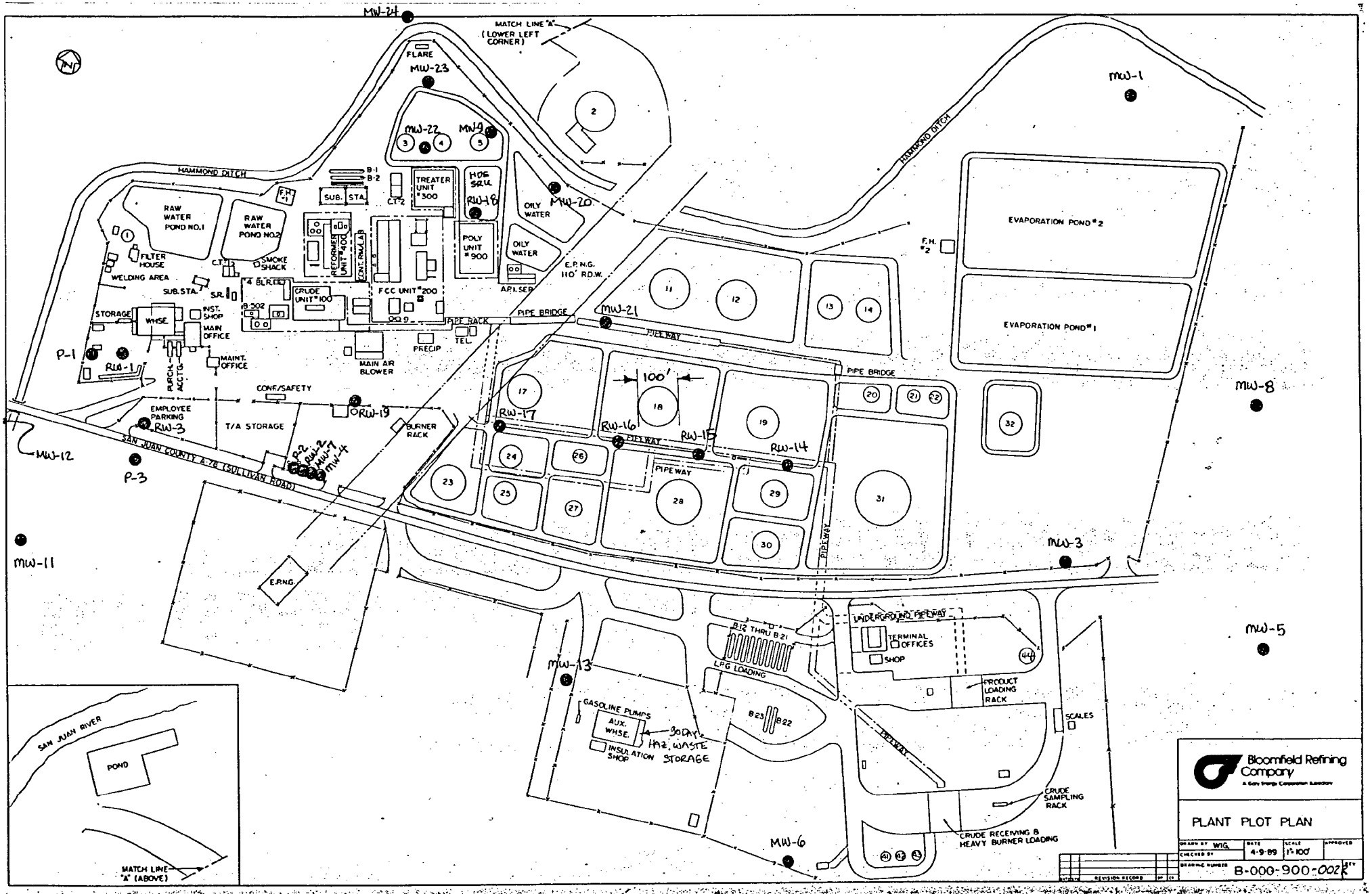
NOTE:
LOCATIONS OF PROPERTY BOUNDARIES, IMPROVEMENTS, AND NATURAL FEATURES ARE APPROXIMATE.

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary
#50 COUNTY ROAD 4990
BLOOMFIELD, NEW MEXICO

BLOOMFIELD REFINING COMPANY AND SURROUNDING PROPERTIES

DESIGNED BY: PS	DETAILED BY: EF	CHECKED BY:
DATE: 2/9/93		FILE: BL-PropOwner
PROJECT NO.: 023353014		CONTRACT:
DRAWING: FIGURE 2		REVISION: —

FIGURE 3


MW-24
MATCH LINE "A" (LOWER LEFT CORNER)
FLARE
MW-23
MW-22
MW-9
HAMMOND DITCH
RAW WATER POND NO.1
RAW WATER POND NO.2
FILTER HOUSE
WELDING AREA
SUB. STA.
SMOKE SHACK
REFORMER UNIT #400
CONT. RM. LAB
TREATER UNIT #300
HDS SKID
RW-18
POLY UNIT #900
OILY WATER
MW-20
API SEP.
E.P.N.G. 110' R.O.W.
FCC UNIT #200
CRUDE UNIT #100
PIPE RACK
PIPE BRIDGE
MW-21
PIPEWAY
EVAPORATION POND #2
EVAPORATION POND #1
MW-1
MW-8
MW-3
MW-5
MW-11
MW-12
MW-13
MW-6
P-1
P-2
P-3
RW-1
RW-2
RW-3
RW-4
RW-7
RW-14
RW-15
RW-16
RW-17
RW-19
STORAGE
WHSE.
INST. SHOP
MAIN OFFICE
MAINT. OFFICE
PURCH. ACCTG.
CONF/SAFETY
EMPLOYEE PARKING
T/A STORAGE
BURNER RACK
MAIN AIR BLOWER
PRECIP
TEL
SAN JUAN COUNTY A-76 (SULLIVAN ROAD)
100'
E.P.N.G.
B-12 THRU B-21
LPG LOADING
UNDERGROUND PIPEWAY
TERMINAL OFFICES
SHOP
PRODUCT LOADING RACK
SCALES
CRUDE SAMPLING RACK
CRUDE RECEIVING & HEAVY BURNER LOADING
GASOLINE PUMPS
AUX. WHSE.
INSULATION SHOP
90 DAY HAZ. WASTE STORAGE
B-23
B-22
SAN JUAN RIVER
POND
MATCH LINE "A" (ABOVE)
Bloomfield Refining Company
PLANT PLOT PLAN
DRAWN BY WTG.
DATE 4-9-89
SCALE 1" = 100'
CHECKED BY
APPROVED
DRAWING NUMBER B-000-900-002

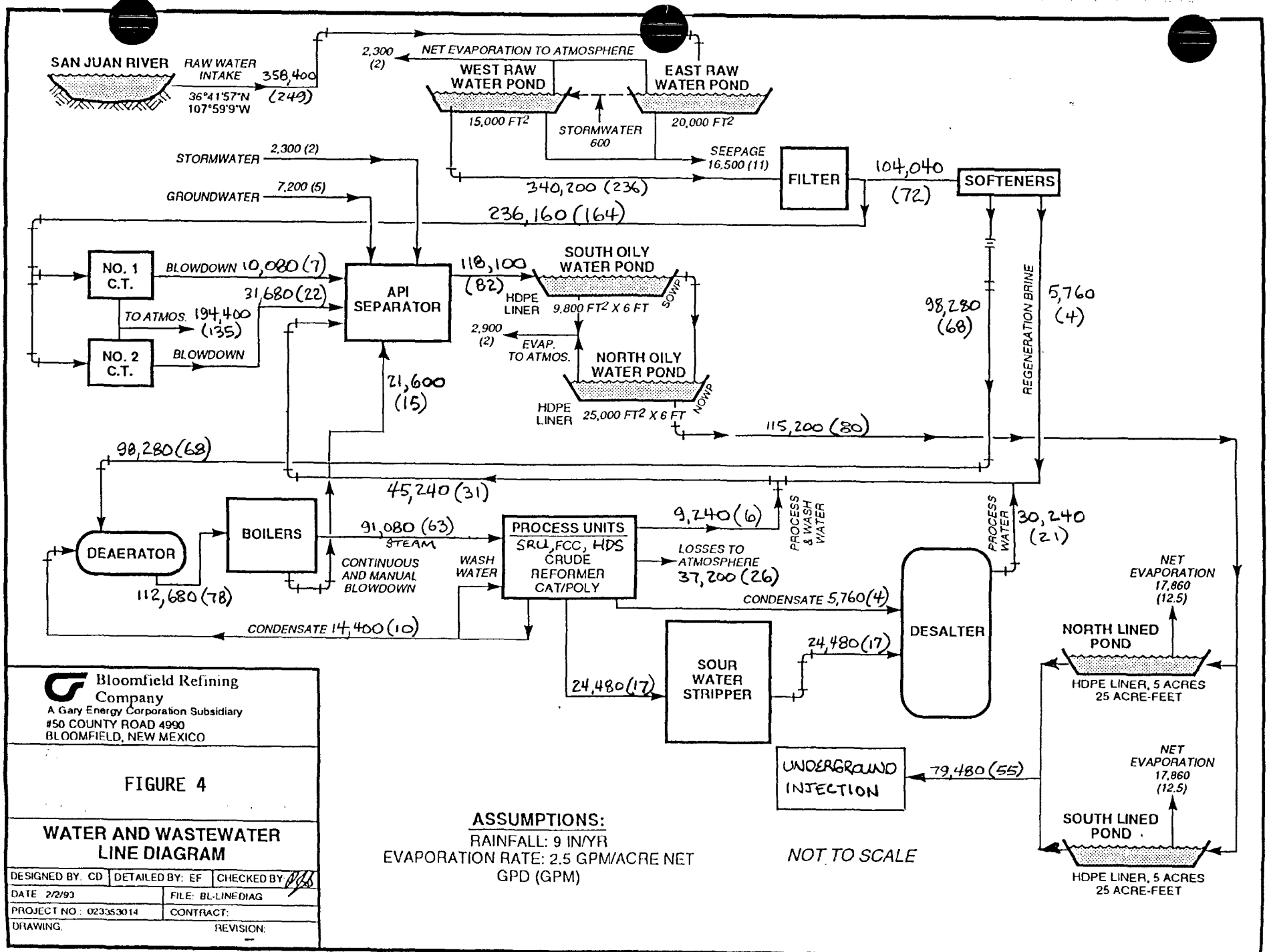

SAN JUAN RIVER
RAW WATER INTAKE
36°41'57"N 107°59'9"W
358,400 (249)
2,300 (2)
NET EVAPORATION TO ATMOSPHERE
WEST RAW WATER POND
EAST RAW WATER POND
15,000 FT2
20,000 FT2
STORMWATER 600
SEEPAGE 16,500 (11)
STORMWATER 2,300 (2)
GROUNDWATER 7,200 (5)
340,200 (236)
FILTER
104,040 (72)
SOFTENERS
236,160 (164)
NO. 1 C.T.
NO. 2 C.T.
BLOWDOWN 10,080 (7)
31,680 (22)
TO ATMOS. 194,400 (135)
BLOWDOWN
API SEPARATOR
118,100 (82)
SOUTH OILY WATER POND
HDPE LINER 9,800 FT2 X 6 FT
SOWP
2,900 (2) EVAP. TO ATMOS.
NORTH OILY WATER POND
HDPE LINER 25,000 FT2 X 6 FT
NOWP
21,600 (15)
115,200 (80)
98,280 (68)
REGENERATION BRINE
5,760 (4)
45,240 (31)
PROCESS & WASH WATER
PROCESS WATER
30,240 (21)
DEAERATOR
BOILERS
91,080 (63) STEAM
CONTINUOUS AND MANUAL BLOWDOWN
112,680 (78)
WASH WATER
PROCESS UNITS
SRU, FCC, HDS
CRUDE
REFORMER
CAT/POLY
9,240 (6)
LOSSES TO ATMOSPHERE 37,200 (26)
CONDENSATE 5,760 (4)
CONDENSATE 14,400 (10)
DESALTER
24,480 (17)
SOUR WATER STRIPPER
24,480 (17)
NET EVAPORATION 17,860 (12.5)
NORTH LINED POND
HDPE LINER, 5 ACRES
25 ACRE-FEET
NET EVAPORATION 17,860 (12.5)
SOUTH LINED POND
HDPE LINER, 5 ACRES
25 ACRE-FEET
UNDERGROUND INJECTION
79,480 (55)
ASSUMPTIONS:
RAINFALL: 9 IN/YR
EVAPORATION RATE: 2.5 GPM/ACRE NET
GPD (GPM)
NOT TO SCALE
Bloomfield Refining Company
A Gary Energy Corporation Subsidiary
#50 COUNTY ROAD 4990
BLOOMFIELD, NEW MEXICO
FIGURE 4
WATER AND WASTEWATER LINE DIAGRAM
DESIGNED BY: CD
DETAILED BY: EF
CHECKED BY:
DATE 2/2/93
FILE: BL-LINEDIAG
PROJECT NO.: 023353014
CONTRACT:
DRAWING:
REVISION:

FIGURE 5

BLOOMFIELD REFINING COMPANY TANKAGE SUMMARY

TANK NO.	SERVICE	BARRELS PER/FT.	DIA. FEET	HGT. FEET	NORINAL CAPACITY BARRELS	* WORKING ROOM TOP FT./IN	TOP BARRELS	BOTTOM FT./IN	BOTTOM BARRELS	WILL RUN OVER AT FT./IN	**WILL LOSE SUCTION FT./IN	**WILL LOSE SUCTION BARRELS	TYPE OF ROOF	ROOF SETS
1	FILTERED WATER	62.40	21	24	1,500	22-6	1,404	8-0	500	22-6	2-0	125	CONE	
2	FILTERED WATER	1398.89	100	48	67,000	46-0	64,347	25-0	35,000	48-0	2-6	3,497	CONE	
3	JP-4 SALES	246.76	41	42	10,000	38-6	9,365	4-0	987	42-0	1-3	307	FLOATING	2-9-0
4	JP-4 SALES	246.76	41	42	10,000	38-6	9,365	4-0	987	42-0	1-3	307	FLOATING	2-9-0
5	HI REFORMATE	252.67	41	40	10,000	37-6	9,475	5-0	1,263	38-0	1-4	336	INT.FLOAT	4-0-0
8	CRUDE SLOP	20.00	12	25	500	23-0	460	0-6	10	25-0	0	0	CONE	
9	CRUDE SLOP	20.00	12	25	500	23-0	460	0-6	10	25-0	0	0	CONE	
10	SPENT CAUSTIC	20.00	12	20	400	18-0	360	0	0	20-0	1-3	25	CONE	
11	LOW REFORMATE	1398.84	100	40	55,000	36-0	50,358	3-6	4,896	40-0	0-6	700	FLOATING	3-3-1/4
12	CAT GAS & POLY GAS	1398.84	100	40	55,000	36-0	50,358	3-6	4,896	40-0	0-6	700	FLOATING	3-3-1/4
13	UNLEAD SALES	628.32	67	48	30,303	44-0	27,646	4-0	2,513	48-0	1-8	1,047	FLOATING	3-6-0
14	UNLEAD SALES	627.60	67	48	30,097	44-0	27,615	4-0	2,510	48-0	1-8	1,046	FLOATING	3-6-0
17	CAT FEED	1010.60	84	40	40,000	39-0	39,413	5-0	5,000	40-0	1-2	1,778	CONE/INSUL.	
18	#1 DIESEL SALES	1398.84	100	40	55,000	36-0	50,358	3-0	4,196	38-6	1-8	2,331	INT.FLOAT	2-11-1/2
19	#2 DIESEL SALES	906.49	81	40	36,000	39-0	35,353	5-0	4,532	39-10	1-10	1,662	CONE	
20	F.C.C. SLOP	208.00	38	24	5,000	23-6	4,888	3-6	730	24-0	1-2	243	CONE	
21	REFINERY SLOP	123.00	30	24	3,000	23-6	2,990	3-6	432	24-0	1-2	143	CONE	
22	SALES RACK SLOP	125.00	30	12	1,500	11-0	1,375	2-0	250	12-0	0	0	CONE/INSUL.	
23	BASE GASOLINE	1010.60	85	40	40,000	38-0	38,402	1-4	1,346	40-0	1-4	1,347	FLOATING	6-9-0
24	NAPHTHA	421.67	54	24	10,000	20-0	8,435	4-5	1,900	20-8	1-7	666	INT.FLOAT	'0'***
25	NAPHTHA	421.67	54	24	10,000	20-0	8,435	1-6	632	20-8	3-0	1,263	INT.FLOAT	'0'***
26	JET-A SALES	167.23	34	23-5	4,000	19-6	3,264	3-0	502	23-5	1-1	181	CONE	
27	HEAVY BURNER FUEL SALES	252.67	42	40	10,000	39-0	9,854	5-0	1,260	40-0	2-0	504	CONE/INSUL.	
28	CRUDE	1692.48	110	48	80,000	46-0	77,854	3-0	5,077	48-0	1-2	1,974	FLOATING	4-6-0
29	#2 DIESEL SALES	600.00	64	34	17,000	28-0	16,676	3-0	900	31-6	1-10	1,100	INT.FLOAT	'0' ***
30	LEADED REGULAR SALES	600.00	64	34	17,000	28-0	16,676	3-0	900	31-8	1-10	1,100	INT.FLOAT	'0' ***
31	CRUDE	2741.16	140	40	110,000	36-0	98,676	3-0	8,223	40-0	1-6	4,111	FLOATING	2-5-1/2
32	PREMIUM UNLEAD SALES	498.00	60	40	20,000	36-0	17,913	3-0	1,503	40-0	1-3	622	FLOATING	3-9-0
33	RECOVERY WELL WATER	20.00	12	20	400	18-0	360	1-3	25	20-0	1-3	25	CONE	
44	ETHANOL	87.53	25	24	1,838	19-4	1,751	3-0	263	19-5	1-2	102	INT.FLOAT	3-11-3/4
		BBLS/%				PERCENT								
B-1	OUT OF SERVICE				286	90	257							
B-2	OUT OF SERVICE													
B-12	LIGHT NATURAL	N/A			692									
B-13	BUTANE	5.00			500	90	450							
B-14	BUTANE	5.00			500	90	450							
B-15	PROPANE	7.14			714	90	642							
B-16	PROPANE	7.14			714	90	642							
B-17	POLY FEED	7.14			714	90	642							
B-18	POLY FEED	7.14			714	90	642							
B-19	POLY FEED	7.14			714	90	642							
B-20	BUTANE	7.14			714	90	642							
B-21	BUTANE	7.14			714	90	642							
B-22	SATURATE LPG	7.14			714	90	642							
B-23	SATURATE LPG	7.14			714	90	642							

* "WORKING ROOM" MEANS FILL TO - SWITCH OUT OF.
** "WILL LOSE SUCTION AT" MEANS MEASURED TO
*** GAUGE LINE DOES NOT ATTACH TO INT.FLOAT
TOP OF SUCTION NOZZLE EXCEPT TANK 11 & 12

DISTRIBUTION

RODERICK	BUZZ
KING	SHIFT SUPERVISOR
DAVIS	GOODRICH
ZIMMERMAN	OWEN
PUMPER	HARRIS
STIFFLER	POORE
HAWLEY	CUNNINGHAM
MILLER	

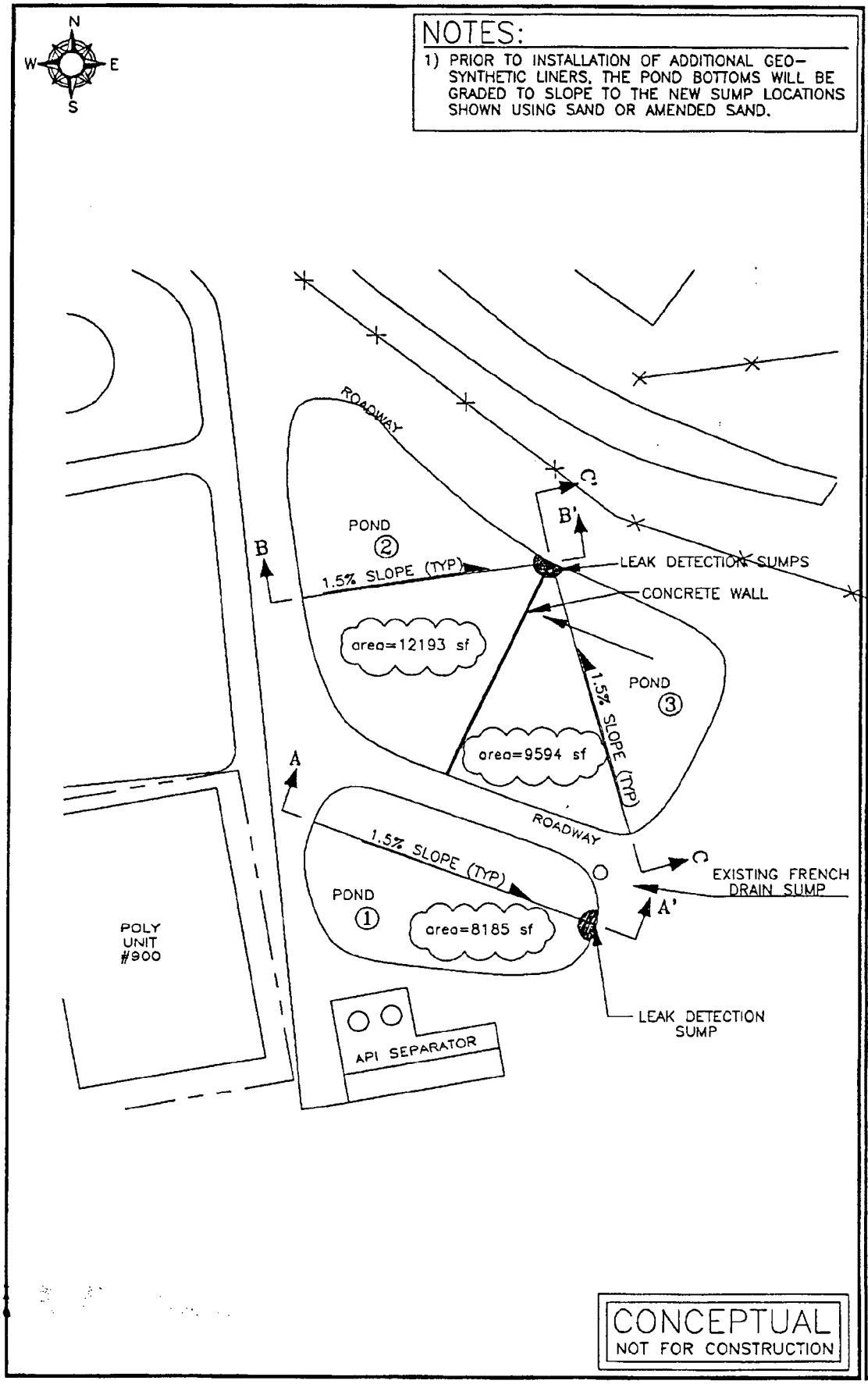
REVISED 8/25/93

FIGURE 6

2/23/89 BLOOMFIELD REFINING COMPANY TANK SUMMARY Page 1

TK#	TYPE OF CONSTRUCTION	ROOF TYPE	DIA	HT	CAP	SERVICE	ROOF COLOR	ROOF FINISH	SHELL COLOR	SHELL FINISH	INSTALLATION DATE	BASE / PAD
1	BOLTED	CONE	21	24	1500	FILTERED WATER	GREY	FLAT	GREY	FLAT	1/01/60	BOLTED STEEL ON SAND
2	WELDED	CONE	100	48	67000	FILTERED WATER	WHITE	ENAMEL	WHITE	ENAMEL	1/01/78	WELDED STEEL ON SAND
3	WELDED	EXTERNAL FLOATING	41	42	10000	JP4	WHITE	ENAMEL	WHITE	ENAMEL	9/01/66	"
4	WELDED	EXTERNAL FLOATING	41	42	10000	JP4	WHITE	ENAMEL	WHITE	ENAMEL	9/01/66	"
5	WELDED	INTERNAL FLOATING	41	40	10000	HI-REFORMATE	WHITE	ENAMEL	WHITE	ENAMEL	9/01/66	"
8	WELDED	CONE	12	25	500	API CRUDE SLOP	SILVER	RUSTY	SILVER	DULL	12/01/87	WELDED STEEL ON CONCRETE SLAB
9	WELDED	CONE	12	25	500	API CRUDE SLOP	SILVER	DULL	SILVER	DULL	12/01/87	"
10	WELDED	CONE	12	20	400	SPENT CAUSTIC	BEIGE	DULL	BEIGE	DULL	7/01/86	"
11	WELDED	EXTERNAL FLOATING	100	40	55000	REFORMATE	WHITE	ENAMEL	WHITE	ENAMEL	12/01/82	WELDED STEEL ON CONCRETE RING & SAND
12	WELDED	EXTERNAL FLOATING	100	40	55000	CAT GAS / POLY GAS	WHITE	ENAMEL	WHITE	ENAMEL	12/01/82	WELDED STEEL ON CONCRETE RING & SAND
13	WELDED	EXTERNAL FLOATING	67	48	30303	NO LEAD SALES	WHITE	ENAMEL	WHITE	ENAMEL	9/01/87	WELDED STEEL ON CONCRETE RING & SAND
14	WELDED	EXTERNAL FLOATING	67	48	30097	NO LEAD SALES	WHITE	ENAMEL	WHITE	ENAMEL	9/01/87	WELDED STEEL ON CONCRETE RING & SAND
17	WELDED, INSULATED	CONE, INSULATED	84	40	40000	REDUCED CRUDE	BEIGE	DULL	BEIGE	DULL	2/01/61	WELDED STEEL ON SAND
18	WELDED	INTERNAL FLOATING	100	40	55000	#1 DIESEL	WHITE	ENAMEL	WHITE	ENAMEL	1/01/74	"
19	WELDED	CONE	81	40	36000	#2 DIESEL	BEIGE	DULL	BEIGE	DULL	1/01/75	"
20	BOLTED	CONE	38	24	5000	FCC SLOP	BEIGE	DULL	BEIGE	DULL	1/01/76	BOLTED STEEL ON SAND
21	BOLTED	CONE	30	24	3000	FCC SLOP	BEIGE	DULL	BEIGE	DULL	1/01/76	"
22	WELDED, INSULATED	CONE	30	12	1500	GASOLINE SLOP	SILVER	ALUMINUM	SILVER	ALUMINUM	1/01/80	WELDED STEEL ON SAND
23	WELDED	EXTERNAL FLOATING	85	40	40000	BASE GAS	WHITE	ENAMEL	WHITE	ENAMEL	1/01/82	"
24	BOLTED	INTERNAL FLOATING	54	24	10000	REFORMER FEED	BEIGE	DULL	BEIGE	DULL	1/01/60	BOLTED STEEL, EPOXY FLOOR LINER ON SAND
25	BOLTED	INTERNAL FLOATING	54	24	10000	REFORMER FEED	BEIGE	DULL	BEIGE	DULL	1/01/60	"
26	WELDED	CONE	54	24	4000	JET A	BEIGE	DULL	BEIGE	DULL	12/01/67	WELDED STEEL ON SAND
27	WELDED	CONE, INSULATED	42	40	10000	HEAVY BURNER FUEL	GRAY	DULL	GREEN	SMOOTH	1/01/67	"
28	WELDED	EXTERNAL FLOATING	120	48	80000	CRUDE	BROWN	RUSTY	WHITE	ENAMEL	4/01/69	"
29	WELDED	INTERNAL FLOATING	64	34	17000	#2 DIESEL	BEIGE	DULL	BEIGE	DULL	1/01/74	"
30	WELDED	INTERNAL FLOATING	64	34	17000	REGULAR GASOLINE	BEIGE	DULL	BEIGE	DULL	1/01/74	"
31	WELDED	EXTERNAL FLOATING	160	40	110000	CRUDE	WHITE	ENAMEL	WHITE	ENAMEL	8/01/77	"
32	WELDED	EXTERNAL FLOATING	60	40	20000	PREMIUM UNLEADED	WHITE	ENAMEL	WHITE	ENAMEL	4/01/88	WELDED STEEL ON CONCRETE RING & SAND
41	WELDED	CONE	20	12	700	CRUDE TREATMENT	WHITE	ENAMEL	WHITE	ENAMEL	1/01/79	WELDED STEEL ON SAND
42	WELDED	CONE	20	12	700	CRUDE TREATMENT	WHITE	ENAMEL	WHITE	ENAMEL	1/01/79	"
43	WELDED	CONE	20	10	600	CRUDE TREATMENT	WHITE	ENAMEL	WHITE	ENAMEL	1/01/79	"
B 1	WELDED, BULLET	PRESSURE VESSEL	7		286	LPG SLOP	NA	NA	WHITE	ENAMEL	1/01/60	CONCRETE SADDLE
B 2	WELDED, BULLET	PRESSURE VESSEL	8		430	LPG SLOP	NA	NA	WHITE	ENAMEL	1/01/60	"
B12	WELDED, BULLET	PRESSURE VESSEL	10		692	LIGHT NATURAL	NA	NA	WHITE	ENAMEL	1/01/60	"
B13	WELDED, BULLET	PRESSURE VESSEL	8		500	BUTANE	NA	NA	WHITE	ENAMEL	1/01/60	"
B14	WELDED, BULLET	PRESSURE VESSEL	8		500	BUTANE	NA	NA	WHITE	ENAMEL	1/01/60	"
B15	WELDED, BULLET	PRESSURE VESSEL	10		714	PROPANE	NA	NA	WHITE	ENAMEL	1/01/78	"
B16	WELDED, BULLET	PRESSURE VESSEL	10		714	POLY FEED	NA	NA	WHITE	ENAMEL	1/01/78	"
B17	WELDED, BULLET	PRESSURE VESSEL	10		714	POLY FEED	NA	NA	WHITE	ENAMEL	1/01/78	"
B18	WELDED, BULLET	PRESSURE VESSEL	10		714	POLY FEED	NA	NA	WHITE	ENAMEL	1/01/78	"
B19	WELDED, BULLET	PRESSURE VESSEL	10		714	POLY FEED	NA	NA	WHITE	ENAMEL	1/01/78	"
B20	WELDED, BULLET	PRESSURE VESSEL	10		714	BUTANE	NA	NA	WHITE	ENAMEL	1/01/78	"
B21	WELDED, BULLET	PRESSURE VESSEL	10		714	BUTANE	NA	NA	WHITE	ENAMEL	10/01/83	"
B22	WELDED, BULLET	PRESSURE VESSEL	10		714	SATURATE LPG	NA	NA	WHITE	ENAMEL	4/01/88	"
B23	WELDED, BULLET	PRESSURE VESSEL	10		714	SATURATE LPG	NA	NA	WHITE	ENAMEL	4/01/58	"
44	WELDED	INTERNAL FLOATING	25	24	2000	ETHANOL	WHITE	ENAMEL	WHITE	ENAMEL	11/01/89	WELDED STEEL ON CONCRETE RING & SAND

-CALCS BACK ON



120' 60' 0 60'

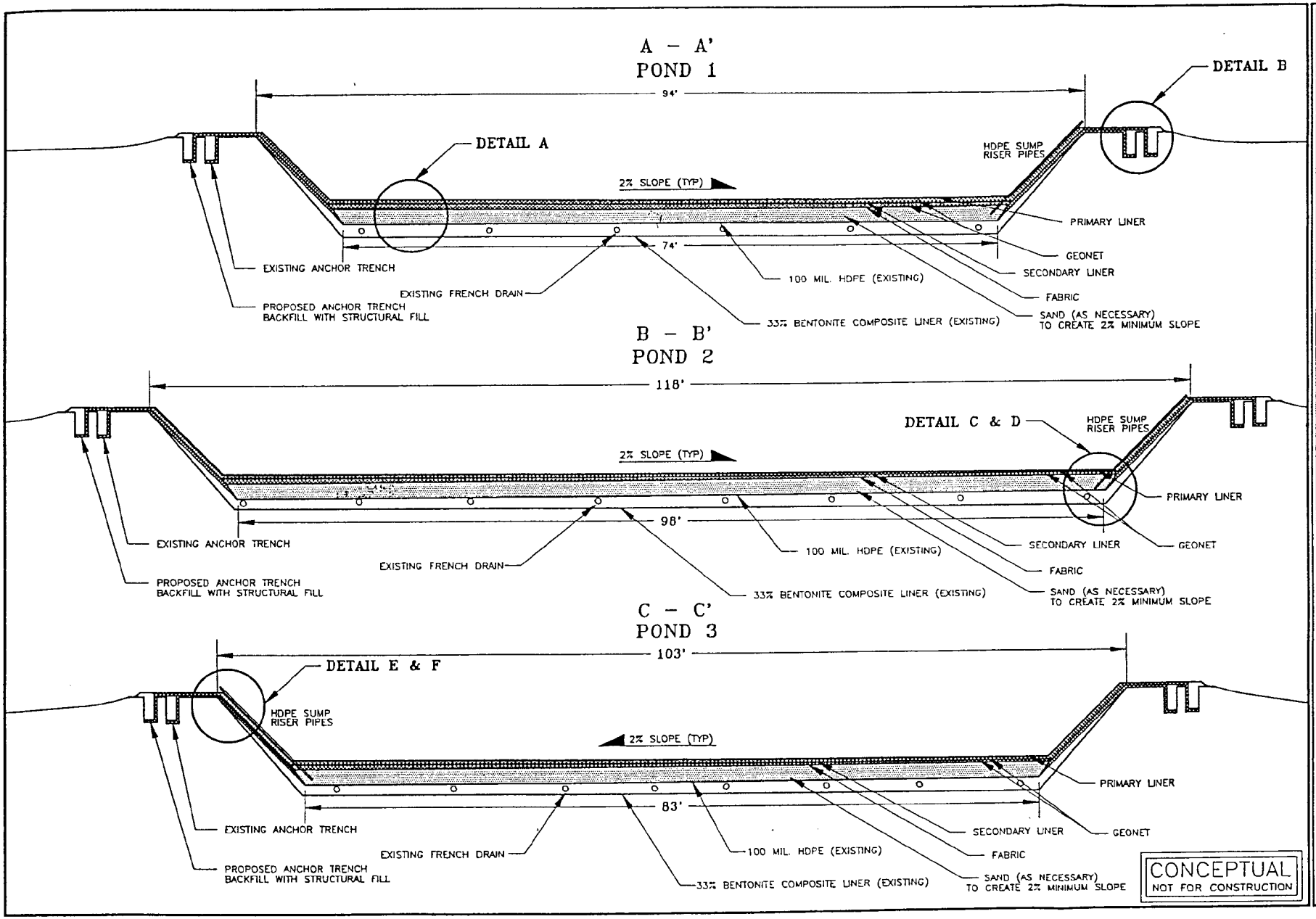
ERM-Rocky Mountain, Inc.
5950 South Willow Drive
Suite 200
Greenwood Village, Colorado 80111
(303) 741-5050
ERM

BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO 87413

SITE PLAN
SURFACE IMPOUNDMENT RETROFIT

DESIGNED	EAG
DRAWN	SRL
CHECKED	
DATE	03/10/94
JOB NO	931044.0
FILENAME	FIG-1

FIGURE 7



ERM-Rocky Mountain, Inc.
5950 South Willow Drive
Suite 200
Greenwood Village, Colorado 80111
(303) 741-5050
ERM

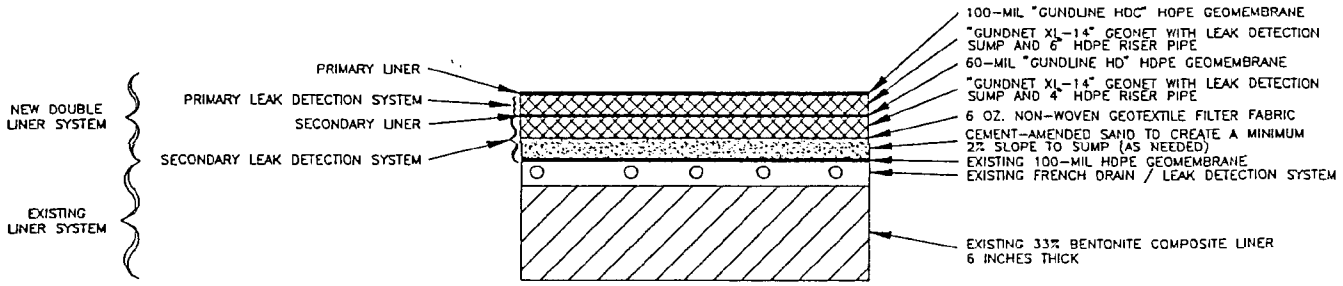
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO 87413

CROSS SECTIONAL VIEW OF SURFACE IMPOUNDMENTS

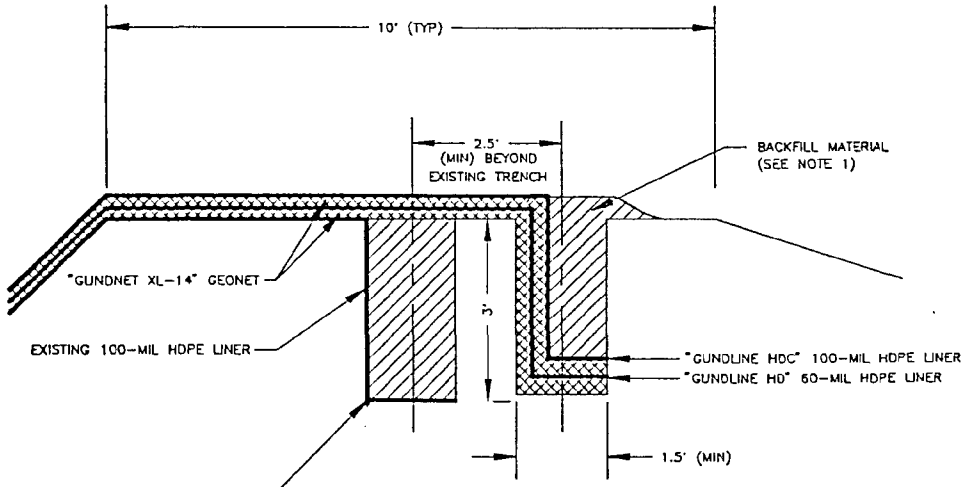
DESIGNED	EAG
DRAWN	SRL
CHECKED	
DATE	02/11/94
JOB NO	931044.0
FILENAME	FIG-2

FIGURE 8

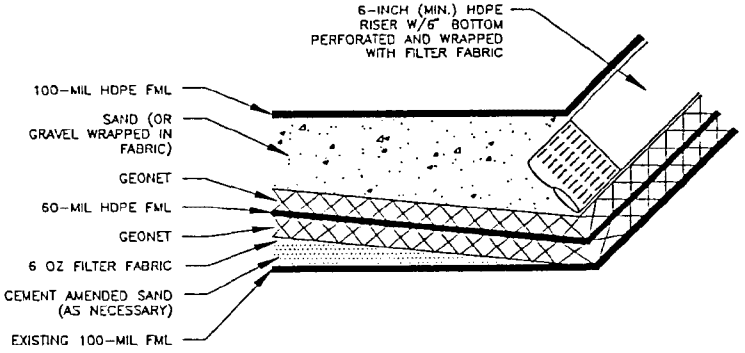
NOTES
1) USE SUITABLE GRANULAR BACKFILL MATERIAL COMPACT BACKFILL TO MINIMUM 90% STANDARD PROCTOR DENSITY AT ± 3% OF OPTIMUM MOISTURE CONTENT.



LINER DETAIL
DETAIL A (TYP)
(N.T.S.)



ANCHOR TRENCH DETAIL
DETAIL B (TYP)
(N.T.S.)



PRIMARY LEAK DETECTION SUMP DETAIL
DETAIL C (TYP)
(N.T.S.)

CONCEPTUAL
NOT FOR CONSTRUCTION

ERM-Rocky Mountain, Inc.
5950 South Willow Drive
Suite 200
Greenwood Village, Colorado 80111
(303) 741-5050

ERM

BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO 87413

SYSTEM DETAILS
SURFACE IMPOUNDMENT RETROFIT

DESIGNED	EAC
DRAWN	SRL
CHECKED	
DATE	02/10/94
JOB NO	931044.0
FILENAME	FIG-3

FIGURE
9

BRC - OILY WATER PONDS INSPECTION LOG

MONTH _____

DATE	TIME	LEAK DETECTOR SUMPS			AERATION SYSTEM	>2 FT FREE BOARD	INIT	COMMENTS
		SOWP	NOWP WEST	NOWP EAST				
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								

ADDITIONAL COMMENTS:

_____

_____

_____

_____

_____

INSTRUCTIONS:

1) Freeboard: Check daily, note pond with problems, indicate OK if normal. Must be > 2 feet.
2) Aeration system: Check daily that all aerators are operating. Write WO if needed.
3) Leak detectors: Check daily for water in sump. Contact Chris Hawley if water in sump.
4) Signs: Make sure English, Spanish, and Navajo signs are in place and in good shape.
5) Initial and comment on problems with the ponds. Contact Chris Hawley about problems.
6) Return completed inspection log to Chris Hawley at end of each month.
7) If liquid removed from any sump, record quantity.

FIGURE 10

POND LINER LEAK DETECTION
WEEKLY INSPECTION

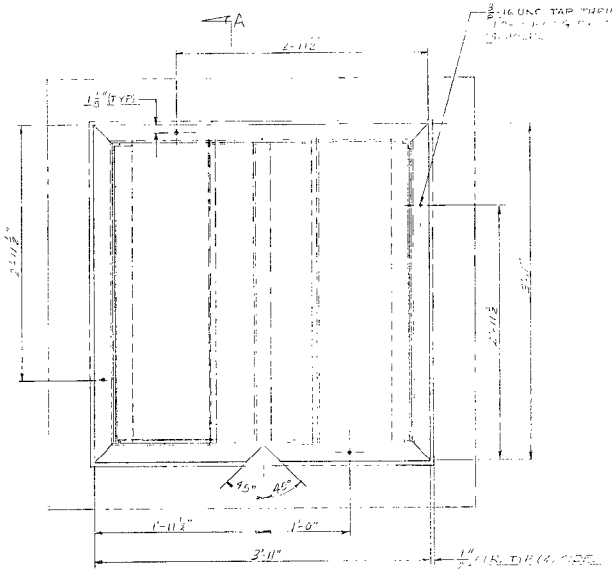
DATE	INSPECTOR	RESULTS

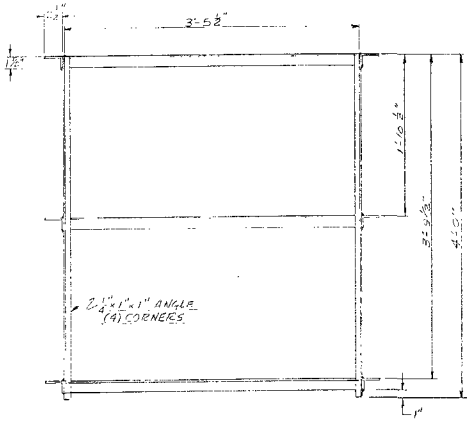
Notes:

1. The collection sump for the oily water ponds will be inspected at least weekly, and that records will be kept and retained for at least two years.

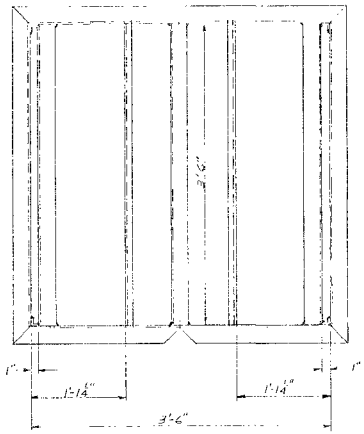
2. If fluids are found in the sump, the Environmental Engineer will be immediately notified. The OCD must be notified within 48 hours.

FIGURE 11

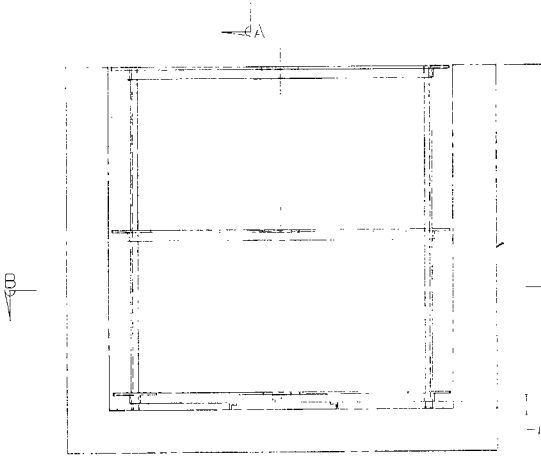


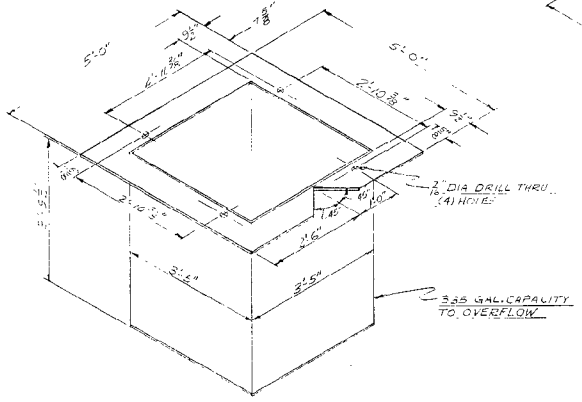


SECTION "A-A"
WELDED CONSTR

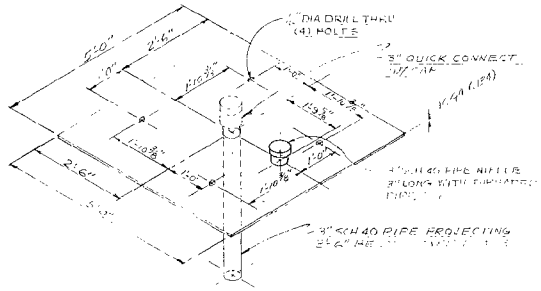


SECTION "B-B"
WELDED CONSTR. C.S.





LINER
[illegible] 10GA. (.134)



SUMP COVER PLATE
WELDED CONSTR. C.S.

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

SUMP LINER & FRAME

DRAWN BY	DATE	SCALE	APPROVED
CHECKED BY	1-31-90	12"=1'-0"	
DRAWING NUMBER	D-[illegible]		REV C

REVISION RECORD

Bloomfield Refining Company

A Gary Energy Corporation Subsidiary

SITE PLAN
AND
ORTHOPHOTO/TOPOGRAPHIC COMPOSITE

SAN JUAN ENGINEERS
2101 San Juan Boulevard
FARMINGTON, NEW MEXICO 87401

300 - 0

NOTES

1) This Map Complies with National Map Accuracy Standards

2) Field Surveys Performed by Surveying Control, Inc. of Albuquerque, New Mexico Using U.S. Methods

3) Aerial Photography Exposed on ... 9, 1991 by New Mexico Aerial Surveys, Inc. of Albuquerque, New Mexico Utilizing a Zeiss RMK A 15/23 Precision Aerial Mapping Camera with a Calibrated Focal Length of 153 ... mm

... Orthophoto Composite Produced by Thomas R. ... New Mexico

ATTACHMENT 1

1/31/94

BLOOMFIELD REFINING CO.
CHEMICAL INVENTORY

MSDS	TRADE NAME	INGREDIENTS	EHS	OHR	CTE	XO	PERCENT	CAS #	FORM		TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
	CHEMICAL DESCRIPTION												INVENTORY							
186	ANTIFREEZE/COOLANT	ETHYLENE GLYCOL	N	Y	N	N	60.0000	00107-21-1	Pur		Fire	1	3	2	DRM	365	6	1.125	MAINT.YD	SUPPLIED BY WESKEM.
		WATER	N	N	N	N	40.0000	07732-18-5	Mix	X	Pres	0							W/H YARD	
	CAS # 00107-21-1								Sol		Reac	0							M2 COMP.	
									Liq	X	Imm	3								
									Gas		Del	1								
63	AQUA AMMONIA	AMMONIUM HYDROXIDE	N	N	Y	N	50.0000	01336-21-6	Pur		Fire	0	1	1	DRM	365	0	.897	WAREHOUSE	
		WATER	N	N	N	N	50.0000	07732-18-5	Mix	X	Pres	0								
	CAS #								Sol		Reac	0								
									Liq	X	Imm	1								
									Gas		Del	0								
125	BRC API SEPARATOR SLUDGE	API SEPARATOR SLUDGE	N	N	Y	N	100.0000		Pur		Fire	2	37369	18685	GAL	365	37369	1.150	BOTTOM OF	RCRA LISTED WASTE K-051. OFFSITE DISPOSAL YEARLY.
		LEAD	N	Y	Y	Y		07439-92-1	Mix	X	Pres	0							API SEP.	API CLEANED IN OCT/93.
	CAS #	OIL & GREASE	N	N	Y	N	5.0000		Sol	X	Reac	0							EXCEPT WHEN	SHIPPED AS IS, BULK: 358400 LBS. IN OCT,1993.
		WATER	N	N	N	N	80.0000	07732-18-5	Liq	X	Imm	2							CLEANED.	
		SOLIDS	N	N	N	N	15.0000		Gas		Del	2								
183	BRC BASE GAS + NATURAL GASOLINE	COMPLEX MIXTURE OF HC'S	N	Y	N	N	100.0000	64741-46-4	Pur		Fire	3	38402	20959	BBL	365	657875	.671	TANKFARM	BRC INTERMEDIATE. 5.6 LBS/GAL. LSR + NATURAL.
		BENZENE	N	Y	Y	Y	2.6700	00071-43-2	Mix	X	Pres	0							TK 23	LIGHT STR RUN IS FROM CRUDE UNIT. LT. NATL GAS.
	CAS # 64741-46-4	TOLUENE	N	Y	Y	Y	.2000	00108-88-3	Sol		Reac	0							40000 BBL	IS PURCHASED & UNLOADED DIRECTLY TO BASE GAS.
		XYLENE (MIXED)	N	Y	Y	Y	.1900	01330-20-7	Liq	X	Imm	1								
									Gas		Del	1								

MSDS	TRADE NAME	INGREDIENTS	E H S	O S H	C E R	T O X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
	CHEMICAL DESCRIPTION									INVENTORY								
81	BRC BURNER FUEL, #6 FUEL OIL, SLURRY	HIGH BOILING HC'S	N	N	N	N	100.0000	64741-62-4	Pur	Fire 2	9854	3575	BBL	365	109750	1.043	TANKFARM	8.692 LBS/GAL.
									Mix	X Pres 0							TANK 27	
	CAS # 64741-62-4								Sol	Reac 0							10000 BBL	
									Liq	X Imm 2								
									Gas	Del 1								
108	BRC BUTANE	MIXTURE OF C4 HC'S	N	Y	N	N	100.0000	00106-97-8	Pur	Fire 3	2428	1630	BBL	365	114052	.584	TANKFARM PV	BLENDED: 114052 BBLS. 4.872 LBS/GAL.
									Mix	X Pres 1							B13 500 BBL	SOLD: 0 BBLS IN 1993.
	CAS # 00106-97-8								Sol	Reac 0							B14 500 BBL	
									Liq	X Imm 0							B20 714 BBL	
									Gas	X Del 0							B21 714 BBL	
80	BRC CAUSTIC DILUTE	SODIUM HYOROXIDE	N	Y	Y	N	14.0000	01310-73-2	Pur	Fire 0	30000	15000	GAL	365	148968	1.160	TREATER	ONE TANK IS SPLIT INTO TWO COMPARTMENTS.
		WATER	N	N	N	N	86.0000	07732-18-5	Mix	X Pres 0							2 TANKS	20 BAUME = 9.67 LBS/GAL. MADE FROM 50% CAUSTIC.
	CAS #								Sol	Reac 1							15000 GAL EA	WHEN SPENT GOES TO TANK 10, SEE MSDS 118.
									Liq	X Imm 2							SRU	3.5 GALS.H2O/GAL 50 BE. = 20 BE.
									Gas	Del 0							1 TK-200 GAL	
114	BRC CRUDE OIL, CRUDE FEED	COMPLEX MIXTURE OF HC'S	N	Y	N	N	100.0000	08002-05-9	Pur	Fire 4	177450	80622	BBL	365	5490420	.808	TANKFARM	FEED TO CRUDE UNIT. 6.741 LBS/GAL.
		BENZENE	N	Y	Y	Y	.6800	00071-43-2	Mix	X Pres 0							TK 31 110000	
	CAS # 08002-05-9	HYDROGEN SULFIDE	Y	Y	Y	N		07783-06-4	Sol	Reac 0							TK 28 80000	
		TOLUENE	N	Y	Y	Y	.6500	00108-88-3	Liq	X Imm 1							TK 8 500	
		O-XYLENE	N	Y	Y	Y	.2800	00095-47-6	Gas	Del 1							TK 9 500	
		M-XYLENE	N	Y	Y	Y	.6700	00108-38-3										
		P-XYLENE	N	Y	Y	Y	.1700	00106-42-3										

MSDS	TRADE NAME	INGREDIENTS	EHS	OHR	CTE	OXP	PERCENT	CAS #	FORM	TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
	CHEMICAL DESCRIPTION											INVENTORY							
110	BRC DIESEL, #2 FUEL OIL	COMPLEX HC MIXTURE	N	N	N	N	100.0000		Pur	Fire	2	35353	15383	BBL	365	1508219	.838	TANKFARM	6.985 LBS/GAL.
		CRUDE UNIT	N	N	N	N	81.0000	64741-44-2	Mix	X Pres	0							TANK 19	ALSO IN DIESEL TANK AT TERMINALS: 300 BBLS.
	CAS #	FCCU UNIT	N	N	N	N	19.0000	64741-60-2	Sol	Reac	0							36000 BBL	
									Liq	X Imm	0							TANK 29	
									Gas	Del	0							17000 BBL	
138	BRC FCC HEAVY CYCLE OIL	COMPLEX MIXTURE OF HC'S	N	N	N	N	100.0000	64741-61-3	Pur	Fire	2	0	0	BBL	365	0	.900	FCCU ONLY	RECYCLE ONLY. SEE FCC PRODUCTS.
		POLYNUCLEAR AROMATICS	N	N	Y	N	5.0000		Mix	X Pres	0								
	CAS # 64741-61-3								Sol	Reac	0								
									Liq	X Imm	2								
									Gas	Del	1								
966	BRC FCCU FINES FROM PRECIPITATORS	ALUMINUM OXIDE	N	Y	N	Y	40.0000	01344-28-1	Pur	Fire	0	7000	2000	LBS	365	82360		LANDFILL	FINES FROM ELECTROSTATIC PRECIPITATOR. LANDFILLED
		COPPER	N	Y	Y	Y	.0200	07440-50-8	Mix	X Pres	0							EAST END OF	SINCE 10/82. PRECIPITATOR 99.8% EFFICIENT, SO
	CAS #	NICKEL	N	Y	Y	Y	.0800	07440-02-0	Sol	X Reac	0							FACILITY	EST. AMT EMITTED FROM STACK IN 1993=166LBS.
		VANADIUM	N	N	N	Y	.0500	07440-62-2	Liq	Imm	1								ESTIMATED AMOUNT LANDFILLED THRU 12/93: 1006TONS.
		LEAD	N	Y	Y	Y	.0100	07439-92-1	Gas	Del	0								CATALYST IN INVENTORY AND PROCESS: 100 TONS.
		SILICON OXIDE	N	Y	N	N	50.0000	07631-86-9											ALUMINA LANDFILLED DURING 1993: 33,000 LBS.
		OTHER	N	N	N	N	9.8500												NON-HAZARDOUS BY TCLP ANALYSIS OF 4/93.
903	BRC FUEL GAS	MIXTURE OF MOSTLY C3'S	N	Y	N	N	100.0000		Pur	Fire	4	257	128	FOE	365	346638	.744	TANKFARM	B1 & B2 TAKEN OUT OF SERVICE IN APR, 1992.
		PROPANE	N	Y	N	N		00074-98-6	Mix	X Pres	1							PRESS VESSEL	MOST WENT DIRECTLY TO FUEL GAS AS MADE.
	CAS #								Sol	Reac	0							B1 286 BBL	FOE8 = 6.202LBS/GAL. OR 6.32MMBTU/FOE8.
									Liq	X Imm	1							B2 430 BBL	
									Gas	X Del	0								

CHEMICAL DESCRIPTION									INVENTORY						
NSDS	TRADE NAME	INGREDIENTS	E H S	O S	C H	T R	X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
126	BRC HEAT EXCHANGER BUNDLE CLEANING SLDGE CAS #	EXCHANGER SLUDGE, K-050	N	N	Y	N		100.0000		Pur Mix Sol Liq Gas	Fire 0 X Pres 0 X Reac 0 Imm 1 Del 1	6700	6700	LBS	88	6700	1.490	IN OLD TRANS BUILDING - EAST END IN 55 GAL DRUMS HAZ. WASTE	RCRA LISTED HAZARDOUS WASTE K-050 THAT IS GENERATED REFINERY HEAT EXCHANGERS ARE CLEANED. SHIPPED OFFSITE FOR INCINERATION. HAZARDOUS BECAUSE OF POSSIBLE EP TOXIC METAL CONCENTRATIONS. CERCLA WASTE ONLY.
934	BRC HI OCT PREM UNL GASOLINE CAS #	COMPLEX MIXTURE OF HC'S	N	Y	N	N		100.0000		Pur Mix Sol Liq Gas	Fire 3 X Pres 0 Reac 0 X Imm 1 Del 1	0	0	BBL	0	0	.780	NA	BLENDED AT LOADING RACK IN TRUCK COMPARTMENTS. AMT IN STORAGE WITH OTHER PRODUCTS. 6.504 LBS/GAL. SOLD IN 1993: 56878 BBLS.
931	BRC HI OCT REG GASOLINE CAS #	COMPLEX MIXTURE OF HC'S	N	Y	N	N		100.0000		Pur Mix Sol Liq Gas	Fire 3 X Pres 0 Reac 0 X Imm 1 Del 1	0	0	BBL	0	0	.735	NA	BLENDED AT LOADING RACK IN TRUCK COMPARTMENTS. QTY IN STORAGE AND USED IS INCLUDED WITH OTHER PRODUCTS 6.133 LBS/GAL. SOLD IN 1993: 97535 BBLS.
932	BRC HI OCT UNL GASOLINE CAS #	COMPLEX MIXTURE OF HC'S	N	Y	N	N		100.0000		Pur Mix Sol Liq Gas	Fire 3 X Pres 0 Reac 0 X Imm 1 Del 1	0	0	BBL	0	0	.742	NA	BLENDED AT LOADING RACK IN TRUCK COMPARTMENTS. AMT IN STORAGE WITH OTHER PRODUCTS. 6.187 LBS/GAL. SOLD IN 1993: 524147 BBLS.

CHEMICAL DESCRIPTION										INVENTORY						
MSDS	TRADE NAME	INGREDIENTS	E H S	O C T H S E O R X	PERCENT	CAS #	FORM	TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
933	BRC HI-REFORMATE	COMPLEX MIXTURE OF HC'S	N	Y N N	100.0000	64741-68-0	Pur	Fire	3	9475	5007	BBL	365	181383	.785	TANKFARM	6.537 LBS/GAL.
		BENZENE	N	Y Y Y	4.0000	00071-43-2	Mix X	Pres	0							TK 5	BLENDED AT LOADING RACK TO MAKE 97 OCTANE PRODUCT.
	CAS # 64741-68-0	ETHYL BENZENE	N	Y Y Y	3.0000	00100-41-4	Sol	Reac	0							10000 BBL	
		TOLUENE	N	Y Y Y	14.0000	00108-88-3	Liq X	Imm	1								
		XYLENE (MIXED)	N	Y Y Y	18.0000	01330-20-7	Gas	Del	1								
		1,2,4 TRIMETHYL BENZENE	N	N N Y	3.0000	00095-63-6											
4	BRC HYDROGEN	HYDROGEN	N	Y N N	100.0000	01333-74-0	Pur X	Fire	4	532	426	LBS	365	532		PRES. TKS	MAX CAPACITY EST. AT 100,000 FT3 AT 188FT3/LB.
							Mix	Pres	1							NORTH OF	NORMALLY PRODUCED. NEW PURCHASED FOR STARTUP.
	CAS # 01333-74-0						Sol	Reac	0							REFORMER	RARELY USED. BACKUP SUPPLY FOR REFORMER STARTUP.
							Liq	Imm	0								
							Gas X	Del	0								
231	BRC JET A	MIXED HYDROCARBONS	N	Y N N	100.0000	08008-20-6	Pur	Fire	2	0	0	BBL	0	0	.807	TANKFARM	JET A, #1 DIESEL, & KEROSENE ARE ESSENTIALLY
							Mix X	Pres	0								THE SAME. 6.715 LBS/GAL.
	CAS # 08008-20-6						Sol	Reac	0								SEE KEROSENE. NONE MADE IN 1993.
							Liq X	Imm	1								
							Gas	Del	0								
168	BRC JP4 JET FUEL	HEAVY NAPHTHA	N	Y N N	87.5000	64741-41-9	Pur	Fire	3	17496	13509	BBL	365	410024	.757	TANKFARM	6.299 LBS/GAL.
		LIGHT NAPHTHA	N	Y N N	1.1000	64741-46-4	Mix	Pres	0							TKS 3 & 4	
	CAS #	KEROSENE	N	N N N	11.4000	08008-20-6	Sol	Reac	0							10000 BBL EA	
		BENZENE	N	Y Y Y	2.3300	00071-43-2	Liq X	Imm	1								
		ETHYL BENZENE	N	Y Y Y	.9300	00100-41-4	Gas	Del	1								
		TOLUENE	N	Y Y Y	2.8000	00108-88-3											
		XYLENE (MIXED)	N	Y Y Y	5.0200	01330-20-7											

MSDS	TRADE NAME	INGREDIENTS	E S	O H	C R	T O X	PERCENT	CAS #	FORM		TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
87	BRC KEROSENE, #1 DIESEL	MIXED HYDROCARBONS	N	N	N	N	100.0000	08008-20-6	Pur		Fire	2	50358	25274	BBL	365	121429	.809	TANKFARM	PRODUCT. 6.743 LBS/GAL.
	CAS # 08008-20-6								Mix	X	Pres	0							TANK 18 AT 55000 BBLS	
									Sol		Reac	0							TK 26 4000 BBLS	
									Liq	X	Imm	1								
									Gas		Del	0								
127	BRC LEADED GASOLINE TANK BOTTOMS	TANK SCALE & SLUDGES K052	N	N	Y	N	100.0000		Pur		Fire	2	0	0	LBS	0	0	1.410	DRUMS IN HAZ WASTE STORAGE ROOM TK30-LEADED.	RCRA LISTED HAZARDOUS WASTE K-052 THAT RESULTS WHEN TANKS ARE CLEANED THAT CONTAINED LEADED GASOLINE.
	CAS #	SOLIDS	N	N	Y	N	71.0000		Mix	X	Pres	0								
		WATER	N	N	N	N	27.0000	07732-18-5	Sol	X	Reac	0								
		EP TOXICITY LEAD	N	N	Y	N	.0005	07439-92-1	Liq		Imm	3								
		GASOLINE	N	Y	N	N	2.0000	08006-61-9	Gas		Del	2								
137	BRC LIGHT CYCLE OIL	COMPLEX MIXTURE OF HC'S	N	N	N	N	100.0000	64741-60-2	Pur		Fire	2	0	0	BBL	365	0	.904	IN DIESEL	PART OF PRODUCT IN #2 DIESEL. 7.524 LBS/GAL. MADE 287,273 BBL FROM FCCU IN 1993 AND COMBINED WITH CRUDE UNIT OUTPUT.
	CAS # 64741-60-2	POLYNUCLEAR AROMATICS	N	N	Y	N	.5000		Mix	X	Pres	0								
									Sol		Reac	0								
									Liq	X	Imm	1								
									Gas		Del	1								
49	BRC LIGHT STRAIGHT RUN	LIGHT STRAIGHT RUN	N	Y	N	N	100.0000	64741-46-4	Pur		Fire	3	0	0	BBL	365	0	.674	SEE BASE GAS	GOES TO BASE GAS WHICH IS BLENDED INTO GASOLINE. 5.608 LBS/GAL. MADE 409958 BBLS IN 1993.
	CAS # 64741-46-4	BENZENE	N	Y	Y	Y	2.0000	00071-43-2	Mix	X	Pres	0								
									Sol		Reac	0								
									Liq	X	Imm	1								
									Gas		Del	1								

MSDS	TRADE NAME	INGREDIENTS	E H S	O S H	C O R	T X	PERCENT	CAS #	FORM		TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
203	BRC NATURAL GASOLINE	COMPLEX MIXTURE OF HC'S	N	Y	N	N	100.0000	64741-46-4	Pur		Fire	4	0	0	BBL	0	0	.550	TANKFARM	OFFLOADED DIRECTLY INTO BASE GAS. 5.57 LBS/GAL.
		BENZENE						00071-43-2	Mix	X	Pres	1							PRESS VESSEL	BLENDEDIN GASOLINE PRODUCTS. 247917 BBLS IN 1993.
	CAS # 64741-46-4	HYDROGEN SULFIDE						07783-06-4	Sol		Reac	0							B12 692 BBL	SEE BASE GAS.
		N-HEXANE						00110-54-3	Liq	X	Imm	1							TK 23	
									Gas	X	Del	0							40000 BBL	
234	BRC OXY PREMIUM UNLEADED GASOLINE	PREMIUM UNLEADED GASOLINE	N	Y	N	N	90.0000		Pur		Fire	3	0	0	BBL	0	0	.705	NA	ETOH BLENDED AS TRUCKS LOADED.
		ETHANOL	N	Y	N	N	10.0000	00064-17-5	Mix	X	Pres	0								SALES 1993=2842 BBLS.
	CAS #								Sol		Reac	0								5.883 LBS/GAL.
									Liq	X	Imm	1								
									Gas		Del	1								
233	BRC OXY REGULAR GASOLINE	REGULAR GASOLINE	N	Y	N	N	90.0000		Pur		Fire	3	0	0	BBL	0	0	.719	NA	ETHANOL BLENDED AS TRUCKS LOADED.
		ETHANOL	N	Y	N	N	10.0000	00064-17-5	Mix	X	Pres	0								SALES 1993 = 5468 BBLS.
	CAS #								Sol		Reac	0								5.994 LBS/GAL.
									Liq	X	Imm	1								
									Gas		Del	1								
232	BRC OXY UNLEADED GASOLINE	UNLEADED GASOLINE	N	Y	N	N	90.0000		Pur		Fire	3	0	0	BBL	365	0	.721		ETHANOL BLENDED AS TRUCKS LOADED.
		ETHANOL	N	Y	N	N	10.0000	00064-17-5	Mix	X	Pres	0								SALES 1993 = 26570 BBLS.
	CAS #								Sol		Reac	0								6.016 LBS/GAL.
									Liq	X	Imm	1								
									Gas		Del	1								

CHEMICAL DESCRIPTION										INVENTORY							
MSDS	TRADE NAME	INGREDIENTS	E H S	O S H	C E R	T O X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
905	BRC POLY FEED	MIXTURE OF MOSTLY C3 & C4	N	Y	N	N	100.0000		Pur	Fire 4	2142	1532	BBL	365	559277	.550	TANKFARM	CAT/POLY UNIT WENT IN SERVICE ON 4/16/88. FEED TO
		PROPANE	N	Y	N	N		00074-98-6	Mix	X Pres 1							PRESS VESSEL	POLY UNIT. OLEFINS IN FEED CONVERTED TO POLY GAS.
	CAS #	PROPENE	N	Y	N	N		00115-07-1	Sol	Reac 0							817,818,819	4.58 LBS/GAL.
		BUTANE	N	Y	N	N		00106-97-8	Liq	X Imm 1							714 BBL EA	
		BUTENE	N	Y	N	N			Gas	X Del 0								
211	BRC POLY GASOLINE	COMPLEX MIXTURE OF HC'S	N	Y	N	N	100.0000	64741-72-6	Pur	Fire 3	0	0	BBL	365	0	.731	TANKFARM	STARTED PRODUCTION WITH CAT/POLY UNIT ON 4/16/88.
									Mix	X Pres 0							TK 12 BLEND	BLENDED INTO GASOLINE PRODUCTS. PRODUCTION MIXED
	CAS # 64741-72-6								Sol	Reac 0								WITH CAT GAS, SEE 983.
									Liq	X Imm 1								POLY GAS MADE IN 1993 = 259191 BBLS.
									Gas	Del 1								
983	BRC POLY/CAT GASOLINE	NAPHTHA, HVY CAT CRKED	N	Y	N	N	82.0000	64741-54-4	Pur	Fire 3	55000	25803	BBL	365	1439535	.728	TANKFARM	BRC INTERMEDIATE FROM FCCU AND CAT/POLY UNITS.
		NAPHTHA, POLYMN	N	Y	N	N	18.0000	64741-72-6	Mix	X Pres 0							TK 12 55000	CAT GAS=1180344 BBLS, POLY GAS=259191 BBLS.
	CAS # 64741-54-4	ETHYL BENZENE	N	Y	Y	Y	.9300	00100-41-4	Sol	Reac 0								BLENDED INTO GASOLINE PRODUCTS. 6.060 LBS/GAL.
		TOLUENE	N	Y	Y	Y	1.6400	00108-88-3	Liq	X Imm 1								
		XYLENE (MIXED)	N	Y	Y	Y	5.1300	01330-20-7	Gas	Del 1								
		1,2,4 TRIMETHYL BENZENE	N	N	N	Y	1.5600	00095-63-6										
		BENZENE	N	Y	Y	Y	.2400	00071-43-2										
202	BRC PREMIUM UNLEADED GASOLINE	COMPLEX MIXTURE OF HC'S	N	Y	N	N	100.0000		Pur	Fire 3	19883	8500	BBL	365	329149	.769	TANKFARM	BRC PRODUCT. 6.410 LBS/GAL.
		BENZENE	N	Y	Y	Y	3.2100	00071-43-2	Mix	X Pres 0							TK 32 20000	
	CAS #	ETHYL BENZENE	N	Y	Y	Y	2.9000	00100-41-4	Sol	Reac 0								
		TOLUENE	N	Y	Y	Y	13.7900	00108-88-3	Liq	X Imm 1								
		XYLENE (MIXED)	N	Y	Y	Y	17.1700	01330-20-7	Gas	Del 1								
		1,2,4 TRIMETHYL BENZENE	N	N	N	Y	3.0500	00095-63-6										

MSDS	TRADE NAME	INGREDIENTS	E H S	O C T H S E O R X	PERCENT	CAS #	FORM	TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
117	BRC PROPANE	MIXTURE OF MOSTLY C3'S	N Y N	N	100.0000	00074-98-6	Pur	Fire	4	1428	714	BBL	365	22894	.508	TANKFARM	4.236 LBS/GAL.
			N Y N	Y			Mix	X Pres	2							PRESS VESSEL	AMOUNT SOLD, OTHER INCLUDED WITH FUEL GAS.
	CAS # 00074-98-6						Sol	Reac	0							B15 714 BBL	
							Liq	X Imm	1							B16 714 BBL	
							Gas	X Del	0								
113	BRC REDUCED CRUDE, CAT FEED	COMPLEX MIXTURE OF HC'S	N N N	N	100.0000	64741-45-3	Pur	Fire	1	39413	14840	BBL	365	1893929	.883	TANKFARM	7.364 LBS/GAL.
							Mix	X Pres	0							TK 17 40000	FEED TO FCC UNIT, INCLUDES FCC SLOP.
	CAS # 64741-45-3						Sol	Reac	0							TK 20 5000	
							Liq	X Imm	2							TK 21 3000	
							Gas	Del	2								
123	BRC REFORMATE	COMPLEX MIXTURE OF HC'S	N Y N	N	100.0000	64741-68-0	Pur	Fire	3	50358	5007	BBL	365	1012161	.784	TANKFARM	INTERMEDIATE PRODUCT FROM THE REFORMER.
		BENZENE	N Y Y	Y	4.1000	00071-43-2	Mix	X Pres	0							TK 11	6.537 LBS/GAL.
	CAS # 64741-68-0	ETHYL BENZENE	N Y Y	Y	3.9000	00100-41-4	Sol	Reac	0							55000 BBL	
		TOLUENE	N Y Y	Y	14.6200	00108-88-8	Liq	X Imm	2								
		XYLENE (MIXED)	N Y Y	Y	23.1800	01330-20-7	Gas	Del	1								
		1,2,4 TRIMETHYL BENZENE	N N N	Y	4.4900	00095-63-6											
109	BRC REFORMER FEED, NAPHTHA	COMPLEX MIXTURE OF HC'S	N Y N	N	100.0000	64741-41-9	Pur	Fire	3	16870	10124	BBL	365	1250912	.752	TANKFARM	6.263 LBS/GAL.
		BENZENE	N Y Y	Y	2.1800	00071-43-2	Mix	X Pres	0							TANK 24	HVY NAPHTHA OF CRUDE UNIT, SOME DIRECT TO JP4.
	CAS # 64741-41-9	ETHYL BENZENE	N Y Y	Y	.9900	00100-41-4	Sol	Reac	0							10000 BBL	1237321 BBLS TO REFORMER, 13591 TO JP-4.
		TOLUENE	N Y Y	Y	2.6100	00108-88-3	Liq	X Imm	1							TANK 25	
		ZYLENE (MIXED)	N Y Y	Y	4.6900	01330-20-7	Gas	Del	1							10000 BBL	
		1,2,4 TRIMETHYL BENZENE	N N N	Y	.7600	00095-63-6											

MSDS	TRADE NAME	INGREDIENTS	EHS	OHR	CTE	OX	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
	CHEMICAL DESCRIPTION									INVENTORY								
124	BRC REGULAR GASOLINE	COMPLEX MIXTURE OF HC'S	N	Y	N	N	100.0000		Pur	Fire 3	16676	10250	BBL	365	412629	.723	TANKFARM	BRC PRODUCT. 0.1 GMS PB/GAL. 6.060 LBS/GAL.
		BENZENE	N	Y	Y	Y	2.9300	00071-43-2	Mix	X Pres 0							TK 22 1400	
	CAS #	ETHYL BENZENE	N	Y	Y	Y	1.7100	00100-41-4	Sol	Reac 0							TK 30 17000	
		LEAD	N	Y	Y	Y	.0005	07439-92-1	Liq	X Imm 1								
		TOLUENE	N	Y	Y	Y	6.9900	00108-88-3	Gas	Del 1								
		XYLENE (MIXED)	N	Y	Y	Y	10.0400	01330-20-7										
		1,2,4 TRIMETHYL BENZENE	N	N	N	Y	1.6400	00095-63-6										
906	BRC SATURATE LPG	MIXTURE OF MOSTLY C3'S	N	Y	N	N	100.0000		Pur	Fire 4	1428	714	BBL	365	230290	.516	TANKFARM	4.303 LBS/GAL.
		PROPANE	N	Y	N	N		00074-98-6	Mix	X Pres 1							PRESS VESSEL	
	CAS #	BUTANE	N	Y	N	N		00106-97-8	Sol	Reac 0							B22 714 BBL	
									Liq	X Imm 1							B23 714 BBL	
									Gas	X Del 0								
118	BRC SPENT CAUSTIC SODA SOLUTION	SODIUM HYDROXIDE	N	Y	Y	N	4.0000	01310-73-2	Pur	Fire 0	400	200	BBL	365	5011	1.180	TREATER	SOLD TO A PULP PAPER PLANT IN ARIZ. IF
		SODIUM SULFIDE	N	N	Y	N	9.0000		Mix	X Pres 0							TANK-10	DISPOSED IS A RCRA HAZARDOUS WASTE (PH 12.5 TO
	CAS # 64742-40-1	REACTIVE SULFIDES	N	N	Y	N	3.5000		Sol	Reac 1							400 BBL CAP.	TO 14) AND REACTIVE SULFIDES (AVG=35000PPM).
		WATER	N	N	N	N	87.0000	07732-18-5	Liq	X Imm 3								FROM MEROX SWEETENER & EXTRACTOR & TREATER.
		MEROX SOLUTION	N	N	N	Y			Gas	Del 0								TDS OF 241000 MG/L. IF WASTE CERCLA ONLY APPLIES.
		TOTAL SODIUM	N	N	N	N	8.0000											
		TOTAL SULFUR	N	N	N	N	5.0000											
910	BRC SULFUR	SULFUR	N	N	N	N	82.0000	07704-34-9	Pur	Fire 0	11300	5650	LBS	22	11300		HOPPER-SRU	BEGAN PRODUCING WITH SRU STARTUP ON 12/09/93.
		WATER	N	N	N	N	15.0000	07732-18-5	Mix	X Pres 0							PILE IN WEST	CUMULATIVE TOTAL THRU 12/31/93: 11,300 LBS.
	CAS # 07704-34-9	IRON CHELATES	N	N	N	N	3.0000		Sol	X Reac 0							END OF REFY	AMOUNT STORED ON SITE THRU 12/31/93: 11,300 LBS.
									Liq	Imm 0								AMOUNT SOLD THRU 12/31/93: 0 LBS.
									Gas	Del 0								AMOUNT DISPOSED OFF-SITE THRU 12/31/93: 0 LBS.

MSDS	TRADE NAME	INGREDIENTS	EHS	OSHA	CTEPA	TOXIC X	PERCENT	CAS #	FORM		TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
	CHEMICAL DESCRIPTION												INVENTORY							
122	BRC UNLEADED GASOLINE	COMPLEX MIXTURE OF HC'S	N	Y	N	N	100.0000		Pur		Fire	3	60399	27000	BBL	365	2496914	.728	TANKFARM	BRC PRODUCT. 6.075 LBS/GAL.
		BENZENE	N	Y	Y	Y	1.4000	00071-43-2	Mix	X	Pres	0							TANKS 13, 14	
	CAS #	ETHYL BENZENE	N	Y	Y	Y	1.4000	00100-41-4	Sol		Reac	0							30000 BBL EA	
		TOLUENE	N	Y	Y	Y	4.7300	00108-88-3	Liq	X	Imm	1							WAREHOUSE	
		XYLENE (MIXED)	N	Y	Y	Y	7.9900	01330-20-7	Gas		Del	1								
		1,2,4 TRIMETHYL BENZENE	N	N	N	Y	1.5300	00095-63-6												
909	BRC WASTEWATER	WATER	N	N	N	N	99.9000	07732-18-5	Pur		Fire	0	26667	26667	BBL	365	946400	1.000	SOWP 350000	DISCHARGE OFF API SEPARATOR. WATER IS TREATED IN
		BENZENE	N	Y	Y	Y	.0001	00071-43-2	Mix	X	Pres	0							NOWPW 440000	SOWP & NOWP TO REDUCE BENZENE TO LESS 0.5 PPM.
	CAS # 07732-18-5								Sol		Reac	0							NOWPE 330000	HAZARDOUS WASTE ON SEP 25, 1990 IF BENZ.>0.5PPM.
									Liq	X	Imm	0								
									Gas		Del	1								
106	CAUSTIC SODA SOLUTION 50%	SODIUM HYDROXIDE	N	Y	Y	N	50.0000	01310-73-2	Pur		Fire	0	135600	56484	LBS	365	422407	1.540	TREATER	12.76 LBS/GAL. USED IN MEROX TREATING.
		WATER	N	N	N	N	50.0000	07732-18-5	Mix	X	Pres	0							11000 GAL TK	AFTER DILUTION GOES TO DILUTE TANKS, SEE BRC
	CAS #								Sol		Reac	2								CAUSTIC DILUTE.
									Liq	X	Imm	3								
									Gas		Del	0								
901	CHEVRON RPM 15W40 DIESEL ENGINE OIL	MOTOR OIL	N	N	N	N	100.0000		Pur		Fire	0	25	25	GAL	365	20	.890	WAREHOUSE	
		HEAVY PARA. DISTILLATES	N	N	N	N	75.0000	64742-54-7	Mix	X	Pres	0							5 GAL PAIL	
	CAS #	HVY DEWAX PARA DISTLS	N	N	N	N	25.0000	64742-65-0	Sol		Reac	0								
		ZN ALKYL DITHIOPHOSPHATE	N	N	N	N	1.5000	68649-42-3	Liq	X	Imm	0								
									Gas		Del	0								

CHEMICAL DESCRIPTION										INVENTORY							
MSDS	TRADE NAME	INGREDIENTS	EHS	OHR	CSE	TOX	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
31	CHLORINE	CHLORINE	Y	Y	Y	Y	100.0000	07782-50-5	Pur X	Fire 0	4000	3000	LBS	365	13500	1.470	CT-1 2 EA 150 LB CYL	COOLING TOWER TREATMENT. RQ=10. TPQ=100.
	CAS # 07782-50-5								Mix	Pres 2							WAREHOUSE ALSO MAY KEEP TWO 150 LB CYLINDERS.	
									Sol	Reac 3							CT-2 2 EA 1 TN CYL	
									Liq	Imm 3								
									Gas X	Del 0								
74	CONOCO GASOLINE ADD. DMA-351	TRADE SECRET	N	Y	N	N	25.0000		Pur	Fire 2	2000	1000	GAL	365	0	.887	2000 GALLON BULK TK TERMINALS.	MAY BE KNOWN AS DMA-351. 7.38 LBS/GAL.
		HVY AROMATIC NAPHTHA	N	Y	N	N	20.0000	64742-94-5	Mix X	Pres 0								AMT USED INCLUDED WITH PRODUCTS.
	CAS #	TOLUENE	N	Y	Y	Y	35.0000	00108-88-3	Sol	Reac 0								
		BUTENE/ISOBU. COPOLYMER	N	N	N	N	30.0000	09044-17-1	Liq X	Imm 2								
		PETR DISTILLATES	N	Y	N	N	15.0000	64742-54-7	Gas	Del 2								
29	CRITERION CATALYST 444/544	ALUMINUM OXIDE	N	Y	N	Y	89.8000	01344-28-1	Pur	Fire 0	612	612	LBS	365	0		REFORMER	SPENT CATALYST DISPOSED BY RECLAMATION. NOT
		MOLYBDENUM TRIOXIDE	N	N	N	Y	8.0000	01313-27-5	Mix X	Pres 0								A RCRA WASTE IF NOT A FIRE HAZARD. SARA 313: TOXIC
	CAS #	COBALT OXIDE	N	N	N	N	2.2000	01307-96-9	Sol X	Reac 0								CHEMICAL AS COBALT COMPOUNDS. REACTOR HOLDS 1.75
									Liq	Imm 1								DRUMS AT 350 LBS/EA. 0.82 LBS/CC.
									Gas	Del 0								
46	CYLESSTIC TK 460	LUBRICATING OIL	N	N	N	N	100.0000		Pur	Fire 0	2	1	DRM	365	0	.920	BLDG EAST OF CONTROL ROOM	
									Mix X	Pres 0							WAREHOUSE-1	
	CAS #								Sol	Reac 0								
									Liq X	Imm 0								
									Gas	Del 0								

CHEMICAL DESCRIPTION										INVENTORY							
MSDS	TRADE NAME	INGREDIENTS	E H S	O S H	C E R	T O X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
919	CYLINDER ACETYLENE	ACETYLENE	N	Y	N	N	100.0000	00074-86-2	Pur X	Fire 4	7	5	CYL	365	9		WAREHOUSE	
									Mix	Pres 1							MAINT	
	CAS #								Sol	Reac 0							WELD	
									Liq	Imm 1								
									Gas X	Del 0								
923	CYLINDER ARGON	ARGON	N	Y	N	N	100.0000	07440-37-1	Pur X	Fire 0	3	2	CYL	365	20		WAREHOUSE	
									Mix	Pres 1							LAB	
	CAS #								Sol	Reac 0								
									Liq	Imm 1								
									Gas X	Del 0								
925	CYLINDER CARBON DIOXIDE	CARBON DIOXIDE	N	Y	N	N	100.0000	00124-38-9	Pur X	Fire 0	5	4	CYL	365	2		WAREHOUSE	
									Mix	Pres 1							INSTR AIR	
	CAS #								Sol	Reac 0								
									Liq	Imm 1								
									Gas X	Del 0								
922	CYLINDER HELIUM	HELIUM	N	Y	N	N	100.0000	07440-59-7	Pur X	Fire 0	3	2	CYL	365	18		WAREHOUSE	
									Mix	Pres 1							LAB	
	CAS #								Sol	Reac 0								
									Liq	Imm 1								
									Gas X	Del 0								

CHEMICAL DESCRIPTION										INVENTORY								
MSDS	TRADE NAME	INGREDIENTS	E H S	O S H	C E R	T O X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
913	CYLINDER HYDROGEN	HYDROGEN	N	Y	N	N	100.0000	01333-74-0	Pur X	Fire 4	3	2	CYL	365	5		WAREHOUSE	
									Mix	Pres 1							LAB	
	CAS #								Sol	Reac 0								
									Liq	Imm 1								
									Gas X	Del 0								
924	CYLINDER HYDROGEN/HELIUM MIX	HYDROGEN	N	Y	N	N	50.0000	01333-74-0	Pur	Fire 4	2	2	CYL	365	0		WAREHOUSE	
		HELIUM	N	N	N	N	50.0000	07440-59-7	Mix X	Pres 1							LAB	
	CAS #								Sol	Reac 0								
									Liq	Imm 1								
									Gas X	Del 0								
156	CYLINDER NITROGEN	NITROGEN	N	N	N	N	100.0000	07727-37-9	Pur X	Fire 0	50	30	CYL	365	144	.967	WAREHOUSE	
									Mix	Pres 0							PLANTWIDE	
	CAS # 07727-37-9								Sol	Reac 0								
									Liq	Imm 0								
									Gas X	Del 0								
921	CYLINDER NITROUS OXIDE	NITROUS OXIDE					99.0000		Pur	Fire	1	1	CYL	365	0			
									Mix	Pres								
	CAS #								Sol	Reac								
									Liq	Imm								
									Gas	Del								

CHEMICAL DESCRIPTION										INVENTORY								
MSDS	TRADE NAME	INGREDIENTS	E H S	O S H	C R E	T O X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
920	CYLINDER OXYGEN	OXYGEN	N	N	N	N	100.0000	07782-44-7	Pur X	Fire 0	12	10	CYL	365	51		WAREHOUSE	
									Mix	Pres 0							UNITS	
	CAS #								Sol	Reac 0								
									Liq	Imm 0								
									Gas X	Del 0								
937	DOW CA-100, ADDITIVE	PROPRIETARY ADDITIVE	N	Y	N	N	45.0000		Pur	Fire 0	550	550	GAL	49	0	1.250	PORTAFEED-1	NEW CHEMICAL FOR SRU. STARTED USING 12/9/93.
		WATER	N	N	N	N	55.0000	07732-18-5	Mix X	Pres 0							550 GALS.	
	CAS #								Sol	Reac 0							SRU CHM BLDG	
									Liq X	Imm 1								
									Gas	Del 0								
938	DOW CA-2102, SULFUR COND. AGENT	PROPRIETARY INGREDIENTS	N	N	N	N	100.0000		Pur	Fire 0	550	550	GAL	49	0	.998	PORTAFEED-1	NEW CHEMICAL USED IN SRU. STARTED USING 12/9/93.
									Mix X	Pres 0							550 GALS.	
	CAS #								Sol	Reac 0							SRU CHM BLDG	
									Liq X	Imm 0								
									Gas	Del 0								
939	DOW CA-299, SULFUR COND. AGENT	GLYCOL ETHER	N	N	Y	Y	10.5000		Pur	Fire 0	550	550	GAL	49	0	1.020	PORTAFEED-1	NEW CHEMICAL USED IN SRU. STARTED USING 12/9/93.
		ETHANOL	N	Y	N	N	.1000	00064-17-5	Mix X	Pres 0							550 GALS.	
	CAS #	SURFACTANTS	N	N	N	N			Sol	Reac 0							SRU CHM BLDG	
		WATER	N	N	N	N	55.0000	07732-18-5	Liq X	Imm 0								
									Gas	Del 1								

CHEMICAL DESCRIPTION									INVENTORY							
MSDS	TRADE NAME	INGREDIENTS	E H S	O C T H R X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
935	*DOW IC-110, IRON CHELATE MIXTURE*	PROPRIETARY CHELANTS	N	Y N N	26.0000		Pur	Fire 0	2500	2500	GAL	49	0	1.225	2500 GAL TK	NEW CHEMICAL NEEDED WITH SRU. STARTED USING 12/9/9
		SODIUM NITRATE	N	N N N	16.0000	07631-99-4	Mix	X Pres 0							SRU CHM BLDG	
	CAS #	AMMONIUM NITRATE	N	N N Y	1.0000	06484-52-2	Sol	Reac 0								
		SODIUM GLYCOLATE	N	N N N	1.0000	02836-32-0	Liq	X Imm 1								
		WATER	N	N N N	56.0000	07732-18-5	Gas	Del 1								
936	DOW IC-210, GAS COND. CHELANT	PROPRIETARY CHELANTS	N	Y N N	41.0000		Pur	Fire 0	2500	2500	GAL	49		1.330	2500 GAL TK	NEW CHEMICAL REQUIRED IN SRU. STARTED USING 12/9/9
		SODIUM HYDROXIDE	N	Y Y N	1.0000	01310-73-2	Mix	X Pres 0							SRU CHM BLDG	
	CAS #	SODIUM GLYCOLATE	N	N N N	2.0000	02836-32-0	Sol	Reac 0								
		DEIONIZED WATER	N	N N N	56.0000	07732-18-5	Liq	X Imm 1								
							Gas	Del 1								
201	DU PONT ANTIOXIDANT NO. 22	N,N' DI-SEC.BUTLYL-P-					Pur	X Fire 0	2	1	DRM	365	1	.940	WAREHOUSE-1	POLY UNIT ADDITIVE.
		PHENYLENE DIAMINE	N	N N N	100.0000	00101-96-2	Mix	Pres 0							CAT/POLY-1	
	CAS # 00101-96-2						Sol	Reac 0								
							Liq	X Imm 1								
							Gas	Del 0								
26	DU PONT OIL BRONZE DYE	XYLENE	N	Y Y Y	40.0000	01330-20-7	Pur	Fire 3	960	480	LBS	365	480	.980	240 LB DRUMS	USED TO DYE LEADED GASOLINE.
		ETHYL BENZENE	N	Y Y Y	7.6000	00100-44-4	Mix	X Pres 0							WAREHOUSE-1	100 LB RELEASE MAY TRIGGER CERCLA 103.
	CAS #	AZO ALKYL, SECRET	N	N N N	27.0000		Sol	Reac 0							LEAD BLDG-1	
		ALKYL PHENYL	N	N N N	33.0000	29190-28-1	Liq	X Imm 2								
		BENZENE	N	Y Y Y	.0400	00071-43-2	Gas	Del 2								

CHEMICAL DESCRIPTION										INVENTORY							
MSDS	TRADE NAME	INGREDIENTS	E H S	O S	C H	T O X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
930	DU PONT STADIS 425	KEROSENE	N	N	N	N	70.0000	08008-20-6	Pur	Fire 3	2	1	DRM	365	1	.850	ESP-1	DIESEL ADDITIVE.
		TOLUENE	N	Y	Y	Y	20.0000	00108-88-3	Mix X	Pres 0							W/H-1	
	CAS #	BENZENE	N	Y	Y	Y	.0170	00071-43-2	Sol	Reac 0								
		AROMATIC SOLVENTS	N	Y	Y	Y	7.0000	64742-94-5	Liq X	Imm 2								
		DODECYL BENZ SULF ACID	N	N	Y	N	8.0000	27176-87-0	Gas	Del 1								
		TRADE SECRETS	N	N	N	N	15.0000											
20	DU PONT STADIS 450 COND. IMPRV.	TOLUENE	N	Y	Y	Y	65.0000	00108-88-3	Pur	Fire 3	2	1	DRM	365	1	.910	BETW TKS	ADDITIVE FOR JP-4 AND KEROSENE TO REDUCE STATIC.
		ISOPROPYL ALCOHOL	N	Y	N	Y	5.0000	00067-63-0	Mix X	Pres 0							3 & 4	
	CAS #	AROMATIC SOLVENTS	N	Y	Y	Y	10.0000	64742-94-5	Sol	Reac 0							WAREHOUSE	
		SECRET	N	N	N	N	30.0000		Liq X	Imm 2								
		BENZENE	N	Y	Y	Y	.0595	00071-43-2	Gas	Del 1								
		DODECYL BENZ SULF ACID	N	N	Y	N	10.0000	27176-87-0										
88	DU PONT TETRAETHYL/TETRAMETHYL LEAD	LEAD ALKYLS	Y	Y	Y	N	62.0000	00078-00-2	Pur	Fire 3	19000	13698	LBS	365	8670	1.500	LEAD BLDG	USED AS ADDITIVE FOR LEADED GASOLINE.
		ETHYLENE DIBROMIDE	N	Y	Y	Y	36.0000	00106-93-4	Mix X	Pres 0							WEIGH TANK	179GMS.PB./453.6GMS.TEL. MAX PB=7498LBS.
	CAS #	ETHYLENE DICHLORIDE	N	Y	Y	Y	19.0000	00107-06-2	Sol	Reac 1								AVG PB=5406LBS, USED PB=3421LBS.
		SOLVENT, ANTIOXIDANT, DYE							Liq X	Imm 2								
		& INERTS	N	N	N	N	12.5100		Gas	Del 2								
		LEAD					39.4600											
		KEROSENE					3.0000	08008-20-6										
207	DUPONT OIL RED B LIQUID DYE	XYLENE	N	Y	Y	Y	35.0000	01330-20-7	Pur	Fire 3	1180	940	LBS	365	480	1.000	WAREHOUSE-1	PREMIUM UNLEADED GASOLINE DYE. 8.33 LBS/GAL.
		ETHYL BENZENE	N	Y	Y	Y	6.7000	00100-41-4	Mix X	Pres 0							TANK 32-1	
	CAS #	BENZENE	N	Y	Y	Y	.0350	00071-43-2	Sol	Reac 0							240LB DRUMS	
		AZO ALKYL	N	N	N	N	58.0000	71819-51-7	Liq X	Imm 1							TERM-1/55GL	
		ANILINE	Y	Y	Y	Y	.0300	00062-53-3	Gas	Del 1								
		O-TOLUIDINE	N	Y	Y	Y	.0300	00095-53-4										

CHEMICAL DESCRIPTION										INVENTORY							
MSDS	TRADE NAME	INGREDIENTS	E H S	O S H	C R	T X	PERCENT	CAS #	FORM	TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
235	ETHANOL, 200 PROOF	ETHYL ALCOHOL	N	Y	N	N	95.0000	00064-17-5	Pur	Fire	3	1751	533	BBL	256	4078	.791	TK 44 AT	GASOLINE OXYGENATOR. BLENDED DIRECTLY INTO TRUCKS
		NATURAL GASOLINE	N	Y	N	N	5.0000	08006-61-9	Mix	X Pres	0							TERMINALS OF	WHILE LOADING. 6.591 LBS/GAL.
	CAS #								Sol	Reac	0							2000 BBLS.	ETHANOL BLENDED JAN 1 TO SEP 13, 1993. SEE MTBE.
									Liq	X Imm	1								
									Gas	Del	1								
72	ETHYL MMT	METHYLCYCLOPENTADIENYL MANGANESE TRICARBONYL	Y	Y	N	N	100.0000	12108-13-3	Pur	X Fire	1	3840	2113	LBS	243	3841	1.380	2000 GAL TK	11.5 LBS/GAL. OCTANE BOOSTER ADDITIVE FOR GASOLINE
									Mix	Pres	0							NEXT TO LEAD	111GMS MN/453.6 GMS COMPOUND. MANGANESE=940LBS MAX
	CAS # 12108-13-3	MANGANESE					24.5000		Sol	Reac	0							BUILDING	MN = 517 LBS AVE, MN = 940 LBS USED IN 1993.
									Liq	X Imm	3								OUT OF CHEMICAL IN AUG, 1993.
									Gas	Del	1								
247	EXXON SYNESSTIC 100 OIL	LUBE OIL	N	N	N	N	100.0000		Pur	Fire	0	2	2	DRM	365	25		WAREHOUSE-2	OIL FOR WET GAS COMPRESSOR.
									Mix	X Pres	0							BLDG NEAR	
	CAS #								Sol	Reac	0							CNTL RM-1	
									Liq	X Imm	0								
									Gas	Del	0								
248	EXXON SYNESSTIC 68	LUBE OIL	N	N	N	N	100.0000		Pur	Fire	0	2	2	DRM	365	0		WAREHOUSE-2	USED FOR INSTRUMENT COMPRESSOR.
									Mix	X Pres	0							INSTR AIR	
	CAS #								Sol	Reac	0							DRYER-1	
									Liq	X Imm	0								
									Gas	Del	0								

CHEMICAL DESCRIPTION									INVENTORY								
MSDS	TRADE NAME	INGREDIENTS	EHS	OHR	CTX	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
243	EXXON XD30 MOTOR OIL	ENGINE OIL	N N N	N		100.0000		Pur	Fire	3	2	DRM	365	0		WAREHOUSE-1	
								Mix	X Pres							S.FIREHS-1	
	CAS #							Sol	Reac							W.FIREHS-1	
								Liq	X Imm								
								Gas	Del								
166	FCCU FLUID CRACKING CATALYST, AKZO	METALLIC OXIDE, SECRET	N Y N	N		20.0000		Pur	Fire	0	150	100	TON	365	193	.875	FCC RX	SEE MSDS 966 FOR FINES.
		SILICON DIOXIDE	N Y N	N		30.0000	07631-86-9	Mix	X Pres	0							FRESH HOPPER	AMOUNT DISPOSED ON-SITE: 41 TONS.
	CAS #	KAOLIN	N Y N	N		60.0000	01332-58-7	Sol	X Reac	0							EQ. HOPPER	AMOUNT OF CATALYST SOLD: 116 TONS.
		SILICA (QUARTZ)	N N N	N		1.0000	14808-60-7	Liq	Imm	1							REGEN HOPPER	TONS IN PRODUCT OR OUT STACK: 36 TONS.
								Gas	Del	0								
236	GLYCOL ETHER DM - JET FUEL GRADE	DIETHYLENE GLYCOL MONOMETHYL ETHER	N N N	N		99.0000	00111-77-3	Pur	X Fire	2	50000	19247	LBS	365	214294	1.020	BULK TK IN TREATER	JP-4 DE-ICING ADDITIVE. 8.5 LBS/GAL.
	CAS # 00111-77-3	1,2-ETHANEDIOL	N Y Y	Y		.5000	00107-21-1	Mix	Pres	0							V-314	
		2-METHOXY-ETHANOL	N Y N	Y		.5000	00109-86-4	Sol	Reac	0								
		METHANOL	N Y Y	Y		.1000	00067-56-1	Liq	X Imm	0								
		ACETIC ACID	N Y Y	N		.0100	00064-19-7	Gas	Del	1								
239	HOTSY SOAP	ETHYLENE GLYCOL MONOBUTYL ETHER	N Y N	N		20.0000	00111-76-2	Pur	Fire	1	55	55	GAL	365	55	1.030	55 GAL-SHOP	USED TO CLEAN EQUIPMENT.
	CAS #	ALCOHOL ETHOXYLATE	N Y N	N		30.0000	52623-95-7	Mix	X Pres	0								
								Sol	Reac	0								
								Liq	X Imm	2								
								Gas	Del	2								

CHEMICAL DESCRIPTION										INVENTORY							
MSDS	TRADE NAME	INGREDIENTS	E H S	O S	C R	T O X	PERCENT	CAS #	FORM	TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
241	HYDRAULIC FLUID, BAFCO	OIL	N	N	N	N	100.0000		Pur	Fire	0	25	25	GAL	365	45	1.000	5 GAL BKTS IN SHOP	
	CAS #								Mix	X Pres	0								
									Sol	Reac	0								
									Liq	X Imm	0								
									Gas	Del	0								
973	HYDROTREATING CATALYST, DIESEL	STODDARD SOLVENT	N	Y	N	N	20.0000	08052-41-3	Pur	Fire	0	21500	21500	LBS	90	0		HDS REACTOR	PRESULFIDED CATALYST BY EURECAT. RECYLCED 444.
		OXYSULFIDES	N	Y	N	N	13.0000	68425-16-1	Mix	X Pres	0								.65 GM/CC. HDS STARTED UP OCT/93.
	CAS #	ALUMINUM OXIDE	N	Y	N	Y	90.0000	01344-28-1	Sol	X Reac	0								
		MOLYBDENUM OXIDE	N	N	N	N	8.0000	01313-27-5	Liq	Imm	0								
		COBALT OXIDE	N	N	N	N	2.0000	01307-96-6	Gas	Del	0								
28	HYDROTREATING CATALYST, NAPHTHA	ALUMINUM OXIDE	N	Y	N	Y	88.0000	01344-28-1	Pur	Fire	0	4175	4175	LBS	365	0		WAREHOUSE-1 REFORMER	SPENT CATALYST DISPOSED BY RECLAMATION. NOT A
		MOLYBDENUM TRIOXIDE	N	N	N	Y	18.0000	01313-27-5	Mix	X Pres	0								A RCRA WASTE IF NOT FIRE HAZARD. SARA 313: TOXIC
	CAS #	COBALT OXIDE	N	N	N	N	7.0000	01307-96-9	Sol	X Reac	0								CHEMICAL AS COBALT COMPOUNDS. 3350 LBS IN REACTOR.
		NICKEL OXIDE	N	Y	N	N	.3000	01313-99-1	Liq	Imm	1								AKZO-742-3Q, KF542-9R, KF742-5.4Q.
		SILICON DIOXIDE	N	Y	N	N	3.0000	07631-86-9	Gas	Del	0								
		TITANIUM DIOXIDE	N	Y	N	N	.4000	13463-67-7											
		INORGANIC ALUMINUM COMPLX	N	N	N	N	.3000												
153	INTERCAT COP 550 PROMOTER	ALUMINUM OXIDE	N	Y	N	Y	99.9100	01344-28-1	Pur	Fire	0	350	300	LBS	365	900	.875	WRHSE-4 BKTS CNTRM-1 BKT	COMES IN 50 LB BUCKETS WITH 10 EA 5 LB BAGS PER BUC
		NOBLE METAL					.0900		Mix	X Pres	0								
	CAS #								Sol	X Reac	0								
									Liq	Imm	1								
									Gas	Del	0								

CHEMICAL DESCRIPTION									INVENTORY							
MSDS	TRADE NAME	INGREDIENTS	E H S	O S H	C R E	T X O	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
907	JOHN DEERE HYDRAULIC OIL	HYDRAULIC OIL	N	N	N	N	100.0000		Pur Mix X Sol Liq X Gas	Fire 0 Pres 0 Reac 0 Imm 0 Del 0	10	10	GAL	365	0		WAREHOUSE	FOR BACKHOE.
	CAS #																	
41	MARVEL MYSTERY OIL	SOLVENTS	N	Y	N	N	30.0000		Pur Mix X Sol Liq X Gas	Fire 1 Pres 0 Reac 0 Imm 1 Del 1	4	3	GAL	365	6	.900	TOOLROOM	USED IN TOOLROOM FOR OILING EQUIPMENT.
	CAS #																	
974	MEROX WS REAGENT	COBALT COMPOUND	N	N	Y	Y	28.0000		Pur Mix X Sol Liq X Gas	Fire 0 Pres 0 Reac 0 Imm 1 Del 1	8	8	GAL	365	6	1.160	1 GAL BTLS W/H-8 BTLS	NO SARA REQUIREMENTS.
		WATER	N	N	N	N	72.0000	07732-18-5										
	CAS #																	
105	METHYL ALCOHOL, METHANOL	METHANOL	N	Y	Y	Y	100.0000	00067-56-1	Pur X Mix Sol Liq X Gas	Fire 3 Pres 0 Reac 0 Imm 1 Del 0	6	4	DRM	365	11	.792	WAREHOUSE, FCCU, REFRM, TERMINALS	MOST USED AS INJECTION INTO FCCU. USED FOR ANTI-ICING AT TERMINALS.
	CAS # 00067-56-1																	

MSDS	TRADE NAME	INGREDIENTS	E H S	O S H	C E R	T O X	PERCENT	CAS #	FORM		TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
	CHEMICAL DESCRIPTION																			
242	MONOSODIUM PHOSPHATE	MONOSODIUM PHOSPHATE	N	N	Y	N	100.0000	07558-80-7	Pur	X	Fire	0	1000	500	LBS	365	2650		50 LB SACKS	USED IN POLY UNIT TO ADJUST THE pH OF WASH WATER.
									Mix		Pres	0							IN WAREHOUSE	ALSO KNOWN AS SODIUM DIHYDROGEN PHOSPHATE
	CAS #								Sol	X	Reac	0							POLY-8 SACKS	
									Liq		Imm	0								
									Gas		Del	0								
908	MTBE	METHYL TERT. BUTYL ETHER	N	N	N	Y	100.0000	01634-04-4	Pur	X	Fire	3	1751	688	BBL	109	5521	.746	TK 44	6.22 LBS/GAL.
									Mix		Pres	0							TERMINALS	BLENDED DIRECTLY INTO GASOLINE WHILE LOADING.
	CAS # 01634-04-4								Sol		Reac	0							2000 BBLS	BLENDED IN GASOLINE SEP 14 TO DEC 31, 1993.
									Liq	X	Imm	1								
									Gas		Del	0								
189	NALCO 5330	HVY AROMATIC NAPHTHA	N	Y	N	N	40.0000	68603-08-7	Pur		Fire	2	800	318	GAL	151	1080	.940	400 GAL.	PORT-A-FEED TANK.
		NAPHTHALENE	N	Y	Y	Y	10.0000	00091-20-3	Mix	X	Pres	0							PORTAFEEDS	ADDITIVE FOR CORROSION INHIBITING.
	CAS #	ETHYL BENZENE	N	Y	Y	Y	10.0000	00100-41-4	Sol		Reac	0							2 AT LEADHS	STOPPED USING MAY/1993.
		XYLENE	N	Y	Y	Y	10.0000	01330-20-7	Liq	X	Imm	2								
		ALKYL IMIDE	N	N	N	N	5.0000		Gas		Del	2								
225	NALCO 5403 CORROSION INHIBITOR	HVY NAPHTHA	N	Y	N	N	70.0000	64742-94-5	Pur		Fire	2	2	2	DRM	365	5	.930	BETWEEN	ADDED TO JP-4. 7.7 LBS/GAL.
		1,2,4-TRIMETHYLBENZENE	N	Y	N	Y	5.0000	00095-62-6	Mix	X	Pres	0							TANKS 3 & 4	
	CAS #	NAPHTHALENE	N	Y	Y	Y	10.0000	00091-20-3	Sol		Reac	0							WH-1	
									Liq	X	Imm	1								
									Gas		Del	0								

CHEMICAL DESCRIPTION										INVENTORY								
MSDS	TRADE NAME	INGREDIENTS	EHS	OSHA	CERCLA	TOXIC X	PERCENT	CAS #	FORM	TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
200	NALCO 71-D5 ANTIFOAM	KEROSENE	N	Y	N	N	20.0000	08008-20-6	Pur	Fire	0	1000	662	GAL	365	378	.855	400 GAL. PORTAFEEDS 1 AT EA. CT WAREHOUSE-1	7.1 LBS/GAL. RCRA: NA. SARA 302: NA.
		MINERAL OIL	N	N	N	N			Mix	X Pres	0								
	CAS #	FATTY ACIDS	N	N	N	N			Sol	Reac	0								
		POLYGLYCOLS	N	N	N	N			Liq	X Imm	1								
		POLY ESTER	N	N	N	N			Gas	Del	0								
		OXYALKYLATE	N	N	N	N													
		DISTILLATES	N	Y	N	N	70.0000	64741-44-2											
223	NALCO 7344 CHLORINE STABILIZER	SODIUM HYDROXIDE	N	Y	Y	N	1.0000	01310-73-2	Pur	Fire	0	1000	802	GAL	365	247	1.200	400 GAL. PORTAFEEDS 1 AT EA. CT WAREHOUSE-1	9.8 LBS/GAL. pH=13.5.
		WATER	N	N	N	N		07732-18-5	Mix	X Pres	0								
	CAS #	SULFAMATE							Sol	Reac	0								
		CARBOXYLATE							Liq	X Imm	2								
		POLYGLYCOL							Gas	Del	0								
149	NALCO 7356 CORROSION INHIBITOR	PHOSPHORIC ACID	N	Y	Y	Y	10.0000	07664-38-2	Pur	Fire	0	600	639	GAL	365	1747	1.110	200 GAL. PORTAFEEDS 1 AT EA. CT WAREHOUSE-1	9.2 LBS/GAL. pH=0.7.
		ZINC CHLORIDE	N	Y	Y	Y	5.0000	07646-85-7	Mix	X Pres	0								
	CAS #								Sol	Reac	0								
									Liq	X Imm	1								
									Gas	Del	0								
116	NALCO 750 BOILER ANTIFOAM	MONOBUTYL ETHERS	N	N	N	N			Pur	Fire	0	1	1	DRM	365	0	1.030	WAREHOUSE-1 #5 BOILER-1	8.6 LBS/GAL. pH=10.
		WATER	N	N	N	N		07732-18-5	Mix	X Pres	0								
	CAS #	SODIUM HUMATE							Sol	Reac	0								
									Liq	X Imm	1								
									Gas	Del	0								

CHEMICAL DESCRIPTION										INVENTORY						
MSDS	TRADE NAME	INGREDIENTS	E H S	O S	C H	T O X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
151	NALCO 8302 DISPERSANT	SODIUM HYDROXIDE	N	Y	Y	N	10.0000	01310-73-2	Pur	Fire 0	1000	689	GAL	365	1381	1.090	400 GAL.	9.1 LBS/GAL. pH=13.2. RCRA: D002. RQ=69000 LBS.
		CARBOXYLATE							Mix	X Pres 0							PORTAFEEDS	SARA 302: NA. SARA 313: YES IF NAOH.
	CAS #	TRIAZOLE							Sol	Reac 0							1 AT EA. CT	ALSO KEEP 1 BACKUP DRUM IN WAREHOUSE.
		ACRYLATE POLYMER							Liq	X Imm 1							WAREHOUSE-1	
		WATER	N	N	N	N		07732-18-5	Gas	Del 0								
900	NALCO ELIMINOX O2 SCAVENGER	AMINO COMPOUND	N	N	N	N			Pur	Fire 0	800	578	GAL	365	293	1.020	400 GAL	8.5 LBS/GAS.
		WATER	N	N	N	N		07732-18-5	Mix	X Pres 0							PORTAFEED	NON-HAZARDOUS IF A WASTE.
	CAS #	CARBOHYDRAZIDE	N	N	N	N		00497-18-7	Sol	Reac 0							BOILERHOUSE	
									Liq	X Imm 0								
									Gas	Del 0								
157	NALCO FARMLAND 6000 DIESEL ADDITIVE	PROPRIETARY CHEMICAL	N	Y	N	N	60.0000		Pur	Fire 3	10000	1500	GAL	365	0	.910	TK 10000 GAL	AMOUNT USED LAST YEAR INCLUDED WITH PRODUCT TOTALS.
		HVY AROMATIC NAPHTHA	N	Y	N	N	40.0000	74742-94-5	Mix	X Pres 0							TERMINALS	
	CAS #								Sol	Reac 0								
									Liq	X Imm 1								
									Gas	Del 1								
17	NALCO TRANSPORT PLUS 7200	ACRYLAMIDE POLYMER	N	N	N	N			Pur	Fire 0	800	587	GAL	365	1613	1.180	400 GAL.	RCRA: NA. SARA 302: NA. SARA 311 & 312: NO
		ACRYLATE POLYMER	N	N	N	N			Mix	X Pres 0							PORTAFEEDS	9.7 LBS/GAL. pH=10.2.
	CAS #	CARBOXYLATE	N	N	N	N			Sol	Reac 0							BOILERHS-1	BOILER FEED WATER AND WASTE GAS BOILER.
		WATER	N	N	N	N		07732-18-5	Liq	X Imm 0							WAREHOUSE-1	ALSO KEEP ONE 55 GAL DRUM IN WAREHOUSE FOR EMERGENC
									Gas	Del 0								

CHEMICAL DESCRIPTION										INVENTORY							
MSDS	TRADE NAME	INGREDIENTS	E H S	O C T H R E O X	PERCENT	CAS #	FORM	TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
59	NALCO TRI-ACT 1802 CORROSION INHIBITOR	ETHOXYLATED AMINE	N	Y N N	5.0000	61790-85-0	Pur	Fire	2	1000	772	GAL	365	586	.960	400 GAL.	RCRA WASTE: D001, D002. pH=13.3. CERCLA SPILL: NA.
		METHOXYPROPYLAMINE	N	Y N N	20.0000	05332-73-0	Mix	X Pres	0							PORTAFEED	SARA 302: RELEASE OF 10 LBS IS REPORTABLE. TPQ FOR
	CAS #	ETHANOLAMINE	N	Y N N	20.0000	00141-43-5	Sol	Reac	0							BOILERHS-1	CYCLOHEXYLAMINE IS 10,000 LBS.
		CYCLOHEXYLAMINE	Y	Y N N	20.0000	00108-91-8	Liq	X Imm	3							FCC BOILR-1	STEAM SYSTEM ADDITIVE. BH1802 & FG1802.
		WATER	N	N N N	35.0000	07732-18-5	Gas	Del	0							WAREHOUSE-1	KEEP ONE 55 GAL DRM IN WAREHOUSE FOR EMERGENCY.
22	NALCOLYTE 8157 COAGULATE	POLYMINE	N	N N N			Pur	Fire	1	3	2	DRM	365	11	1.100	WAREHOUSE-1	USED IN FILTERED WATER.
		WATER	N	N N N		07732-18-5	Mix	X Pres	0							RIVER PUMP	
	CAS #						Sol	Reac	0								
							Liq	X Imm	0								
							Gas	Del	0								
104	NEUTRA RUST 661 PAINT	WATER	N	N N N	30.0000	07732-18-5	Pur	Fire	3	2	2	GAL	365	0	1.190	TOOLROOM	
		ISOPROPYL ALCOHOL	N	Y N Y	8.0000	00067-63-0	Mix	X Pres	0								
	CAS #	ADDITIVES	N	N N N	2.0000		Sol	Reac	0								
		BUTYL ETHOXEL	N	Y N N	2.0000		Liq	X Imm	1								
		VINYL COPOLYMER LATEX	N	N N N			Gas	Del	0								
11	PENNZOIL MOTOR OIL	HYDROCARBON LUBRICANT	N	N N N	100.0000		Pur	Fire	0	2	2	DRM	365	1	.878	MAINT SHOP	
							Mix	X Pres	0							WAREHOUSE	
	CAS #						Sol	Reac	0								
							Liq	X Imm	0								
							Gas	Del	0								

CHEMICAL DESCRIPTION									INVENTORY							
MSDS	TRADE NAME	INGREDIENTS	E H S	O S H	C E O	T R X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
148	PHILLIPS ASTM REFERENCE FUEL-80 OCTANE	N-HEPTANE	N	Y	N	N	20.0000	00142-82-5	Pur	Fire 3	2	1	DRM	365	1	.694	WAREHOUSE-1	USED FOR KNOCK TESTS.
		ISOOCTANE	N	Y	N	N	80.0000	00540-84-1	Mix X	Pres 0							KNOCK-1	
	CAS #								Sol	Reac 0								
									Liq X	Imm 1								
									Gas	Del 0								
970	PHILLIPS GASOLINE ADDITIVE	CHEMICAL MIXTURE	N	Y	Y	Y	100.0000		Pur	Fire 2	560	280	GAL	365	0	.800	560 GAL TK	ALSO CALLED SUPERCLEAN.
									Mix X	Pres 0							TERMINALS	AMOUNT IS INCLUDED IN PRODUCT.
	CAS #								Sol	Reac 0								
									Liq X	Imm 1								
									Gas	Del 1								
34	PHILLIPS ISOOCTANE REF. FUEL	ISOOCTANE	N	Y	N	N	100.0000	00540-84-1	Pur X	Fire 3	2	1	DRM	365	1	.700	KNOCK-1	USED FOR KNOCK TESTING.
									Mix	Pres 0							WAREHOUSE-1	
	CAS # 00540-84-1								Sol	Reac 0								
									Liq X	Imm 1								
									Gas	Del 0								
971	PHILLIPS REFERENCE FUEL, TOLUENE	TOLUENE	N	Y	Y	Y	99.9000	00108-88-3	Pur X	Fire 3	10	5	GAL	365	5	.871	5 GAL CAN	USED IN GASOLINE KNOCK TESTING.
		BENZENE	N	Y	Y	Y	.1000	00071-43-2	Mix	Pres 0							LAB - 1	
	CAS # 00108-88-3								Sol	Reac 0							W/H - 1	
									Liq X	Imm 1								
									Gas	Del 1								

CHEMICAL DESCRIPTION									INVENTORY						
MSDS	TRADE NAME	INGREDIENTS	E H S	O C T S E O H R X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
972	PHILLIPS REFERENCE FUEL-N-HEPTANE CAS # 00142-82-5	N-HEPTANE	N	Y N N	100.0000	00142-82-5	Pur X Mix Sol Liq X Gas	Fire 3 Pres 0 Reac 0 Imm 1 Del 0	10	5	GAL	365	5	.688	5 GAL CAN LAB - 1 W/H - 1	USED IN LAB FOR GASOLINE KNOCK TESTING.
911	PHILLIPS SCENTINEL A CAS # 00075-08-1	ETHYL MERCAPTAN	N	Y N N	100.0000	00075-08-1	Pur X Mix Sol Liq X Gas	Fire 2 Pres 0 Reac 0 Imm 1 Del 0	75	40	GAL	365	55	.845	200 GAL TK TERMINALS	ODORENT FOR PRODUCT.
918	POLYVIS 06SH CAS #	LUBE OIL	N	N N N	100.0000		Pur Mix X Sol X Liq X Gas	Fire 0 Pres 0 Reac 0 Imm 0 Del 0	1	1	DRM	365	0		REFORMER	USED IN TRIPLEX PUMP H2 COMPRESSOR.
77	SAFETY-KLEEN SOLVENT CAS #	PETROLEUM NAPHTHA ADDITIVE DYES	N N	Y Y Y N N N	99.9970 .0030	08006-61-9	Pur Mix X Sol Liq X Gas	Fire 1 Pres 0 Reac 0 Imm 1 Del 0	86	86	LBS	365	2117	.775	SHOP	SOLVENT THAT IS PROVIDED BY SAFETY-CLEAN FOR CLEANING EQUIP. IN SHOP. THEY HANDLE AND DISPOSE OF SPENT SOLVENT. IS CHANGED TWICE A MONTH. SWITCHED TO NON-HAZ AT END OF 1993.

CHEMICAL DESCRIPTION									INVENTORY							
MSDS	TRADE NAME	INGREDIENTS	E H S	O S H	C E R	T O X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
999	SHELL GASOLINE ADD. NAP 93	CHEMICAL MIX. SECRET	N	Y	N	N	100.0000		Pur	Fire 2	2000	700	GAL	365	0	.800	2000 GAL	INJECTED DIRECTLY INTO PRODUCTS.
		XYLENE	N	Y	Y	Y	40.0000	01330-20-7	Mix	X Pres 0							TK AT	
	CAS #	TOLUENE	N	Y	Y	Y	30.0000	00108-88-3	Sol	Reac 0							TERMINALS	
		BENZENE	N	Y	Y	Y	1.5000	00071-43-2	Liq	X Imm 1								
		HVY AROMATIC NAPHTHA	N	Y	N	N	5.0000	64742-94-5	Gas	Del 1								
		1,2,4-TRIMETHYL BENZENE	N	N	N	Y	5.0000	00095-63-6										
1	SS CONCENTRATE SOAP	TERPENE	N	N	N	N		05989-27-5	Pur	Fire 0	3	2	DRM	365	1	.840	WAREHOUSE-1	7.0 LBS/GAL.
		ETHOXYLATE	N	N	N	N		26027-38-3	Mix	X Pres 0							PROCESS-1	
	CAS #	ETHOXYLATE	N	N	N	N		68412-54-4	Sol	Reac 0								
									Liq	X Imm 0								
									Gas	Del 0								
977	STODDARD SOLVENT	STODDARD SOLVENT	N	Y	N	N	100.0000	08052-41-3	Pur	Fire 1	2	1	DRM	365	1	.780	TRANS-1	AFTER USE PUT BACK IN CRUDE.
		XYLENE	N	Y	Y	Y	1.0000	01330-20-7	Mix	X Pres 0								
	CAS # 64741-48-9								Sol	Reac 0								
									Liq	X Imm 1								
									Gas	Del 1								
10	SULFURIC ACID	SULFURIC ACID	Y	Y	Y	Y	100.0000	07664-93-9	Pur	X Fire 1	15280	7038	LBS	365	41684	1.835	CT-1 500 GAL	15.28 LBS/GAL.
									Mix	Pres 0							CT-2 500 GAL	RQ & TPQ: 1000 LBS.
	CAS # 07664-93-9								Sol	Reac 2							TANKS	
									Liq	X Imm 2								
									Gas	Del 0								

CHEMICAL DESCRIPTION									INVENTORY						
MSDS	TRADE NAME	INGREDIENTS	E H S	O S H	C R E	T O X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
44	TERESSTIC 100 OIL	LUBRICATING OIL	N	N	N	N	100.0000		Pur	Fire 0	5	3	DRM	365	28	.880	WAREHOUSE-2	
									Mix	X Pres 0							WET GAS-1	
	CAS #								Sol	Reac 0							REFORMER-1	
									Liq	X Imm 0							CATPOLY-1	
									Gas	Del 0							INSTR AIR	
43	TERESSTIC 150 OIL	LUBRICATING OIL	N	N	N	N	100.0000		Pur	Fire 0	2	1	DRM	365	2	.880	WAREHOUSE-1	
									Mix	X Pres 0							REFORMER-1	
	CAS #								Sol	Reac 0								
									Liq	X Imm 0								
									Gas	Del 0								
42	TERESSTIC 68 OIL	LUBRICATING OIL	N	N	N	N	100.0000		Pur	Fire 0	2	2	DRM	365	0	.870	WAREHOUSE	
									Mix	X Pres 0							H2 COMPRESSR	
	CAS #								Sol	Reac 0								
									Liq	X Imm 0								
									Gas	Del 0								
917	TERRESTIC 32	LUBRICATING OIL	N	N	N	N	100.0000		Pur	Fire 0	8	6	DRM	365	25		AIR BLR-1	
									Mix	X Pres 0							H2 COMP-1	
	CAS #								Sol	Reac 0							CAT POLY-1	
									Liq	X Imm 0							FCC-1,WH-3	
									Gas	Del 0							MAPCO-1	

MSDS	TRADE NAME	INGREDIENTS	EHS	OHR	CTE	OTX	PERCENT	CAS #	FORM		TYPE OF HAZARD		DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
128	TEXACO GASOLINE ADDITIVE	POLYMERICAMINE, LT NAPTHA	N	Y	N	N	30.0000		Pur		Fire	1	2000	1000	GAL	365	0	.910	2000 GALLON	ALSO CALLED 02213 SYSTEM 3.
		PETROLEUM DISTILLATES	N	Y	N	N	20.0000	64742-65-0	Mix	X	Pres	0							BULK TANK AT	AMOUNT IS INCLUDED IN PRODUCTS.
	CAS #	XYLENE	N	Y	Y	Y	8.0000	01330-20-7	Sol		Reac	0							TERMINALS	
		BENZENE	N	Y	Y	Y	.5000	00071-43-2	Liq	X	Imm	3								
		TOLUENE	N	Y	Y	Y	2.0000	00108-88-3	Gas		Del	1								
		EYHYL BENEZENE	N	Y	N	Y	2.0000	00100-41-4												
		HEXANOL/ALKENYLSUCCINIMID	N	N	N	N	10.0000													
107	TRICHLOROETHANE	1,1,1-TRICHLOROETHANE	N	Y	Y	Y	94.5000	00071-55-6	Pur		Fire	1	3	2	DRM	365	1	1.314	WAREHOUSE-2	USED TO CHLORIDE THE REFORMER CATALYST.
									Mix	X	Pres	0							REFORMER-1	
	CAS # 00071-55-6								Sol		Reac	0								
									Liq	X	Imm	1								
									Gas		Del	1								
218	UNICHEM 7055	PROPRIETARY BLEND	N	Y	Y	Y	100.0000		Pur		Fire	2	521	85	GAL	365	335	.936	521 GAL.	PREFLASH & CRUDE COLUMN FILMER.
		AROMATIC SOLVENT	N	Y	Y	Y	80.0000	64742-94-5	Mix	X	Pres	0							PORTAFEEDS	
	CAS #	ISOPROPYL ALCOHOL	N	Y	N	N	10.0000	00067-63-0	Sol		Reac	0							BOILERHS-1	
		NAPHTHALENE	N	Y	Y	Y	10.0000	00091-20-3	Liq	X	Imm	1								
									Gas		Del	1								
16	UNICHEM 7212	PROPRIETARY BLEND	N	Y	Y	Y	100.0000		Pur		Fire	2	521	150	GAL	153	847	.935	521 GAL.	7.8 LBS/GAL. DESALTING COMPOUND.
		AROMATIC HC SOLVENT	N	Y	N	N	65.0000	64742-94-5	Mix	X	Pres	0							PORTAFEEDS	STARTED USING IN AUG.1993 TO REPLACE UI7227.
	CAS #	PETR. SOLVENT	N	Y	N	N	30.0000	64742-95-6	Sol		Reac	0							BOILERHS-1	
		NAPHTHALENE	N	Y	Y	Y	10.0000	00091-20-3	Liq	X	Imm	1								
		ISOPROPYL ALCOHOL	N	Y	N	N	10.0000	00067-63-0	Gas		Del	1								

CHEMICAL DESCRIPTION									INVENTORY							
MSDS	TRADE NAME	INGREDIENTS	E H S	O C T R X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
217	UNICHEM 7227	PROPRIETARY BLEND	N	Y Y Y	100.0000		Pur	Fire 2	521	116	GAL	275	1060	.965	521 GAL. PORTAFEEDS BOILERHS-1	DESALTER WETTING AGENT. STOPPED USING 10/93-NONE LE
		AROMATIC SOLVENT	N	Y Y Y	60.0000	64742-94-5	Mix	X Pres 0								
	CAS #	ISOPROPYL ALCOHOL	N	Y N N	10.0000	00067-63-0	Sol	Reac 0								
		PETR. DISTILLATE	N	Y N N	30.0000	64742-06-9	Liq	X Imm 1								
		NAPHTHALENE	N	Y Y Y	5.0000	00091-20-3	Gas	Del 1								
219	UNICHEM 7375	PROPRIETARY NEUT. AMINES	N	Y N N	100.0000		Pur	Fire 0	392	241	GAL	365	3905	.963	392 GAL. PORTAFEEDS BOILERHS-1	PREFLASH & CRUDE COLUMN NEUTRALIZER.
		ALKYLAMINES	N	Y N N	40.0000		Mix	X Pres 0								
	CAS #						Sol	Reac 0								
							Liq	X Imm 1								
							Gas	Del 0								
238	UNICHEM 8092 POUR DEPRESSANT	HVY AROMATIC DISTILLATE	N	Y Y Y	45.0000	67891-79-6	Pur	Fire 1	2000	514	GAL	365	2266	.941	3000 GALLON TANK NEAR PCPT./LD HS.	POUR POINT ADDITIVE. 7.85 LBS/GAL. WINTER ADDITIVE FOR DIESEL.
		AROMATIC SOLVENT	N	Y Y Y	20.0000	64741-68-0	Mix	X Pres 0								
	CAS #	ETHYL BENZENE	N	Y Y Y	10.0000	00100-41-4	Sol	Reac 0								
		XYLENE	N	Y Y Y	10.0000	01330-20-7	Liq	X Imm 1								
		TRIMETHYL BENZENE	N	Y N N	5.0000	25551-13-7	Gas	Del 1								
		CUMENE	N	Y Y Y	5.0000	00098-82-8										
		VINLY ACETATE MONOMER	N	Y Y Y	1.0000	00108-05-4										
181	UNITED CATALYST C84-3-01 (CAT/POLY)	CARBON	N	N N N	11.0000	07440-44-0	Pur	Fire 0	120000	80000	LBS	365	120000	.833	IN REACTOR POLY UNIT OR BAGS TO BE LOADED.	CAT/POLY UNIT. STARTUP ON 4/16/88. SPENT CATALYST SENT TO FERTILIZER PLANT FOR REUSE/ REPROCESSING. TWO REACTORS HOLD 40000 LBS EACH. 3 DUMPS IN 1993.
		SILICON PYROPHOSPHATE	N	N N N		13817-38-8	Mix	X Pres 0								
	CAS #	& SILICON ORTHOPHOSPHATE	N	N N N	75.0000	12037-47-7	Sol	X Reac 0								
		SILICON DIOXIDE	N	Y N N	5.0000	07631-86-9	Liq	Imm 1								
							Gas	Del 0								

MSDS	TRADE NAME	INGREDIENTS	E H S	O C T R X	PERCENT	CAS #	FORM	TYPE OF HAZARD	DAILY MAX AMT	DAILY AVG AMT	UOM	SITE DAYS	AMT USED LAST YR	SPEC GRAV	STORAGE TYPE and LOCATION	COMMENTS
	CHEMICAL DESCRIPTION							INVENTORY								
204	UNOCAL ATF DEXRON (R) II	PETROLEUM HYDROCARBON	N Y N	N	100.0000		Pur	Fire 1	6	4	DRM	365	2		WAREHOUSE-2	
							Mix	X Pres 0							REFORMER-1	
	CAS #						Sol	Reac 0							INSTR AIR-1	
							Liq	X Imm 2							CAT/POLY-1	
							Gas	Del 0								
103	WD-40	LUBRICATING OIL	N Y N	N	100.0000		Pur	Fire 4	32	24	CAN	365	215	.710	12 OZ CANS	ALSO KEEP 3 EA 1 GALLON CANS IN WAREHOUSE.
							Mix	X Pres 0							WAREHOUSE	
	CAS #						Sol	Reac 0							SHOPS	
							Liq	X Imm 0							PROCESS	
							Gas	X Del 0								
165	ZEPLON, ZEP	1,1,1-TRICHLOROETHANE	N Y Y	Y	75.0000	00071-55-6	Pur	Fire 1	12	8	CAN	365	7	1.300	20 OZ CANS	USED FOR DRY LUBRICATION OF PRODUCT METER REGISTERS
		1,1,2-TRICHLORO-1,2,2-					Mix	X Pres 0							TERMINALS	
	CAS #	TRIFLUOROETHANE	N Y Y	Y	5.0000	00076-13-1	Sol	Reac 1								
							Liq	X Imm 2								
							Gas	Del 1								

ATTACHMENT 2

BLOOMFIELD REFINING COMPANY - GROUNDWATER WELL DATA AND ELEVATIONS (2/4/94)

WELL NO.	DATE INSTALL	ELEV. T.O.P. (FT)	STICKUP (FT)	ELEV. GRADE (FT)	DEPTH OF CASING FR T.O.P. (FT)	FROM T.O.P. TO LIQ. (FT)	HC THKNESS (FT)	ELEV. TOP OF LIQUID (FT)	ELEV. TOP OF WATER (FT)	ELEV. TOP OF SCREEN (FT)	ELEV. BTM. OF SCREEN (FT)	ELEV. TOP OF GRAVEL (FT)	ELEV. TOP OF NACIMTO (FT)
MW-1	02/08/84	5515.78	1.7	5514.08	24.65	17.21	0.00	5498.57	5498.57	5511.13	5491.13	5509.08	5492.08
MW-3	02/09/84	5535.88	1.0	5534.88	39.35	34.13	0.00	5501.75	5501.75	5516.53	5496.53	5507.88	5494.88
MW-4	02/09/84	5524.46	1.4	5523.06	32.50	25.00	0.54	5499.46	5498.92	5511.96	5491.96	5508.06	5491.06
MW-5	02/06/84	5545.13	1.0	5544.13	51.61	42.75	0.00	5502.38	5502.38	5513.52	5493.52	5509.13	5497.13
MW-6	02/07/84	5551.20	1.6	5549.60	49.63	49.63	0.00	5501.57	5501.57	5521.57	5501.57	5508.60	5500.60
MW-7	02/25/86	5524.25	1.1	5523.15	62.11	25.00	0.00	5499.25	5499.25	5474.14	5464.14	5506.15	5491.15
MW-8	02/28/86	5531.17	1.0	5530.17	34.94	29.86	0.00	5501.31	5501.31	5518.23	5498.23	5510.17	5496.17
MW-9	03/03/86	5519.77	1.7	5518.07	33.99	22.20	0.12	5497.57	5497.45	5507.78	5487.78	5503.07	5489.77
RW-1	08/31/88	5526.01	1.4	5524.61	40.98	28.02	0.00	5497.99	5497.99	5507.21	5491.61	5506.61	5492.01
P-1	08/30/88	5524.49	0.8	5523.69	42.45	26.75	0.00	5497.74	5497.74	5503.19	5487.19	5503.69	5487.19
RW-2	08/29/88	5523.61	0.5	5523.11	38.03	24.41	0.92	5499.20	5498.28	5506.58	5490.88	5508.11	5491.11
P-2	08/29/88	5523.86	0.8	5523.06	38.33	24.65	0.01	5499.21	5499.20	5506.13	5490.83	5510.06	5491.56
RW-3	03/04/86	5516.96	1.4	5515.56	33.93	19.14	0.00	5497.82	5497.82	5505.03	5485.03	5505.56	5492.56
P-3	09/01/88	5507.31	0.8	5506.51	22.80	9.32	0.00	5497.99	5497.99	5500.36	5489.91	5506.51	5492.51
MW-11	07/31/87	5506.89	3.6	5503.29	24.73	10.32	0.00	5496.57	5496.57	5497.16	5487.16	5503.29	5493.29
MW-12	08/01/87	5498.42	2.5	5495.92	14.22	9.72	0.00	5488.70	5488.70	5494.20	5484.20	5495.92	5485.92
MW-13	09/03/88	5538.54	3.3	5535.24	53.00	38.36	0.00	5500.18	5500.18	5506.51	5490.74	5508.24	5490.24
RW-14	08/06/90	5534.13	1.9	5532.23	43.00	33.49	0.01	5500.64	5500.63	5511.13	5493.13	5508.23	5493.73
RW-15	08/07/90	5533.44	1.7	5531.74	43.40	33.11	0.15	5500.33	5500.18	5510.04	5492.04	5512.74	5496.74
RW-16	08/07/90	5532.09	1.8	5530.29	43.10	32.24	0.03	5499.85	5499.82	5508.99	5490.99	5511.29	5492.79
RW-17	08/07/90	5530.46	1.6	5528.86	41.55	31.40	1.94	5499.06	5497.12	5508.91	5490.91	5503.86	5493.56
RW-18	08/08/90	5526.08	2.6	5523.48	39.95	27.75	5.65	5498.33	5492.68	5506.13	5488.13	5504.48	5494.48
RW-19	08/08/90	5527.27	1.5	5525.77	36.70	27.95	0.01	5499.32	5499.31	5510.57	5492.57	5505.77	5492.77
MW-20	09/13/91	5516.46	1.8	5514.66	27.18	18.55	0.00	5497.91	5497.91	5506.28	5491.28	5504.16	5490.66
MW-21	09/16/91	5518.62	1.6	5517.02	30.93	19.98	0.00	5498.64	5498.64	5504.69	5489.69	5505.02	5492.52
MW-22	07/19/93	5521.05	3.0	5518.05	35.73	23.15	0.01	5497.90	5497.89	5503.32	5487.32	5503.05	5491.05
MW-23	07/19/93	5517.74	2.0	5515.74	35.39	20.60	0.39	5497.14	5496.75	5500.35	5484.35	5508.74	5486.74
MW-24	09/15/93	5508.23	3.0	5505.23	14.85	14.85	0.00	5493.38	5493.38	5493.38	5493.38	5503.23	5492.88
	FUTURE	(ESTIMATED DATA) *											
MW-25	03/10/94	5530.00	2.0	5528.00	40.00	30.00	0.00	5500.00	5500.00	5508.00	5492.00	5506.00	5492.00
MW-26	03/10/94	5519.00	2.0	5517.00	29.00	20.00	0.00	5499.00	5499.00	5506.00	5492.00	5506.00	5492.00
MW-27	03/10/94	5522.00	2.0	5520.00	32.00	23.00	0.00	5499.00	5499.00	5506.00	5492.00	5506.00	5492.00
MW-28	03/10/94	5520.00	2.0	5518.00	30.00	22.00	0.00	5498.00	5498.00	5507.00	5492.00	5506.00	5492.00
MW-29	03/10/94	5518.00	2.0	5516.00	28.00	18.00	0.00	5500.00	5500.00	5507.00	5492.00	5508.00	5492.00
MW-30	03/10/94	5535.00	2.0	5533.00	43.00	34.00	0.00	5501.00	5501.00	5509.00	5494.00	5508.00	5494.00
MW-31	03/10/94	5534.00	2.0	5532.00	42.00	33.00	0.00	5501.00	5501.00	5509.00	5494.00	5508.00	5494.00

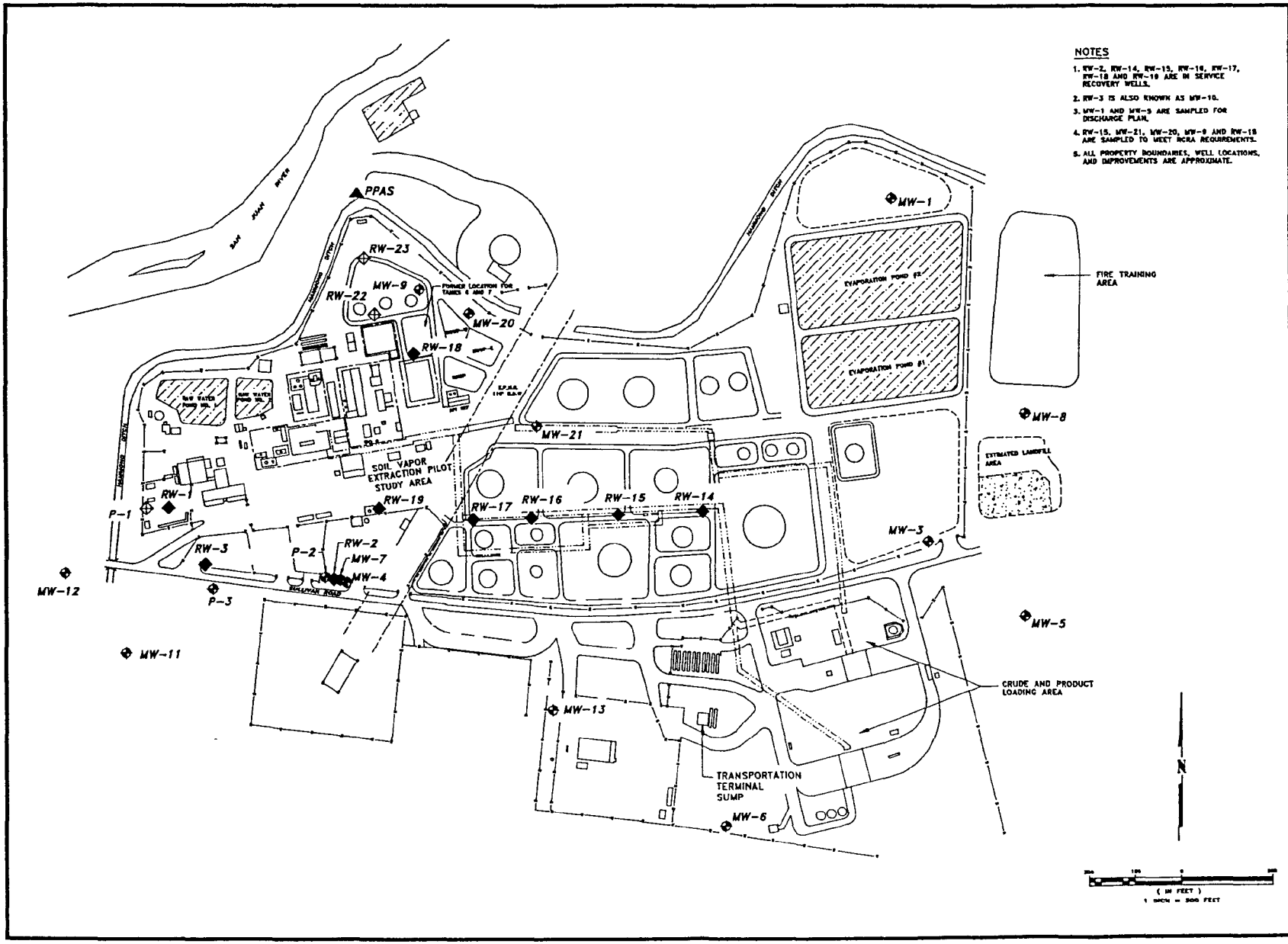
PLANNED FOR 1994

BLOOMFIELD REFINING COMPANY, DATA REVISED 2/7/94

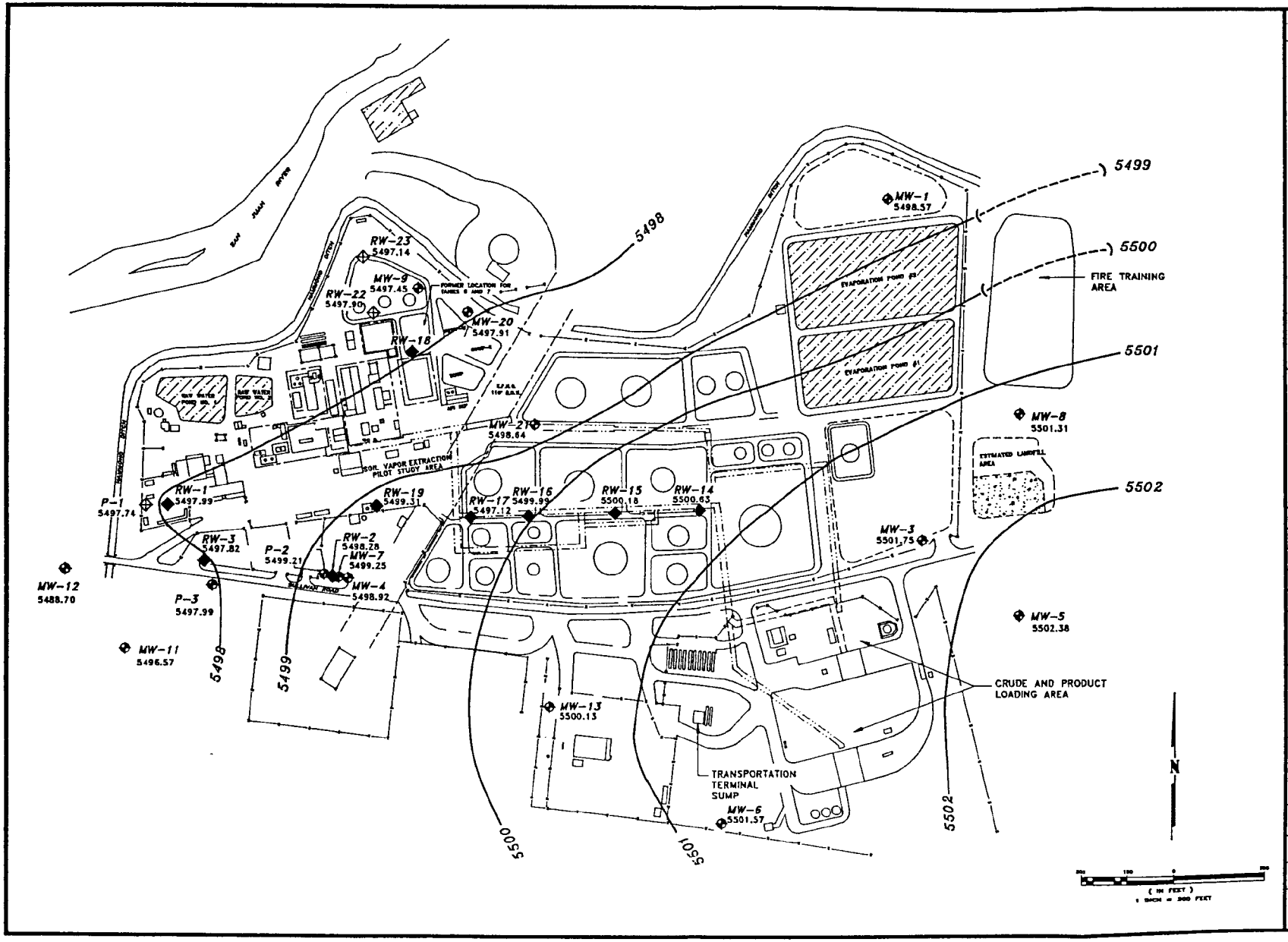
WELL NO.	ELEV. T.O.P. (FT)	SCREEN INTERVAL (FT)	AQUIFER THKNESS (FT)	SCREEN ABOVE LIQUID (FT)	SCREEN IN LIQUID (FT)	INSTALLATION INFORMATION	VOL. OF LIQ. IN CASING (GALS)
MW-1	5515.78	20.0	6.49	12.56	7.44	5", STEEL CASING, TORCH CUT SLOTS	7.59
MW-3	5535.88	20.0	6.87	14.78	5.22	5", STEEL CASING, TORCH CUT SLOTS	5.32
MW-4	5524.46	20.0	8.40	12.50	7.50	5", STEEL CASING, TORCH CUT SLOTS	7.65
MW-5	5545.13	20.0	5.25	11.14	8.86	5", STEEL CASING, TORCH CUT SLOTS	9.03
MW-6	5551.20	20.0	0.00	20.00	0.00	5", STEEL CASING, TORCH CUT SLOTS	0.00
MW-7	5524.25	10.0	8.10	0.00	0.00	6", SS SCREEN, PVC BLANK, 2' SILT LEG	54.48
MW-8	5531.17	20.0	5.14	16.92	3.08	6", SS SCREEN, PVC BLANK, 2' SILT LEG	7.46
MW-9	5519.77	20.0	7.80	10.21	9.79	6", SS SCREEN, PVC BLANK, 2' SILT LEG	17.31
RW-1	5526.01	15.6	5.98	9.22	6.38	4", SS SCREEN, PVC PIPE, 5' SILT LEG, 20 SLOT	8.46
P-1	5524.49	16.0	10.55	5.45	10.55	4", SS SCREEN, PVC PIPE, 5' SILT LEG, 20 SLOT	10.24
RW-2	5523.61	15.7	8.09	7.38	8.32	4", SS SCREEN, PVC PIPE, 5' SILT LEG, 20 SLOT	8.89
P-2	5523.86	15.3	7.65	6.92	8.38	4", SS SCREEN, PVC PIPE, 5' SILT LEG, 20 SLOT	8.93
RW-3	5516.96	20.0	5.26	7.21	12.79	6", SS SCREEN, PVC BLANK, 2' SILT LEG	21.71
P-3	5507.31	10.4	5.48	2.37	8.08	4", PVC SCREEN & PIPE, 5' SILT LEG, 20 SLOT	8.80
MW-11	5506.89	10.0	3.28	0.59	9.41	4", SS SCREEN & PIPE, 5' SILT LEG, 20 SLOT	9.40
MW-12	5498.42	10.0	2.78	5.50	4.50	4", SS SCREEN & PIPE, NO SILT LEG, 20 SLOT	2.94
MW-13	5538.54	15.8	9.94	6.33	9.44	4", SS SCREEN, PVC PIPE, 5' SILT LEG, 20 SLOT	9.55
RW-14	5534.13	18.0	6.91	10.49	7.51	4", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	6.21
RW-15	5533.44	18.0	3.59	9.71	8.29	4", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	6.71
RW-16	5532.09	18.0	7.06	9.14	8.86	4", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	7.09
RW-17	5530.46	18.0	5.50	9.85	8.15	4", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	6.62
RW-18	5526.08	18.0	3.85	7.80	10.20	4", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	7.96
RW-19	5527.27	18.0	6.55	11.25	6.75	4", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	5.71
MW-20	5516.46	15.0	7.25	8.37	6.63	4", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	5.63
MW-21	5518.62	15.0	6.12	6.05	8.95	4", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	7.14
MW-22	5521.05	16.0	6.85	5.42	10.58	6", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	18.47
MW-23	5517.74	16.0	10.40	3.21	12.79	6", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	21.71
MW-24	5508.23	0.0	0.50	0.00	0.00	4", ALL PVC, 29' HORIZ. SECTION WITH HOLES	
FUTURE (ESTIMATED DATA) ↓							
MW-25	5530.00	16.0	8.00	8.00	8.00	6", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	14.68
MW-26	5519.00	14.0	7.00	7.00	7.00	6", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	13.21
MW-27	5522.00	14.0	7.00	7.00	7.00	6", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	13.21
MW-28	5520.00	15.0	6.00	9.00	6.00	4", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	5.22
MW-29	5518.00	15.0	8.00	7.00	8.00	4", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	6.53
MW-30	5535.00	15.0	7.00	8.00	7.00	4", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	5.87
MW-31	5534.00	15.0	7.00	8.00	7.00	4", ALL FIBERGLASS, 2' SILT LEG, 20 SLOT	5.87

PLANNED 1994 INSTALLATION

2


NOTES
1. RW-2, RW-14, RW-15, RW-16, RW-17, RW-18 AND RW-19 ARE IN SERVICE RECOVERY WELLS.
2. RW-3 IS ALSO KNOWN AS MW-10.
3. MW-1 AND MW-5 ARE SAMPLED FOR DISCHARGE PLAN.
4. RW-15, MW-21, MW-20, MW-9 AND RW-18 ARE SAMPLED TO MEET RCRA REQUIREMENTS.
5. ALL PROPERTY BOUNDARIES, WELL LOCATIONS, AND IMPROVEMENTS ARE APPROXIMATE.
SAN JUAN RIVER
PPAS
RW-23
RW-22
MW-9
FORMER LOCATION FOR TANKS 6 AND 7
MW-20
RW-18
MW-1
EVAPORATION POND #2
EVAPORATION POND #1
FIRE TRAINING AREA
MW-8
MW-21
EXTENDED LANDFILL AREA
SOIL VAPOR EXTRACTION PILOT STUDY AREA
RW-1
RW-19
RW-17
RW-16
RW-15
RW-14
MW-3
P-1
RW-3
P-2
RW-2
MW-7
MW-4
MW-12
P-3
MW-11
MW-5
CRUDE AND PRODUCT LOADING AREA
MW-13
TRANSPORTATION TERMINAL SUMP
MW-6
N
(IN FEET)
1 INCH = 200 FEET
LEGEND
PIPEWAY
UNDERGROUND PIPEWAY
FENCE
MW-1 EXISTING MONITORING WELL
RW-1 EXISTING RECOVERY WELL
RW-23 NEW RECOVERY WELL
PPAS PERFORATED PIPE AIR SPARGE POINT
ATTENTION
THIS DRAWING AND ANY ATTACHMENTS ("DRAWINGS") HAVE BEEN PRODUCED FOR THE SOLE USE OF THE RECIPIENT AND MUST NOT BE USED, REUSED, REPRODUCED, MODIFIED OR COPIED ("USED") IN ANY MANNER WITHOUT PRIOR WRITTEN APPROVAL OF GROUNDWATER TECHNOLOGY, INC.. THIS DRAWING MAY CONTAIN CONFIDENTIAL AND PROPRIETARY INFORMATION OF GROUNDWATER TECHNOLOGY, INC.. ANY UNAUTHORIZED USE OF THIS DRAWING IS STRICTLY PROHIBITED.
NO. DATE BY REVISION
SIGNATURE DATE
PROJECT GEO:
PROJECT ENGR:
PROJECT MGR:
CLIENT:
Bloomfield Refining Company
A Gary Energy Corporation Subsidiary
#50 COUNTY ROAD 4990
BLOOMFIELD, NEW MEXICO
GROUNDWATER TECHNOLOGY
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NEW MEXICO 87106
(505) 242-3113
MONITORING AND RECOVERY WELL LOCATIONS
(EXISTING AND NEW)
FEBRUARY 1994
DESIGNED BY: C.W.S.
DRAFTED BY: J. ML
CHECKED BY:
DATE: FEBRUARY -1994
FILE: WELLS-N.DWG
PROJECT NO.: 023353014
CONTRACT:
DRAWING:
REVISION: 0
FIGURE 2

3



NO.	DATE	BY	REVISION

LEGEND

- PIPEWAY
- UNDERGROUND PIPEWAY
- FENCE
- MW-1 EXISTING MONITORING WELL
- RW-1 EXISTING RECOVERY WELL
- RW-23 NEW RECOVERY WELL
- 5501 WATERTABLE CONTOUR
- CONTOUR INTERVAL = 1 FEET

ATTENTION

SIGNATURE	DATE
PROJECT GEO:	
PROJECT ENGR:	
PROJECT MGR:	
CLIENT:	

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary
#50 COUNTY ROAD 4990
BLOOMFIELD, NEW MEXICO

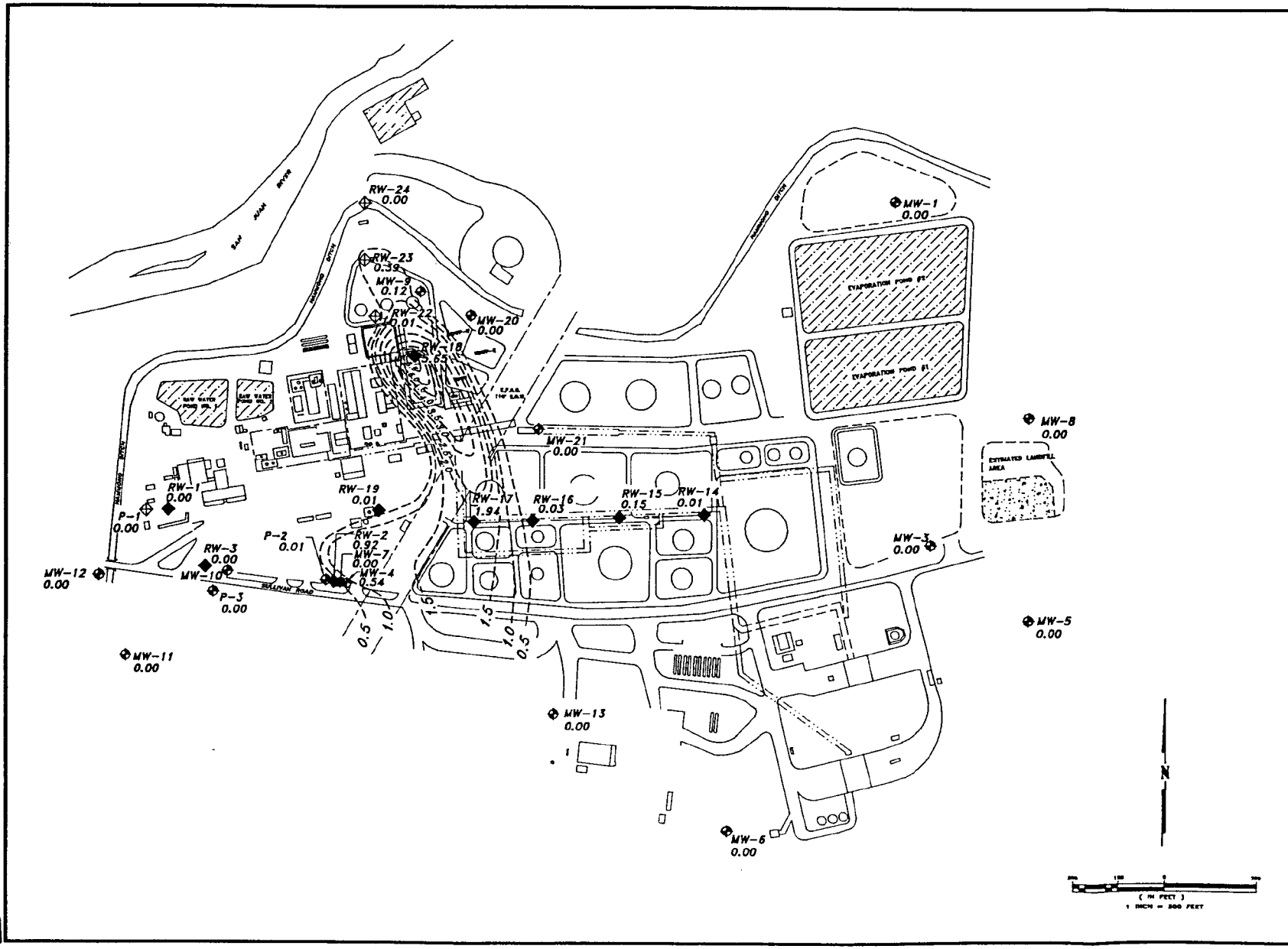
GROUNDWATER TECHNOLOGY
2501 YALE BLVD. SE. SUITE 204
ALBUQUERQUE, NEW MEXICO 87106
(505) 242-5115

WATER TABLE CONTOUR MAP
FEBRUARY 4, 1994

DESIGNED BY:	DRAFTED BY:	CHECKED BY:
C.W.S.	J. ML	

DATE:	FILE:
FEBRUARY - 1994	CW2-94
PROJECT NO.:	CONTRACT:
023353014	
DRAWING:	REVISION:

FIGURE 5



NO.	DATE	BY	REVISION

LEGEND

- PIPEWAY
- UNDERGROUND PIPEWAY
- MW-1 — EXISTING MONITORING WELL
- RW-22 — NEW RECOVERY WELL
- RW-15 — EXISTING RECOVERY WELL
- 1.94 — HYDROCARBON THICKNESS (IN FEET)
- 0.50 — HYDROCARBON THICKNESS CONTOUR (IN FEET)
  CONTOUR INTERVAL = .50 FOOT

ATTENTION

SIGNATURE	DATE
PROJECT GEO:	
PROJECT ENGR:	
PROJECT MGR:	
CLIENT:	

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary
#50 COUNTY ROAD 4990
BLOOMFIELD, NEW MEXICO

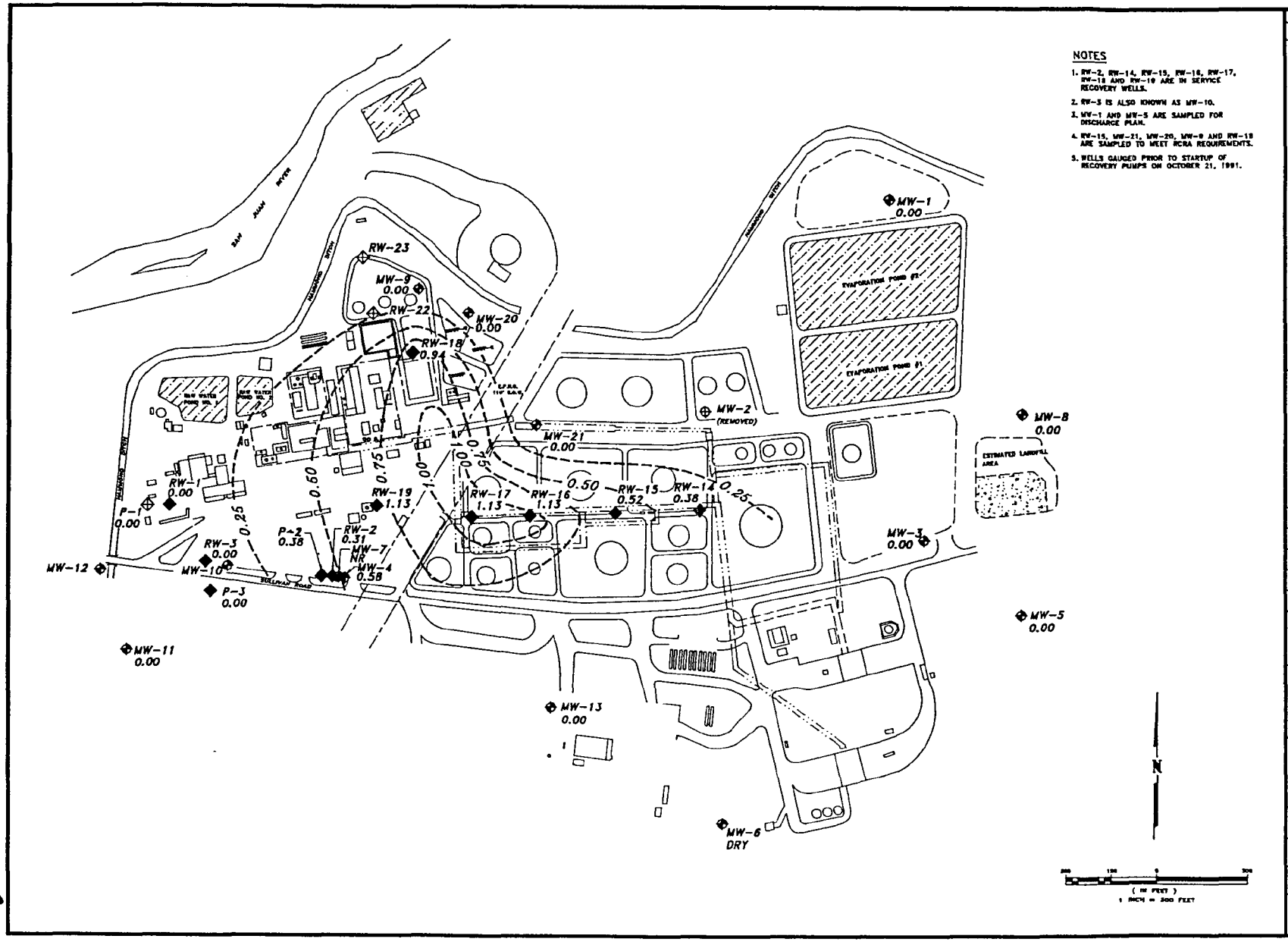
GROUNDWATER TECHNOLOGY
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NEW MEXICO 87106
(505) 242-3113

SEPARATE PHASE HYDROCARBON ISOPLETH
FEBRUARY 1994

DESIGNED BY:	DRAFTED BY:	CHECKED BY:
C.W.S.	J. ML	CWS

DATE:	FILE:
FEBRUARY - 1994	SPHC-N.DWG
PROJECT NO.:	CONTRACT:
023353014	
DRAWING:	REVISION: D

FIGURE 6



NO.	DATE	BY	REVISION

ATTENTION

SIGNATURE	DATE
PROJECT GEO:	
PROJECT ENGR:	
PROJECT MGR:	
CLIENT:	

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary
#50 COUNTY ROAD 4990
BLOOMFIELD, NEW MEXICO

GROUNDWATER TECHNOLOGY
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NEW MEXICO 87106
(505) 242-3113

SEPARATE PHASE HYDROCARBON ISOPLETH

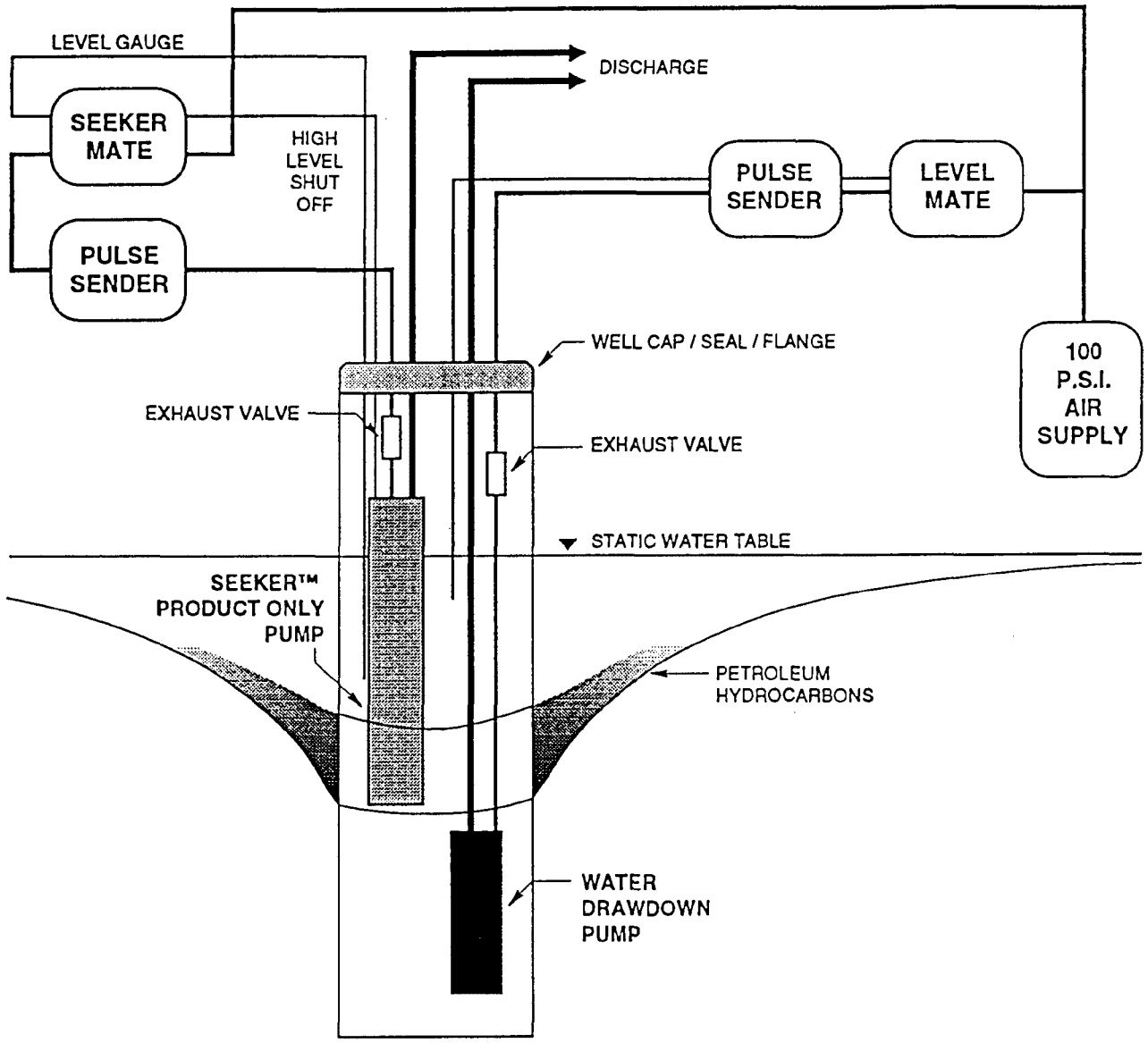
OCTOBER – 1991

DESIGNED BY:	DRAFTED BY:	CHECKED BY:
SB	J. ML	CW

DATE:	FILE:
FEBRUARY-1992	SPHC1091.DWG
PROJECT NO.:	CONTRACT:
023353014	
DRAWING:	REVISION: 0

FIGURE 7

DRAWN BY JU | 2/16/94 | FOLDER Bloomfield Refining Co. | FILE PtsPump | CHECKED BY CJS | ED BY



BLOOMFIELD REFINING COMPANY

PNEUMATIC PULSE PUMP HYDROCARBON RECOVERY SYSTEM

FIGURE 3

LOCATION: BLOOMFIELD, NEW MEXICO

PROJECT NO.: 023353014-30

GROUNDWATER TECHNOLOGY

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

January 10, 1994

Mr. Roger Anderson
State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

RE: Discharge Plan GRW-1

Dear Mr. Anderson:

Analytical results for monitoring wells MW-1 and MW-5, obtained on December 13, 1993 are enclosed.

Please call me if there are any questions.

Sincerely,

Chris Hawley
Environmental Manager

CH/jm

Enclosures

cc: John Goodrich
Dave Roderick
Joe Warr

BLOOMFIELD REFINING COMPANY
MONITORING UNDER DISCHARGE PLAN GRW-1-A

MW-1

PARAMETER	UNIT	NOM DET LIM	NMWQ STANDARD	CURRENT RESULT	PREVIOUS RESULT	BASELINE RESULTS
DATE OF SAMPLE				12/13/93	5/14/93	1984/1985
ARSENIC	mg/l	0.005	0.100	0.000	0.000	0.016
BARIUM	mg/l	0.500	1.000	0.000	0.000	0.250
CADMIUM	mg/l	0.002	0.010	0.000	0.000	0.010
CHROMIUM	mg/l	0.020	0.050	0.000	0.000	0.018
LEAD	mg/l	0.005	0.050	0.000	0.000	0.086
BORON	mg/l	0.010	0.750	0.470	0.350	0.268
IRON	mg/l	0.050	1.000	0.000	0.000	46.268
MANGANESE	mg/l	0.020	0.200	3.700	3.710	0.943
TOTAL DISSOLVED SOLIDS	mg/l	1.000	1000.000	4380.000	4440.000	3516.000
CHLORIDE	mg/l	1.000	250.000	1840.000	1740.000	1070.500
SULFATE	mg/l	1.000	600.000	420.000	563.000	815.500
PHENOLS	mg/l	0.005	0.005	0.000	0.000	0.055
CYANIDE	mg/l	0.010	0.200	0.000	0.000	0.000
NITRATE, NITRITE AS N	mg/l	0.020	10.000	6.440	6.910	5.725
AMMONIA	mg/l	0.010		0.000	2.040	
TOTAL KELDAHL NITROGEN	mg/l	0.100		3.170		
BENZENE	ug/l	0.200	10.000	0.000	0.000	0.000
TOLUENE	ug/l	0.200	750.000	0.000	0.000	0.000
ETHYL BENZENE	ug/l	0.200	750.000	0.000	0.000	0.000
XYLENES (TOTAL)	ug/l	0.400	620.000	0.000	0.000	0.000
pH	s.u.	0.01	6 to 9	7.00	6.80	7.31
ELEVATION AT T.O.P.	ft	0.01		5515.77	5515.77	5515.77
DEPTH TO WATER	ft	0.01		17.26	16.48	16.19
ELEVATION AT T.O.W.	ft	0.01		5498.51	5499.29	5499.58

BLOOMFIELD REFINING COMPANY
MONITORING UNDER DISCHARGE PLAN GRW-1-A

MW-5

PARAMETER	UNIT	NOM DET LIM	NMWQ STANDARD	CURRENT RESULT	PREVIOUS RESULT	BASELINE RESULTS
DATE OF SAMPLE				12/13/93	5/14/93	1984/1985
ARSENIC	mg/l	0.005	0.100	0.000	0.008	0.004
BARIUM	mg/l	0.500	1.000	0.000	0.000	0.000
CADMIUM	mg/l	0.002	0.010	0.000	0.000	0.015
CHROMIUM	mg/l	0.020	0.050	0.020	0.000	0.000
LEAD	mg/l	0.005	0.050	0.000	0.000	0.015
BORON	mg/l	0.010	0.750	0.580	0.480	0.480
IRON	mg/l	0.050	1.000	0.500	0.000	0.061
MANGANESE	mg/l	0.020	0.200	0.460	0.320	0.128
TOTAL DISSOLVED SOLIDS	mg/l	1.000	1000.000	7390.000	7600.000	4746.000
CHLORIDE	mg/l	1.000	250.000	3190.000	3100.000	1402.000
SULFATE	mg/l	1.000	600.000	1050.000	1120.000	1299.000
PHENOLS	mg/l	0.001	0.005	0.000	0.000	0.008
CYANIDE	mg/l	0.010	0.200	0.000	0.000	0.013
NITRATE, NITRITE AS N	mg/l	0.020	10.000	7.470	21.120	24.000
AMMONIA	mg/l	0.020		0.080	4.060	
TOTAL KELDAHL NITROGEN	mg/l	0.020		3.520		
BENZENE	ug/l	0.200	10.000	0.000	0.000	0.000
TOLUENE	ug/l	0.200	750.000	0.000	0.000	0.000
ETHYL BENZENE	ug/l	0.200	750.000	0.000	0.000	0.000
XYLENES (TOTAL)	ug/l	0.400	620.000	0.000	0.000	0.000
pH	s.u.	0.01	6 to 9	6.80	6.70	7.41
ELEVATION AT T.O.P.	ft	0.01		5545.10	5545.10	5545.10
DEPTH TO WATER	ft	0.01		42.05	43.08	41.85
ELEVATION AT T.O.W.	ft	0.01		5503.05	5502.02	5503.25

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

WATER ANALYSIS

Dissolved Metals

Client: BLOOMFIELD REFINING COMPANY
Project: BLOOMFIELD, NM
Sample ID: MW-1
Laboratory ID: 4339
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 01/04/94
Date Sampled: 12/13/93
Date Received: 12/13/93

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Analysis Date
Arsenic	ND	0.005	12/16/93
Barium	ND	0.5	12/15/93
Boron	0.47	0.01	12/22/93
Cadmium	ND	0.002	12/15/93
Chromium	ND	0.02	12/16/93
Iron	ND	0.05	12/15/93
Lead	ND	0.005	12/15/93
Manganese	3.70	0.02	12/16/93

ND - Not detected at the stated detection limit

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Reported By:

Reviewed By:

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

WATER ANALYSIS

Client: BLOOMFIELD REFINING COMPANY
Project: BLOOMFIELD, NM
Sample ID: **MW-1**
Laboratory ID: 4339
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 01/04/94
Date Sampled: 12/13/93
Date Received: 12/13/93

Parameter	Analytical Result	Units	Date of Analysis
Chloride	1840	mg/L	12/17/93
Ammonia	ND	mg/L	12/27/93
Nitrate Nitrogen	6.44	mg/L	12/23/93
Nitrite Nitrogen	ND	mg/L	12/16/93
Sulfate	420	mg/L	12/15/93
Total Dissolved Solids	4380	mg/L	12/15/93
Total Kjedahl Nitrogen	3.17	mg/L	01/03/94
Total Cyanide	ND	mg/L	12/28/93
Phenol	ND	mg/L	12/21/93

ND-Analyte not detected

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Comments:

Reported By:

Reviewed By:

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

PURGEABLE AROMATICS

Bloomfield Refining Co.

Project ID:	Bloomfield, NM	Report Date:	12/20/93
Sample ID:	MW - 1	Date Sampled:	12/13/93
Lab ID:	4339	Date Received:	12/13/93
Sample Matrix:	Water	Date Analyzed:	12/20/93
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	100	88 -110%
Bromofluorobenzene	95	86 -115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

WATER ANALYSIS

Dissolved Metals

Client:	**BLOOMFIELD REFINING COMPANY**	Date Reported:	01/04/94
Project:	BLOOMFIELD, NM	Date Sampled:	12/13/93
Sample ID:	MW-5	Date Received:	12/13/93
Laboratory ID:	4340		
Sample Matrix:	Water		
Condition:	Cool/Intact		

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Analysis Date
Arsenic	ND	0.005	12/16/93
Barium	ND	0.5	12/15/93
Boron	0.58	0.01	12/22/93
Cadmium	ND	0.002	12/15/93
Chromium	0.02	0.02	12/16/93
Iron	0.50	0.05	12/15/93
Lead	ND	0.005	12/15/93
Manganese	0.46	0.02	12/16/93

ND - Not detected at the stated detection limit

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Gloria Bartlett
Reported By:

Reviewed By:

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

WATER ANALYSIS

Client: BLOOMFIELD REFINING COMPANY
Project: BLOOMFIELD, NM
Sample ID: **MW-5**
Laboratory ID: 4340
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 01/05/94
Date Sampled: 12/13/93
Date Received: 12/13/93

Parameter	Analytical Result	Units	Date of Analysis
Chloride	3190	mg/L	12/17/93
Ammonia	0.08	mg/L	12/27/93
Nitrate Nitrogen	7.47	mg/L	12/23/93
Nitrite Nitrogen	ND	mg/L	12/16/93
Sulfate	1050	mg/L	12/15/93
Total Dissolved Solids	7390	mg/L	12/15/93
Total Kjedahl Nitrogen	3.52	mg/L	01/03/94
Total Cyanide	ND	mg/L	12/28/93
Phenol	ND	mg/L	12/21/93

ND-Analyte not detected

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Comments:

Reported By: Maria Bartlett

Reviewed By:

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control / Quality Assurance

Dissolved Metals

Client:	BLOOMFIELD REFINING COMPANY	Date Reported:	01/04/94
Project:	BLOOMFIELD, NM	Date Sampled:	12/13/93
Laboratory ID:	4339-4340	Date Received:	12/13/93
Sample Matrix:	Water		
Condition:	Cool/Intact		

Known Analysis

Parameter	Found Concentration (mg/L)	Known Concentration (mg/L)	Percent Recovery (mg/L)
Arsenic	0.009	0.010	90%
Barium	0.9	1.0	90%
Boron	1.01	1.00	101%
Cadmium	0.004	0.004	100%
Chromium	0.89	1.00	89%
Iron	0.94	1.00	94%
Lead	0.037	0.040	93%
Manganese	1.91	2.00	96%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Comments: Quality control run concurrently with the above sample lab numbers.

Reported By:

Reviewed By:

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control / Quality Assurance

Dissolved Metals

Client: BLOOMFIELD REFINING COMPANY
Project: BLOOMFIELD, NM
Laboratory ID: 4339-4340
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 01/04/94
Date Sampled: 12/13/93
Date Received: 12/13/93

Spike Analysis

Parameter	Spike Found (mg/L)	Sample Concentration (mg/L)	Spike Added (mg/L)	Percent Recovery
Arsenic	0.021	0.000	0.050	84%
Barium	5.7	1.2	10.0	102%
Boron	0.53	0.09	0.50	106%
Cadmium	0.009	0.004	0.010	103%
Chromium	2.23	0.02	5.00	89%
Iron	2.16	0.02	5.00	86%
Lead	0.008	0.001	0.020	89%
Manganese	4.72	4.10	5.00	107%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Comments: Quality control run concurrently with the above sample lab numbers.

Gloria Bartlett
Reported By:

Reviewed By:

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

PURGEABLE AROMATICS

Bloomfield Refining Co.

Project ID:	Bloomfield, NM	Report Date:	12/20/93
Sample ID:	MW - 5	Date Sampled:	12/13/93
Lab ID:	4340	Date Received:	12/13/93
Sample Matrix:	Water	Date Analyzed:	12/20/93
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	100	88 -110%
Bromofluorobenzene	97	86 -115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

TABLE [redacted] (Page 1 of 4)

SUMMARY OF ORGANIC GROUNDWATER ANALYTICAL DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

WELL ID	SAMPLE DATE	TOC	TOX	B	T	E	X	TOTAL PHEN	EDC	2,4 DCP	2,4 DMP	4,6-DNC	2,4 DNP	2-NP	4-NP	BENZ ANTH	PHEN	CHRY-SENE	FLUO-RENE	NAPH	PYR	2 CHLR PHEN	PCMC	BENZ FLR	A-NAPH	ANTH	FLUORANTH
MW-1	26-Mar-86	18.0	NT	ND	ND	ND	ND	0.009	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	24.0	ND	ND	ND	ND	ND	0.017	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Sep-86	24.0	NT	ND	ND	ND	ND	0.19	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	18.0	0.002	ND	ND	ND	ND	0.012	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	28-May-87	NT	NT	ND	ND	NT	NT	0.123	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	17-Nov-87	NT	NT	ND	ND	NT	NT	0.02	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	3-Jun-88	NT	NT	ND	ND	NT	NT	0.021	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Nov-88	NT	NT	0.00075	0.00268	NT	NT	0.05	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	25-May-89	NT	NT	ND	ND	ND	ND	0.214	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	1-Dec-89	NT	NT	ND	0.00375	ND	ND	0.151	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	19-Jun-90	11.30	NT	ND	ND	ND	ND	0.231	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	14-Nov-90	12.6	NT	ND	ND	ND	0.0011	0.50	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Jun-91	NT	NT	ND	ND	ND	ND	0.022	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Nov-91	NT	NT	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	9-Jun-92	NT	NT	ND	ND	0.0014	ND	0.04	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	11-Dec-92	NT	NT	ND	ND	ND	ND	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-2	26-Mar-86	18.0	NT	ND	ND	ND	ND	0.063	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	27.0	NT	ND	ND	ND	ND	0.023	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Sep-86	23.0	NT	ND	ND	ND	ND	0.17	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	15.0	NT	ND	ND	ND	ND	0.110	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-3	26-Mar-86	29.0	NT	ND	ND	ND	ND	0.006	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	17.0	NT	ND	0.003	ND	0.030	0.006	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Sep-86	16.0	NT	ND	ND	ND	ND	0.082	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	12.0	NT	ND	ND	ND	ND	0.012	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-4	26-Mar-86	110.0	NT	11.8	7.5	0.107	NT	0.633	ND	0.200	ND	0.100	0.050	ND	0.090	ND	0.202	ND	0.150	0.036	0.166	ND	ND	ND	0.044	ND	ND
	23-Jun-86	130.0	NT	3.1	0.290	0.070	NT	0.430	ND	ND	0.058	ND	ND	0.108	0.302	0.016	ND	0.023	ND	0.019	ND	ND	ND	ND	ND	ND	ND
	18-Sep-86	63.0	NT	6.65	0.407	0.140	NT	0.085	ND	ND	ND	ND	ND	0.026	0.331	0.010	ND	ND	ND	0.015	0.005	0.001	0.045	ND	ND	ND	ND
	16-Dec-86	170.0	NT	1.91	1.78	4.48	NT	0.096	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.023	0.036	ND	ND	ND	ND	0.049	ND	ND
	28-May-87	NT	NT	10.7	0.71	NT	NT	0.278	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	17-Nov-87	NT	NT	8.5	0.023	NT	NT	0.73	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	3-Jun-88	NT	NT	8.9	0.93	NT	NT	0.069	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Nov-88	NT	NT	11.130	8.916	NT	NT	0.101	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	25-May-89	NT	NT	9.200	9.800	1.100	10.700	0.250	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

TABLE [redacted]ge 2 of 4)

SUMMARY OF ORGANIC GROUNDWATER ANALYTICAL DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

WELL ID	SAMPLE DATE	TOC	TOX	B	T	E	X	TOTAL PHEN	EDC	2,4 DCP	2,4 DMP	4,6-DNC	2,4 DNP	2-NP	4-NP	BENZ ANTH	PHEN	CHRY-SENE	FLUO-RENE	NAPH	PYR	2 CHLR PHEN	PCMC	BENZ FLR	A-NAPH	ANTH	FLUORANTH
MW-5	26-Mar-86	14.0	NT	ND	ND	ND	ND	0.006	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	21.0	ND	ND	ND	ND	ND	0.007	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Sep-86	20.0	NT	ND	ND	ND	ND	0.034	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	9.0	ND	ND	ND	ND	ND	0.021	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	28-May-87	NT	NT	ND	ND	NT	NT	0.334	0.72	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	17-Nov-87	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	3-Jun-88	NT	NT	ND	ND	NT	NT	0.064	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Nov-88	NT	NT	ND	0.00186	NT	NT	0.16	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	25-May-89	NT	NT	ND	ND	ND	ND	0.362	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	1-Dec-89	NT	NT	0.0108	0.092	0.0098	0.0223	0.006	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	19-Jun-90	7.40	NT	ND	ND	ND	ND	0.102	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	14-Nov-90	8.60	NT	ND	ND	ND	ND	0.03	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Jun-91	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Nov-91	NT	NT	ND	ND	ND	ND	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	9-Jun-92	NT	NT	ND	ND	ND	0.0012	0.02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	11-Dec-92	NT	NT	ND	ND	ND	ND	0.04	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-7	26-Mar-86	11.0	NT	0.015	0.053	0.007	NT	ND	ND	ND	ND	0.013	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	23-Jun-86	4.0	NT	ND	ND	ND	NT	0.006	ND	ND	ND	ND	ND	ND	ND	0.001	ND	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND
	18-Sep-86	4.0	NT	0.058	0.006	0.004	NT	0.036	ND	ND	ND	ND	ND	ND	0.007	ND	ND	ND	ND	ND	ND	ND	0.001	ND	ND	ND	ND
	16-Dec-86	2.0	NT	0.009	ND	ND	ND	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	ND	ND	ND	ND	ND	0.001	ND	ND	ND
MW-8	26-Mar-86	5.0	ND	ND	ND	0.107	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	23-Jun-86	13.0	ND	ND	ND	ND	NT	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	18-Sep-86	8.0	ND	ND	ND	ND	NT	0.097	ND	ND	ND	ND	ND	ND	0.008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	16-Dec-86	6.0	ND	ND	ND	ND	ND	0.042	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	26-Mar-86	143	NT	7.4	6.3	3.2	ND	0.304	ND	0.160	ND	ND	ND	ND	ND	ND	0.149	ND	0.012	ND	ND	ND	ND	ND	ND	ND	ND
	23-Jun-86	180	NT	4	1.7	0.71	NT	0.372	ND	0.150	ND	ND	ND	ND	ND	ND	0.170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	18-Sep-86	240	NT	17.7	10.6	0.015	NT	0.17	ND	ND	ND	ND	ND	ND	1.10	0.007	0.013	ND	ND	ND	0.010	ND	ND	ND	0.028	ND	ND
	16-Dec-86	275	NT	1.49	0.754	0.504	ND	0.160	ND	ND	ND	ND	ND	ND	ND	ND	0.133	ND	ND	0.029	ND	ND	ND	ND	ND	ND	ND
	8-Nov-91	63.3	0.041	16.200	0.309	8.700	10.820	0.115	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Feb-92	109	0.054	2.740	1.570	0.610	2.940	0.11	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10-Jun-92	97.7	0.049	15.600	1.100	4.800	6.800	0.330	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Oct-92	48.9	0.036	17.500	0.700	2.200	7.300	0.180	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-10	26-Mar-86	34	NT	0.093	ND	ND	ND	0.147	ND	ND	0.025	0.020	ND	ND	ND	ND	0.090	ND	0.033	ND	0.030	ND	ND	ND	ND	0.039	0.034
	23-Jun-86	76	NT	ND	ND	ND	NT	0.186	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	18-Sep-86	125	NT	0.041	0.054	ND	NT	0.065	ND	ND	ND	ND	ND	0.002	0.016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	16-Dec-86	114	NT	14.1	7.4	0.03	ND	0.055	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.004	ND	ND	ND	ND	ND	ND	ND

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SUMMARY OF ORGANIC GROUNDWATER ANALYTICAL DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

WELL ID	SAMPLE DATE	TOC	TOX	B	T	E	X	TOTAL PHEN	EDC	2,4 DCP	2,4 DMP	4,6-DNC	2,4 DNP	2-NP	4-NP	BENZ ANTH	PHEN	CHRY-SENE	FLUO-RENE	NAPH	PYR	2 CHLR PHEN	PCMC	BENZ FLR	A-NAPH	ANTH	FLUORANTH
MW-11	3-Jun-88	NT	NT	3.0	0.46	NT	NT	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	9-Sep-88	NT	NT	44.400	0.840	0.063	3.406	0.06	0.0022	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-12	3-Jun-88	NT	NT	ND	ND	NT	NT	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-13	9-Sep-88	NT	NT	0.00023	0.00024	0.00029	0.00156	0.03	0.0156	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-20	8-Nov-91	19.7	0.037	0.002	ND	ND	0.004	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Feb-92	21.4	0.041	0.201	0.035	0.011	0.051	0.020	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10-Jun-92	19.2	0.038	0.017	0.008	0.003	0.012	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Oct-92	15.2	0.030	0.022	0.005	ND	0.002	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-21	8-Nov-91	12.2	0.065	0.001	0.011	ND	0.001	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Feb-92	12.9	0.051	0.010	0.020	0.005	0.026	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10-Jun-92	14.6	0.042	1.940	0.450	ND	0.630	0.010	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Oct-92	14.9	0.048	3.010	0.420	ND	0.090	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-1	9-Sep-88	NT	NT	6.400	0.070	0.540	14.800	0.34	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
P-1	9-Sep-88	NT	NT	102.200	0.034	0.00143	0.866	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-2	9-Sep-88	NT	NT	11.0	10.200	2.9	28.800	0.13	0.0016	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
P-2	9-Sep-88	NT	NT	4.80	1.430	0.900	7.530	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-3	9-Sep-88	NT	NT	12.000	0.062	0.00286	5.403	0.05	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
P-3	9-Sep-88	NT	NT	19.400	0.00435	ND	35.100	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-15	8-Nov-91	27.2	0.204	16.100	1.780	23.700	18.760	0.059	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Feb-92	40.8	0.045	4.430	3.850	1.540	4.410	0.140	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10-Jun-92	29.9	0.115	21.700	3.800	27.300	20.900	0.140	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Oct-92	26.3	0.180	17.600	2.500	25.200	15.200	0.260	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-18	8-Nov-91	48.9	0.040	3.830	ND	ND	ND	0.044	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Feb-92	63.6	0.045	1.990	0.150	0.361	1.401	0.070	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10-Jun-92	88.0	0.075	4.500	1.800	ND	3.200	0.140	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Oct-92	46.9	0.068	4.410	0.440	ND	0.370	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 5 (Page 4 of 4)

SUMMARY OF ORGANIC GROUNDWATER ANALYTICAL DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

NT=Not Tested
ND= Not Detected
Units=mg/l (approximately equivalent to parts per million (ppm)).

KEY

B=Benzene
T=Toluene
E=Ethylbenzene
X=total Xylenes
Total Phen=Total Phenols
EDC=1, 2-Dichloroethane
2, 4-DCP=2, 4-Dichlorophenol
2, 4-DMP=2, 4-Dimethylphenol
4, 6-DNC=4, 6-Dinitro-o-cresol
2, 4-DNP=2, 4-Dinitro-phenol
2-NP=2-Nitrophenol
4-NP=4-Nitrophenol

BENZANTH=Benzo(a)anthracene
PHENE=Phenol
CHRY=Chrysene
P-C-M-C=P-chloro-m-cresol
BENZFLUOR=Benzo(K)fluoranthene
FLUOR=Fluorene
A-NAPH=Acenaphthene
PYR=Pyrene
NAPH=Yaphthalene
2-CHLRPHEN=2-Chloro-phenol
FLUORANTH=Fluoranthene
TOC=Total Organic Carbon

TOX=Total Organic Halogens

TABLE 6 (Pa 4)

SUMMARY OF INORGANIC GROUNDWATER AND WATER QUALITY DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

WELL ID	SAMPLE DATE	Cn	TDS	Cl	SO4	Sb	As	Be	Cd	Cr	Pb	Hg	Ni	Se	Ag	Zn	Al	Ba	B	Fe	Mo	Mn	Na	N	F	Coli	Ra 226	Ra 228
MW-1	26-Mar-86	ND	2936	750	7.5	ND	ND	ND	0.050	ND	0.085	ND	0.08	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	0.1	2960	994.7	630	ND	0.077	ND	ND	ND	0.065	ND	ND	0.035	ND	0.20	2.07	ND	ND	ND	ND	0.25	NT	0.540	0.100	NT	NT	NT
	18-Sep-86	0.07	2866	814	673	ND	0.050	ND	ND	ND	0.15	ND	0.07	0.033	ND	0.04	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	ND	2498	774	579	0.25	ND	0.02	ND	ND	ND	ND	0.06	0.030	ND	0.012	4.54	0.055	0.27	ND	0.17	1.11	NT	2.900	0.960	NT	NT	NT
	28-May-87	0.0056	3272	794	827.6	NT	ND	NT	0.023	ND	0.20	ND	0.12	0.10	ND	0.024	ND	ND	0.70	0.14	0.79	1.51	NT	12.9	0.0353	NT	NT	NT
	17-Nov-87	ND	3050	910	655	NT	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32	ND	ND	1.45	NT	5.66	0.76	NT	NT	NT
	3-Jun-88	0.022	3500	1040	851	NT	ND	NT	ND	ND	ND	ND	0.03	ND	ND	0.03	ND	ND	0.25	ND	0.21	0.85	NT	3.22	0.60	NT	NT	NT
	18-Nov-88	ND	3430	1140	665	NT	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32	ND	ND	2.11	NT	4.03	0.92	NT	NT	NT
	25-May-89	ND	3308	NT	653.46	NT	ND	NT	ND	ND	0.05	NT	NT	NT	NT	NT	NT	ND	0.03	ND	NT	ND	NT	0.561	NT	NT	NT	NT
	1-Dec-89	ND	3120	1142.85	515.61	NT	0.0005	NT	0.0073	ND	ND	NT	NT	0.0011	NT	NT	NT	ND	0.28	0.68	NT	1.17	NT	2.04	NT	NT	NT	NT
	19-Jun-90	ND	2952	1269.1	491.3	NT	0.0092	NT	ND	ND	0.007	NT	NT	NT	NT	NT	NT	ND	0.31	ND	NT	0.59	NT	6.47	NT	NT	NT	NT
	14-Nov-90	ND	3440	1170	539	NT	0.0008	NT	ND	ND	ND	NT	NT	NT	NT	NT	NT	ND	ND	14.38	NT	2.30	NT	17	NT	NT	NT	NT
	18-Jun-91	ND	3200	1060	1070	NT	ND	NT	ND	ND	ND	NT	NT	NT	NT	NT	NT	ND	0.32	ND	NT	ND	NT	2.54	NT	NT	NT	NT
	7-Nov-91	ND	3540	1190	684	NT	ND	NT	ND	0.02	ND	NT	NT	NT	NT	NT	NT	ND	0.35	ND	NT	2.79	NT	20.6	NT	NT	NT	NT
	9-Jul-92	ND	3730	1220	882	NT	ND	NT	ND	ND	ND	NT	NT	NT	NT	NT	NT	ND	0.39	ND	NT	0.27	900	11.6	0.80	NT	NT	NT
	11-Dec-92	ND	4920	1760	747	NT	ND	NT	ND	ND	ND	NT	NT	NT	NT	NT	NT	ND	0.55	0.14	NT	3.29	NT	20.2	NT	NT	NT	NT
MW-2	26-Mar-86	ND	2796	200	11.0	ND	ND	ND	0.060	ND	0.12	0.003	0.07	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	0.1	3650	1204.6	1750	ND	0.094	ND	ND	ND	ND	ND	ND	0.070	ND	0.020	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Sep-86	0.18	3598	993	1104	ND	0.080	ND	0.030	ND	0.08	ND	0.12	0.104	ND	0.02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	ND	3664	1012	1372	0.480	ND	ND	ND	ND	ND	ND	0.08	0.04	ND	0.009	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-3	26-Mar-86	ND	4836	1500	29.5	ND	ND	ND	0.12	ND	0.14	0.004	0.08	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	0.25	5362	1584	1950	ND	0.15	ND	0.015	ND	0.070	ND	0.08	0.010	ND	0.018	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Sep-86	0.17	5514	1290	2056	ND	0.21	ND	ND	ND	0.18	ND	0.14	0.100	ND	0.020	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	0.07	4860	1290	2204	0.67	ND	ND	0.11	ND	ND	ND	0.10	0.05	ND	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-4	26-Mar-86	ND	1868	500	0.3	ND	ND	ND	0.060	ND	0.074	0.002	0.08	ND	ND	0.012	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	0.5	2266	989.7	12.5	ND	0.070	ND	ND	ND	0.066	ND	ND	0.080	ND	0.019	1.93	3.54	ND	12.0	ND	3.5	NT	ND	0.21	NT	NT	NT
	18-Sep-86	ND	2308	754	ND	ND	0.08	ND	ND	ND	ND	ND	0.12	0.063	ND	0.008	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	ND	2128	675	ND	0.40	ND	ND	ND	ND	ND	ND	ND	0.03	ND	0.04	3.8	2.3	0.7	18.6	ND	5.7	NT	ND	0.41	NT	NT	NT
	28-May-87	ND	2038	635	4.8	NT	ND	NT	0.018	ND	0.14	ND	0.12	0.08	ND	0.022	ND	9.88	0.97	0.17	0.13	5.29	NT	0.035	ND	NT	NT	NT
	17-Nov-87	0.005	2050	588	ND	NT	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	0.59	4.59	0.03	4.77	NT	0.03	0.019	NT	NT	NT
	3-Jun-88	ND	1820	401	3	NT	ND	NT	ND	ND	ND	ND	0.02	ND	ND	0.001	ND	1.4	0.47	6.44	ND	3.51	NT	0.14	0.28	NT	NT	NT
	18-Nov-88	ND	1830	490	ND	NT	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	0.57	5.95	ND	3.73	NT	0.09	0.30	NT	NT	NT
	25-May-89	ND	1454	NT	7.41	NT	ND	NT	ND	ND	0.03	NT	NT	NT	NT	NT	NT	1.4	0.50	0.92	NT	3.59	NT	ND	NT	NT	NT	NT

TABLE 6 (Pa[redacted]4)

SUMMARY OF INORGANIC GROUNDWATER AND WATER QUALITY DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

WELL ID	SAMPLE DATE	Cn	TDS	Cl	SO4	Sb	As	Be	Cd	Cr	Pb	Hg	Ni	Se	Ag	Zn	Al	Ba	B	Fe	Mo	Mn	Na	N	F	Coli	Ra 226	Ra 228
MW-5	26-Mar-86	ND	3840	1100	14	ND	ND	ND	0.100	ND	0.160	ND	0.10	ND	ND	0.012	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	0.2	3778	1340	1800	ND	0.087	ND	ND	ND	0.055	ND	ND	0.071	ND	0.02	2.75	ND	ND	0.050	ND	0.025	NT	12.500	0.300	NT	NT	NT
	18-Sep-86	0.24	3184	1151	1237	ND	0.07	ND	ND	ND	ND	ND	0.09	0.030	ND	0.02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	ND	3788	1118	1132	0.5	ND	ND	0.010	ND	ND	ND	0.07	0.030	ND	0.016	4.34	0.010	0.24	ND	0.08	ND	NT	36.000	0.580	NT	NT	NT
	28-May-87	ND	3902	1112	772.4	NT	ND	NT	0.026	ND	0.20	ND	0.25	0.14	ND	0.024	ND	ND	0.24	0.14	ND	0.09	NT	27.01	0.0156	NT	NT	NT
	17-Nov-87	0.016	4300	1310	1060	NT	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.54	ND	ND	ND	NT	36.4	0.24	NT	NT	NT
	3-Jun-88	0.030	4200	1300	1000	NT	ND	NT	ND	ND	ND	ND	0.04	ND	ND	ND	ND	ND	0.48	ND	ND	1.45	NT	32.9	0.22	NT	NT	NT
	18-Nov-88	ND	4080	1480	777	NT	ND	NT	ND	ND	0.07	ND	ND	ND	ND	ND	ND	ND	0.45	ND	ND	ND	NT	27.8	0.35	NT	NT	NT
	25-May-89	ND	4196	NT	781.03	NT	ND	NT	ND	ND	0.06	NT	NT	NT	NT	NT	NT	ND	0.41	ND	NT	ND	NT	21.04	NT	NT	NT	NT
	1-Dec-89	ND	4594	1715.62	946.45	NT	0.0006	NT	0.0039	ND	0.044	NT	NT	0.0003	NT	NT	NT	ND	0.58	ND	NT	ND	NT	24.85	NT	NT	NT	NT
	19-Jun-90	ND	4918	1751.4	1131.6	NT	0.0126	NT	ND	ND	0.005	NT	NT	NT	NT	NT	NT	ND	0.06	ND	NT	ND	NT	16.75	NT	NT	NT	NT
	14-Nov-90	0.01	4930	1640	1110	NT	ND	NT	ND	ND	ND	NT	NT	NT	NT	NT	NT	ND	ND	ND	NT	ND	NT	23.1	NT	NT	NT	NT
	18-Jun-91	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Nov-91	ND	5390	1770	1370	NT	ND	NT	ND	0.03	ND	NT	NT	NT	NT	NT	NT	ND	0.48	ND	NT	0.12	NT	24.1	NT	NT	NT	NT
	9-Jul-92	ND	7634	3070	1190	NT	ND	NT	ND	ND	0.11	NT	NT	NT	NT	NT	NT	ND	0.63	ND	NT	9.11	1280	9.11	0.25	NT	NT	NT
	11-Dec-92	ND	6960	2820	754	NT	0.010	NT	ND	0.02	ND	NT	NT	NT	NT	NT	NT	ND	0.76	3.72	NT	0.60	NT	6.57	NT	NT	NT	NT
MW-7	26-Mar-86	ND	6076	30	5.5	ND	ND	ND	0.050	ND	ND	ND	0.08	ND	ND	0.018	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	0.25	6406	80	2400	ND	0.36	ND	0.030	0.052	0.24	ND	0.07	0.65	0.060	0.016	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Sep-86	0.10	6348	20	5802	ND	0.22	ND	ND	ND	0.05	ND	0.08	0.36	ND	0.02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	ND	6940	29	3630	0.83	ND	ND	0.02	0.08	0.26	ND	0.07	0.09	ND	0.017	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-8	26-Mar-86	ND	806	160	4.0	ND	ND	ND	0.010	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	ND	2910	840	1500	ND	0.072	ND	ND	ND	0.055	ND	0.86	0.210	ND	0.020	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Sep-86	ND	2284	576	586	ND	0.030	ND	ND	ND	ND	ND	0.21	ND	ND	0.02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	0.1	3450	913	1270	0.67	ND	ND	ND	ND	ND	ND	0.43	0.040	ND	0.016	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-9	26-Mar-86	ND	2360	149	13.0	ND	ND	ND	0.010	ND	ND	ND	0.30	ND	ND	0.012	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	0.4	1718	1010	114	ND	ND	ND	ND	ND	0.059	ND	0.25	0.040	ND	0.015	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Sep-86	ND	1428	89	ND	ND	0.02	ND	ND	ND	ND	ND	0.13	ND	ND	0.05	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	ND	1684	109	20	0.4	ND	ND	ND	ND	ND	ND	0.16	0.03	ND	0.011	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	1-Nov-91	NT	NT	123	12	NT	0.013	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	1.600	NT	5.380	NT	3.220	471	ND	0.330	ND	ND	ND
	7-Feb-92	NT	NT	114	117	NT	0.010	NT	ND	0.030	ND	ND	NT	ND	ND	NT	NT	1.100	NT	0.150	NT	1.970	454	ND	0.300	ND	.7+/-.4	ND
	1-Jun-92	NT	NT	117	53	NT	0.009	NT	ND	ND	0.030	ND	NT	ND	ND	NT	NT	1.770	NT	6.630	NT	3.050	40	ND	0.340	20	ND	ND
	16-Oct-92	NT	NT	38	12	NT	0.008	NT	ND	ND	0.020	ND	NT	ND	ND	NT	NT	1.100	NT	3.230	NT	2.190	239	ND	0.430	ND	ND	ND
MW-10	26-Mar-86	ND	1546	245	5.3	ND	ND	ND	0.02	ND	ND	ND	0.08	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	ND	2820	570	165	ND	0.053	ND	ND	ND	0.059	ND	ND	0.04	ND	0.015	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Sep-86	0.050	2408	587	ND	ND	0.05	ND	ND	ND	0.05	ND	0.18	0.071	ND	0.16	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	ND	3272	457	10	0.56	ND	0.04	ND	ND	ND	ND	ND	0.03	ND	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-11	9-Sep-88	NT	1900	NT	30	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.06	NT	NT	NT	NT

TABLE 6 (Pa[illegible] 4)

SUMMARY OF INORGANIC GROUNDWATER AND WATER QUALITY DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

WELL ID	SAMPLE DATE	Cn	TDS	Cl	SO4	Sb	As	Be	Cd	Cr	Pb	Hg	Ni	Se	Ag	Zn	Al	Ba	B	Fe	Mo	Mn	Na	N	F	Cod	Ra 226	Ra 228
MW-13	9-Sep-88	NT	3200	NT	728	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	13.1	NT	NT	NT	NT
MW-20	1-Nov-91	NT	NT	193	20	NT	0.005	NT	ND	0.020	ND	ND	NT	ND	ND	NT	NT	ND	NT	0.590	NT	3.860	398	ND	0.270	ND	ND	ND
	7-Feb-92	NT	NT	739	37	NT	0.007	NT	0.003	0.060	ND	ND	NT	ND	ND	NT	NT	0.700	NT	2.520	NT	7.900	501	ND	0.190	ND	.6+/-.3	2+/-1
	1-Jun-92	NT	NT	554	117	NT	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	0.700	NT	1.730	NT	5.680	446	2.430	0.250	50	ND	ND
	16-Oct-92	NT	NT	361	215	NT	0.005	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	0.810	NT	5.200	445	0.020	0.260	ND	ND	ND
MW-21	1-Nov-91	NT	NT	481	416	NT	ND	NT	ND	ND	ND	ND	NT	ND	0.010	NT	NT	ND	NT	0.810	NT	6.230	604	ND	0.480	ND	ND	ND
	7-Feb-92	NT	NT	420	443	NT	0.011	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	1.000	NT	5.550	552	ND	0.430	ND	ND	ND
	1-Jun-92	NT	NT	626	165	NT	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	1.710	NT	5.690	631	0.170	0.460	8	ND	ND
	16-Oct-92	NT	NT	797	210	NT	0.005	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	2.490	NT	6.800	607	ND	0.270	ND	ND	ND
RW-1	9-Sep-88	NT	3130	NT	4.5	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT
P-1	9-Sep-88	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-2	9-Sep-88	NT	1983	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT
P-2	9-Sep-88	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-3	9-Sep-88	NT	3250	NT	9.5	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT
P-3	9-Sep-88	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-15	1-Nov-91	NT	NT	730	2	NT	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	0.800	NT	2.610	NT	4.590	750	ND	0.290	ND	ND	ND
	7-Feb-92	NT	NT	558	4	NT	0.007	NT	ND	0.060	ND	ND	NT	ND	ND	NT	NT	0.600	NT	10.100	NT	3.050	676	ND	0.270	ND	.9+/-.4	ND
	1-Jun-92	NT	NT	818	5	NT	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	0.600	NT	ND	NT	1.130	709	ND	0.300	1	ND	ND
	16-Oct-92	NT	NT	758	3	NT	ND	NT	ND	ND	0.001	ND	NT	ND	ND	NT	NT	0.700	NT	1.940	NT	4.720	744	ND	0.170	ND	ND	ND
RW-18	1-Nov-91	NT	NT	228	24	NT	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	1.100	NT	0.060	NT	4.690	492	ND	0.330	ND	ND	ND
	7-Feb-92	NT	NT	200	34	NT	0.006	NT	ND	0.030	ND	ND	NT	ND	ND	NT	NT	1.200	NT	10.400	NT	4.240	470	ND	0.310	ND	1.1+/-.4	2+/-1
	1-Jun-92	NT	NT	239	3	NT	ND	NT	ND	ND	0.020	ND	NT	ND	ND	NT	NT	1.150	NT	4.390	NT	4.480	383	ND	0.320	460	ND	ND
	16-Oct-92	NT	NT	240	59100	NT	ND	NT	ND	ND	0.002	ND	NT	ND	ND	NT	NT	1.000	NT	0.450	NT	4.370	426	ND	0.260	ND	ND	ND

TABLE 6 (Page 4 of 4)

SUMMARY OF INORGANIC GROUNDWATER AND WATER QUALITY DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

NT = Not Tested
ND = Not Detected
Units = mg/l (approximately equivalent to parts per million [ppm])

KEY:

Cn = Cyanide	Zn = Zinc
TDS = Total Dissolved Solids	Al = Aluminum
Cl = Chloride	Ba = Barium
SO4 = Sulfate	B = Boron
Sb = Antimony	Fe = Iron
As = Arsenic	Mo = Molybdenum
Be = Beryllium	Mn = Manganese
Cd = Cadmium	Na = Sodium
Cr = Chromium	N = Nitrogen
Pb = Lead	F = Fluoride
Hg = Mercury	Coli = Coliform
Ni = Nickel	Ra 226 = Radium 226
Se = Selenium	Ra 228 = Radium 228
Ag = Silver	

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ATTACHMENT 3

BLOOMFIELD REFINING COMPANY
BENZENE IN WASTEWATER DISCHARGE

DATE	UNITS	DET LIMIT	RESULT
01/15/93	mg/l	0.0002	ND
02/03/93	mg/l	0.005	0.04
02/25/93	mg/l	0.003	0.004
03/04/93	mg/l	0.01	0.338
04/20/93	mg/l	0.001	ND
06/01/93	mg/l	0.0005	ND
07/13/93	mg/l	0.0002	0.00021
08/11/93	mg/l	0.0002	ND
09/07/93	mg/l	0.0002	ND
10/11/93	mg/l	0.0002	ND
11/17/93	mg/l	0.0002	ND
12/13/93	mg/l	0.0002	0.00025
01/15/93	mg/l	0.0002	0.00026
02/14/94	mg/l	0.0002	0.0001
02/17/94	mg/l	0.0002	ND

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Bloomfield Refinery

Case Narrative

On January 13, 1994, a single water sample was submitted to Inter-Mountain Laboratories - Farmington for analysis. The sample was received cool and intact. Analysis for Benzene-Toluene-Ethylbenzene-Xylenes (BTEX) was performed on the water sample as per the accompanying chain of custody form.

BTEX analysis was performed by EPA Method 5030, Purge and Trap, and EPA Method 602.2, Purgeable Aromatics, using an OI Analytical 4560 Purge and Trap and a Hewlett-Packard 5890 Gas Chromatograph, equipped with a photoionization detector. BTEX analytes were detected in the sample at levels above the stated detection limits, as indicated on the report sheets.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies. The methods used in the analysis of the sample reported herein are found in Standard Methods for Analysis of Water and Waste Water, 1992 and The Federal Register, Vol. 49, N0. 209, October, 1984.

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

Sincerely,

Dr. Denise A. Bohemier,
Organic Lab Supervisor

BRC4512

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

PURGEABLE AROMATICS

Bloomfield Refining Co.

Project ID:	Bloomfield, NM	Report Date:	01/19/94
Sample ID:	NOWP - E Discharge	Date Sampled:	01/13/94
Lab ID:	4512	Date Received:	01/13/94
Sample Matrix:	Water	Date Analyzed:	01/19/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	0.26	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	6.74	0.40
o-Xylene	3.43	0.20

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	129	88 -110%
Bromofluorobenzene	111	86 -115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments: High toluene-d8 recovery is due to matrix interference at the d8 retention time.

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Purgeable Aromatics

Matrix Spike Analysis

Lab ID: 4512Spk
Sample Matrix: Water
Preservative: Cool, HCl
Condition: Intact

Report Date: 01/19/94
Date Sampled: 01/13/94
Date Received: 01/13/94
Date Analyzed: 01/19/94

Target Analyte	Spike Added (ug/L)	Original Conc. (ug/L)	Spiked Sample Conc. (ug/L)	% Recovery	Acceptance Limits (%)
Benzene	10	0.26	10.4	101%	39 -150
Toluene	10	ND	10.7	107%	46 - 148
Ethylbenzene	10	ND	12.3	123%	32 - 160
m,p-Xylenes	20	6.74	28.9	111%	NE
o-Xylene	10	3.43	13.8	104%	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Spike acceptance range not established by the EPA.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	123	88 - 110%
Bromofluorobenzene	110	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

PURGEABLE AROMATICS

Quality Control Report

Method Blank Analysis

Sample Matrix: Water
Lab ID: MB34353

Report Date: 01/19/94
Date Analyzed: 01/19/94

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	96	88 -110%
Bromofluorobenzene	95	86 -115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Purgeable Aromatics

Duplicate Analysis

Lab ID:	4510Dup	Report Date:	01/19/94
Sample Matrix:	Water	Date Sampled:	01/13/94
Preservative:	Cool	Date Received:	01/13/94
Condition:	Intact	Date Analyzed:	01/19/94

Target Analyte	Original Conc. (ug/L)	Duplicate Conc. (ug/L)	Acceptance Range (ug/L)
Benzene	165	162	133 - 193
Toluene	ND	ND	NA
Ethylbenzene	208	210	137 - 281
m,p-Xylenes	426	433	NE
o-Xylene	ND	ND	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Duplicate acceptance range not established by the EPA.

	Surrogate	Percent Recovery	Acceptance Limits
Quality Control:	Toluene-d8	96	88 - 110%
	Bromofluorobenzene	95	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES / PARAMETERS
BLOOMFIELD REFINING CO.	BLOOMFIELD, NM	

Sampler: (Signature)	Chain of Custody Tape No.	Remarks

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	BTEX				
NDWPE DISCHARGE	1-13-94	3:00P		WATER	2	X				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	1-13-94	4:20P		1/14/94	16:20
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

7

Inter-Mountain Laboratories, Inc.

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☐	☐	☑	☐	☐	☐
1633 Terra Avenue	1714 Phillips Circle	2506 West Main Street	1160 Research Dr.	11183 SH 30	3304 Longmire Drive
Sheridan, Wyoming 82801	Gillette, Wyoming 82716	Farmington, NM 87401	Bozeman, Montana 59715	College Station, TX 77845	College Station, TX 77845
Telephone (307) 672-8945	Telephone (307) 682-8945	Telephone (505) 326-4737	Telephone (406) 586-8450	Telephone (409) 776-8945	Telephone (409) 774-4999

Bloomfield Refining Company
A Gary-Williams Energy Corporation Subsidiary

Date: October 22, 1991

Copy To: Joe Warr
Dave Roderick
John Goodrich

To: File

From: Chris Hawley CH

Subject: VOC EMISSIONS FROM RCRA REGULATED UNITS - PROPOSED RULES BY EPA

The EPA is now in the process of proposing rules to require controls of VOC emissions from tanks, containers, and surface impoundments that are subject to TSDF requirements of RCRA. Our SOWP and NOWP (as they exist now or as they will exist as tanks) are subject to assessment for applicability to the new rules. The assessment is two-part: 1. the rule would apply only to TSDFs and large quantity generator's tanks, and; 2. only wastes that have a volatile organic concentration of 500 ppm would be covered. Controls include covers, vapor control, etc.

EPA requires that a generator determine the VOC concentration of the waste as close to the point of generation as possible. In our case, this would be the overflow weir from the API separator.

On September 6, 1991, a sample was obtained from the API discharge and submitted for total VOC analysis. The results of 18 ppm (see attached data) are significantly below 500 ppm; therefore, we do not need to be concerned about the proposed rule affecting our SOWP or NOWP operation.

CH/jm

Attachment

Inter·Mountain
Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Case Narrative

On September 6, 1991 a sample set consisting of two samples was received by Inter-Mountain Laboratories - Farmington, NM. Enclosed is a copy of the chain of custody indicating the requested analysis. The normal turn around time was requested and is reflected in the analytical price.

It is the policy of this laboratory to employ, whenever possible, analytical methods which have been approved by regulatory agencies. The methods which we use are referenced in SW-846, "Test Methods for Evaluating Solid Waste", USEPA, 1986; "Chemical Analysis of Water and Waste", USEPA, 1978; and other references as applicable. All reports in this package have the analytical methods and the references footnoted.

A Hewlett-Packard Gas Chromatograph was used for the analysis which determined the absence of target BTEX compounds in sample identified as NOWP-E Discharge.

Quality Assurance reports have been included in this package. These reports can be identified by the notation in the upper left hand corner of the report.

Please feel free to call if you have any questions.

Tony Tristano

Tony Tristano
Senior Analytical Chemist

Inter·Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

CASE NARRATIVE

On September 10, 1991, one sample was received for analysis at Inter-Mountain Labs, Bozeman, Montana. The chain of custody form requested analysis for Volatile Organics by Method 624. Client name was listed as Bloomfield Refining Co.

Detectable levels of target analytes were found.

Limits of detection for each instrument/analysis are determined by sample matrix effects, instrument performance under standard conditions, and dilution requirements to maintain chromatography output within calibration ranges.

Jack Felkey
IML-Bozeman

BRC2460

Inter·Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING CO.		
Sample ID:	API Discharge	Date Reported:	10/01/91
Project ID:	None	Date Sampled:	09/06/91
Laboratory ID:	B912460	Date Received:	09/10/91
Sample Matrix:	Aqueous	Date Extracted:	09/18/91
Preservation:	Cool	Date Analyzed:	09/18/91
Condition:	Intact		

Parameter	Analytical Result	Detection Limit	Units
Chloromethane	ND	250	ug/L
Bromomethane	ND	250	ug/L
Vinyl chloride	ND	250	ug/L
Chloroethane	ND	250	ug/L
Methylene chloride	ND	250	ug/L
Trichlorofluoromethane	ND	250	ug/L
1,1-Dichloroethene	ND	250	ug/L
1,1-Dichloroethane	ND	250	ug/L
trans-1,2-Dichloroethene	ND	250	ug/L
Chloroform	ND	250	ug/L
1,2-Dichloroethane	ND	250	ug/L
1,1,1-Trichloroethane	ND	250	ug/L
Carbon tetrachloride	ND	250	ug/L
Bromodichloromethane	ND	250	ug/L
1,2-Dichloropropane	ND	250	ug/L
cis-1,3-Dichloropropene	ND	250	ug/L
Trichloroethene	ND	250	ug/L
Benzene	5800	250	ug/L
Dibromochloromethane	ND	250	ug/L
1,1,2-Trichloroethane	ND	250	ug/L
trans-1,3-Dichloropropene	ND	250	ug/L
2-Chloroethylvinyl ether	ND	250	ug/L
Bromoform	ND	250	ug/L
1,1,2,2-Tetrachloroethane	ND	250	ug/L
Tetrachloroethene	ND	250	ug/L
Toluene	11000	250	ug/L
Chlorobenzene	ND	250	ug/L
Ethyl benzene	1200	250	ug/L
1,3-Dichlorobenzene	ND	250	ug/L
1,2-Dichlorobenzene	ND	250	ug/L
1,4-Dichlorobenzene	ND	250	ug/L

ND - Analyte Not Detected at Stated Detection Limits

Inter-Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

EPA METHOD 624
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING CO.		
Sample ID:	API Discharge	Date Reported:	10/01/91
Laboratory ID:	B912460	Date Sampled:	09/06/91
Sample Matrix:	Aqueous	Date Analyzed:	09/18/91

Tentative Identification	Retention Time (min)	Concentration	Units
Unknown alkane	3.60	2000	ug/L
Unknown alkane	5.70	2000	ug/L
m,p-Xylene	16.85	5100	ug/L
o-Xylene	17.46	2200	ug/L
Substituted benzene	19.51	2000	ug/L

Unknown concentrations calculated assuming a Relative Response Factor = 1

QUALITY CONTROL:

Surrogate Recovery	%	Water QC Limits
1,2-Dichloroethane-d4	95	76 - 114
Toluene-d8	97	88 - 110
Bromofluorobenzene	97	86 - 115

References:

Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst

Reviewed

Inter-Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

VOLATILE ORGANIC COMPOUNDS
MATRIX SPIKE / MATRIX SPIKE DUPLICATE SUMMARY

Client:	BLOOMFIELD REFINING CO.		
Sample ID:	Matrix Spike	Date Reported:	10/01/91
Laboratory ID:	MS2680V	Date Sampled:	NA
Sample Matrix:	Aqueous	Date Received:	NA
Preservation:	NA	Date Extracted:	09/18/91
Condition:	NA	Date Analyzed:	09/18/91

ORIGINAL SAMPLE PARAMETERS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC. (ug/L)	MS CONC. (ug/L)	MS REC (%)	QC LIMITS REC.
1,1-Dichloroethene	100	0	83	83	61-145
Trichloroethene	100	0	80	80	71-120
Benzene	100	15	110	95	76-127
Toluene	100	0	98	98	76-125
Chlorobenzene	100	0	100	100	75-130

DUPLICATE SAMPLE PARAMETERS

COMPOUND	SPIKE ADDED (ug/L)	MSD CONC. (ug/L)	MSD REC (%)	RPD (%)	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	100	77	77	8	14	61-145
Trichloroethene	100	83	83	4	14	71-120
Benzene	100	110	95	0	11	76-127
Toluene	100	100	100	2	13	76-125
Chlorobenzene	100	100	100	0	13	75-130

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

Analyst

Reviewed

Inter-Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

EPA METHOD 624
HSL VOLATILE COMPOUNDS
METHOD BLANK ANALYSIS

Client:	BLOOMFIELD REFINING CO.		
Sample ID:	Method Blank	Date Reported:	10/01/91
Laboratory ID:	MB261BV	Date Sampled:	NA
Sample Matrix:	Aqueous	Date Received:	NA
Preservation:	NA	Date Extracted:	09/18/91
Condition:	NA	Date Analyzed:	09/18/91

Parameter	Analytical Result	Detection Limit	Units
Chloromethane	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Vinyl chloride	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Tetrachloroethene	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethyl benzene	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L

ND - Analyte Not Detected at Stated Detection Limits

Inter-Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

EPA METHOD 624
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD BLANK ANALYSIS

Client:	BLOOMFIELD REFINING CO.		
Sample ID:	Method Blank	Date Reported:	10/01/91
Laboratory ID:	MB261BV	Date Sampled:	NA
Sample Matrix:	Aqueous	Date Analyzed:	09/18/91

Tentative Identification	Retention Time (min)	Concentration	Units

No additional compounds found at reportable levels.

Unknown concentrations calculated assuming a Relative Response Factor = 1

QUALITY CONTROL:

Surrogate Recovery	%	Water QC Limits
1,2-Dichloroethane-d4	104	76 - 114
Toluene-d8	104	88 - 110
Bromofluorobenzene	101	86 - 115

References:

Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst

Reviewed

Inter-Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES / PARAMETERS
BRC	BLOOMFIELD	

Sampler: (Signature)	Chain of Custody Tape No.
[signature]	

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	BTEX	VOC 624			Remarks
NOWP-E DISCHARGE	9-6-91	3:00 P	7141	water	2	✓				
API DISCHARGE	9-6-91	3:10 P	7142	water	2		✓			

NFE AAT 09/06/91

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	9-6-91	3:40 P	AAT 09/06/91		
Relinquished by: (Signature) AAT 09/06/91	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature) Tony Tristano	Date 09/06/91	Time 1540

Inter-Mountain Laboratories, Inc.

- ☐ 1633 Terra Avenue, Sheridan, Wyoming 82801, Telephone (307) 672-8945
- ☐ 1714 Phillips Circle, Gillette, Wyoming 82716, Telephone (307) 682-8945
- ☒ 2506 West Main Street, Farmington, NM 87401, Telephone (505) 326-4737
- ☐ 910 Technology Blvd. Suite B, Bozeman, Montana 59715, Telephone (406) 586-8450
- ☐ Route 3, Box 256, College Station, TX 77845, Telephone (409) 776-8945
- ☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

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91

Inter·Mountain Laboratories, Inc.

1633 Terra Avenue
Sheridan, Wyoming 82801

CASE NARRATIVE

On 6 August 1992, six TCLP extracts were received by Inter-Mountain Laboratories, Inc. at 1633 Terra Ave., Sheridan, Wyoming. The sample custody document indicated request for analysis of parameters from the TC Rule analyte list. The samples arrived cool and intact, custody sheets remained with the extract.

The TCLP preparation and extraction was performed following the steps defined by the EPA using Method 1311, SW-846, November 1990, and found in the Federal Register, 40 CFR 261, Volume 55, No. 126, June 1990. A duplicate analysis was prepared to evaluate the extraction reproducibility. Relative percent differences were reported only if the analyte concentrations exceeded five times the detection levels. A matrix spike was used to determine matrix effect on the recovery of the target analytes. Matrix spike information was used, via the TC Rule, for the final calculation of the analyte concentrations. Method blanks were used to determine any method induced contamination.

Limits of detection for each instrument or analysis were determined with respect to matrix effect, instrument performance under standard operating conditions and sample dilution. TCLP results were reported as mass per unit volume of leachate. Data qualifiers may have been used in accordance with USEPA data validation guidelines.

Reviewed by: _____
Thomas Bury
Laboratory Manager/IML-Sheridan

Data File ID: _____00-600_____

Inter·Mountain Laboratories, Inc.

1633 Terra Avenue
Sheridan, Wyoming 82801

TCLP REFERENCE LIST:

1.0 Date of Sampling: ___30 July 1992_____

Date of Laboratory Receipt: ___31 July 1992_____

Date of TCLP Extraction: ___4 August 1992_____

2.0 Quality Control Parameters:

Holding Times Maintained: ____X_____ Yes _____ No

Method Blank Data: ____X_____ Yes _____ No

Matrix Spike Data: ____X_____ Yes _____ No

Data Qualifiers: ____X_____ Yes _____ No

J = Estimated Quantity; B = Present in Blank; R = Data Unusable;
UJ = Analyzed but Not Detected, Sample Detection Value.

3.0 Analyte Information:

Parameter:	CAS #:	Regulatory Level (mg/L)	Detection Level (mg/L)	Method
Arsenic	7440-38-2	5.0	0.1	6010A
Barium	7440-39-3	100	0.5	6010A
Cadmium	7440-43-9	1.0	0.005	6010A
Chromium	7440-47-3	5.0	0.01	6010A
Lead	7439-92-1	5.0	0.2	6010A
Mercury	7439-97-6	0.2	0.001	7470A
Selenium	7782-22-4	1.0	0.1	6010A
Silver	7440-22-4	5.0	0.01	6010A

4. 0 Comments: _____

_____

_____

Inter·Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	1 NOWPE Discharge	Date Reported:	08/21/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923346	Date Received:	07/31/92
Sample Matrix:	Water	Date Extracted TCLP:	08/06/92
Preservation:	HCl	Date Analyzed:	08/06/92
Condition:	Intact		

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,1-Dichloroethene	ND	0.02	0.7
1,2-Dichloroethane	ND	0.02	0.5
2-Butanone	ND	0.1	200
Benzene	ND	0.02	0.5
Carbon Tetrachloride	ND	0.02	0.5
Chlorobenzene	ND	0.02	100
Chloroform	ND	0.02	6
Tetrachloroethene	ND	0.02	0.7
Trichloroethene	ND	0.02	0.5
Vinyl Chloride	ND	0.02	0.2

ND - Compound not detected at stated Detection Limit.
J - Meets identification criteria, below Detection Limit.
B - Compound detected in Method Blank.

Inter·Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	1 NOWPE Discharge	Date Reported:	08/21/92
Laboratory ID:	B923346	Date Sampled:	07/30/92
Sample Matrix:	Water	Date Analyzed:	08/06/92

Tentative Identification	Retention Time (min)	Concentration	Units
Unknown Ogranic Acid	27.10	0.2	mg/L
Unknown Ogranic Acid	27.35	0.7	mg/L

Unknown concentrations calculated assuming a Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recovery	%
1,2-Dichloroethane-d4	121
Toluene-d8	105
Bromofluorobenzene	104

References:

Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Third Edition, November 1986.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

Analyst

Reviewed

Inter·Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL SEMI-VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	1 NOWPE Discharge	Report Date:	08/24/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923346	Date Received:	07/31/92
Sample Matrix:	Water	Date Extracted-TCLP:	08/03/92
Preservation:	None	Date Analyzed:	08/10/92
Condition:	Intact	Date Extracted-BNA:	08/05/92

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,4-Dichlorobenzene	ND	0.02	7.5
Hexachloroethane	ND	0.02	3
Nitrobenzene	ND	0.02	2
Hexachloro-1,3-butadiene	ND	0.02	0.5
2,4,6-Trichlorophenol	ND	0.02	2
2,4,5-Trichlorophenol	ND	0.02	400
2,4-Dinitrotoluene	ND	0.02	0.13
Hexachlorobenzene	ND	0.02	0.13
Pentachlorophenol	ND	0.02	100
o-Cresol	ND	0.02	200 **
m & p-Cresol *	ND	0.02	200 **
Pyridine	ND	0.2	5

ND - Compound not detected at stated Detection Limit
B - Compound detected in Method Blank.
* - Compounds coelute by GCMS.
** - Regulatory Limit of combined Cresols.

Inter-Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	1 NOWPE Discharge	Date Reported:	08/24/92
Laboratory ID:	B923346	Date Sampled:	07/30/92
Sample Matrix:	Water	Date Analyzed:	08/10/92

Parameter	Retention Time(min.)	Concentration	Units
Hydrocarbon envelope	10 - 38		
Unknown hydrocarbon	16.75	0.01	mg/L
Unknown hydrocarbon	18.47	0.02	mg/L
Unknown hydrocarbon	20.00	0.03	mg/L
Unknown hydrocarbon	20.68	0.02	mg/L
Unknown hydrocarbon	23.18	0.03	mg/L

Unknown concentrations calculated assuming Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorophenol	56
Phenol-d6	52
Nitrobenzene-d5	79
2-Fluorobiphenyl	86
2,4,6-Tribromophenol	94
Terphenyl-d14	98

References:

Method 8270, Gas Chromatography/Mass Spectrometry for Semi-Volatile Organics, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, December 1987.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

Analyst

Reviewed

Inter-Mountain Laboratories, Inc.

1633 Terra Avenue
Sheridan, Wyoming 82801

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS

Client:	**Bloomfield Refining**	Report Date:	08/23/92
Sample ID:	1 NOWPE Discharge	Date Sampled:	07/30/92
Lab ID:	B923346/5658	Date Received:	07/31/92
Matrix:	Water	TCLP Extract:	08/04/92
Preservation:	Cool/Intact	Date Analyzed:	08/08/92

Parameter:	Analytical Result	Regulatory Level	(Units)
Arsenic	<0.1	5.0	mg/L
Barium	0.5	100	mg/L
Cadmium	<0.005	1.0	mg/L
Chromium	0.01	5.0	mg/L
Lead	<0.2	5.0	mg/L
Mercury	<0.001	0.20	mg/L
Selenium	<0.1	1.0	mg/L
Silver	<0.01 UJ	5.0	mg/L

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126 June 29, 1990.
Method 6010A : Inductively Coupled Plasma-Atomic Emission Spectroscopy, SW-846, Nov. 1990.
Method 7470A : Mercury in Liquid Waste (Manual Cold Vapor Technique), SW-846, Nov. 1990.

Reviewed by: _____

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910 Technology Boulevard, Suite B
Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL VOLATILE COMPOUNDS

Client:	**BLOOMFIELD REFINING COMPANY**		
Sample ID:	2 South Evap Pond	Date Reported:	08/21/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923347	Date Received:	07/31/92
Sample Matrix:	Water	Date Extracted TCLP:	08/06/92
Preservation:	HCl	Date Analyzed:	08/06/92
Condition:	Intact		

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,1-Dichloroethene	ND	0.02	0.7
1,2-Dichloroethane	ND	0.02	0.5
2-Butanone	ND	0.1	200
Benzene	ND	0.02	0.5
Carbon Tetrachloride	ND	0.02	0.5
Chlorobenzene	ND	0.02	100
Chloroform	ND	0.02	6
Tetrachloroethene	ND	0.02	0.7
Trichloroethene	ND	0.02	0.5
Vinyl Chloride	ND	0.02	0.2

ND - Compound not detected at stated Detection Limit.
J - Meets identification criteria, below Detection Limit.
B - Compound detected in Method Blank.

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Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	2 South Evap Pond	Date Reported:	08/21/92
Laboratory ID:	B923347	Date Sampled:	07/30/92
Sample Matrix:	Water	Date Analyzed:	08/06/92

Tentative Identification	Retention Time (min)	Concentration	Units
Unknown Organic Acid	21.90	0.2	mg/L
Unknown Organic Acid	27.10	0.2	mg/L
Unknown Organic Acid	27.35	0.5	mg/L

Unknown concentrations calculated assuming a Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recovery	%
1,2-Dichloroethane-d4	116
Toluene-d8	102
Bromofluorobenzene	102

References:

Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Third Edition, November 1986.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL SEMI-VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	2 South Evap Pond	Report Date:	08/24/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923347	Date Received:	07/31/92
Sample Matrix:	Water	Date Extracted-TCLP:	08/03/92
Preservation:	None	Date Analyzed:	08/13/92
Condition:	Intact	Date Extracted-BNA:	08/05/92

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,4-Dichlorobenzene	ND	0.02	7.5
Hexachloroethane	ND	0.02	3
Nitrobenzene	ND	0.02	2
Hexachloro-1,3-butadiene	ND	0.02	0.5
2,4,6-Trichlorophenol	ND	0.02	2
2,4,5-Trichlorophenol	ND	0.02	400
2,4-Dinitrotoluene	ND	0.02	0.13
Hexachlorobenzene	ND	0.02	0.13
Pentachlorophenol	ND	0.02	100
o-Cresol	ND	0.02	200 **
m & p-Cresol *	ND	0.02	200 **
Pyridine	ND	0.2	5

ND - Compound not detected at stated Detection Limit
B - Compound detected in Method Blank.
* - Compounds coelute by GCMS.
** - Regulatory Limit of combined Cresols.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	2 South Evap Pond	Date Reported:	08/24/92
Laboratory ID:	B923347	Date Sampled:	07/30/92
Sample Matrix:	Water	Date Analyzed:	08/13/92

Parameter	Retention Time(min.)	Concentration	Units
Hydrocarbon envelope	12 - 34		
Unknown hydrocarbon	13.71	0.02	mg/L
Unknown hydrocarbon	19.13	0.03	mg/L
Unknown hydrocarbon	21.56	0.01	mg/L
Unknown hydrocarbon	22.32	0.02	mg/L

Unknown concentrations calculated assuming Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorophenol	34
Phenol-d6	37
Nitrobenzene-d5	57
2-Fluorobiphenyl	67
2,4,6-Tribromophenol	68
Terphenyl-d14	63

References:

Method 8270, Gas Chromatography/Mass Spectrometry for Semi-Volatile Organics, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, December 1987.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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Inter-Mountain Laboratories, Inc.

1633 Terra Avenue
Sheridan, Wyoming 82801

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS

Client:	**Bloomfield Refining**	Report Date:	08/23/92
Sample ID:	2 South Evap Pond	Date Sampled:	07/30/92
Lab ID:	B923347/5659	Date Received:	07/31/92
Matrix:	Water	TCLP Extract:	08/04/92
Preservation:	Cool/Intact	Date Analyzed:	08/08/92

Parameter:	Analytical Result	Regulatory Level	(Units)
Arsenic	<0.1	5.0	mg/L
Barium	0.5	100	mg/L
Cadmium	<0.005	1.0	mg/L
Chromium	<0.01	5.0	mg/L
Lead	<0.2	5.0	mg/L
Mercury	<0.001	0.20	mg/L
Selenium	<0.1	1.0	mg/L
Silver	<0.01 UJ	5.0	mg/L

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126 June 29, 1990.
Method 6010A : Inductively Coupled Plasma-Atomic Emission Spectroscopy, SW-846, Nov. 1990.
Method 7470A : Mercury in Liquid Waste (Manual Cold Vapor Technique), SW-846, Nov. 1990.

Reviewed by: _____

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Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	3 North Evap Pond	Date Reported:	08/21/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923348	Date Received:	07/31/92
Sample Matrix:	Water	Date Extracted TCLP:	08/06/92
Preservation:	HCl	Date Analyzed:	08/06/92
Condition:	Intact		

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,1-Dichloroethene	ND	0.02	0.7
1,2-Dichloroethane	ND	0.02	0.5
2-Butanone	ND	0.1	200
Benzene	ND	0.02	0.5
Carbon Tetrachloride	ND	0.02	0.5
Chlorobenzene	ND	0.02	100
Chloroform	ND	0.02	6
Tetrachloroethene	ND	0.02	0.7
Trichloroethene	ND	0.02	0.5
Vinyl Chloride	ND	0.02	0.2

ND - Compound not detected at stated Detection Limit.
J - Meets identification criteria, below Detection Limit.
B - Compound detected in Method Blank.

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910 Technology Boulevard, Suite B
Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	3 North Evap Pond	Date Reported:	08/21/92
Laboratory ID:	B923348	Date Sampled:	07/30/92
Sample Matrix:	Water	Date Analyzed:	08/06/92

Tentative Identification	Retention Time (min)	Concentration	Units
Unknown Organic Acid	21.94	0.4	mg/L
Unknown Organic Acid	27.13	0.1	mg/L
Unknown Organic Acid	27.36	0.4	mg/L

Unknown concentrations calculated assuming a Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recovery	%
1,2-Dichloroethane-d4	119
Toluene-d8	103
Bromofluorobenzene	104

References:

Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Third Edition, November 1986.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL SEMI-VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	3 North Evap Pond	Report Date:	08/24/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923348	Date Received:	07/31/92
Sample Matrix:	Water	Date Extracted-TCLP:	08/03/92
Preservation:	None	Date Analyzed:	08/13/92
Condition:	Intact	Date Extracted-BNA:	08/05/92

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,4-Dichlorobenzene	ND	0.02	7.5
Hexachloroethane	ND	0.02	3
Nitrobenzene	ND	0.02	2
Hexachloro-1,3-butadiene	ND	0.02	0.5
2,4,6-Trichlorophenol	ND	0.02	2
2,4,5-Trichlorophenol	ND	0.02	400
2,4-Dinitrotoluene	ND	0.02	0.13
Hexachlorobenzene	ND	0.02	0.13
Pentachlorophenol	ND	0.02	100
o-Cresol	ND	0.02	200 **
m & p-Cresol *	ND	0.02	200 **
Pyridine	ND	0.2	5

ND - Compound not detected at stated Detection Limit
B - Compound detected in Method Blank.
* - Compounds coelute by GCMS.
** - Regulatory Limit of combined Cresols.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	3 North Evap Pond	Date Reported:	08/24/92
Laboratory ID:	B923348	Date Sampled:	07/30/92
Sample Matrix:	Water	Date Analyzed:	08/13/92

Parameter	Retention Time(min.)	Concentration	Units
Unknown hydrocarbon	12.94	0.02	mg/L
Unknown hydrocarbon	13.72	0.03	mg/L
Unknown aromatic	13.11	0.03	mg/L
Unknown hydrocarbon	19.11	0.03	mg/L

Unknown concentrations calculated assuming Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorophenol	20
Phenol-d6	30
Nitrobenzene-d5	64
2-Fluorobiphenyl	67
2,4,6-Tribromophenol	44
Terphenyl-d14	70

References:

Method 8270, Gas Chromatography/Mass Spectrometry for Semi-Volatile Organics, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, December 1987.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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1633 Terra Avenue
Sheridan, Wyoming 82801

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS

Client:	**Bloomfield Refining**	Report Date:	08/23/92
Sample ID:	3 North Evap Pond	Date Sampled:	07/30/92
Lab ID:	B923348/5660	Date Received:	07/31/92
Matrix:	Water	TCLP Extract:	08/04/92
Preservation:	Cool/Intact	Date Analyzed:	08/08/92

Parameter:	Analytical Result	Regulatory Level	(Units)
Arsenic	<0.1	5.0	mg/L
Barium	0.5	100	mg/L
Cadmium	<0.005	1.0	mg/L
Chromium	<0.01	5.0	mg/L
Lead	<0.2	5.0	mg/L
Mercury	<0.001	0.20	mg/L
Selenium	<0.1	1.0	mg/L
Silver	<0.01 UJ	5.0	mg/L

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126 June 29, 1990.
Method 6010A : Inductively Coupled Plasma-Atomic Emission Spectroscopy, SW-846, Nov. 1990.
Method 7470A : Mercury in Liquid Waste (Manual Cold Vapor Technique), SW-846, Nov. 1990.

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Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	1 NOWPE	Date Reported:	08/21/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923349	Date Received:	07/31/92
Sample Matrix:	Sludge	Date Extracted TCLP:	08/04/92
Preservation:	None	Date Analyzed:	08/05/92
Condition:	Intact		

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,1-Dichloroethene	ND	0.02	0.7
1,2-Dichloroethane	ND	0.02	0.5
2-Butanone	ND	0.1	200
Benzene	ND	0.02	0.5
Carbon Tetrachloride	ND	0.02	0.5
Chlorobenzene	ND	0.02	100
Chloroform	ND	0.02	6
Tetrachloroethene	ND	0.02	0.7
Trichloroethene	ND	0.02	0.5
Vinyl Chloride	ND	0.02	0.2

ND - Compound not detected at stated Detection Limit.
J - Meets identification criteria, below Detection Limit.
B - Compound detected in Method Blank.

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Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	1 NOWPE	Date Reported:	08/21/92
Laboratory ID:	B923349	Date Sampled:	07/30/92
Sample Matrix:	Sludge	Date Analyzed:	08/05/92

Tentative Identification	Retention Time (min)	Concentration	Units
Toluene	17.15	0.02	mg/L
Xylene(total)	19.80,20.26	0.9	mg/L
Unknown Organic Acid	17.18	0.2	mg/L

Unknown concentrations calculated assuming a Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recovery	%
1,2-Dichloroethane-d4	105
Toluene-d8	103
Bromofluorobenzene	100

References:

Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Third Edition, November 1986.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL SEMI-VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	1 NOWPE	Report Date:	08/24/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923349	Date Received:	07/31/92
Sample Matrix:	Sludge	Date Extracted-TCLP:	08/03/92
Preservation:	*None*	*Date Analyzed:*	08/13/92
Condition:	Intact	Date Extracted-BNA:	08/05/92

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,4-Dichlorobenzene	ND	0.02	7.5
Hexachloroethane	ND	0.02	3
Nitrobenzene	ND	0.02	2
Hexachloro-1,3-butadiene	ND	0.02	0.5
2,4,6-Trichlorophenol	ND	0.02	2
2,4,5-Trichlorophenol	ND	0.02	400
2,4-Dinitrotoluene	ND	0.02	0.13
Hexachlorobenzene	ND	0.02	0.13
Pentachlorophenol	ND	0.02	100
o-Cresol	ND	0.02	200 **
m & p-Cresol *	ND	0.02	200 **
Pyridine	ND	0.2	5

ND - Compound not detected at stated Detection Limit
B - Compound detected in Method Blank.
* - Compounds coelute by GCMS.
** - Regulatory Limit of combined Cresols.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	1 NOWPE	Date Reported:	08/24/92
Laboratory ID:	B923349	Date Sampled:	07/30/92
Sample Matrix:	Sludge	Date Analyzed:	08/13/92

Parameter	Retention Time(min.)	Concentration	Units
Unknown substituted aromatic	9.51	0.02	mg/L
Unknown substituted phenol	13.05	0.02	mg/L
Naphthalene	13.41	0.018	mg/L
2-Methylnaphthalene	15.36	0.019	mg/L
1-Methylnaphthalene	15.63	0.02	mg/L

Unknown concentrations calculated assuming Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorophenol	47
Phenol-d6	54
Nitrobenzene-d5	60
2-Fluorobiphenyl	61
2,4,6-Tribromophenol	83
Terphenyl-d14	72

References:

Method 8270, Gas Chromatography/Mass Spectrometry for Semi-Volatile Organics, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, December 1987.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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Inter·Mountain Laboratories, Inc.

1633 Terra Avenue
Sheridan, Wyoming 82801

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS

Client:	**Bloomfield Refining**	Report Date:	08/23/92
Sample ID:	1 NOWP-E	Date Sampled:	07/30/92
Lab ID:	B923349/5661	Date Received:	07/31/92
Matrix:	Sludge	TCLP Extract:	08/04/92
Preservation:	Cool/Intact	Date Analyzed:	08/08/92

Parameter:	Analytical Result	Regulatory Level	(Units)
Arsenic	<0.1	5.0	mg/L
Barium	0.6	100	mg/L
Cadmium	<0.005	1.0	mg/L
Chromium	<0.01	5.0	mg/L
Lead	<0.2	5.0	mg/L
Mercury	<0.001	0.20	mg/L
Selenium	<0.1	1.0	mg/L
Silver	<0.01 UJ	5.0	mg/L

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126 June 29, 1990.

Method 6010A : Inductively Coupled Plasma-Atomic Emission Spectroscopy, SW-846, Nov. 1990.

Method 7470A : Mercury in Liquid Waste (Manual Cold Vapor Technique), SW-846, Nov. 1990.

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Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	2 South Evap Pond	Date Reported:	08/21/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923350	Date Received:	07/31/92
Sample Matrix:	Sludge	Date Extracted TCLP:	08/04/92
Preservation:	None	Date Analyzed:	08/05/92
Condition:	Intact		

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,1-Dichloroethene	ND	0.02	0.7
1,2-Dichloroethane	ND	0.02	0.5
2-Butanone	ND	0.1	200
Benzene	0.05	0.02	0.5
Carbon Tetrachloride	ND	0.02	0.5
Chlorobenzene	ND	0.02	100
Chloroform	ND	0.02	6
Tetrachloroethene	ND	0.02	0.7
Trichloroethene	ND	0.02	0.5
Vinyl Chloride	ND	0.02	0.2

ND - Compound not detected at stated Detection Limit.
J - Meets identification criteria, below Detection Limit.
B - Compound detected in Method Blank.

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910 Technology Boulevard, Suite B
Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	2 South Evap Pond	Date Reported:	08/21/92
Laboratory ID:	B923350	Date Sampled:	07/30/92
Sample Matrix:	Sludge	Date Analyzed:	08/05/92

Tentative Identification	Retention Time (min)	Concentration	Units
Toluene	17.15	0.14	mg/L
Ethylbenzene	19.65	0.06	mg/L
Xylene(total)	19.80,20.26	0.25	mg/L
Unknown Hydrocarbon	14.99	0.1	mg/L
Unknown Aromatic	21.95	0.07	mg/L

Unknown concentrations calculated assuming a Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recovery	%
1,2-Dichloroethane-d4	109
Toluene-d8	103
Bromofluorobenzene	101

References:

Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Third Edition, November 1986.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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910 Technology Boulevard, Suite B
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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL SEMI-VOLATILE COMPOUNDS

Client:	**BLOOMFIELD REFINING COMPANY**		
Sample ID:	2 South Evap Pond	Report Date:	08/24/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923350	Date Received:	07/31/92
Sample Matrix:	Sludge	Date Extracted-TCLP:	08/03/92
Preservation:	None	Date Analyzed:	08/13/92
Condition:	Intact	Date Extracted-BNA:	08/05/92

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,4-Dichlorobenzene	ND	0.02	7.5
Hexachloroethane	ND	0.02	3
Nitrobenzene	ND	0.02	2
Hexachloro-1,3-butadiene	ND	0.02	0.5
2,4,6-Trichlorophenol	ND	0.02	2
2,4,5-Trichlorophenol	ND	0.02	400
2,4-Dinitrotoluene	ND	0.02	0.13
Hexachlorobenzene	ND	0.02	0.13
Pentachlorophenol	ND	0.02	100
o-Cresol	ND	0.02	200 **
m & p-Cresol *	ND	0.02	200 **
Pyridine	ND	0.2	5

ND - Compound not detected at stated Detection Limit
B - Compound detected in Method Blank.
* - Compounds coelute by GCMS.
** - Regulatory Limit of combined Cresols.

Inter·Mountain Laboratories, Inc.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	2 South Evap Pond	Date Reported:	08/24/92
Laboratory ID:	B923350	Date Sampled:	07/30/92
Sample Matrix:	Sludge	Date Analyzed:	08/13/92

Parameter	Retention Time(min.)	Concentration	Units
Unknown ketone	7.29	0.02	mg/L
Unknown substituted aromatic	9.50	0.03	mg/L
Naphthalene	13.41	0.018	mg/L
2-Methylnaphthalene	15.36	0.018	mg/L
1-Methylnaphthalene	15.63	0.01	mg/L

Unknown concentrations calculated assuming Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorophenol	46
Phenol-d6	44
Nitrobenzene-d5	65
2-Fluorobiphenyl	69
2,4,6-Tribromophenol	83
Terphenyl-d14	69

References:

Method 8270, Gas Chromatography/Mass Spectrometry for Semi-Volatile Organics, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, December 1987.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

Analyst

Reviewed

Inter-Mountain Laboratories, Inc.

1633 Terra Avenue
Sheridan, Wyoming 82801

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS

Client:	**Bloomfield Refining**	Report Date:	08/23/92
Sample ID:	2 South Evap Pond	Date Sampled:	07/30/92
Lab ID:	B923350/5662	Date Received:	07/31/92
Matrix:	Sludge	TCLP Extract:	08/04/92
Preservation:	Cool/Intact	Date Analyzed:	08/08/92

Parameter:	Analytical Result	Regulatory Level	(Units)
Arsenic	<0.1	5.0	mg/L
Barium	1.5	100	mg/L
Cadmium	<0.005	1.0	mg/L
Chromium	<0.01	5.0	mg/L
Lead	<0.2	5.0	mg/L
Mercury	<0.001	0.20	mg/L
Selenium	<0.1	1.0	mg/L
Silver	<0.01 UJ	5.0	mg/L

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126 June 29, 1990.
Method 6010A : Inductively Coupled Plasma-Atomic Emission Spectroscopy, SW-846, Nov. 1990.
Method 7470A : Mercury in Liquid Waste (Manual Cold Vapor Technique), SW-846, Nov. 1990.

Reviewed by: _____

Inter-Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	3 North Evap Pond	Date Reported:	08/21/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923351	Date Received:	07/31/92
Sample Matrix:	Sludge	Date Extracted TCLP:	08/04/92
Preservation:	None	Date Analyzed:	08/05/92
Condition:	Intact		

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,1-Dichloroethene	ND	0.02	0.7
1,2-Dichloroethane	ND	0.02	0.5
2-Butanone	ND	0.1	200
Benzene	ND	0.02	0.5
Carbon Tetrachloride	ND	0.02	0.5
Chlorobenzene	ND	0.02	100
Chloroform	ND	0.02	6
Tetrachloroethene	ND	0.02	0.7
Trichloroethene	ND	0.02	0.5
Vinyl Chloride	ND	0.02	0.2

ND - Compound not detected at stated Detection Limit.
J - Meets identification criteria, below Detection Limit.
B - Compound detected in Method Blank.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	3 North Evap Pond	Date Reported:	08/21/92
Laboratory ID:	B923351	Date Sampled:	07/30/92
Sample Matrix:	Sludge	Date Analyzed:	08/05/92

Tentative Identification	Retention Time (min)	Concentration	Units
Carbon Disulfide	5.72	0.035	mg/L
Unknown Hydrocarbon	17.48	0.4	mg/L

Unknown concentrations calculated assuming a Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recovery	%
1,2-Dichloroethane-d4	105
Toluene-d8	104
Bromofluorobenzene	98

References:

Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Third Edition, November 1986.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL SEMI-VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	3 North Evap Pond	Report Date:	08/24/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923351	Date Received:	07/31/92
Sample Matrix:	Sludge	Date Extracted-TCLP:	08/03/92
Preservation:	None	Date Analyzed:	08/13/92
Condition:	Intact	Date Extracted-BNA:	08/05/92

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,4-Dichlorobenzene	ND	0.02	7.5
Hexachloroethane	ND	0.02	3
Nitrobenzene	ND	0.02	2
Hexachloro-1,3-butadiene	ND	0.02	0.5
2,4,6-Trichlorophenol	ND	0.02	2
2,4,5-Trichlorophenol	ND	0.02	400
2,4-Dinitrotoluene	ND	0.02	0.13
Hexachlorobenzene	ND	0.02	0.13
Pentachlorophenol	ND	0.02	100
o-Cresol	ND	0.02	200 **
m & p-Cresol *	ND	0.02	200 **
Pyridine	ND	0.2	5

ND - Compound not detected at stated Detection Limit
B - Compound detected in Method Blank.
* - Compounds coelute by GCMS.
** - Regulatory Limit of combined Cresols.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	3 North Evap Pond	Date Reported:	08/24/92
Laboratory ID:	B923351	Date Sampled:	07/30/92
Sample Matrix:	Sludge	Date Analyzed:	08/13/92

Parameter	Retention Time(min.)	Concentration	Units

No additional compounds found at reportable levels.

Unknown concentrations calculated assuming Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorophenol	42
Phenol-d6	40
Nitrobenzene-d5	68
2-Fluorobiphenyl	70
2,4,6-Tribromophenol	78
Terphenyl-d14	79

References:
Method 8270, Gas Chromatography/Mass Spectrometry for Semi-Volatile Organics, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, December 1987.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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1633 Terra Avenue
Sheridan, Wyoming 82801

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS

Client:	**Bloomfield Refining**	Report Date:	08/23/92
Sample ID:	3 North Evap Pond	Date Sampled:	07/30/92
Lab ID:	B923351/5663	Date Received:	07/31/92
Matrix:	Sludge	TCLP Extract:	08/04/92
Preservation:	Cool/Intact	Date Analyzed:	08/08/92

Parameter:	Analytical Result	Regulatory Level	(Units)
Arsenic	<0.1	5.0	mg/L
Barium	1.0	100	mg/L
Cadmium	<0.005	1.0	mg/L
Chromium	<0.01	5.0	mg/L
Lead	<0.2	5.0	mg/L
Mercury	<0.001	0.20	mg/L
Selenium	<0.1	1.0	mg/L
Silver	<0.01 UJ	5.0	mg/L

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126 June 29, 1990.
Method 6010A : Inductively Coupled Plasma-Atomic Emission Spectroscopy, SW-846, Nov. 1990.
Method 7470A : Mercury in Liquid Waste (Manual Cold Vapor Technique), SW-846, Nov. 1990.

Reviewed by: _____

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Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	Trip Blank	Date Reported:	08/21/92
Project ID:	Bloomfield/NM	Date Sampled:	NA
Laboratory ID:	B923352	Date Received:	07/31/92
Sample Matrix:	Water	Date Extracted TCLP:	NA
Preservation:	None	Date Analyzed:	08/06/92
Condition:	Intact		

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,1-Dichloroethene	ND	0.005	0.7
1,2-Dichloroethane	ND	0.005	0.5
2-Butanone	ND	0.02	200
Benzene	ND	0.005	0.5
Carbon Tetrachloride	ND	0.005	0.5
Chlorobenzene	ND	0.005	100
Chloroform	ND	0.005	6
Tetrachloroethene	ND	0.005	0.7
Trichloroethene	ND	0.005	0.5
Vinyl Chloride	ND	0.005	0.2

ND - Compound not detected at stated Detection Limit.
J - Meets identification criteria, below Detection Limit.
B - Compound detected in Method Blank.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	Trip Blank	Date Reported:	08/21/92
Laboratory ID:	B923352	Date Sampled:	NA
Sample Matrix:	Water	Date Analyzed:	08/06/92

Tentative Identification	Retention Time (min)	Concentration	Units

No additional compounds found at reportable levels.

Unknown concentrations calculated assuming a Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recovery	%
1,2-Dichloroethane-d4	118
Toluene-d8	108
Bromofluorobenzene	102

References:

Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Third Edition, November 1986.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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QUALITY ASSURANCE / QUALITY CONTROL

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL VOLATILE COMPOUNDS
METHOD BLANK

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	Method Blank	Date Reported:	08/21/92
Project ID:	Bloomfield/NM	Date Sampled:	NA
Laboratory ID:	Q217A	Date Received:	NA
Sample Matrix:	Water	Date Extracted TCLP:	NA
Preservation:	NA	Date Analyzed:	08/05/92
Condition:	NA		

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,1-Dichloroethene	ND	0.005	0.7
1,2-Dichloroethane	ND	0.005	0.5
2-Butanone	ND	0.02	200
Benzene	ND	0.005	0.5
Carbon Tetrachloride	ND	0.005	0.5
Chlorobenzene	ND	0.005	100
Chloroform	ND	0.005	6
Tetrachloroethene	ND	0.005	0.7
Trichloroethene	ND	0.005	0.5
Vinyl Chloride	ND	0.005	0.2

ND - Compound not detected at stated Detection Limit.
J - Meets identification criteria, below Detection Limit.
B - Compound detected in Method Blank.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	Method Blank	Date Reported:	08/21/92
Laboratory ID:	Q217A	Date Sampled:	NA
Sample Matrix:	Water	Date Analyzed:	08/05/92

Tentative Identification	Retention Time (min)	Concentration	Units

No additional compounds found at reportable levels.

Unknown concentrations calculated assuming a Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recovery	%
1,2-Dichloroethane-d4	96
Toluene-d8	104
Bromofluorobenzene	92

References:

Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Third Edition, November 1986.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL VOLATILE COMPOUNDS
METHOD BLANK

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	Method Blank	Date Reported:	08/21/92
Project ID:	Bloomfield/NM	Date Sampled:	NA
Laboratory ID:	Q218A	Date Received:	NA
Sample Matrix:	Water	Date Extracted TCLP:	NA
Preservation:	NA	Date Analyzed:	08/06/92
Condition:	NA		

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,1-Dichloroethene	ND	0.005	0.7
1,2-Dichloroethane	ND	0.005	0.5
2-Butanone	ND	0.02	200
Benzene	ND	0.005	0.5
Carbon Tetrachloride	ND	0.005	0.5
Chlorobenzene	ND	0.005	100
Chloroform	ND	0.005	6
Tetrachloroethene	ND	0.005	0.7
Trichloroethene	ND	0.005	0.5
Vinyl Chloride	ND	0.005	0.2

ND - Compound not detected at stated Detection Limit.
J - Meets identification criteria, below Detection Limit.
B - Compound detected in Method Blank.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	Method Blank	Date Reported:	08/21/92
Laboratory ID:	Q218A	Date Sampled:	NA
Sample Matrix:	Water	Date Analyzed:	08/06/92

Tentative Identification	Retention Time (min)	Concentration	Units

No additional compounds found at reportable levels.

Unknown concentrations calculated assuming a Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recovery	%
1,2-Dichloroethane-d4	107
Toluene-d8	104
Bromofluorobenzene	94

References:

Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Third Edition, November 1986.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL SEMI-VOLATILE COMPOUNDS
METHOD BLANK ANALYSIS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	TCLP Method Blank	Report Date:	08/24/92
Project ID:	Bloomfield/NM	Date Sampled:	NA
Laboratory ID:	TMB - 217	Date Received:	NA
Sample Matrix:	Water	Date Extracted-TCLP:	NA
Preservation:	NA	Date Analyzed:	08/06/92
Condition:	NA	Date Extracted-BNA:	08/05/92

Parameter	Analytical Result	Detection Limit	Units
1,4-Dichlorobenzene	ND	0.02	mg/L
Hexachloroethane	ND	0.02	mg/L
Nitrobenzene	ND	0.02	mg/L
Hexachloro-1,3-butadiene	ND	0.02	mg/L
2,4,6-Trichlorophenol	ND	0.02	mg/L
2,4,5-Trichlorophenol	ND	0.02	mg/L
2,4-Dinitrotoluene	ND	0.02	mg/L
Hexachlorobenzene	ND	0.02	mg/L
Pentachlorophenol	ND	0.02	mg/L
o-Cresol	ND	0.02	mg/L
m & p-Cresol *	ND	0.02	mg/L
Pyridine	ND	0.2	mg/L

ND - Compound not detected at stated Detection Limit.
* - Compounds coelute by GCMS.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD BLANK ANALYSIS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	TCLP Method Blank	Date Reported:	08/24/92
Laboratory ID:	TMB - 217	Date Sampled:	NA
Sample Matrix:	Water	Date Analyzed:	08/06/92

Parameter	Retention Time(min)	Concentration	Units

No additional compounds found at reportable levels.

nknown concentration calculated assuming Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorophenol	41
Phenol-d6	32
Nitrobenzene-d5	51
2-Fluorobiphenyl	47
2,4,6-Tribromophenol	48
Terphenyl-d14	61

References:

Method 8270, Gas Chromatography/Mass Spectrometry for Semi-Volatile Organics, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, December 1987.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

Analyst

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL SEMI-VOLATILE COMPOUNDS
METHOD BLANK ANALYSIS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	TCLP Method Blank	Report Date:	08/24/92
Project ID:	Bloomfield/NM	Date Sampled:	NA
Laboratory ID:	Blank 70	Date Received:	NA
Sample Matrix:	Extraction Fluid	Date Extracted-TCLP:	08/03/92
Preservation:	NA	Date Analyzed:	08/10/92
Condition:	NA	Date Extracted-BNA:	08/05/92

Parameter	Analytical Result	Detection Limit	Units
1,4-Dichlorobenzene	ND	0.02	mg/L
Hexachloroethane	ND	0.02	mg/L
Nitrobenzene	ND	0.02	mg/L
Hexachloro-1,3-butadiene	ND	0.02	mg/L
2,4,6-Trichlorophenol	ND	0.02	mg/L
2,4,5-Trichlorophenol	ND	0.02	mg/L
2,4-Dinitrotoluene	ND	0.02	mg/L
Hexachlorobenzene	ND	0.02	mg/L
Pentachlorophenol	ND	0.02	mg/L
o-Cresol	ND	0.02	mg/L
m & p-Cresol *	ND	0.02	mg/L
Pyridine	ND	0.2	mg/L

ND - Compound not detected at stated Detection Limit.
* - Compounds coelute by GCMS.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD BLANK ANALYSIS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	TCLP Method Blank	Date Reported:	08/24/92
Laboratory ID:	Blank 70	Date Sampled:	01/19/00
Sample Matrix:	Extraction Fluid	Date Analyzed:	08/10/92

Parameter	Retention Time(min)	Concentration	Units

No additional compounds found at reportable levels.

nknown concentration calculated assuming Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorophenol	70
Phenol-d6	56
Nitrobenzene-d5	96
2-Fluorobiphenyl	89
2,4,6-Tribromophenol	101
Terphenyl-d14	118

References:

Method 8270, Gas Chromatography/Mass Spectrometry for Semi-Volatile Organics, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, December 1987.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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1633 Terra Avenue
Sheridan, Wyoming 82801

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS
Quality Control/Blank Analysis

Client:	**Bloomfield Refining**	Report Date:	08/23/92
Sample ID:	IML Blank 70	Date Analyzed:	08/08/92
Lab ID:	5664		
Matrix:	Fluid		

Parameter:	Analytical Result	(Units)
Arsenic	<0.1	mg/L
Barium	<0.5	mg/L
Cadmium	<0.005	mg/L
Chromium	<0.01	mg/L
Lead	<0.2	mg/L
Mercury	<0.001	mg/L
Selenium	<0.1	mg/L
Silver	<0.01	mg/L

Method 6010A : Inductively Coupled Plasma-Atomic Emission Spectroscopy, SW-846, Nov. 1990.
Method 7470A : Mercury in Liquid Waste (Manual Cold Vapor Technique), SW-846, Nov. 1990.

Reviewed by: _____

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Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL VOLATILE COMPOUNDS
MATRIX SPIKE SUMMARY

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	TCLP Matrix Spike	Date Reported:	08/21/92
Laboratory ID:	W3349	Date Sampled:	NA
Sample Matrix:	Extraction Fluid	Date Received:	NA
Preservation:	NA	Date Extracted TCLP:	08/04/92
Condition:	NA	Date Analyzed:	08/05/92

Parameter	Spike Added (ug/L)	Sample Concentration (ug/L)	Matrix Spike Concentration (ug/L)	Matrix Spike Recovery (%)
Vinyl Chloride	100	0	69	69
1,1-Dichloroethene	100	0	102	102
1,2-Dichloroethane	100	0	126	126
Chloroform	100	0	108	108
Carbon Tetrachloride	100	0	108	108
Trichloroethene	100	0	99	99
Benzene	100	0	90	90
Tetrachloroethene	100	0	99	99
Chlorobenzene	100	0	98	98
Methyl Ethyl Ketone	100	0	66	66

References:

Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Third Edition, November 1986.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL SEMI-VOLATILE COMPOUNDS
MATRIX SPIKE SUMMARY

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	Blank Matrix Spike	Date Reported:	08/24/92
Project ID:	Bloomfield/NM	Date Sampled:	NA
Laboratory ID:	TBS-217	Date Received:	NA
Sample Matrix:	Extraction Fluid	Date Extracted:	08/05/92
Preservation:	NA	Date Analyzed:	08/10/92
Condition:	NA		

Parameter	Matrix Spike Conc.	Sample Conc.	Matrix Spike Recovery	Spike Amount	Percent Recovery
1,4-Dichlorobenzene	63	0	63	100	63
Hexachloroethane	54	0	54	100	54
Nitrobenzene	94	0	94	100	94
Hexachloro-1,3-butadiene	66	0	66	100	66
2,4,6-Trichlorophenol	120	0	120	100	120
2,4,5-Trichlorophenol	114	0	114	100	114
2,4-Dinitrotoluene	86	0	86	100	86
Hexachlorobenzene	91	0	91	100	91
Pentachlorophenol	59	0	59	100	59
o-Cresol	92	0	92	100	92
m,p-Cresol	85	0	85	100	85
Pyridine	61	0	61	100	61

All values are total nanograms.

Reference:

Method 8270, Semivolatile Organics - GC/MS, Test Methods for Evaluating Solid Waste, United States Environmental Protection Agency, SW-846, Vol. IB, November 1986.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

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Inter·Mountain Laboratories, Inc.

1633 Terra Avenue
Sheridan, Wyoming 82801

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS
Quality Control/Matrix Spike

Client: **Bloomfield Refining**
Sample ID: 1 NOWPE Discharge
Lab ID: B923346/5658
Date: 08/23/92

Parameter:	Spiked Sample Result mg/L	Sample Result mg/L	Spike Added mg/L	Percent Spike Recovery
Arsenic	2.5	<0.1	2.5	100.0
Barium	2.4	0.5	2.0	95.0
Cadmium	0.517	<0.005	0.500	103.4
Chromium	0.98	0.01	1.00	97.0
Lead	1.8	<0.2	2.0	90.0
Mercury	0.0100	<0.001	0.010	100.0
Selenium	2.4	<0.1	2.5	96.0
Silver *	0.06	<0.01	0.50	12.0

* Low recovery due to the percipitation of silver with inorganic chlorides.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126 June 29, 1990.
Method 6010A : Inductively Coupled Plasma-Atomic Emission Spectroscopy, SW-846, Nov. 1990.
Method 7470A : Mercury in Liquid Waste (Manual Cold Vapor Technique), SW-846, Nov. 1990.

Laboratory Data Validation, Functional Guidelines for Evaluating Inorganics Analyses, USEPA, July 1988.

Reviewed by: _____

Inter·Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
HSL SEMI-VOLATILE COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	2 South Evap Pond	Report Date:	08/24/92
Project ID:	Bloomfield/NM	Date Sampled:	07/30/92
Laboratory ID:	B923350 Duplicate	Date Received:	07/31/92
Sample Matrix:	Sludge	Date Extracted-TCLP:	08/03/92
Preservation:	None	Date Analyzed:	08/13/92
Condition:	Intact	Date Extracted-BNA:	08/05/92

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
1,4-Dichlorobenzene	ND	0.02	7.5
Hexachloroethane	ND	0.02	3
Nitrobenzene	ND	0.02	2
Hexachloro-1,3-butadiene	ND	0.02	0.5
2,4,6-Trichlorophenol	ND	0.02	2
2,4,5-Trichlorophenol	ND	0.02	400
2,4-Dinitrotoluene	ND	0.02	0.13
Hexachlorobenzene	ND	0.02	0.13
Pentachlorophenol	ND	0.02	100
o-Cresol	ND	0.02	200 **
m & p-Cresol *	ND	0.02	200 **
Pyridine	ND	0.2	5

ND - Compound not detected at stated Detection Limit
B - Compound detected in Method Blank.
* - Compounds coelute by GCMS.
** - Regulatory Limit of combined Cresols.

Inter·Mountain Laboratories, Inc.

910 Technology Boulevard, Suite B
Bozeman, Montana 59715

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TENTATIVELY IDENTIFIED COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Sample ID:	2 South Evap Pond	Date Reported:	08/24/92
Laboratory ID:	B923350 Duplicate	Date Sampled:	07/30/92
Sample Matrix:	Sludge	Date Analyzed:	08/13/92

Parameter	Retention Time(min.)	Concentration	Units
Unknown substituted aromatic	9.51	0.02	mg/L
Unknown substituted aromatic	10.08	0.01	mg/L
Naphthalene	13.39	0.015	mg/L
2-Methylnaphthalene	15.37	0.016	mg/L
1-Methylnaphthalene	15.62	0.01	mg/L

Unknown concentrations calculated assuming Relative Response Factor = 1.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorophenol	39
Phenol-d6	40
Nitrobenzene-d5	55
2-Fluorobiphenyl	64
2,4,6-Tribromophenol	81
Terphenyl-d14	69

References:

Method 8270, Gas Chromatography/Mass Spectrometry for Semi-Volatile Organics, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, December 1987.

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

Analyst

Reviewed

Inter·Mountain Laboratories, Inc.

1633 Terra Avenue
Sheridan, Wyoming 82801

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS
Quality Control/Duplicate Analysis

Client: **Bloomfield Refining**
Sample ID: 1 NOWPE Discharge
Lab ID: B923346/5658
Date: 08/23/92

Parameter:	Initial Sample Result mg/L	Second Sample Result mg/L	Relative Percent Difference
Arsenic	<0.1	<0.1	
Barium	0.5	0.5	0.0
Cadmium	<0.005	<0.005	
Chromium	0.01	0.01	0.0
Lead	<0.2	<0.2	
Mercury	<0.001	<0.001	
Selenium	<0.1	<0.1	
Silver	<0.01	<0.01	

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126 June 29, 1990.
Method 6010A : Inductively Coupled Plasma-Atomic Emission Spectroscopy, SW-846, Nov. 1990.
Method 7470A : Mercury in Liquid Waste (Manual Cold Vapor Technique), SW-846, Nov. 1990.

Laboratory Data Validation, Functional Guidelines for Evaluating Inorganics Analyses, USEPA, July 1988.

Reviewed by: _____

Farmington → Bloomfield

CHAIN OF CUSTODY RECORD

Inter-Mountain Laboratories, Inc.

Client/Project Name	Project Location
IML - Farmington	BR

Sampler: (Signature)	Chain of Custody Tape No.
Orig. COC	None

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TCLP	BUA	TCLP Metals	TCLP VOA		Remarks
1 NDWPE Discharge	073092	0900	B923346	Water	4						
2 South Evap Pond	"	0930	B923347	"	4						
3 North Evap Pond	"	1006	B923348	"	4						
1 NDWP - E	"	1140	B923349	Sludge	3						
2 South Evap Pond	"	0930	B923350	"	3						
3 North Evap Pond	"	1000	B923351	"	3						
Trip Blank			B923352								
				NFE							

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Wanda Chee	073092	1655	UPS		
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
UPS	7/31/92	1030	Billie J. Perry	7/31/92	1030
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

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Inter-Mountain Laboratories, Inc.

☐ 1633 Terra Avenue Sheridan, Wyoming 82801 Telephone (307) 672-8945	☐ 1714 Phillips Circle Gillette, Wyoming 82716 Telephone (307) 682-8945	☒ 2506 West Main Street Farmington, NM 87401 Telephone (505) 326-4737	☐ 910 Technology Blvd. Suite B Bozeman, Montana 59715 Telephone (406) 586-8450	☐ Route 3, Box 256 College Station, TX 77845 Telephone (409) 776-8945	☐ 3304 Longmire Drive College Station, TX 77845 Telephone (409) 774-4999

05934

Inter-Mountain Laboratories, Inc.

00-600

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES / PARAMETERS
Bloomfield Refining Co. via IML-Farmington	Bozeman → Sheridan	
Sampler: (Signature) Client	**Chain of Custody Tape No.** Ref. Blank C.O.C. # 10378	

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TCLP Mt					Remarks
05658	8/4/92	08:30	B923346	Water	1	✓					
			B923347	Water	2	✓					
		↓	B923348	Water	2	✓					
		09:15	B923349	Sludge	2	✓					
			B923350	Sludge	2	✓					
	↓	↓	B923351	Sludge	2	✓					

D.R.L.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
D.R. Lingenfelter	8/5/92	16:00	UPS	8/5/92	16:00

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	**Date**	**Time**	**Received by laboratory: (Signature)**	**Date**	**Time**

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Inter-Mountain Laboratories, Inc.

10379

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

☐ 1714 Phillips Circle, Gillette, Wyoming 82716, Telephone (307) 682-8945

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

☒ 910 Technology Blvd. Suite B, Bozeman, Montana 59715, Telephone (406) 586-8450

☐ Route 3, Box 256, College Station, TX 77845, Telephone (409) 776-8945

☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

Inter- Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES / PARAMETERS
Bloomfield Refi via Farmington EML	Bozeman → Sheridan	

Sampler: (Signature)	Chain of Custody Tape No.
Client	COC # 10379

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TCLP MT					Remarks
Blank 70	8/4/92	09:30	Blank 70	Extract #1	2	✓					
				DRL							

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
D. R. Lingenfelter	8/5/92	16:00	UPS	8/5/92	16:00
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

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Inter-Mountain Laboratories, Inc.

10378

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

☐ 1714 Phillips Circle, Gillette, Wyoming 82716, Telephone (307) 682-8945

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

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☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

Inter-Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
BLOOMFIELD REFINING COMPANY	BLOOMFIELD / NM

Sampler: (Signature)	Chain of Custody Tape No.
Chris Hanley	

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TCLP BNA	TCLP METALS	TCLP VOA's	TCLP VOA's	Remarks
1 NOWP-E DISCHARGE	7-30-92	9:00a		WATER	4	1	1	0	2	
2 SOUTH EVAP POND	7-30-92	9:30a		WATER	4	1	1	0	2	
3 NORTH EVAP POND	7-30-92	10:00a		WATER	4	1	1	0	2	
1 NOWP-E	7-30-92	11:40a		SLUDGE	3	1	1	1		
2 SOUTH EVAP POND	7-30-92	9:30a		SLUDGE	3	1	1	1		
3 NORTH EVAP POND	7-30-92	10:00a		SLUDGE	3	1	1	1		

ANALYSES / PARAMETERS

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Chris Hanley	7/30/92	3:55p			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

Inter-Mountain Laboratories, Inc.

☐ 1633 Terra Avenue, Sheridan, Wyoming 82801, Telephone (307) 672-8945
☐ 1714 Phillips Circle, Gillette, Wyoming 82716, Telephone (307) 682-8945
☒ 2506 West Main Street, Farmington, NM 87401, Telephone (505) 326-4737
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☐ Route 3, Box 256, College Station, TX 77845, Telephone (409) 776-8945
☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

7702

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Bloomfield Refinery

Case Narrative

On August 20, 1992 a single water sample was submitted to Inter-Mountain Laboratories, Farmington for analysis. The sample was received cool and intact and was designated "NDLP". Analysis for Benzene-Toluene-Ethylbenzene-Xylenes (BTEX) was performed on the water sample as per the accompanying chain of custody form.

The BTEX analysis was performed by EPA Method 5030, Purge and Trap, and EPA Method 8020, Aromatic Volatile Hydrocarbons, using an OI Analytical 4560 Purge and Trap and a Hewlett-Packard 5890 Gas Chromatograph equipped with a Photoionization Detector. BTEX analytes were not detected in the sample, as indicated on the enclosed report sheets.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies. The methods used in the analysis of the sample reported here are found in Analysis of Water and Waste, SW-846, USEPA, 1986.

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

Sincerely,

Dr. Denise A. Bohemier,
Organic Lab Supervisor

BRC9513

Inter·Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

BTEX
Volatile Aromatic Hydrocarbons

Bloomfield Refinery

Project Name:	NA	Report Date:	9/4/92
Sample ID:	NDLP	Date Sampled:	8/21/92
Sample Number:	9513	Date Received:	8/21/92
Sample Matrix:	water	Date Analyzed:	9/4/92
Preservative:	Cool, HCl		
Condition:	intact		

Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-xylene	ND	1.0
o-xylene	ND	1.0

ND - Analyte not detected at stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	101%	88-110%
4-Bromofluorobenzene	99%	86-115%

Reference: Method 5030, Purge and Trap
Method 8020, Aromatic Volatile Organics
SW-846, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

QUALITY CONTROL REPORT
METHOD BLANK - VOLATILE AROMATIC HYDROCARBONS

Laboratory ID: MB0903B
Sample Matrix: Water

Date Analyzed: 9/3/92

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
p,m-Xylene	ND	1.0
o-Xylene	ND	1.0

ND - Analyte not detected at stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	95%	88-110%
Bromofluorobenzene	93%	86-115%

Reference:

Method 5030, Purge and Trap
Method 8020, Aromatic Volatile Organics
Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, November 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Quality Control Report
Matrix Spike Analysis

Sample Number:	9514	Report Date:	09/03/92
Sample Matrix:	Water	Date Sampled:	08/21/92
Preservative:	Cool,HCl	Date Received:	08/21/92
Condition:	Intact	Date Analyzed:	09/03/92

Analyte	Spike Added (ug/L)	Sample Result (ug/L)	Spike Result (ug/L)	Percent Recovery	Acceptance Limit
Benzene	10.0	ND	10.6	106%	39-150%
Toluene	10.0	ND	10.3	103%	46-148%
Ethylbenzene	10.0	ND	10.3	103%	32-160%
p,m-Xylene	20.0	ND	20.8	104%	NE
o-Xylene	10.0	ND	20.7	103%	NE

ND-Analyte not detected at stated detection limits.
NE-EPA has not established acceptance limits for this analyte.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	106%	88-110%
4-Bromofluorobenzene	105%	86-115%

Reference: Method 5030, Purge and Trap
Method 8020, Aromatic Volatile Organics
SW-846, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, November 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE - VOLATILE AROMATIC HYDROCARBONS

Sample Number:	9514	Date Sampled:	08/21/92
Sample Matrix:	Water	Date Received:	08/21/92
Preservative:	Cool,HCl	Date Analyzed:	09/03/92
Condition:	Intact		

Analyte	Spike Result (%)	Duplicate Result (%)	Percent Difference
Benzene	106%	103%	3%
Toluene	103%	101%	3%
Ethylbenzene	103%	100%	2%
p,m-Xylene	104%	102%	2%
0-Xylene	103%	101%	2%

ND-Analyte not detected at stated detection limit.

Quality Control: Duplicate acceptance limit set at 20% difference.

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	105%	88-110%
4-Bromofluorobenzene	105%	86-115%

Reference: Method 5030, Purge and Trap
Method 8020, Aromatic Volatile Organics
SW-846, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, November 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

CLIENT: Bloomfield Refinery
ID: NDLP
SITE: 1500
LAB NO: F9513

DATE REPORTED: 09/14/92
DATE RECEIVED: 08/20/92
DATE COLLECTED: 08/20/92

Total Dissolved Solids (180C), mg/L.	13600
Total Suspended Solids, mg/L.....	26
Fluoride, mg/L.....	1.38
Sulfide as H2S, mg/L.....	30.5
Total Nitrate and Nitrite, mg/L.....	<0.02
Total Kjeldahl Nitrogen, mg/L.....	0.13
Ammonia, mg/L.....	7.13
Total Cyanide, mg/L.....	<0.01
Phenols, mg/L.....	<0.01

	mg/L	meq/L
Chloride.....	5890	166
Sulfate.....	1740	36.3

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

CLIENT: Bloomfield Refinery
ID: NDLP
SITE: 1500
LAB NO: F9513

DATE REPORTED: 09/14/92
DATE RECEIVED: 08/20/92
DATE COLLECTED: 08/20/92

Trace Metals by AA (Dissolved Concentration), mg/L

	Analytical Result:	Detection Limit:
Silver (Ag)	ND	<0.01
Arsenic (As)	ND	<0.005
Cadmium (Cd)	ND	<0.002
Chromium (Cr)	0.05	<0.02
Copper (Cu)	0.16	<0.01
Iron (Fe)	0.05	<0.05
Manganese (Mn)	0.28	<0.02
Lead (Pb)	ND	<0.02
Selenium (Se)	0.005	<0.005
Zinc (Zn)	ND	<0.01

Trace Metals by ICAP (Dissolved Concentration), mg/L

	Analytical Result:	Detection Limit:
Aluminum (Al)	0.1	<0.1
Boron (B)	1.61	<0.01
Barium (Ba)	ND	<0.5
Cobalt (Co)	ND	<0.01
Molybdenum (Mo)	0.02	<0.02
Nickel (Ni)	0.01	<0.01

ND - Analyte "not detected" at the stated detection limit.

Wanda Orso
Water Lab Supervisor

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

CASE NARRATIVE

On August 22, 1992, one water sample was received by Inter-Mountain Laboratories - College Station, Texas. It was received cool and intact, and was identified by Project Location "NDLP". Analyses for Toxicity Characteristic Leaching Procedure (TCLP) Semivolatiles, TCLP Volatiles, Halogenated Volatile Organics, and TCLP Metals were performed according to the accompanying chain of custody form.

No target analytes were detected at reportable levels. Due to matrix interference the sample had to be diluted in order to run TCLP Semivolatiles within calibration range. Detection levels are therefore higher than usual for that analysis.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies. The methods used in the organic analyses of samples reported here are found in "Test Methods for Evaluating Solid Waste", SW-846, USEPA, 1986. Inorganic analyses (TCLP Metals) were done by methods found in vol. 55 of the EPA Federal Register, June, 1990.

Quality Control reports have been included for your information and use. These reports appear at the end of the analytical package and may be identified by title. If there are any questions regarding the information presented in this package, please feel free to call at your convenience.

Sincerely,

Mary Higginbotham

Mary Higginbotham
Project Manager

BRC1669

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

METHOD 8010
HALOGENATED VOLATILE ORGANICS

Client:	**Bloomfield Refinery**		
Project Name:	NA	Report Date:	08/28/92
Project Location:	NDLP	Date Sampled:	08/20/92
Sample ID:	NDLP	Date Received:	08/22/92
Sample Number:	9513/C921669	Date Analyzed:	08/27/92
Sample Matrix:	Water		
Preservative:	Cool		
Condition:	Intact		

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Bromodichloromethane	ND	5.0
Bromoform	ND	0.5
Bromomethane	ND	5.0
Carbon tetrachloride	ND	0.5
Chlorobenzene	ND	0.5
Chloroethane	ND	0.5
2-Chloroethylvinylether	ND	0.5
Chloroform	ND	0.5
Chloromethane	ND	5.0
Dibromochloromethane	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
Dichlorodifluoromethane	ND	5.0
1,1-Dichloroethane	ND	0.5
1,2-Dichloroethane	ND	0.5
1,1-Dichloroethene	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
Methylene Chloride	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
Tetrachloroethene	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Trichloroethene	ND	0.5
Trichlorofluoromethane	ND	0.5
Vinyl chloride	ND	5.0

ND - Analyte not detected at stated detection limit.

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

METHOD 8010
HALOGENATED VOLATILE ORGANICS
Page 2 - Quality Control

Client:	**Bloomfield Refinery**		
Project Name:	NA	Report Date:	08/28/92
Sample ID:	NDLP	Date Sampled:	08/20/92
Sample Number:	NDLP	Date Received:	08/22/92
Sample Matrix:	9513/C921669	Date Analyzed:	08/27/92
Preservative:	Water		
Condition:	Cool		

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1-Chloro-2-Fluorobenzene	79%	75-125%
Bromochloromethane	90%	75-125%

Reference: Method 5030, Purge and Trap
Method 8010, Halogenated Volatile Organics
SW-846, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

80

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - MATRIX DUPLICATE
METHOD 8010 - HALOGENATED VOLATILE ORGANICS

Sample Number:	C921669 Duplicate	Date Sampled:	08/20/92
Sample Matrix:	Water	Date Received:	08/22/92
Preservative:	Cool	Date Analyzed:	08/27/92
Condition:	Intact		

Analyte	Sample Result (ug/L)	Duplicate Result (ug/L)	Percent Difference
Bromodichloromethane	ND	ND	NA
Bromoform	ND	ND	NA
Bromomethane	ND	ND	NA
Carbon tetrachloride	ND	ND	NA
Chlorobenzene	ND	ND	NA
Chloroethane	ND	ND	NA
2-Chloroethylvinylether	ND	ND	NA
Chloroform	ND	ND	NA
[illegible]oromethane	ND	ND	NA
[illegible]romochloromethane	ND	ND	NA
1,2-Dichlorobenzene	ND	ND	NA
1,3-Dichlorobenzene	ND	ND	NA
1,4-Dichlorobenzene	ND	ND	NA
Dichlorodifluoromethane	ND	ND	NA
1,1-Dichloroethane	ND	ND	NA
1,2-Dichloroethane	ND	ND	NA
1,1-Dichloroethene	ND	ND	NA
trans-1,2-Dichloroethene	ND	ND	NA
1,2-Dichloropropane	ND	ND	NA
cis-1,3-Dichloropropene	ND	ND	NA
trans-1,3-Dichloropropene	ND	ND	NA
Methylene Chloride	ND	ND	NA
1,1,2,2-Tetrachloroethane	ND	ND	NA
Tetrachloroethene	ND	ND	NA
1,1,1-Trichloroethane	ND	ND	NA
1,1,2-Trichloroethane	ND	ND	NA
Trichloroethene	ND	ND	NA
Trichlorofluoromethane	ND	ND	NA
Vinyl chloride	ND	ND	NA

ND - Analyte not detected at stated detection limit
NA - Value not applicable or calculated

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - MATRIX DUPLICATE
METHOD 8010 - HALOGENATED VOLATILE ORGANICS
Page 2

Sample Number:	C921669 Duplicate	Date Sampled:	08/20/92
Sample Matrix:	Water	Date Received:	08/22/92
Preservative:	Cool	Date Analyzed:	08/27/92
Condition:	Intact		

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1-Chloro-2-Fluorobenzene	93%	75-125%
Bromochloromethane	97%	75-125%

Reference: Method 5030, Purge and Trap
Method 8010, Halogenated Volatile Organics
SW-846, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

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QUALITY CONTROL REPORT - MATRIX SPIKE
METHOD 8010 - HALOGENATED VOLATILE ORGANICS

Sample Number: C921671 Spike
Sample Matrix: Soil
Preservative: Warm
Condition: Intact

Date Sampled: 08/24/92
Date Received: 08/25/92
Date Analyzed: 08/28/92

Analyte	Spike Added (ug/Kg)	Sample Result (ug/Kg)	Spike Result (ug/Kg)	Percent Recovery	Acceptance Limit
Bromodichloromethane	44.8	ND	58.3	130%	42-172%
Bromoform	22.4	ND	24.1	107%	13-159%
Bromomethane	NA	ND	NA	NA	D-144%
Carbon tetrachloride	22.4	ND	25.7	115%	43-143%
Chlorobenzene	22.4	ND	24.7	110%	38-150%
Chloroethane	NA	ND	NA	NA	46-137%
2-Chloroethylvinylether	22.4	ND	23.1	103%	14-186%
Chloroform	22.4	ND	25.5	114%	49-133%
Chloromethane	NA	ND	NA	NA	D-193%
Dibromochloromethane	22.4	ND	24.2	108%	24-191%
1,2-Dichlorobenzene	22.4	ND	23.8	106%	D-208%
1,3-Dichlorobenzene	22.4	ND	23.1	103%	7-187%
1,4-Dichlorobenzene	22.4	ND	27.3	122%	42-143%
1,1-Dichloroethane	22.4	ND	24.1	107%	47-132%
1,2-Dichloroethane	22.4	ND	24.5	109%	51-147%
1,1-Dichloroethene	22.4	ND	23.6	105%	28-167%
trans-1,2-Dichloroethene	22.4	ND	22.7	101%	38-155%
1,2-Dichloropropane	22.4	ND	26.5	118%	44-156%
cis-1,3-Dichloropropene	22.4	ND	24.7	110%	22-178%
trans-1,3-Dichloropropene	22.4	ND	25.7	114%	22-178%
Methylene Chloride	22.4	ND	16.7	74%	25-162%
1,1,2,2-Tetrachloroethane	22.4	ND	26.3	118%	8-184%
Tetrachloroethene	22.4	ND	23.0	103%	26-162%
1,1,1-Trichloroethane	22.4	ND	24.7	110%	41-138%
1,1,2-Trichloroethane	22.4	ND	25.1	112%	39-136%
Trichloroethene	22.4	28.2	44.5	73%	35-146%
Trichlorofluoromethane	NA	ND	NA	NA	21-156%
Vinyl chloride	NA	ND	NA	NA	28-163%

ND - Analyte not detected at stated detection limit.

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QUALITY CONTROL REPORT - MATRIX SPIKE
METHOD 8010 - HALOGENATED VOLATILE ORGANICS
Page 2

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	1-Chloro-2-Fluorobenzene	86%	75-125%
	Bromochloromethane	109%	75-125%

Reference: Method 5030, Purge and Trap
Method 8010, Halogenated Volatile Organics
SW-846, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, September 1986.

Comments:

Kevin Wadsworth
Analyst

Review

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QUALITY CONTROL REPORT - METHOD BLANK
METHOD 8010 - HALOGENATED VOLATILE ORGANICS

Sample Number: MB0827V1
Sample Matrix: Water

Date Sampled: NA
Date Received: NA
Date Analyzed: 08/27/92

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Bromodichloromethane	ND	5.0
Bromoform	ND	0.5
Bromomethane	ND	5.0
Carbon tetrachloride	ND	0.5
Chlorobenzene	ND	0.5
Chloroethane	ND	0.5
2-Chloroethylvinyl ether	ND	0.5
Chloroform	ND	0.5
Chloromethane	ND	5.0
Dibromochloromethane	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
Dichlorodifluoromethane	ND	5.0
1,1-Dichloroethane	ND	0.5
1,2-Dichloroethane	ND	0.5
1,1-Dichloroethene	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
Methylene Chloride	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
Tetrachloroethene	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Trichloroethene	ND	0.5
Trichlorofluoromethane	ND	0.5
Vinyl chloride	ND	5.0

ND - Analyte not detected at stated detection limit.

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QUALITY CONTROL REPORT - METHOD BLANK
METHOD 8010 - HALOGENATED VOLATILE ORGANICS
Page 2

Sample Number: MB0827V1 Date Analyzed: 08/27/92
Sample Matrix: Water

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	1-Chloro-2-Fluorobenzene	85%	75-125%
	Bromochloromethane	101%	75-125%

Reference: Method 5030, Purge and Trap
Method 8010, Halogenated Volatile Organics
SW-846, Test Methods for Evaluating Solid Wastes, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

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EPA Method 8270
SEMIVOLATILE ORGANIC COMPOUNDS
METHOD BLANK ANALYSIS

Client: **Bloomfield Refinery**
Project Name: NDLP
Sample ID: Method Blank
Laboratory ID: MB548
Sample Matrix: Reagent Water

Report Date: 09/09/92
Date Sampled: N/A
Date Received: N/A
Date Extracted: 08/26/92
Date Analyzed: 09/08/92

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Acenaphthene	ND	10
Acenaphthylene	ND	10
Anthracene	ND	10
Benzo(a)anthracene	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(g,h,i)perylene	ND	10
Benzo(a)pyrene	ND	10
Benzoic acid	ND	10
Benzyl alcohol	ND	10
Bis(2-chloroethoxy)methane	ND	10
Bis(2-chloroethyl)ether	ND	10
Bis(2-chloroisopropyl)ether	ND	10
Bis(2-ethylhexyl)phthalate	ND	25
4-Bromophenyl phenyl ether	ND	10
Butyl benzyl phthalate	ND	10
p - Chloroaniline	ND	10
p - Chloro - m - cresol	ND	10
2 - Chloronaphthalene	ND	10
2 - Chlorophenol	ND	10
4-Chlorophenyl phenyl ether	ND	10
Chrysene	ND	10
m - Cresol	ND	10
p - Cresol	ND	10
Di - n - butylphthalate	ND	25
Dibenz(a,h)anthracene	ND	10
o - Dichlorobenzene	ND	10
m - Dichlorobenzene	ND	10
p - Dichlorobenzene	ND	10
3,3 - Dichlorobenzidine	ND	10
2,4 - Dichlorophenol	ND	10
Diethyl phthalate	ND	10
2,4 - Dimethylphenol	ND	10
Dimethyl phthalate	ND	10
4,6 - Dinitro -2- methylphenol	ND	25

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EPA Method 8270
SEMIVOLATILE ORGANIC COMPOUNDS (cont)
METHOD BLANK ANALYSIS

Client: **Bloomfield Refinery**
Project Name: NDLP
Sample ID: Method Blank
Laboratory ID: MB548

Report Date: 09/09/92
Date Sampled: N/A
Date Analyzed: 09/08/92

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
2,4 - Dinitrophenol	ND	25
2,4 - Dinitrotoluene	ND	10
2,6 - Dinitrotoluene	ND	10
Di-n-octyl phthalate	ND	25
Fluoranthene	ND	10
Fluorene	ND	10
Hexachlorobenzene	ND	10
Hexachlorocyclopentadiene	ND	25
Hexachloroethane	ND	10
Hexachlorobutadiene	ND	10
Ideno(1,2,3-cd)pyrene	ND	10
Isophorone	ND	10
2 - Methylnaphthalene	ND	10
Naphthalene	ND	10
o - Nitroaniline	ND	10
m - Nitroaniline	ND	10
p - Nitroaniline	ND	10
Nitrobenzene	ND	10
o - Nitrophenol	ND	10
p - nitrophenol	ND	10
n - Nitrosodimethylamine	ND	10
n - Nitrosodiphenylamine	ND	10
n-Nitroso-di-n-propylamine	ND	10
Pentachlorophenol	ND	25
Phenanthrene	ND	10
Phenol	ND	10
Pyrene	ND	10
1,2,4 - Trichlorobenzene	ND	10
2,4,5 - Trichlorophenol	ND	10
2,4,6 - Trichlorophenol	ND	10

ND - Analyte not detected at stated limit of detection

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EPA Method 8270

SEMIVOLATILE HYDROCARBONS

ADDITIONAL DETECTED COMPOUNDS

Client: **Bloomfield Refinery**
Project Name: NDLP
Sample ID: Method Blank
Sample Number: MB548

Report Date: 09/09/92
Date Sampled: N/A
Date Analyzed: 09/08/92

Tentative Identification	Retention Time (Minutes)	Concentration (ug/L)
No compounds detected at reportable levels		

* - Concentration calculated using assumed Relative Response Factor = 1

Quality Control:

Surrogate	Percent Recovery	Soil Acceptance Limits
2 - Fluorophenol	52%	25 - 121 %
Phenol - d6	106%	24 - 113 %
Nitrobenzene - d5	98%	23 - 120 %
2 - Fluorobiphenyl	89%	30 - 115 %
2,4,6 - Tribromophenol	9%	19 - 122 %
Terphenyl - d14	95%	18 - 137 %

References:

Method 3510: Separatory Funnel Liquid-Liquid Extraction
Method 8270: Gas Chromatography / Mass Spectrometry for Semivolatile Organics
Test Methods for Evaluating Solid Wastes, SW - 846, United States Environmental Protection Agency, September 1986.

Mary Higginbotham
Analyst

Review

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Inter-Mountain
Laboratories, Inc.

11183 SH 30
College Station, TX 77845
Phone (409) 776-8945
FAX (409) 774-4705

TOXICITY CHARATERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS

CLIENT: Bloomfield Refinery
PROJECT: NDLP

Sample ID: NDLP
Laboratory Number: 9513/C921669/14747
Sample Matrix: Water
Preservative: None
Condition: Cool, Intact

Report Date: 9/9/92
Date Sampled: 8/20/92
Date Received: 8/24/92
Date Extracted: 8/25/92

Analyte	Measured Concentration (mg/L)	Spike Biased Concentration (mg/L)	Reporting Limit (mg/L)	Maximum Allowable Level (mg/L)	Method Reference
Arsenic	ND	ND	0.2	5.0	6010
Barium	ND	ND	0.5	100	6010
Cadmium	ND	ND	0.05	1.0	6010
Chromium	ND	ND	0.05	5.0	6010
Lead	ND	ND	0.1	5.0	6010
Mercury	ND	ND	0.005	0.2	7470
Selenium	ND	ND	0.2	1.0	6010
Silver	ND	ND	0.1	5.0	6010

ND - Parameter Not Detected at stated reporting level.

REFERENCE: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126, June 29, 1990. Analysis performed according to SW-846 "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods:, United States Environmental Protection Agency, November, 1986.

Reviewed by:

Inter-Mountain
Laboratories, Inc.

11183 SH 30
College Station, TX 77845
Phone (409) 776-8945
FAX (409) 774-4705

TOXICITY CHARATERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS
QUALITY CONTROL REPORT - MATRIX SPIKE

CLIENT: Bloomfield Refinery
PROJECT: NDLP

Sample ID: NDLP
Laboratory Number: 9513/C921669/14747
Sample Matrix: Water
Preservative: None
Condition: Cool, Intact

Report Date: 9/9/92
Date Sampled: 8/20/92
Date Received: 8/24/92
Date Extracted: 8/25/92

Analyte	Unspiked Sample Concentration (mg/L)	Spiked Sample Concentration (mg/L)	Spike Amount (mg/L)	Percent Recovery	Method Reference
Arsenic	ND	1.06	1.00	106	6010
Barium	ND	1.18	1.00	118	6010
Cadmium	ND	0.42	0.50	84	6010
Chromium	ND	0.43	0.50	86	6010
Lead	ND	0.42	0.50	84	6010
Mercury	ND	0.022	0.025	88	7470
Selenium	ND	0.88	1.00	88	6010
Silver	ND	0.42	0.50	84	6010

REFERENCE: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126, June 29, 1990. Analysis performed according to SW-846 'Test Methods for Evaluating Solid Waste: Physical/Chemical Methods:, United States Environmental Protection Agency, November, 1986.

Reviewed by:

Inter-Mountain Laboratories, Inc.

11183 SH 30
College Station, TX 77845
Phone (409) 776-8945
FAX (409) 774-4705

TOXICITY CHARATERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS
QUALITY CONTROL REPORT - DUPLICATE ANALYSIS

CLIENT: Bloomfield Refinery
PROJECT: NDLP

Sample ID: NDLP
Laboratory Number: 9513/C921669/14747
Sample Matrix: Water
Preservative: None
Condition: Cool, Intact

Report Date: 9/9/92
Date Sampled: 8/20/92
Date Received: 8/24/92
Date Extracted: 8/25/92

Analyte	Original Concentration (mg/L)	Duplicate Concentration (mg/L)	Relative Percent Difference	Reporting Limit (mg/L)	Method Reference
Arsenic	ND	ND	NC	0.2	6010
Barium	ND	ND	NC	0.5	6010
Cadmium	ND	ND	NC	0.05	6010
Chromium	ND	ND	NC	0.05	6010
Lead	ND	ND	NC	0.1	6010
Mercury	ND	ND	NC	0.005	7470
Selenium	ND	ND	NC	0.2	6010
Silver	ND	ND	NC	0.1	6010

NC - Noncalculable RPD due to value(s) less than RL.

REFERENCE: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126, June 29, 1990. Analysis performed according to SW-846 "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods:, United States Environmental Protection Agency, November, 1986.

Reviewed by:

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Inter-Mountain
Laboratories, Inc.

11183 SH 30
College Station, TX 77845
Phone (409) 776-8945
FAX (409) 774-4705

TOXICITY CHARATERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS
QUALITY CONTROL REPORT - METHOD BLANK

CLIENT: Bloomfield Refinery
PROJECT: NDLP

Laboratory Number: 9513/C921669/14747
Sample Matrix: Water

Report Date: 9/9/92
Date Extracted: 8/25/92

Analyte	Measured Concentration (mg/L)	Reporting Limit (mg/L)	Method Reference
Arsenic	ND	0.2	6010
Barium	ND	0.5	6010
Cadmium	ND	0.05	6010
Chromium	ND	0.05	6010
Lead	ND	0.1	6010
Mercury	ND	0.005	7470
Selenium	ND	0.2	6010
Silver	ND	0.1	6010

ND - Parameter Not Detected at stated reporting level.

REFERENCE: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126, June 29, 1990. Analysis performed according to SW-846 "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods:, United States Environmental Protection Agency, November, 1986.

Reviewed by:

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3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS

Client: **BLOOMFIELD REFINERY**
Project Name: NDLP
Sample ID: NDLP
Laboratory ID: 9513 / C921669
Sample Matrix: Water
Condition: Cool, Intact

Report Date: 09/01/92
Date Sampled: 08/20/92
Date Received: 08/22/92
TCLP Extraction: 09/01/92
Date Analyzed: 09/01/92

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
Benzene	ND	0.005	0.5
Carbon tetrachloride	ND	0.005	0.5
Chlorobenzene	ND	0.005	100
Chloroform	ND	0.005	6.0
1,2 - Dichloroethane	ND	0.005	0.5
1,1 - Dichloroethylene	ND	0.005	0.7
Methyl ethyl ketone	ND	0.005	200
Tetrachloroethylene	ND	0.005	0.7
Trichloroethylene	ND	0.005	0.5
Vinyl chloride	ND	0.005	0.2

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2 - Dichloroethane - d4	93%	76 - 114%
Toluene - d8	102%	88 - 110%
Bromofluorobenzene	98%	86 - 115%

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College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: BLOOMFIELD REFINERY
Project Name: NDLP
Sample ID: NDLP
Laboratory ID: 9513 / C921669

Report Date: 09/01/92
Date Sampled: 08/20/92
Date Analyzed: 09/01/92

Analyte	Retention Time (minutes)	Concentration (mg/L)
Unknown hydrocarbon	4.05	0.006 *
Carbon disulfide	4.37	0.018

* - Concentration calculated using assumed relative response factor = 1

Comments:

References:

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 - 302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

Method 8240: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Wastes, SW - 846, United States Environmental Protection Agency, September 1986.

Analyst

Review

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS
MATRIX SPIKE ANALYSIS

Client:	**BLOOMFIELD REFINERY**		
Project Name:	NDLP	Report Date:	09/01/92
Sample ID:	Matrix Spike	Date Sampled:	08/20/92
Laboratory ID:	C921669 SPK	Date Received:	08/22/92
Sample Matrix:	Water	TCLP Extracted:	09/01/92
Condition:	Cool, Intact	Date Analyzed:	09/01/92

Analyte	Spiked Sample Concentration	Sample Concentration	Spike Recovered	Spike Added	Percent Recovery
Benzene	0.094	ND	0.094	0.100	94%
Carbon tetrachloride	0.092	ND	0.092	0.100	92%
Chlorobenzene	0.092	ND	0.092	0.100	92%
Chloroform	0.082	ND	0.082	0.100	82%
1,2 - Dichloroethane	0.087	ND	0.087	0.100	87%
- Dichloroethylene	0.093	ND	0.093	0.100	93%
Methyl ethyl ketone	0.125	ND	0.125	0.100	125%
Tetrachloroethylene	0.094	ND	0.094	0.100	94%
Trichloroethylene	0.090	ND	0.090	0.100	90%
Vinyl chloride	0.051	ND	0.051	0.100	51%

All units in mg/L.
ND - Not detected

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2 - Dichloroethane - d4	95%	76 - 114%
Toluene - d8	100%	88 - 110%
Bromofluorobenzene	101%	86 - 115%

References:

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 - 302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

Method 8240: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Wastes, SW - 846, United States Environmental Protection Agency, September 1986.

Analyst

Review

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3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS
METHOD BLANK ANALYSIS

Client:	**BLOOMFIELD REFINERY**		
Project Name:	NDLP	Report Date:	09/01/92
Sample ID:	TCLP Method Blank	Date Sampled:	NA
Laboratory ID:	TMB 0901F	Date Received:	NA
Sample Matrix:	Solid	TCLP Extraction:	09/01/92
Condition:	NA	Date Analyzed:	09/01/92

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
Benzene	ND	0.005	0.5
Carbon tetrachloride	ND	0.005	0.5
Chlorobenzene	ND	0.005	100
Chloroform	ND	0.005	6.0
1,2 - Dichloroethane	ND	0.005	0.5
1,1 - Dichloroethylene	ND	0.005	0.7
Methyl ethyl ketone	ND	0.005	200
Tetrachloroethylene	ND	0.005	0.7
Trichloroethylene	ND	0.005	0.5
Vinyl chloride	ND	0.005	0.2
Toluene	ND	0.005	NE
Xylenes, total	ND	0.005	NE

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2 - Dichloroethane - d4	94%	76 - 114%
Toluene - d8	101%	88 - 110%
Bromofluorobenzene	100%	86 - 115%

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College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: **BLOOMFIELD REFINERY**
Project Name: NDLP
Sample ID: TCLP Method Blank
Laboratory ID: TMB 0901F

Report Date: 09/01/92
Date Sampled: NA
Date Analyzed: 09/01/92

Analyte	Retention Time (minutes)	Concentration * (mg/L)
None detected at reportable levels		

* - Calculated using assumed relative response factor of 1

Comments:

References:

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 - 302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

Method 8240: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Wastes, SW - 846, United States Environmental Protection Agency, September 1986.

Analyst

Review

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College Station, Texas 77845

EPA Method 8240
VOLATILE ORGANIC COMPOUNDS
METHOD BLANK ANALYSIS

Client: **BLOOMFIELD REFINERY**
Project Name: NDLP
Sample ID: Method Blank
Laboratory ID: MB 0901
Sample Matrix: Water
Condition: NA

Report Date: 09/01/92
Date Sampled: NA
Date Received: NA
Date Extracted: 09/01/92
Date Analyzed: 09/01/92

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Acetone	ND	25
Acrolein	ND	50
Acrylonitrile	ND	50
Benzene	ND	5
Bromodichloromethane	ND	5
Bromoform	ND	5
Bromomethane	ND	5
2-Butanone (MEK)	ND	20
Carbon disulfide	ND	5
Carbon tetrachloride	ND	5
Chlorobenzene	ND	5
Chloroethane	ND	10
2-chloroethyl vinyl ether	ND	50
Chloroform	ND	5
Chloromethane	ND	10
Dibromochloromethane	ND	5
1,1-Dichloroethane	ND	5
1,1-Dichloroethene	ND	5
1,2-Dichloroethene (total)	ND	5
1,2-Dichloroethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
trans-1,3-Dichloropropene	ND	5
Ethylbenzene	ND	5
2-Hexanone	ND	5
Methylene chloride	ND	5
4-Methyl-2-pentanone	ND	5
Styrene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
1,1,1-Trichloroethane	ND	5
1,1,2-Trichloroethane	ND	5
Trichloroethene	ND	5
Trichlorofluoromethane	ND	5
Vinyl acetate	ND	5
Vinyl chloride	ND	5
Xylenes (total)	ND	5

ND - Analyte not detected at stated limit of detection

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College Station, Texas 77845

EPA Method 8240

VOLATILE HYDROCARBONS

METHOD BLANK ANALYSIS

ADDITIONAL DETECTED COMPOUNDS

Client:	BLOOMFIELD REFINERY		
Project Name:	NDLP	Report Date:	09/01/92
Sample ID:	Method Blank	Date Sampled:	NA
Laboratory ID	MB 0901	Date Analyzed:	09/01/92

Tentative Identification	Retention Time (Minutes)	Concentration (ug/L)
None detected at reportable levels.		

* - Concentration calculated using assumed Relative Response Factor = 1

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2-Dichloroethane-d4	93%	76 - 114%
Toluene-d8	101%	88 - 110%
Bromofluorobenzene	100%	86 - 115%

Reference:

Method 8240: Gas Chromatography / Mass Spectrometry for Volatile Organics
Test Methods for Evaluating Solid Wastes, SW - 846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS

Client: **Bloomfield Refinery**
Project Location: NDLP
Sample ID: NDLP
Laboratory ID: 9513/ C921669
Sample Matrix: Water
Condition: Cool, intact

Report Date: 09/09/92
Date Sampled: 08/20/92
Date Received: 08/22/92
Date Extracted -
TCLP: 08/25/92
BNA: 08/26/92
Date Analyzed: 09/08/92

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o - Cresol	ND	0.100	200
m,p - Cresol	ND	0.100	200
1,4 - Dichlorobenzene	ND	0.100	7.5
2,4 - Dinitrotoluene	ND	0.100	0.13
Hexachlorobenzene	ND	0.100	0.13
Hexachloro-1,3-butadiene	ND	0.100	0.5
Hexachloroethane	ND	0.100	3.0
Nitrobenzene	ND	0.100	2.0
Pentachlorophenol	ND	0.100	100
Pyridine	ND	0.100	5.0
2,4,5 - Trichlorophenol	ND	0.100	400
2,4,6 - Trichlorophenol	ND	0.100	2.0

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
2 - Fluorophenol	*	21 - 100%
Phenol - d6	*	10 - 94%
Nitrobenzene - d5	*	35 - 114%
2 - Fluorobiphenyl	*	43 - 116%
2,4,6 - Tribromophenol	*	10 - 123%
Terphenyl - d14	*	33 - 141%

Inter·Mountain Laboratories, Inc.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: **Bloomfield Refinery**
Project Name: NDLP
Sample ID: NDLP
Laboratory ID: 9513/ C921669

Report Date: 09/09/92
Date Sampled: 08/20/92
Date Analyzed: 09/08/92

Analyte	Retention Time (minutes)	Concentration (mg/L)
None detected at reportable levels		

References:

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 - 302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

Method 8270: Gas Chromatography / Mass Spectrometry for Semivolatile Organics Test Methods for Evaluating Solid Wastes, SW - 846, United States Environmental Protection Agency, September 1986.

Comments:

*Surrogates lost due to dilution of sample needed for analysis

Mary Higginbotham
Analyst

Review

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS
MATRIX SPIKE ANALYSIS

Client: **Bloomfield Refinery**
Sample ID: TCLP Matrix Spike
Laboratory ID: BS537
Sample Matrix: Reagent Water

Report Date: 09/09/92
Date Sampled: N/A
Date Received: N/A
Date Extracted - 08/21/92
Date Analyzed: 08/21/92

Analyte	Concentration (mg/L)	Spike Added (mg/L)	Percent Recovery
o - Cresol	0.077	0.100	77%
m,p - Cresol	0.088	0.100	88%
1,4 - Dichlorobenzene	0.085	0.100	85%
2,4 - Dinitrotoluene	0.075	0.100	75%
Hexachlorobenzene	0.078	0.100	78%
Hexachloro-1,3-butadiene	0.075	0.100	75%
Hexachloroethane	0.079	0.100	79%
Nitrobenzene	0.075	0.100	75%
Pentachlorophenol	0.075	0.100	75%
Pyridine	0.078	0.100	78%
2,4,5 - Trichlorophenol	0.080	0.100	80%
2,4,6 - Trichlorophenol	0.076	0.100	76%

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
2 - Fluorophenol	97%	21 - 100%
Phenol - d6	94%	10 - 94%
Nitrobenzene - d5	112%	35 - 114%
2 - Fluorobiphenyl	113%	43 - 116%
2,4,6 - Tribromophenol	100%	10 - 123%
Terphenyl - d14	111%	33 - 141%

Mary Higginbotham
Analyst

Review

Inter·Mountain Laboratories, Inc.

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College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS
METHOD BLANK ANALYSIS

Client: **Bloomfield Refinery**
Project Name: NDLP
Sample ID: TCLP Method Blank
Laboratory ID: TMB825
Sample Matrix: Reagent Water

Report Date: 09/09/92
Date Sampled: N/A
Date Received: N/A
Date Extracted -
TCLP: 08/25/92
BNA: 08/26/92
Date Analyzed: 08/26/92

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o - Cresol	ND	0.010	200
m,p - Cresol	ND	0.010	200
1,4 - Dichlorobenzene	ND	0.010	7.5
2,4 - Dinitrotoluene	ND	0.010	0.13
Hexachlorobenzene	ND	0.010	0.13
Hexachloro-1,3-butadiene	ND	0.010	0.5
Hexachloroethane	ND	0.010	3.0
Nitrobenzene	ND	0.010	2.0
Pentachlorophenol	ND	0.010	100
Pyridine	ND	0.010	5.0
2,4,5 - Trichlorophenol	ND	0.010	400
2,4,6 - Trichlorophenol	ND	0.010	2.0

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
2 - Fluorophenol	68%	21 - 100%
Phenol - d6	71%	10 - 94%
Nitrobenzene - d5	68%	35 - 114%
2 - Fluorobiphenyl	74%	43 - 116%
2,4,6 - Tribromophenol	74%	10 - 123%
Terphenyl - d14	101%	33 - 141%

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: **Bloomfield Refinery**
Project Name: NDLP
Sample ID: TCLP Method Blank
Laboratory ID: TMB825

Report Date: 09/09/92
Date Sampled: N/A
Date Analyzed: 08/26/92

Analyte	Retention Time (minutes)	Concentration (mg/L)
None detected at reportable levels		

References:

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 - 302, Part V, Environmental Protection Agency, Vol. 55, No. 126, June 29, 1990.

Method 8270: Gas Chromatography / Mass Spectrometry for Semivolatile Organics
Test Methods for Evaluating Solid Wastes, SW - 846, United States Environmental Protection Agency, September 1986.

Mary Higginbotham
Analyst

Review

Inter-Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
Bloomfield Refinery	
Sampler: (Signature)	**Chain of Custody Tape No.**
[signature]	

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TCLP Metals Vol, Semi Vol	8010-8020	See attached letter		Remarks
NDLP	082092	1500		H_2O	9					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	8-20-92	1555	[signature]	082092	1555
Relinquished by: (Signature)	**Date**	**Time**	**Received by: (Signature)**	**Date**	**Time**
Relinquished by: (Signature)	**Date**	**Time**	**Received by laboratory: (Signature)**	**Date**	**Time**

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Inter-Mountain Laboratories, Inc.

- ☐ 1633 Terra Avenue, Sheridan, Wyoming 82801, Telephone (307) 672-8945
- ☐ 1714 Phillips Circle, Gillette, Wyoming 82716, Telephone (307) 682-8945
- ☒ 2506 West Main Street, Farmington, NM 87401, Telephone (505) 326-4737
- ☐ 910 Technology Blvd. Suite B, Bozeman, Montana 59715, Telephone (406) 586-8450
- ☐ Route 3, Box 256, College Station, TX 77845, Telephone (409) 776-8945
- ☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

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Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS

Client: **BLOOMFIELD REFINING COMPANY**
Project Name: Bloomfield, NM
Sample ID: Sulfur Product
Laboratory ID: 4606 / 0694G00141
Sample Matrix: Solid
Condition: Cool, intact

Report Date: 02/18/94
Date Sampled: 01/27/94
Date Received: 01/28/94
Date Extracted -
TCLP: 01/30/94
BNA: 01/31/94
Date Analyzed: 02/05/94

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o - Cresol	ND	0.020	200
m,p - Cresol	0.024	0.020	200
1,4 - Dichlorobenzene	ND	0.020	7.5
2,4 - Dinitrotoluene	ND	0.020	0.13
Hexachlorobenzene	ND	0.020	0.13
Hexachloro-1,3-butadiene	ND	0.020	0.5
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Pentachlorophenol	ND	0.020	100
Pyridine	ND	0.020	5.0
2,4,5 - Trichlorophenol	ND	0.020	400
2,4,6 - Trichlorophenol	ND	0.020	2.0

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
2 - Fluorophenol	55%	21 - 110%
Phenol - d6	66%	10 - 110%
Nitrobenzene - d5	57%	35 - 114%
2 - Fluorobiphenyl	66%	43 - 116%
2,4,6 - Tribromophenol	63%	10 - 123%
Terphenyl - d14	73%	33 - 141%

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: **BLOOMFIELD REFINING COMPANY**
Project Name: Bloomfield, NM
Sample ID: Sulfur Product
Laboratory ID: 4606 / 0694G00141

Report Date: 02/18/94
Date Sampled: 01/27/94
Date Analyzed: 02/05/94

Analyte	Retention Time (minutes)	Concentration (mg/L)
2.4-Dimethylphenol	13.52	0.022
Naphthalene	14.26	0.029
2-Methylnaphthalene	16.01	0.050
1-Methylnaphthalene	16.25	0.039
Unknown organic acid	6.85	0.06 *
Unknown hydrocarbon	31.96	0.1 *
Unknown hydrocarbon	32.08	0.2 *
Unknown hydrocarbon	36.05	0.07 *
Unknown hydrocarbon	36.24	0.06 *

* - Concentration calculated using assumed Relative Response Factor = 1

References: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261, Environmental Protection Agency, November 1992.
Method 8270: Gas Chromatography / Mass Spectrometry for Semivolatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update I, United States Environmental Protection Agency, July 1992.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

SOIL ANALYSIS

Client: Bloomfield Refining Co.
Project: Bloomfield, NM
Sample ID: Sulfur Product
Laboratory ID: 4606
Sample Matrix: Solid
Condition: Cool/Intact

Date Reported: 02/21/94
Date Sampled: 01/25/94
Date Received: 01/25/94

Parameter	Analytical Result	Units	Date of Analysis
Percent Moisture	12.88	percent	01/31/94
Total Sulfur*	103	percent	02/04/94

Reference: USDA Handbook 60 (1954); Method 26; p. 107.
National Technical Institute; EPA 600/2-78-054; Method 3.2.4.

Comments: *Total Sulfur is based upon dry weight of sample. Dilution of sample was required in order to determine sulphur content using the LECO sulfur analyzer. The sample was "diluted" 1:10 with sand.

Reported By:

Reviewed By:

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

RCRA CHARACTERISTICS

Client:	**BRC**		
Sample Id:	Sulfur Product	Date Reported	02/16/94
Lab Id:	4606/6764	Date Sampled:	01/27/94
Matrix:	Solid	Date Received:	02/03/94
Condition:	Cool/Intact	Date Analyzed:	02/04-02/11/94

Parameter:	Analytical Result	(units)
Corrosivity	5.97	pH in s.u.
Reactivity-CN	<0.1	mg/Kg
Reactivity-S	<1	mg/Kg
Ignitability*	Will not ignite	F°

*Reported as 'will' or 'will not' ignite due to matrix of sample.

Section 7.3.3.2: Test Method to Determine Hydrogen Cyanide Released From Wastes. SW-846, Sept. 1986

Section 7.3.4.1: Test Method to Determine Hydrogen Sulfide Released From Wastes. SW-846, Sept. 1986.

Method 9045: pH Measurement of Soils. SW-846, Sept., 1986.

Reviewed: D. Baker

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
EPA Method 418.1

Bloomfield Refinery Co.

Project ID:	Bloomfield NM	Report Date:	02/21/94
Sample Matrix:	Solid	Date Sampled:	01/25/94
Preservative:	Cool	Date Received:	01/25/94
Condition:	Intact, Dry	Date Extracted:	02/21/94
		Date Analyzed:	02/21/94

Sample ID	Lab ID	Concentration (mg/kg)	Detection Limit (mg/kg)
Sulfur Product	4606	44.2	12.4

ND- Analyte not detected at the stated detection limit.

Reference: Method 3550 - Sonication Extraction; Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, September, 1986; Method 418.1 - Petroleum Hydrocarbons, Total Recoverable; Chemical Analysis of Water and Waste, United States Environmental Protection Agency, 1978.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control Report
TOTAL PETROLEUM HYDROCARBONS
EPA Method 418.1

Method Blank Analysis

Project ID:	Bloomfield NM	Report Date:	02/21/94
Sample Matrix:	Solid	Date Extracted:	02/21/94
		Date Analyzed:	02/21/94

Lab ID	Concentration (mg/kg)	Detection Limit (mg/kg)
MB34386	ND	2.50

ND- Analyte not detected at the stated detection limit.

Reference: Method 3550 - Sonication Extraction; Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, September, 1986; Method 418.1 - Petroleum Hydrocarbons, Total Recoverable; Chemical Analysis of Water and Waste, United States Environmental Protection Agency, 1978.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control Report
TOTAL PETROLEUM HYDROCARBONS
EPA Method 418.1

Duplicate Analysis

Project ID:	Bloomfield NM	Report Date:	02/21/94
Sample ID:	Sulfur Product	Date Extracted:	02/21/94
Sample Matrix:	Solid	Date Analyzed:	02/21/94

Lab ID	Duplicate Conc. (mg/kg)	Sample Conc. (mg/kg)	Percent Difference	Acceptance Limit
4606Dup	33.9	44.2	26%	< 30%

ND - Analyte not detected at the stated detection limit.
NA - Not calculated.

Reference: Method 3550 - Sonication Extraction; Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, September, 1986; Method 418.1 - Petroleum Hydrocarbons, Total Recoverable; Chemical Analysis of Water and Waste, United States Environmental Protection Agency, 1978.

Comments:

Analyst

Review

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS

EPA Method 418.1

Bloomfield Refining Co.

Project ID:	Bloomfield NM	Report Date:	01/31/94
Sample Matrix:	Soil	Date Sampled:	01/25/94
Preservative:	Cool	Date Received:	01/25/94
Condition:	Intact	Date Extracted:	01/28/94
		Date Analyzed:	01/28/94

Sample ID	Lab ID	Concentration (mg/kg)	Detection Limit (mg/kg)
Sulfur Product	4606	97.3	23.7

ND- Analyte not detected at the stated detection limit.

Reference: Method 3550 - Sonication Extraction; Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, September, 1986; Method 418.1 - Petroleum Hydrocarbons, Total Recoverable; Chemical Analysis of Water and Waste, United States Environmental Protection Agency, 1978.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control Report
TOTAL PETROLEUM HYDROCARBONS
EPA Method 418.1

Method Blank Analysis

Project ID:	Bloomfield NM	Report Date:	01/31/94
Sample Matrix:	Soil	Date Extracted:	01/28/94
		Date Analyzed:	01/28/94

Lab ID	Concentration (mg/kg)	Detection Limit (mg/kg)
MB34362	ND	2.50

ND- Analyte not detected at the stated detection limit.

Reference: Method 3550 - Sonication Extraction; Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, September, 1986; Method 418.1 - Petroleum Hydrocarbons, Total Recoverable; Chemical Analysis of Water and Waste, United States Environmental Protection Agency, 1978.

Comments:

Analyst

Review

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control Report
TOTAL PETROLEUM HYDROCARBONS
EPA Method 418.1

Matrix Spike Analysis

Project ID:	Bloomfield NM	Report Date:	02/03/94
Sample Matrix:	Soil	Date Extracted:	01/28/94
		Date Analyzed:	01/28/94

Lab ID	Spiked Sample Conc. (mg/kg)	Unspiked Sample Conc. (mg/kg)	Spike Added (mg/kg)	Percent Recovery
MBSPK34362	14.4	ND	15.0	96%

Acceptance Limits: 81 - 109%

ND- Analyte not detected at the stated detection limit.

Reference: Method 3550 - Sonication Extraction; Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, September, 1986; Method 418.1 - Petroleum Hydrocarbons, Total Recoverable; Chemical Analysis of Water and Waste, United States Environmental Protection Agency, 1978.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control Report
TOTAL PETROLEUM HYDROCARBONS
EPA Method 418.1

Matrix Spike Duplicate Analysis

Project ID:	Bloomfield NM	Report Date:	02/03/94
Sample Matrix:	Soil	Date Extracted:	01/28/94
		Date Analyzed:	01/28/94

Lab ID	Spiked Duplicate Conc. (mg/kg)	Spiked Sample Conc. (mg/kg)	Percent Difference	Acceptance Limit
MBSPKDP34362	13.3	14.4	7%	< 16%

ND- Analyte not detected at the stated detection limit.

Reference: Method 3550 - Sonication Extraction; Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, September, 1986; Method 418.1 - Petroleum Hydrocarbons, Total Recoverable; Chemical Analysis of Water and Waste, United States Environmental Protection Agency, 1978.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS

Client: **BLOOMFIELD REFINING COMPANY**
Project Location: Bloomfield, NM
Sample ID: Sulfur Product
Laboratory ID: 4606 / 0694G00141
Sample Matrix: Solid
Condition: Intact

Report Date: 02/18/94
Date Sampled: 01/27/94
Date Received: 01/28/94
Date Extracted -
TCLP: 01/30/94
Volatile: 02/02/94
Date Analyzed: 02/02/94

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
Benzene	0.014	0.005	0.5
Carbon Tetrachloride	ND	0.005	0.5
Chlorobenzene	ND	0.005	100
Chloroform	ND	0.005	6.0
1,2-Dichloroethane	ND	0.005	0.5
1,1-Dichloroethylene	ND	0.005	0.7
Methyl ethyl ketone	ND	0.010	200
Tetrachloroethylene	ND	0.005	0.7
Trichloroethylene	ND	0.005	0.5
Vinyl Chloride	ND	0.005	0.2

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2 - Dichloroethane - d4	98%	76 - 114%
Toluene - d8	102%	88 - 110%
Bromofluorobenzene	96%	86 - 115%

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: **BLOOMFIELD REFINING COMPANY**
Project Name: Bloomfield, NM
Sample ID: Sulfur Product
Laboratory ID: 4606 / 0694G00141

Report Date: 02/18/94
Date Sampled: 01/27/94
Date Analyzed: 02/02/94

Analyte	Retention Time (minutes)	Concentration (mg/L)
Toluene	13.07	0.043
Ethylbenzene	15.63	0.004 J
m,p-Xylene	15.82	0.019
o-Xylene	16.43	0.011

* - Concentration calculated using assumed relative response factor = 1
B - analyte detected in method blank
J - Estimated concentration, below reported detection limit

References:

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 Environmental Protection Agency, November 1992.
Method 8240A: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update I, United States Environmental Protection Agency, July 1992.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - MATRIX SPIKE

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS

Client: **BLOOMFIELD REFINING COMPANY**
Project Name: Bloomfield, NM
Sample ID: Sulfur Product
Laboratory ID: 4606 / 0694G00141
Sample Matrix: Solid
Condition: Cool, intact

Report Date: 02/18/94
Date Sampled: 01/27/94
Date Received: 01/28/94
Date Extracted -
TCLP: 01/30/94
BNA: 01/31/94
Date Analyzed: 02/05/94

Analyte	Concentration (mg/L)	Spike Added (mg/L)	Percent Recovery
o - Cresol	0.187	0.200	93%
m,p - Cresol	0.316	0.400	79%
1,4 - Dichlorobenzene	0.142	0.200	71%
2,4 - Dinitrotoluene	0.182	0.200	91%
Hexachlorobenzene	0.177	0.200	88%
Hexachloro-1,3-butadiene	0.157	0.200	79%
Hexachloroethane	0.116	0.200	58%
Nitrobenzene	0.169	0.200	84%
Pentachlorophenol	0.212	0.200	106%
Pyridine	0.133	0.200	66%
2,4,5 - Trichlorophenol	0.181	0.200	90%
2,4,6 - Trichlorophenol	0.215	0.200	108%

ND - Analyte not detected at stated limit of detection
NA - Value not applicable or calculated

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
2 - Fluorophenol	56%	21 - 110%
Phenol - d6	70%	10 - 110%
Nitrobenzene - d5	64%	35 - 114%
2 - Fluorobiphenyl	67%	43 - 116%
2,4,6 - Tribromophenol	69%	10 - 123%
Terphenyl - d14	78%	33 - 141%

Comments:

Analyst

MR Scott
Review

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - METHOD BLANK
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS

Client: **BLOOMFIELD REFINING COMPANY**
Project Name: Bloomfield, NM
Sample ID: TCLP Method Blank
Laboratory ID: TMB03SV
Sample Matrix: TCLP Leachate Fluid

Report Date: 02/09/94
Date Sampled: N/A
Date Received: N/A
Date Extracted -
TCLP: 01/30/94
BNA: 01/31/94
Date Analyzed: 02/05/94

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o - Cresol	ND	0.010	200
m,p - Cresol	ND	0.010	200
1,4 - Dichlorobenzene	ND	0.010	7.5
2,4 - Dinitrotoluene	ND	0.010	0.13
Hexachlorobenzene	ND	0.010	0.13
Hexachloro-1,3-butadiene	ND	0.010	0.5
Hexachloroethane	ND	0.010	3.0
Nitrobenzene	ND	0.010	2.0
Pentachlorophenol	ND	0.010	100
Pyridine	ND	0.010	5.0
2,4,5 - Trichlorophenol	ND	0.010	400
2,4,6 - Trichlorophenol	ND	0.010	2.0

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
2 - Fluorophenol	50%	21 - 100%
Phenol - d6	57%	10 - 94%
Nitrobenzene - d5	55%	35 - 114%
2 - Fluorobiphenyl	57%	43 - 116%
2,4,6 - Tribromophenol	60%	10 - 123%
Terphenyl - d14	73%	33 - 141%

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QUALITY CONTROL REPORT - METHOD BLANK

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

SEMIVOLATILE ORGANIC COMPOUNDS

ADDITIONAL DETECTED COMPOUNDS

Client:	**BLOOMFIELD REFINING COMPANY**		
Project Name:	Bloomfield, NM	Report Date:	02/09/94
Sample ID:	TCLP Method Blank	Date Sampled:	N/A
Laboratory ID:	TMB03SV	Date Analyzed:	02/05/94

Analyte	Retention Time (minutes)	Concentration (mg/L)
None detected at reportable levels		

References: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 Environmental Protection Agency, November 1992.
Method 8270: Gas Chromatography / Mass Spectrometry for Semivolatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update I, United States Environmental Protection Agency, July 1992.

Comments:

Wendy M Rog
Analyst

MR Scott
Review

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QUALITY CONTROL REPORT - METHOD BLANK

EPA Method 8270

SEMIVOLATILE ORGANIC COMPOUNDS

Client: **BLOOMFIELD REFINING COMPANY**
Project Name: Bloomfield, NM
Sample ID: Method Blank
Laboratory ID: MB 42
Sample Matrix: Reagent Water

Report Date: 02/18/94
Date Extracted: 01/31/94
Date Analyzed: 02/05/94

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Acenaphthene	ND	10
Acenaphthylene	ND	10
Anthracene	ND	10
Benzo(a)anthracene	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(g,h,i)perylene	ND	10
Benzo(a)pyrene	ND	10
Benzoic acid	ND	10
Benzyl alcohol	ND	10
Bis(2-chloroethoxy)methane	ND	10
Bis(2-chloroethyl)ether	ND	10
Bis(2-chloroisopropyl)ether	ND	10
Bis(2-ethylhexyl)phthalate	ND	25
4-Bromophenyl phenyl ether	ND	10
Butyl benzyl phthalate	ND	10
p - Chloroaniline	ND	10
p - Chloro - m - cresol	ND	10
2 - Chloronaphthalene	ND	10
2 - Chlorophenol	ND	10
4-Chlorophenyl phenyl ether	ND	10
Chrysene	ND	10
m - Cresol	ND	10
p - Cresol	ND	10
Di - n - butylphthalate	ND	25
Dibenz(a,h)anthracene	ND	10
o - Dichlorobenzene	ND	10
m - Dichlorobenzene	ND	10
p - Dichlorobenzene	ND	10
3,3 - Dichlorobenzidine	ND	10
2,4 - Dichlorophenol	ND	10
Diethyl phthalate	ND	10
2,4 - Dimethylphenol	ND	10
Dimethyl phthalate	ND	10
4,6 - Dinitro -2- methylphenol	ND	25

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QUALITY CONTROL REPORT - METHOD BLANK

EPA Method 8270

SEMIVOLATILE ORGANIC COMPOUNDS (cont)

Client: **BLOOMFIELD REFINING COMPANY**
Project Name: Bloomfield, NM
Sample ID: Method Blank
Laboratory ID: MB 42

Report Date: 02/18/94
Date Analyzed: 02/05/94

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
2,4 - Dinitrophenol	ND	25
2,4 - Dinitrotoluene	ND	10
2,6 - Dinitrotoluene	ND	10
Di-n-octyl phthalate	ND	25
Fluoranthene	ND	10
Fluorene	ND	10
Hexachlorobenzene	ND	10
Hexachlorocyclopentadiene	ND	25
Hexachloroethane	ND	10
Hexachlorobutadiene	ND	10
Ideno(1,2,3-cd)pyrene	ND	10
Isophorone	ND	10
2 - Methylnaphthalene	ND	10
Naphthalene	ND	10
o - Nitroaniline	ND	10
m - Nitroaniline	ND	10
p - Nitroaniline	ND	10
Nitrobenzene	ND	10
o - Nitrophenol	ND	10
p - nitrophenol	ND	10
n - Nitrosodimethylamine	ND	10
n - Nitrosodiphenylamine	ND	10
n-Nitroso-di-n-propylamine	ND	10
Pentachlorophenol	ND	25
Phenanthrene	ND	10
Phenol	ND	10
Pyrene	ND	10
1,2,4 - Trichlorobenzene	ND	10
2,4,5 - Trichlorophenol	ND	10
2,4,6 - Trichlorophenol	ND	10

ND - Analyte not detected at stated limit of detection

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QUALITY CONTROL REPORT - METHOD BLANK

EPA Method 8270
SEMIVOLATILE HYDROCARBONS
ADDITIONAL DETECTED COMPOUNDS

Client: **BLOOMFIELD REFINING COMPANY**
Project Name: Bloomfield, NM
Sample ID: Method Blank
Sample Number: MB 42

Report Date: 02/18/94
Date Analyzed: 02/05/94

Tentative Identification	Retention Time (Minutes)	Concentration (ug/L)
No compounds detected at reportable levels.		

* - Concentration calculated using assumed Relative Response Factor = 1

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
2 - Fluorophenol	43%	21 - 110 %
Phenol - d6	49%	10 - 110 %
Nitrobenzene - d5	46%	35 - 114 %
2 - Fluorobiphenyl	48%	43 - 116 %
2,4,6 - Tribromophenol	52%	10 - 123 %
Terphenyl - d14	72%	33 - 141 %

References: Method 3510: Separatory Funnel Liquid-Liquid Extraction
Method 8270: Gas Chromatography / Mass Spectrometry for Semivolatile Organics
Test Methods for Evaluating Solid Waste, SW - 846, Final Update I, United States Environmental Protection Agency, July 1992.

Comments:

Analyst

Review

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QUALITY CONTROL REPORT - BLANK SPIKE
VOLATILE ORGANIC COMPOUNDS

Client:	BLOOMFIELD REFINING COMPANY		
Project Location:	Bloomfield, NM	Report Date:	02/10/94
Sample ID:	NA	Date Sampled:	NA
Laboratory ID:	MB0201 Blank Spike	Date Received:	NA
Sample Matrix:	Water	Date Extracted:	02/01/94
Condition:	Intact	Date Analyzed:	02/01/94

Analyte	Blank Spike Concentration	Blank Concentration	Spike Added	Percent Recovery
Benzene	95	ND	100	95%
Carbon tetrachloride	96	ND	100	96%
Chlorobenzene	87	ND	100	87%
Chloroform	97	ND	100	97%
1,2 - Dichloroethane	96	ND	100	96%
Dichloroethylene	135	ND	100	135%
yl ethyl ketone	72	ND	100	72%
Tetrachloroethylene	89	ND	100	89%
Trichloroethylene	91	ND	100	91%
Vinyl chloride	118	ND	100	118%

All units in ug/L
ND - Not detected
NA - Not added/not applicable

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2 - Dichloroethane - d4	112%	70 - 121%
Toluene - d8	101%	81 - 117%
Bromofluorobenzene	100%	74 - 121%

References:

Method 8240: Gas Chromatography / Mass Spectrometry for Volatile Organics
Test Methods for Evaluating Solid Wastes, SW - 846, Final Update I,
United States Environmental Protection Agency, July 1992.

Analyst

Review

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QUALITY CONTROL REPORT - METHOD BLANK ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS

Client: **BLOOMFIELD REFINING COMPANY**
Project Location: Bloomfield, NM
Sample ID: TCLP Method Blank
Laboratory ID: TMB03V
Sample Matrix: NA
Condition: NA

Report Date: 02/10/94
Date Sampled: N/A
Date Received: N/A
Date Extracted -
TCLP: 01/30/94
Volatile: 02/02/94
Date Analyzed: 02/02/94

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Benzene	ND	0.005
Carbon tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chloroform	ND	0.005
1,2 - Dichloroethane	ND	0.005
1,1 - Dichloroethylene	ND	0.005
Methyl ethyl ketone	ND	0.005
Tetrachloroethylene	ND	0.005
Trichloroethylene	ND	0.005
Vinyl chloride	ND	0.005

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2 - Dichloroethane - d4	95%	76 - 114%
Toluene - d8	101%	88 - 110%
Bromofluorobenzene	99%	86 - 115%

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QUALITY CONTROL REPORT - METHOD BLANK ANALYSIS

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

VOLATILE ORGANIC COMPOUNDS

ADDITIONAL DETECTED COMPOUNDS

Client:	**BLOOMFIELD REFINING COMPANY**		
Project Name:	Bloomfield, NM	Report Date:	02/10/94
Sample ID:	TCLP Method Blank	Date Sampled:	N/A
Laboratory ID:	TMB03V	Date Analyzed:	02/02/94

Analyte	Retention Time (minutes)	Concentration (mg/L)
No compounds found at detectable levels.		

* - Concentration calculated using an assumed relative response factor = 1

Comments:

References: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 Environmental Protection Agency, November 1992.
Method 8240A: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update I, United States Environmental Protection Agency, July 1992.

Analyst

Review

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QUALITY CONTROL REPORT - METHOD BLANK
VOLATILE ORGANIC COMPOUNDS

Client: **BLOOMFIELD REFINING COMPANY**
Project Location: Bloomfield, NM
Sample ID: Method Blank
Laboratory ID: MB0201
Sample Matrix: Water
Condition: NA

Report Date: 02/10/94
Date Sampled: NA
Date Received: NA
Date Extracted: 02/01/94
Date Analyzed: 02/01/94

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Acetone	ND	25
Benzene	ND	5
Bromodichloromethane	ND	5
Bromoform	ND	5
Bromomethane	ND	5
2-Butanone (MEK)	ND	20
Carbon disulfide	ND	5
Carbon tetrachloride	ND	5
Chlorobenzene	ND	5
Chloroethane	ND	10
Chloroform	ND	5
Chloromethane	ND	10
Dibromochloromethane	ND	5
1,1-Dichloroethane	ND	5
1,1-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
1,2-Dichloroethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
trans-1,3-Dichloropropene	ND	5
Ethylbenzene	ND	5
2-Hexanone	ND	5
Methylene chloride	ND	5
4-Methyl-2-pentanone	ND	5
Styrene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
1,1,1-Trichloroethane	ND	5
1,1,2-Trichloroethane	ND	5
Trichloroethene	ND	5
Vinyl acetate	ND	5
Vinyl chloride	ND	5
Xylenes (total)	ND	5

ND - Analyte not detected at stated limit of detection

Inter·Mountain Laboratories, Inc.

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QUALITY CONTROL REPORT - METHOD BLANK

VOLATILE ORGANIC COMPOUNDS

ADDITIONAL DETECTED COMPOUNDS

Client:	**BLOOMFIELD REFINING COMPANY**		
Project Name:	Bloomfield, NM	Report Date:	02/10/94
Sample ID:	Method Blank	Date Sampled:	NA
Laboratory ID:	MB0201	Date Analyzed:	02/01/94

Tentative Identification	Retention Time (Minutes)	Concentration (ug/L) *
None detected at reported limits.		

* - Concentration calculated using assumed Relative Response Factor = 1

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2-Dichloroethane-d4	97%	76 - 114%
Toluene-d8	99%	88 - 110%
Bromofluorobenzene	100%	86 - 115%

Reference: Method 8240A: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update I, United States Environmental Protection Agency, July 1992.

Comments:

U M Ross
Analyst

M R Scott
Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS

Client:	**Bloomfield Refining Company**	Date Reported:	02/25/94
Sample ID:	Sulfur Product	Date Sampled:	01/27/94
Lab ID:	4606	Date Received:	01/28/94
Matrix:	Solid	TCLP Extract:	01/30/94
Condition:	Cool/Intact	Date Analyzed:	02/03-02/12/94

Parameter:	Analytical Result	Regulatory Level	Units
Arsenic	<0.2	5.0	mg/L
Barium	0.7	100	mg/L
Cadmium	<0.05	1.0	mg/L
Chromium	<0.05	5.0	mg/L
Lead	<0.2	5.0	mg/L
Mercury	<0.005	0.20	mg/L
Selenium	<0.2	1.0	mg/L
Silver	<0.1	5.0	mg/L

DRAFT

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126 June 29, 1990.
Method 7470A : Mercury in Liquid Waste (Manual Cold Vapor Technique), SW-846, Nov. 1990.

Determination of Metal Concentrations by Graphite Furnace Atomic Absorption, SW-846, Nov. 1990.

DRAFT

Reviewed by:_____

Preliminary results
131 -mh

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TRACE METAL CONCENTRATIONS

Client:	**Bloomfield Refining Company**	Report Date:	02/25/94
Sample Id:	Sulfur Product	Date Sampled:	01/27/94
Lab Id:	4606	Date Received:	01/28/94
Matrix:	Solid	Date Analyzed:	02/03-02/12/94
Condition:	Intact		

Parameter:	Analytical Result	Units
Arsenic	<0.25	mg/kg
Barium	<25	mg/kg
Chromium	2.8	mg/kg
Cadmium	<0.1	mg/kg
Lead	<1	mg/kg
Mercury	0.163	mg/kg
Selenium	<0.25	mg/kg
Silver	11.5	mg/kg
Iron	4200	mg/kg

DRAFT

Method 3050A:
Acid Digestion of Sediments, Sludges, and Soils,USEPA, SW-846, Vol. 1A, Nov. 1990.

Method 7471:
Mercury in Solid or semi-Solid Waste (Manual Cold-Vapor Technique) USEPA SW-846, Vol 1A, Sept. 1986.

Determination of Metal Concentrations by Graphite Furnace Atomic Absorption, SW-846, Nov. 1990.

DRAFT

Reviewed: _____

Preliminary results
132 -mh

iml
Inter-Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

FILE COPY

Client/Project Name: Bloomfield Refining CO

Project Location: Blmfld, NM

Sampler: (Signature)

Chain of Custody Tape No.

ANALYSES / PARAMETERS: RCI; TCLP Met; total Met (RCRA); TCLP vol/semi; total Fe; % moisture; total sulfur; TPH 418.1

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	Remarks
Sulfur Product	1/25/94		4606	Solid	1	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
			[signature]	1/25/94	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

17844

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Inter-Mountain Laboratories, Inc.

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

☐ 1714 Phillips Circle, Gillette, Wyoming 82716, Telephone (307) 682-8945

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

☐ 1160 Research Dr., Bozeman, Montana 59715, Telephone (406) 586-8450

☐ 11183 SH 30, College Station, TX 77845, Telephone (409) 776-8945

☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Bloomfield Refining Co.

Case Narrative

On April 27, 1993, a solid sample was submitted to Inter-Mountain Laboratories - Farmington for analysis. The sample was received intact. Analyses for Toxicity Characteristic Leaching Procedure (TCLP) - Metals and Total Lead were performed on the samples as per the accompanying chain of custody form.

The samples were digested according to Method 3050, "Acid Digestion of Sediments, Sludges, and Soils". Analysis was by Method 2932, using a Varian SpectraAA 300 Graphite Furnace Atomic Absorption Spectrometer. Lead was detected in the samples at levels above the stated detection limits, as indicated in the enclosed report.

TCLP extraction on the sample was performed according to Method 1311. Analyses were performed according to the EPA 7000 series of methods for atomic absorption spectroscopy. Detectable levels of arsenic, barium, lead, and silver were found in the leachate.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies. The methods used in the analyses of the samples reported herein are found in Test Methods for Evaluation of Solid Waste, SW-846, USEPA, 1986.

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

Sincerely,

Dr. Denise A. Bohemier,
Organic Lab Supervisor

BRC2455

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS

CLIENT: BLOOMFIELD REFINING COMPANY
PROJECT: Bloomfield, NM

Sample ID: E - CAT
Laboratory ID: 2455
Sample Matrix: Solid
Preservative: Cool
Condition: Intact

Report Date: 05/06/93
Date Sampled: 04/26/93
Date Received: 04/27/93
Date Extracted: 04/28/93

Analyte	Concentration	Detection Limit	Regulatory Level	Units
Arsenic	0.008	0.005	5.0	mg / L
Barium	0.7	0.5	100	mg / L
Cadmium	ND	0.002	1.0	mg / L
Chromium	ND	0.02	5.0	mg / L
Lead	0.04	0.02	5.0	mg / L
Mercury	ND	0.05	0.2	mg / L
Selenium	ND	0.005	1.0	mg / L
Silver	0.01	0.01	5.0	mg / L

ND - Parameter not detected at stated Detection Limit.

REFERENCES: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126, June 29, 1990.
"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW - 846, United States Environmental Protection Agency, November, 1986.
Method 7060: Arsenic (AA, Furnace Technique)
Method 7080: Barium (AA, Direct Aspiration)
Method 7131: Cadmium (AA, Furnace Technique)
Method 7190: Chromium (AA, Direct Aspiration)
Method 7421: Lead (AA, Furnace Technique)
Method 7470: Mercury in Liquid Waste (Manual Cold Vapor Technique)
Method 7740: Selenium (AA, Furnace Technique)
Method 7760: Silver (AA, Direct Aspiration)

Reviewed

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL METALS

Trace Metal Concentrations

Bloomfield Refining Co.

Project ID:	Bloomfield, NM	Report Date:	05/07/93
Sample ID:	E - CAT	Date Sampled:	04/26/93
Lab ID:	2455	Date Received:	04/27/93
Sample Matrix:	Solid	Date Digested:	04/29/93
		Date Analyzed:	04/29/93

Analyte	Concentration	Detection Limit	Units
Lead	73	1.0	mg/kg

ND- Analyte not detected at the stated detection limit.

Reference: Method 3050: "Acid Digestion of Sediments, Sludges, and Soils"; Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, United States Environmental Protection Agency, November, 1986.

Comments:

Gloria Bartlett
Analyst

Review

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Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control Report
TOTAL METALS
Trace Metal Concentrations

Method Blank Analysis

Lab ID: 2455Blank
Sample Matrix: Liquid

Report Date: 05/07/93
Date Digested: 04/29/93
Date Analyzed: 04/29/93

Analyte	Concentration (mg/kg)	Detection Limit (mg/kg)
Lead	ND	1.0

ND- Analyte not detected at the stated detection limit.

Reference: Method 3050: "Acid Digestion of Sediments, Sludges, and Soils"; Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, United States Environmental Protection Agency, November, 1986.

Comments:

Alexis Bartlett
Analyst

Review

137

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control Report
TOTAL METALS
Trace Metal Concentrations

Matrix Spike Analysis

Lab ID: Blank Spike
Sample Matrix: Solid

Report Date: 05/07/93
Date Digested: 04/29/93
Date Analyzed: 04/29/93

Analyte	Spiked Sample Conc. (mg/kg)	Unspiked Sample Conc. (mg/kg)	Spike Added (mg/kg)	Percent Recovery
Lead	5.0	0.0	5.0	100%

ND- Analyte not detected at the stated detection limit.

Reference: Method 3050: "Acid Digestion of Sediments, Sludges, and Soils"; Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, United States Environmental Protection Agency, November, 1986.

Comments:

Gloria Bartlett
Analyst

Review

Inter·Mountain Laboratories, Inc.

2505 W. Main Street
Farmington, New Mexico 87401

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS
QUALITY CONTROL REPORT - METHOD BLANK

CLIENT: BLOOMFIELD REFINING COMPANY
PROJECT: Bloomfield, NM

Sample ID: E - CAT
Sample Matrix: Solid

Report Date: 05/06/93
Date Extracted: 04/28/93

Analyte	Concentration	Detection Limit	Regulatory Level	Units
Arsenic	ND	0.005	5.0	mg / L
Barium	0.6	0.5	100	mg / L
Cadmium	ND	0.002	1.0	mg / L
Chromium	ND	0.02	5.0	mg / L
Lead	ND	0.02	5.0	mg / L
Mercury	ND	0.05	0.2	mg / L
Selenium	ND	0.005	1.0	mg / L
Silver	ND	0.01	5.0	mg / L

ND - Parameter Not Detected at stated reporting level

REFERENCES:

Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126, June 29, 1990.
"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW - 846, United States Environmental Protection Agency, November, 1986.
Method 7060: Arsenic (AA, Furnace Technique)
Method 7080: Barium (AA, Direct Aspiration)
Method 7131: Cadmium (AA, Furnace Technique)
Method 7190: Chromium (AA, Direct Aspiration)
Method 7421: Lead (AA, Furnace Technique)
Method 7470: Mercury in Liquid Waste (Manual Cold Vapor Technique)
Method 7740: Selenium (AA, Furnace Technique)
Method 7760: Silver (AA, Direct Aspiration)

Reviewed

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS
QUALITY CONTROL REPORT - DUPLICATE ANALYSIS

CLIENT: BLOOMFIELD REFINING COMPANY
PROJECT: Bloomfield, NM

Sample ID:	E - CAT		
Laboratory ID:	2455dup	**Report Date:**	05/06/93
Sample Matrix:	Solid	**Date Sampled:**	04/26/93
Preservative:	Cool	**Date Received:**	04/27/93
Condition:	Intact	**Date Extracted:**	04/28/93

Analyte	Original Concentration	Duplicate Concentration	Relative Percent Difference	Detection Limit	Units
Arsenic	0.008	0.007	13.3	0.005	mg / L
Barium	0.7	0.6	15.4	0.5	mg / L
Cadmium	ND	ND	NC	0.002	mg / L
Chromium	ND	ND	NC	0.02	mg / L
Lead	0.04	0.04	2.5	0.02	mg / L
Mercury	ND	na	NC	0.05	mg / L
Selenium	ND	ND	NC	0.005	mg / L
Silver	0.01	0.01	0.0	0.01	mg / L

ND - Parameter Not Detected at stated detection level.
NC - Noncalculable RPD due to value(s) less than DL.

REFERENCES: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126, June 29, 1990.
"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW - 846, United States Environmental Protection Agency, November, 1986.
Method 7060: Arsenic (AA, Furnace Technique)
Method 7080: Barium (AA Direct Aspiration)
Method 7131: Cadmium (AA, Furnace Technique)
Method 7190: Chromium (AA, Direct Aspiration)
Method 7421: Lead (AA, Furnace Technique)
Method 7470: Mercury in Liquid Waste (Manual Cold Vapor Technique)
Method 7740: Selenium (AA, Furnace Technique)
Method 7760: Silver (AA, Direct Aspiration)

Reviewed

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Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOXICITY CHARATERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATIONS
QUALITY CONTROL REPORT - MATRIX SPIKE

CLIENT: BLOOMFIELD REFINING COMPANY
PROJECT: Bloomfield, NM

Sample ID: E- CAT
Sample Matrix: Solid

Report Date: 05/06/93
Date Extracted: 04/28/93

Analyte	Spiked Sample Concentration	Unspiked Sample Concentration	Spike Amount	Percent Recovery	Units
Arsenic	0.028	<0.005	0.050	112	mg / L
Barium	6.9	2.6	10.0	110	mg / L
Cadmium	0.002	<0.002	0.002	97	mg / L
Chromium	0.85	<0.02	2.00	85	mg / L
Lead	0.03	<0.02	0.05	114	mg / L
Mercury	<0.05	<0.05	NA	NA	mg / L
Selenium	0.023	<0.005	0.050	82	mg / L
Silver	0.91	<0.01	2.00	91	mg / L

ND - Parameter not detected at established Detection Limit.

REFERENCES: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261-302, Part V, EPA Vol. 55, No. 126, June 29, 1990.
"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW - 846, United States Environmental Protection Agency, November, 1986.
Method 7060: Arsenic (AA, Furnace Technique)
Method 7080: Barium ((AA, Direct Aspiration)
Method 7131: Cadmium (AA, Furnace Technique)
Method 7190: Chromium (AA, Direct Aspiration)
Method 7421: Lead (AA Furnace Technique)
Method 7470: Mercury in Liquid Waste (Manual Cold Vapor Technique)
Method 7740: Selenium (AA, Furnace Technique)
Method 7760: Silver (AA, Direct Aspiration)

Reviewed

Inter-Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

FILE COPY

Client/Project Name	Project Location	ANALYSES / PARAMETERS
BLOOMFIELD REFINING CO	BLOOMFIELD NM	

Sampler: (Signature)

Chain of Custody Tape No.

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TCLP-METALS	TOTAL Pb			Remarks
E-CAT	4-26-93	—	2455	SOLID-SILICA CATALYST + Al_2O_3	1	✓	✓			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	4-27-93	1630		4/27/93	1630
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

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Inter-Mountain Laboratories, Inc.

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

☐ 1714 Phillips Circle, Gillette, Wyoming 82716, Telephone (307) 682-8945

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

☐ 1160 Research Dr., Bozeman, Montana 59715, Telephone (406) 586-8450

☐ 11183 SH 30, College Station, TX 77845, Telephone (409) 776-8945

☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

12586

ATTACHMENT 4

BLOOMFIELD REFINING COMPANY

SPILL PREVENTION CONTROL
&
COUNTERMEASURE PLAN

WITH

EMERGENCY PLAN

AND

STORMWATER POLLUTION PREVENTION PLAN

Prepared By:

Bloomfield Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

March 12, 1993

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

February 17, 1993

United States Environmental Protection Agency, Region 6
Contingency Planning Section (62-EP)
1445 Ross Avenue
Dallas, Texas 75202-2733

RE: Oil Spill Response Plan

Dear Administrator:

In accordance with proposed rules to revise the Oil Pollution Prevention Regulation (40 CFR Part 112) and required preparation of a plan to respond to a worst case discharge of oil and to a substantial threat of such a discharge, Bloomfield Refining Company herewith submits a copy of its plan. Additionally, Bloomfield Refining Company operates an associated pipeline. Response requirements specific to the pipeline are also included with this submittal.

The technical contact for this submittal is Chris Hawley, who can be reached at (505) 632-8013. I am also available for further discussion or information.

Sincerely,

David Roderick
Refinery Manager

DR/jm

Enclosures

cc: Joe Warr
John Goodrich
Jim Stiffler
Chris Hawley
Chad King

BLOOMFIELD REFINING COMPANY

SPILL PREVENTION CONTROL & COUNTERMEASURE PLAN

1.0 GENERAL INFORMATION

1.1 Name of facility: **Bloomfield Refining Company**

1.2 Type of facility: **Onshore Facility - Petroleum Refinery**

1.3 Location of facility: **#50 County Road 4990**
Bloomfield, New Mexico 87413

Near latitude: 36°41'50"
longitude: 107°58'20"

1.4 Name and address of owner or operator:

Name : **Bloomfield Refining Company**
Address: **P.O. Box 159**
Bloomfield, New Mexico 87413

1.5 Designated person accountable for oil spill prevention at the facility:

Name and title: **Chad King, Operations Manager**

1.6 Reportable oil spill event during last five years: **None**

MANAGEMENT APPROVAL

This SPCC Plan will be implemented as herein described.

Signature: David Roderick

Name: **David Roderick**

Title: **Refinery Manager**

CERTIFICATION

I hereby certify that I have examined the facility, and being familiar with the provisions of 40 CFR, Part 112, attest that this SPCC Plan has been prepared in accordance with good engineering practices.

Chad R. KING
Printed Name of Registered Professional Engineer

(Seal)

Chad King
Signature of Registered Professional Engineer

Date 2/16/93 Registration No. 7316 State N.M.

1.7 Potential Spills - Prediction & Control

NO.	SOURCE	MAJOR TYPE OF FAILURE	TOTAL QUANTITY (BBLS)	RATE (BBLS /HR)	DIR. OF FLOW	SECONDARY CONTAINMENT
	PRODUCT TANKS					
3	JP-4	RUPTURE	10,000	SEE 1	SEE	EARTHEN DIKES
4	JP-4	"	10,000	"	DWGS	"
5	HI-REFORMATE	"	10,000	"	"	"
8	CRUDE SLOP	"	500	"	"	CONCRETE ENCLOSURE
9	CRUDE SLOP	"	500	"	"	"
11	REFORMATE	"	55,000	"	"	EARTHEN DIKES
12	POLY/CAT MIX	"	55,000	"	"	"
13	NOLEAD SALES	"	30,000	"	"	"
14	NOLEAD SALES	"	30,000	"	"	"
17	REDUCED CRUDE	"	40,000	"	"	"
18	#1 DIESEL	"	55,000	"	"	"
19	#2 DIESEL	"	36,000	"	"	"
20	FCC SLOP	"	5,000	"	"	"
21	FCC SLOP	"	3,000	"	"	"
22	GASOLINE SLOP	"	1,500	"	"	"
23	BASE GASOLINE	"	40,000	"	"	"
24	REFORMER FEED	"	10,000	"	"	"
25	REFORMER FEED	"	10,000	"	"	"
26	JET A SALES	"	4,000	"	"	"
27	HVY BURNER FUEL	"	10,000	"	"	"
28	CRUDE	"	80,000	"	"	"
29	REGULAR LEADED	"	17,000	"	"	"
30	REGULAR LEADED	"	17,000	"	"	"
31	CRUDE	"	110,000	"	"	"
32	PREMIUM GASOLINE	"	20,000	"	"	"
44	ETHANOL	"	2,000	"	"	"
	PRESSURE TANKS					
B-01	LPG SLOP	"	286	"	"	"
B-02	LPG SLOP	"	430	"	"	"
B-12	LT NATURAL	"	692	"	"	"
B-13	BUTANE	"	500	"	"	"
B-14	BUTANE	"	500	"	"	"
B-15	PROPANE	"	714	"	"	"
B-16	PROPANE	"	714	"	"	"
B-17	POLY FEED	"	714	"	"	"
B-18	POLY FEED	"	714	"	"	"
B-19	POLY FEED	"	714	"	"	"
B-20	BUTANE	"	714	"	"	"
B-21	BUTANE	"	714	"	"	"
B-22	SATURATE LPG	"	714	"	"	"
B-23	SATURATE LPG	"	714	"	"	"
	PROCESSES					
	FCC UNIT	"		"	"	PROCESS AREAS ARE
	CRUDE UNIT	"		"	"	EQUIPPED WITH
	REFORMER UNIT	"		"	"	CONCRETE PADS &
	CAT/POLY UNIT	"		"	"	CURBS THROUGHOUT.
	LOADING AREA	OVERFLOW	250	"	"	CNCRT PADS & CURBS.

Note 1: Rate extremely variable, depending upon nature and extent of failure. Tank 11 is used to calculate worst case scenario (see Response Plan section).

1.8 Containment or diversionary structures or equipment to prevent oil from reaching navigable waters are practicable.

Yes, secondary containment is provided for all oil release sources. In addition, an arroyo that is located to the north, central part of the refinery (see drawings) that normally would drain to the San Juan River, is equipped with dikes that would act as tertiary containment.

1.9 Inspections and Records

A. The required inspections follow written procedures. Yes

B. The written procedures and a record of inspections, signed by the appropriate supervisor or inspector, are attached. Some

Discussion: The refinery is manned on a 24-hour basis. Each area of the facility has assigned personnel responsible for continuous monitoring of the facility systems. Process equipment is monitored in accordance with appropriate API Standards. Tanks are inspected in accordance with API Standard 653, Tank Inspection, Repair, Alteration, and Reconstruction.

1.10 Personnel Training and Spill Prevention Procedures

A. Personnel are properly instructed in the following:
(1) operations and maintenance of equipment to prevent oil discharges, and Yes
(2) applicable pollution control laws, rules, and regulations. Yes
Describe procedures employed for instruction: Operations personnel complete an operator certification program that includes pollution prevention techniques. New personnel are given on-the-job training by experienced personnel and supervisors of all aspects of the job. Hazardous materials training is provided to all employees. Emergency response training is provided at least annually. Fire training, which includes techniques applicable to overall ability to prevent oil releases, is provided annually.

B. Scheduled prevention briefings for the operating personnel are conducted frequently enough to assure adequate understanding of the SPCC Plan. Yes
Describe briefing program: New employees are given extensive initial training. Monthly safety training, to include spill prevention, is conducted by plant supervision. Spill incident reports are prepared for all spills that occur within the refinery. Supervision discusses the incident with the responsible party and determines a course of action to avoid future occurrences. Small incidences are considered serious.

SPCC PLAN, BLOOMFIELD REFINING COMPANY
PART 2, ALTERNATE A, DESIGN AND OPERATING INFORMATION

A. Facility Drainage

1. Drainage from diked storage areas is controlled as follows (include operating description of valves, pumps, ejectors, etc.): Diked areas are not directly drained. Any spills within diked storage areas will be removed by the use of portable pumps (a large diesel operated pump is maintained by the refinery) or mobile vacuum units. The refinery owns one vacuum truck and others can be quickly obtained from local contractors.

2. Drainage from undiked areas is controlled as follows (include description of ponds, lagoons, or catchment basins and methods of retaining and returning oil to facility): Drainage in the process areas is controlled by oily/water sewers routed to the API separator which removes oil. The refinery does not operate a separate storm water system. The water effluent from the separator (and oil carryover in the event of an overloading incident) goes to a series of three lined ponds and then selectively to four possible evaporation ponds. Any oil carried over would be skimmed utilizing booms and vacuum trucks and returned to the API separator for oil recovery.

3. The procedure for supervising the drainage of rain water from secondary containment into a storm drain or an open watercourse is as follows (include description of (a) inspection for pollutants, and (b) method of valving security). The refinery is located in a relatively arid region with average rainfall of about 9 inches. Rainwater is not normally removed from secondary containment. Secondary containment is not equipped with direct draining equipment. If removal of rain water is required, it would be removed utilizing pumps or vacuum trucks. Any removed rain water will be emptied into the refinery waste water system, routed first through the API separator. The refinery is a zero discharge facility. No stormwater is directly discharged to any storm drains or open watercourses. Waste water is currently disposed by evaporation.

B. Bulk Storage Tanks

1. Describe tank design, materials of construction, fail-safe engineering features, and if needed, corrosion protection: Tanks are all of circular steel construction. Tanks 20, 21, 24, and 25 are bolted construction. The rest are welded construction. Tanks 11, 12, 13, 14, 32, and 44 are built on a concrete tank ring and sand cushion; tanks 8 and 9 are built on concrete pads with concrete retaining walls; and all others are constructed on sand pads only. All tanks are painted for external corrosion control. The tank floors and under ground piping are protected with an active electrical cathodic protection system.

2. Describe secondary containment design, construction materials, and volume: Secondary containment consists of earthen dikes (minimum). Volume is adequate for most tanks, but will be evaluated during 1993 inspection.

3. Describe tank inspection methods, procedures, and record keeping: Tanks throughout the refinery are manually gaged each day. The gauger is on the alert for any leaks or tank disorders. Daily inventory logs are checked and balanced to determine disorders or losses. Tanks are scheduled for periodic cleaning, depending on age, during which complete internal inspections are done. Repairs are made before putting the tank back in service. Tanks are inspected in accordance with API Standard 653. Records include detailed individual tank files, computerized inspection histories, and API 653 inspection results.

4. Internal heating coil leakage is controlled by one or more of the following control factors:
   (a) Monitoring the steam return or exhaust lines for oil. Yes
   Describe monitoring procedure: Daily product sampling and continuous lookout for oil in the steam return lines.
   (b) Passing the steam return or exhaust lines through a settling tank, skimmer, or other separation system. Yes
   (c) Installing external heating systems. N/A

5. Disposal facilities for plant effluent discharged into navigable waters are observed frequently for indication of possible upsets which may cause an oil spill event. N/A

C. Facility Transfer Operations, Pumping, and In-plant Process

1. Corrosion protection for buried pipelines:
   (a) Pipelines are wrapped and coated to reduce corrosion. Yes
   (b) Cathodic protection is provided for pipelines if determined necessary by electrolytic testing Yes
   (c) When a pipeline section is exposed, it is examined and corrective action taken as necessary: Yes

2. Pipeline terminal connections are capped or blank-flanged and marked if the pipeline is not in service or on standby service for extended. Yes
   Describe criteria for determining when to cap or blank-flange: Buried lines containing oil or oil products have been eliminated except where absolutely necessary such as road or dike crossings. All abandoned lines are plugged or capped.

3. Pipe supports are designed to minimize abrasion and corrosion and allow for expansion and contraction. Yes
   Describe pipe support design: Supports are steel and concrete structures of various shapes. Shoes are provided on process piping. Fireproofing has been applied to some critical, vertical steel members.

4. Describe procedures for regularly examining all above-ground valves and pipelines (including flange joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces): Daily visual inspections are done by plant personnel.

5. Describe procedures for warning vehicles entering the facility to avoid damaging above-ground piping: A rigid permitting procedure is followed to authorize vehicles in the refinery. Where possible, roads cross over pipes. Overhead piperacks in traffic areas are very high to allow clearance for all types of vehicles. Contractors are given careful safety instructions before they are allowed in the refinery.

D. Facility Tank Car & Tank Truck Loading/Unloading Rack
Tank car and tank truck loading/unloading occurs at the facility. (If YES, complete 1 through 5 below.) Yes

1. Loading/unloading procedures meet the minimum requirements and regulations of the Department of Transportation. Yes

2. The unloading area has a quick drainage system. Yes

3. The containment system will hold the maximum capacity of any single compartment of a tank truck loaded/unloaded in the plant. Yes
Describe containment system design, construction materials, and volume: The truck product loading area controls spills with a concrete slab and curbing. The slab is designed to drain spills to a sump which is then pumped to Tank 22 from which the material is blended back into leaded gasoline or other appropriate product. The truck crude unloading area controls spills with a concrete slab and curbing. The slab is designed to drain spills to a sump which can then be pumped to the crude treating tanks or the API separator. Both areas have secondary containment (earthen dikes) in the event of sump overfilling. Overflow, automatic shutoffs are required on trucks.

4. An interlocked warning light, a physical barrier system, or, warning signs are provided in loading/unloading areas to prevent vehicular departure before disconnect of transfer lines. Yes
Describe methods, procedures, and/or equipment used to prevent premature vehicular departure: Warning and instruction signs are provided in the area. New drivers are trained in the proper operation of the loading/unloading equipment. Company personnel (other than truck drivers) are present in the area to provide assistance when needed.

5. Drains and outlets on tank trucks and tank cars are checked for leakage before loading/unloading or departure. Yes

The facility does not have any rail operations.

F. Security

1. Plants handling, processing, or storing oil are fenced. Yes

2. Entrance gates are locked and/or guarded when the plant is unattended or not in production. Yes

3. Any valves which permit direct outward flow of a tank's contents are locked closed when in non-operating or standby status. No

4. Starter controls on all oil pumps in non-operating or standby status are:
   (a) locked in the off position; No
   (b) located at site accessible only to authorized personnel. Yes

5. Discussion of items 1 through 4 as appropriate: The refinery is operated on a 24-hour basis with all valves operated by trained, authorized personnel. The valves associated with the piping between process areas and tankage are part of a closed piping system. Water draw-off piping is routed to tank sumps. The valves for water draw-offs are operated only by authorized personnel and are attended constantly when in operation. These valves are also located inside the tank secondary containment. If piping is disconnected for maintenance reasons, blind flanges are bolted to the valves.

6. Discussion of the lighting around the facility: The refinery is equipped with extensive lighting, adequate for a 24 hour per day operation. The tankfarm is not lighted in many areas but emergency mobil lighting is available.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

August 18, 1993

DOCKET NUMBER: FRP-06-NM-00015
BLOOMFIELD REFINING COMPANY
BLOOMFIELD REFINING CO.
PO BOX 159
BLOOMFIELD ,NM 87413

AUTHORIZATION TO CONTINUE TO OPERATE

The United States Environmental Agency (EPA) previously notified you that your facility could reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters, adjoining shorelines, or exclusive economic zone. You subsequently certified that you have ensured by contract or other approved means the availability of private personnel and equipment necessary to respond, to the maximum extent practicable, to a worst case discharge or a substantial threat of such a discharge.

EPA has reviewed your certification and hereby authorizes your facility to operate without an approved plan until February 18, 1995, in accordance with Clean Water Act section 311(j)(5)(F). Prior to the expiration of the extension, EPA will complete its review of your plan and notify you of the results. Please note that this extension does not relieve a facility from complying with the OPA requirement to operate in compliance with a response plan by August 18, 1993.

Sincerely,

Charles A. Gazda
Chief, Emergency Response Branch
U.S. EPA Region VI

Bloomfield Refining Company
A Gary Energy Corporation Subsidiary

July 7, 1993

U. S. EPA, Region VI
Contingency Planning Section
P. O. Box 303
Dallas, Texas 75201-9998

RE: Docket Number: FRP-06-NM-00015
Oil Spill Response Plan
Response Certification

To Whom It May Concern:

Bloomfield Refining Company (BRC) hereby certifies that personnel and equipment necessary to respond to the maximum extent practicable, to a worst case discharge or to a substantial threat of a discharge as defined in BRC's Oil Response Plan (Plan) are ensured. These resources include those specified in the Plan and those available to Tierra Environmental Corporation, a full-service environmental firm with emergency response capabilities under contract with BRC.

The technical contact at our facility is Chris Hawley, who can be reached at (505) 632-8013. Tierra Environmental Corporation can be contacted through Phil Nobis at (505) 325-0924.

Sincerely,

David Roderick
Vice President, Refining

DR/jm

cc: Chris Hawley
Joe Warr
John Goodrich
Phil Nobis, Tierra